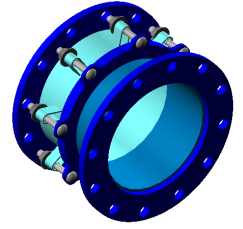


# Water & Industrial Products Catalog



*Smith-Blair*  
a xylem brand



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Phone: 800.643.9705 or 870.773.5127.

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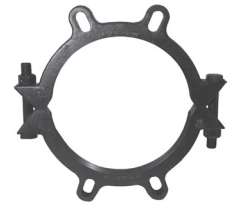
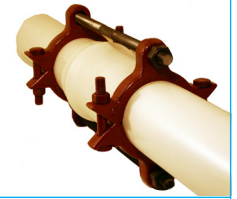
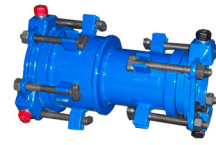
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# Joint Restraints

## What Are Joint Restraints?

Pipe fittings designed to prevent pipe ends and/or pipe fittings from coming apart. This may be done in several ways with different types of restraint technologies.



*Smith-Blair*  
a xylem brand



# Cam-Lock™

## for Ductile Iron and Carbon Steel Pipe

COLOR CODED BLACK FOR DUCTILE IRON AND CARBON STEEL

Patents US 7484775, US 7748100, CA 2511782

# 111

### Description:

Cam-Locks are mechanical joint restraint glands with multiple and independent single-tooth, cam-action wedges designed to restrain a fitting on a piece of pipe.

### Application:

Restraining pipe ends in mechanical joints fittings. A mechanical joint joins pipes or fittings together by the use of lugs and bolts.

### Key Features:

- Fewer wedges for time-saving installations
- Breakaway nuts twist off at approximately 45-60 ft.-lbs., leaving cam engaged with pipe.
- Lower torque requirement to fully actuate bolts
- Multi-Seal MJ Gasket available in 4"-12" Steel
- Corrosion resistant
- Secondary hex shank for easy removal and reinstallation

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Epoxy per ANSI/AWWA C211. Wedges and Actuating Bolts are E-coated Epoxy

### Kit Specifications

GASKET: Standard Mechanical Joint. ANSI/AWWA C213 SBR, Multi-Seal Gasket, or MJ Transition gasket for Steel ODs

T-BOLTS: High strength, low alloy, per ANSI/AWWA C111/A21.11. *Optional: 304 Stainless Steel, flouropolymer coated.*

Pipe Applications: Ductile Iron or Carbon Steel

Sizes (in inches): 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

### Pressure Ratings:

350 PSI on sizes 3"-16" Ductile Iron

250 PSI on sizes 18"-48" Ductile Iron

250 PSI on sizes 3"-12" Carbon Steel (Sch. 20, 40, or 80)

Deflection 3° on 3", 5° on 4"-12", 2° on 14"-16", 1½° on 18"-24", 1° on 30"-48"

UL Listed in 3"-24" joining 3"-24" UL Listed Ductile Iron (D.I.) fittings to UL Listed Class 350 (3"-16") Class 250 (18" & 24"), or Class 200 (20") D.I. pipe.





# Cam-Lock™

for Ductile Iron and Carbon Steel Pipe

COLOR CODED BLACK FOR DUCTILE IRON AND CARBON STEEL

Patents US 7484775, US 7748100, CA 2511782

111

For MJ fittings on Ductile Iron Pipe and Carbon Steel (3"-12")

| NOMINAL SIZE INCHES | PIPE O.D. INCHES | NO. OF WEDGES | WITH D.I. GASKETS, BOLTS, AND NUTS     |  | WT. EACH LBS. | RESTRAINT ONLY          |                      | WT. EACH LBS. |
|---------------------|------------------|---------------|--|--|---------------|-------------------------|----------------------|---------------|
|                     |                  |               | CATALOG NUMBER BOXED FOR DI PIPE SIZES | CATALOG NUMBER BOXED FOR STEEL PIPE SIZE |               | CATALOG NUMBER UN-BOXED | CATALOG NUMBER BOXED |               |
| 3                   | 3.96             | 2             | 111-03960000-000                       | 111-03960000-001                         | 10.5          | 111-03960001-900        | 111-03960001-000     | 6.5           |
| 4                   | 4.8              | 2             | 111-04800000-000                       | 111-04800000-001                         | 11.8          | 111-04800001-900        | 111-04800001-000     | 7.1           |
| 6                   | 6.9              | 3             | 111-06900000-000                       | 111-06900000-001                         | 17.8          | 111-06900001-900        | 111-06900001-000     | 11.2          |
| 8                   | 9.05             | 3             | 111-09050000-000                       | 111-09050000-001                         | 20.3          | 111-09050001-900        | 111-09050001-000     | 13.1          |
| 10                  | 11.1             | 6             | 111-11100000-000                       | 111-11100000-001                         | 32.5          | 111-11100001-900        | 111-11100001-000     | 26            |
| 12                  | 13.2             | 8             | 111-13200000-000                       | 111-13200000-001                         | 40.4          | 111-13200001-900        | 111-13200001-000     | 31.5          |
| 14                  | 15.3             | 10            | 111-15300000-000                       |  | 53.6          | 111-15300001-900        |                      | 43.3          |
| 16                  | 17.4             | 12            | 111-17400000-000                       |  | 66.3          | 111-17400001-900        |                      | 54.1          |
| 18                  | 19.5             | 12            | 111-19500000-000                       |  | 72.2          | 111-19500001-900        |                      | 59.8          |
| 20                  | 21.6             | 14            | 111-21600000-000                       |  | 83.8          | 111-21600001-900        |                      | 69.8          |
| 24                  | 25.8             | 16            | 111-25800000-000                       |  | 106.9         | 111-25800001-900        |                      | 90.4          |
| 30                  | 32               | 20            | 111-32000000-000                       |  | 287.9         |                         |                      |               |
| 36                  | 38.3             | 24            | 111-38300000-000                       |  | 366.3         |                         |                      |               |
| 42                  | 44.5             | 28            | 111-44500000-000                       |  | 585.1         |                         |                      |               |
| 48                  | 50.8             | 32            | 111-50800000-000                       |  | 679.5         |                         |                      |               |

| PRESSURE RATING (PSI) FOR 111 CAM-LOCKS™ ON CARBON STEEL |         |
|--|---------|
| Schedule 20, 40, 80                                      |         |
| Use Transition Gasket                                    |         |
| 3"-12"   | 250 PSI |

| PRESSURE RATINGS (PSI) FOR 111 CAM-LOCKS™ ON DUCTILE IRON |         |
|---|---------|
| ANSI/AWWA - C151 DI OD                                    |         |
| 4"-16"  | 350 PSI |
| 18"-48"   | 250 PSI |



# MJ-Lock™ (formerly Bell-Lock)

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

# 115

### Description:

A serrated restraint used for MJ type fittings

### Application:

For restraining pipe MJ fittings.

### Key Features:

- Recessed shoulders allow for single wrench installation
- Compatible with standard mechanical joint and some push-on style fitting
- Maintains full pipe deflection
- 360° of pipe support provided
- Adaptable for new and/or existing pipeline applications
- Easily installs outside the trench
- Eliminates need for costly concrete thrust blocks

### Materials Specifications (subject to change)

RESTRAINER: 65-45-12 Ductile Iron (ASTM A536)

T-BOLTS & HEX NUTS: High strength, low alloy

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

FINISH: Shop Coat

**Pipe Applications:** Ductile Iron, PVC

**Sizes (in inches):** 4, 6, 8, 10, 12, 14, 16, 18, 20, 24

**Pressure Ratings:** Rated at the pressure of the PVC pipe it is used on up to 250 PSI



# MJ-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

For MJ Fittings (One Restraint and T-Bolt)

| NOMINAL SIZE INCHES | DUCTILE IRON SIZE PIPE |                      |               | IPS SIZE PIPE    |                      |               |
|---------------------|------------------------|----------------------|---------------|------------------|----------------------|---------------|
|                     | PIPE O.D. INCHES       | CATALOG NUMBER BOXED | WT. EACH LBS. | PIPE O.D. INCHES | CATALOG NUMBER BOXED | WT. EACH LBS. |
| 4                   | 4.80                   | 115-04800000-000     | 7.80          | 4.50             | 115-04500000-000     | 8.30          |
| 6                   | 6.90                   | 115-06900000-000     | 10.20         | 6.63             | 115-06630000-000     | 11.10         |
| 8                   | 9.05                   | 115-09050000-000     | 15.50         | 8.63             | 115-08630000-000     | 17.30         |
| 10                  | 11.10                  | 115-11100000-000     | 25.50         | 10.75            | 115-10750000-000     | 27.80         |
| 12                  | 13.20                  | 115-13200000-000     | 27.60         | 12.75            | 115-12750000-000     | 30.80         |
| 14*                 | 15.30                  | 115-15300000-000     | 63.10         |                  |                      |               |
| 16*                 | 17.40                  | 115-17400000-000     | 8.50          |                  |                      |               |
| 18*                 | 19.50                  | 115-19500000-000     | 90.00         |                  |                      |               |
| 20*                 | 21.60                  | 115-21600000-000     | 100.60        |                  |                      |               |
| 24*                 | 25.80                  | 115-25800000-000     | 132.90        |                  |                      |               |

\*Bolts in sizes 14"-24" are all-thread instead of t-bolts. Suitable MJ-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D2241.

### Pressure Ratings for PVC

| ANSI/AWWA C900 DI OD |         | ANSI/AWWA C905 CI OD |         | ASTM D2241 IPS/STEEL OD |         |
|----------------------|---------|----------------------|---------|-------------------------|---------|
| DR 14                | 200 PSI | DR 18                | 235 PSI | SDR 17                  | 250 PSI |
| DR 18                | 150 PSI | DR 21                | 200 PSI | SDR 21                  | 200 PSI |
| DR 25                | 100 PSI | DR 25                | 165 PSI | SDR 26                  | 160 PSI |
| -                    | -       | DR 32.5              | 125 PSI | -                       | -       |

Pressure ratings are for ordinary waterworks with transient surges only. MJ-Locks larger than 16" are not recommended for use on Ductile Iron pipe. Standard safety factor (SF) is 2:1. Suitable MJ-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D2241.

### Pressure Ratings for Ductile Iron

| ANSI/AWWA C151 DI OD |         |
|----------------------|---------|
| 4"-6"                | 350 PSI |
| 8"                   | 300 PSI |
| 10"                  | 250 PSI |
| 12"                  | 200 PSI |
| 14"                  | 150 PSI |
| 16"                  | 100 PSI |



# Cam-Lock™

## For PVC Pipe

COLOR CODED RED FOR PVC PIPE Patents US 7484775, US 7748100, CA 2511782

# 120

### Description:

Cam-Locks are mechanical joint restraint glands with multiple and independent single-tooth, cam-action wedges designed to restrain a fitting on a piece of pipe. Cam-Locks can be removed as necessary.

### Application:

Restraining pipe ends on mechanical joint fittings.

### Key Features:

- Fewer wedges for time saving installations
- Lower torque requirement to fully actuate bolts
- Multi-Seal MJ Gasket available in 4"-12". Fits IPS or DI sized pipe.
- Corrosion resistant
- Secondary hex shank for easy removal and reinstallation
- The 120 Cam-Locks have been tested without failure according to ASTM F 1674-05 on sizes 4"-12" DR 18 PC 150 pipe, conforming to the requirements of AWWA C900

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Epoxy per AWWA C213. Wedges and Actuating Bolts are E-coated Epoxy

### Kit Specifications

Gasket: Standard Mechanical Joint per ANSI/AWWA C111/A21.11 SBR, Multi-Seal Gasket, or MJ transition gasket for Steel/IPS ODs

T-Bolts: High strength, low alloy. **Optional: 304 Stainless Steel, fluoropolymer coated.**

### Pipe Applications: PVC

**Sizes (In Inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Pressure Ratings:** Rated at the pressure rating of PVC pipe it is used on.

**Deflection:** 3° on 3", 5° on 4"-12", 2° on 14"-16", 1 ½° on 18"-24", 1° on 30"-48"

UL Listed in AWWA C900 Class  
150 DR18 PVC pressure pipe  
4"-12".





# Cam-Lock™

For PVC Pipe

COLOR CODED RED FOR PVC PIPE Patents US 7484775, US 7748100, CA 2511782

For MJ Fittings on PVC Pipe—with a Kit—Boxed

| NOMINAL SIZE INCHES | PIPE O.D. INCHES | NO. OF WEDGES | WITH D.I. GASKET, NUTS, AND BOLTS |               | PIPE O.D. INCHES | WITH IPS GASKET, NUTS AND BOLTS |               |
|---------------------|------------------|---------------|-----------------------------------|---------------|------------------|---------------------------------|---------------|
|                     |                  |               | CATALOG NUMBER BOXED              | WT. EACH LBS. |                  | CATALOG NUMBER BOXED            | WT. EACH LBS. |
| 3                   | -                | 2             | -                                 | -             | 3.5              | 120-03500000-001                | 11            |
| 4                   | 4.8              | 2             | 120-04800000-000                  | 12.2          | 4.5              | 120-04800000-001                | 12.2          |
| 6                   | 6.9              | 3             | 120-06900000-000                  | 18.3          | 6.63             | 120-06900000-001                | 18.3          |
| 8                   | 9.05             | 3             | 120-09050000-000                  | 20.8          | 8.63             | 120-09050000-001                | 20.8          |
| 10                  | 11.1             | 6             | 120-11100000-000                  | 33.4          | 10.75            | 120-11100000-001                | 33.4          |
| 12                  | 13.2             | 8             | 120-13200000-000                  | 42            | 12.75            | 120-13200000-001                | 42            |
| 14*                 | 15.3             | 10            | 120-15300000-000                  | 55.4          |                  |                                 |               |
| 16*                 | 17.4             | 12            | 120-17400000-000                  | 68.4          |                  |                                 |               |
| 18*                 | 19.5             | 12            | 120-19500000-000                  | 74.8          |                  |                                 |               |
| 20*                 | 21.6             | 14            | 120-21600000-000                  | 86.9          |                  |                                 |               |
| 24*                 | 25.8             | 16            | 120-25800000-000                  | 109.8         |                  |                                 |               |
| 30*                 | 32               | 20            | 120-32000000-000                  | 291           |                  |                                 |               |
| 36*                 | 38.3             | 24            | 120-38300000-000                  | 370.1         |                  |                                 |               |

\*Note: 14"-36" only gaskets and hardware are boxed.

For MJ Fittings on PVC Pipe—without a kit

| NOMINAL SIZE INCHES | PIPE O.D. INCHES | NO. OF WEDGES | WITHOUT GASKET, NUTS AND BOLTS |               |
|---------------------|------------------|---------------|--------------------------------|---------------|
|                     |                  |               | CATALOG NUMBER UN-BOXED        | WT. EACH LBS. |
| 3                   | 3.50             | 2             | 120-03500001-900               | 7.00          |
| 4                   | 4.50-4.80        | 2             | 120-04800001-900               | 8.30          |
| 6                   | 6.63-6.90        | 3             | 120-06900001-900               | 12.40         |
| 9                   | 8.63-9.05        | 3             | 120-09050001-900               | 14.90         |
| 10                  | 10.75-11.10      | 6             | 120-11100001-900               | 25.70         |
| 12                  | 12.75-13.20      | 8             | 120-13200001-900               | 34.10         |
| 14                  | 15.30            | 10            | 120-15300001-900               | 45.10         |
| 16                  | 17.40            | 12            | 120-17400001-900               | 56.20         |
| 18                  | 19.50            | 12            | 120-19500001-900               | 62.40         |
| 20                  | 21.60            | 14            | 120-21600001-900               | 72.90         |
| 24                  | 25.80            | 16            | 120-25800001-900               | 93.20         |

## For MJ Fittings on PVC Pipe—without a Kit—boxed

| NOMINAL SIZE INCHES | PIPE O.D. INCHES | NO. OF WEDGES | WITHOUT GASKET, NUTS, AND BOLTS |               |
|---------------------|------------------|---------------|---------------------------------|---------------|
|                     |                  |               | CATALOG NUMBER BOXED            | WT. EACH LBS. |
| 3                   | 3.50             | 2             | 120-03500001-000                | 7.00          |
| 4                   | 4.50-4.80        | 2             | 120-04800001-000                | 8.30          |
| 6                   | 6.63-6.90        | 3             | 120-06900001-000                | 12.40         |
| 8                   | 8.63-9.05        | 3             | 120-09050001-000                | 14.90         |
| 10                  | 10.75-11.10      | 6             | 120-11100001-000                | 25.70         |
| 12                  | 12.75-13.20      | 8             | 120-13200001-000                | 34.10         |

Suitable Cam-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, as defined by ASTM D224

## Skid Quantity and Weight

| NOMINAL SIZE INCHES | SKID QUANTITY | APPROXIMATE WEIGHT |
|---------------------|---------------|--------------------|
| 4                   | 240           | 1650               |
| 6                   | 144           | 1760               |
| 8                   | 108           | 1778               |
| 10                  | 72            | 1333               |
| 12                  | 48            | 1650               |
| 14                  | 48            | 2231               |
| 16                  | 36            | 2089               |
| 18                  | 24            | 1564               |
| 20                  | 24            | 1936               |
| 24                  | 12            | 1184               |
| 30                  | 1             | 300                |
| 36                  | 1             | 385                |

Applies to both boxed and un-boxed Cam-Lock Joint Restraints





# Bell-Lock™

## Serrated Joint Restraints

FOR PVC PIPE

# 136

### Description:

A serrated restraint used for AWWA C907 Style PVC pressure fittings

### Application:

For restraining PVC pipe to AWWA C907 style PVC pressure fittings.

### Key Features:

- Recessed shoulders allow for single wrench installation
- Maintains full pipe deflection
- 360° of pipe support provided - uncompromised restraint
- Adaptable for new and/or existing pipeline applications
- Easily installs outside the trench
- Eliminates need for costly concrete thrust blocks

### Materials Specifications (subject to change)

RESTRAINER: 65-45-12 Ductile Iron

T-BOLTS & HEX NUTS: High strength, low alloy

RODS: High strength, low alloy or alloy Steel meeting ASTM A193 GR B7

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

FINISH: Shop Coat

Pipe Applications: PVC

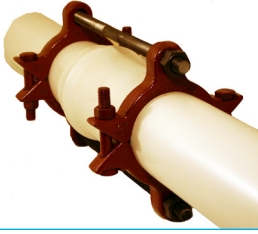
Sizes (in inches): 4, 6, 8

Pressure Ratings: 150 PSI

### For AWWA C907 PVC Pressure Fittings

| NOMINAL<br>SIZE<br>INCHES | PIPE O.D.<br>INCHES | DUCTILE IRON SIZE PIPE  |                  |
|---------------------------|---------------------|-------------------------|------------------|
|                           |                     | CATALOG NUMBER<br>BOXED | WT. EACH<br>LBS. |
| 4                         | 4.80                | 136-04800000-000        | 15.60            |
| 6                         | 6.90                | 136-06900000-000        | 20.30            |
| 8                         | 9.05                | 136-09050000-000        | 31.00            |

Pressure ratings are for ordinary waterworks with transient surges only.



# Bell-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

# 165

### Description:

A serrated restraint used for restraining bell-and-spigot joints on PVC or Ductile Iron.

### Application:

Restraining (holding) bell-and-spigot joints.

### Key Features:

- Designs deliver almost 360° of engagement (grip)
- Recessed shoulders promote single wrench installations
- Maintains full pipe deflection
- Can adapt to new and/or existing pipeline applications
- Easily installs outside the trench

### Materials Specifications (subject to change)

GLAND: 65-45-12 Ductile Iron (ASTM A536)

RODS: High strength, low alloy or alloy Steel meeting ASTM A193 GRB7. *Optional: 304 Stainless Steel Hardware*

CLAMPING BOLTS: SAE Grade 5, ASTM A449 Type 1, or approved equivalent

FINISH: Shop Coat

### Pipe Applications: Ductile Iron and PVC

### Sizes:

DUCTILE IRON: 4, 6, 8, 10, 12, 14, 16

PVC (D.I.): 4, 6, 8, 10, 12, 14, 16, 18, 20, 24

PVC (IPS): 4, 6, 8, 10, 12

### Pressure Ratings on Ductile Iron:

ANSI/AWWA C151 DI OD

4"-6" 350 PSI

8" 300 PSI

10" 250 PSI

12" 200 PSI

14" 150 PSI

16" 100 PSI

### Pressure Ratings on PVC:

ANSI/AWWA C905 CI OD

DR 14 200 PSI

DR 18 235 PSI

DR 25 100 PSI

ANSI/AWWA C905 CI OD

DR 18 235 PSI

DR 21 200 PSI

DR 25 165 PSI

DR 32.5 125 PSI

ASTM D2241

SDR 17 250 PSI

SDR 21 200 PSI

SDR 26 160 PSI



165

# Bell-Lock™

## Serrated Joint Restraints

FOR DUCTILE IRON PIPE AND PVC PIPE

For Bell and Spigot Joints (Two restraints with rods)

| NOMINAL SIZE INCHES | PIPE O.D. INCHES | DUCTILE IRON SIZE PIPE |               | PIPE O.D. INCHES | IPS SIZE PIPE        |               |
|---------------------|------------------|------------------------|---------------|------------------|----------------------|---------------|
|                     |                  | CATALOG NUMBER BOXED   | WT. EACH LBS. |                  | CATALOG NUMBER BOXED | WT. EACH LBS. |
| 4                   | 4.80             | 165-04800000-000       | 15.60         | 4.50             | 165-04500000-000     | 16.60         |
| 6                   | 6.90             | 165-06900000-000       | 20.30         | 6.63             | 165-06630000-000     | 22.10         |
| 8                   | 9.05             | 165-09050000-000       | 31.00         | 8.63             | 165-08630000-000     | 34.60         |
| 10                  | 11.10            | 165-11100000-000       | 52.10         | 10.75            | 165-10750000-000     | 56.70         |
| 12                  | 13.20            | 165-13200000-000       | 56.30         | 12.75            | 165-12750000-000     | 62.70         |
| 14*                 | 15.30            | 165-15300000-000       | 123.00        |                  |                      |               |
| 16*                 | 17.40            | 165-17400000-000       | 133.70        |                  |                      |               |
| 18*                 | 19.50            | 165-19500000-000       | 175.60        |                  |                      |               |
| 20*                 | 21.60            | 165-21600000-000       | 201.30        |                  |                      |               |
| 24*                 | 25.80            | 165-25800000-000       | 265.80        |                  |                      |               |

Suitable Bell-Lock applications for PVC are limited to SDR 26 or heavier wall pipe, and defined by ASTM D2 41. Pressure ratings are for ordinary waterworks with transient surges only. Bell-Locks larger than 16" are not recommended for use on Ductile Iron pipe. Standard safety factor (SF) is 2:1. SF is derated on 10" and 12" push-on type fittings which will not accommodate all of the restraining T-Bolts.



# Pipe-Lock™

## 470 Series Components Chart

### Gasket

| NOMINAL PIPE SIZE INCHES | DUCTILE IRON |                  | IPS   |                  | MULTI-SEAL  |                  |
|--------------------------|--------------|------------------|-------|------------------|-------------|------------------|
|                          | OD           | CATALOG NUMBER   | OD    | CATALOG NUMBER   | OD          | CATALOG NUMBER   |
| 3                        | 3.96         | 000-00038572-060 | 3.50  | 000-00038573-060 | -           | -                |
| 4                        | 4.80         | 000-00036142-060 | 4.50  | 000-00038517-060 | 4.50-4.80   | 000-00036735-060 |
| 6                        | 6.90         | 000-00036143-060 | 6.63  | 000-00038518-060 | 6.63-6.90   | 000-00036736-060 |
| 8                        | 9.05         | 000-00036144-060 | 8.63  | 000-00038519-060 | 8.63-9.05   | 000-00036737-060 |
| 10                       | 11.10        | 000-00036145-060 | 10.75 | 000-00038520-060 | 10.75-12.75 | 000-00036738-060 |
| 12                       | 13.20        | 000-00036146-060 | 12.75 | 000-00038521-060 | 12.75-13.20 | 000-00036739-060 |
| 14                       | 15.30        | 000-00038496-060 |       |                  |             |                  |
| 16                       | 17.40        | 000-00038497-060 |       |                  |             |                  |
| 18                       | 19.50        | 000-00038498-060 |       |                  |             |                  |
| 20                       | 21.60        | 000-00038499-060 |       |                  |             |                  |
| 24                       | 25.80        | 000-00038500-060 |       |                  |             |                  |

### Studs for 7" Sleeve

| NOMINAL PIPE SIZE INCHES | STUD CATALOG NUMBER | DESCRIPTION  | NUT CATALOG NUMBER | DESCRIPTION         |
|--------------------------|---------------------|--|--------------------|---------------------|
| 3                        | 000-00090225-005    | 5/8" x 16" All-Thread Alloy                              | 000-000100025-005  | 5/8" Hex Head Alloy |
| 4-24                     | 101-00090241-005    | 3/4" x 18" All-Thread Alloy Set Includes 1 Stud & 2 Nuts |                    |                     |

### Studs for 10" Sleeve

| NOMINAL PIPE SIZE INCHES | STUD SET CATALOG NUMBER | DESCRIPTION  |
|--------------------------|-------------------------|--|
| 6-24                     | 101-00090218-005        | 3/4" x 20" All-Thread Alloy. Set Includes 1 Stud & 2 Nuts.   |
| 30-36                    | 101-00090840-005        | 1" x 24" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.     |
| 42-48                    | 101-00090842-005        | 1 1/4" x 24" All-Thread Alloy. Set includes 1 Stud & 2 Nuts. |

### Number of Studs Required

| NOMINAL PIPE SIZE INCHES | STUD QUANTITY |
|--------------------------|---------------|
| 3                        | 4             |
| 4                        | 4             |
| 6                        | 6             |
| 8                        | 6             |
| 10                       | 8             |
| 12                       | 8             |
| 14                       | 10            |
| 16                       | 12            |
| 18                       | 12            |
| 20                       | 14            |
| 24                       | 16            |
| 30                       | 20            |
| 36                       | 24            |
| 42                       | 28            |
| 48                       | 32            |

### Studs for 16" Sleeve

| NOMINAL PIPE SIZE INCHES | STUD SET CATALOG NUMBER | DESCRIPTION  |
|--------------------------|-------------------------|--|
| 30-36                    | 101-00090841-005        | 1" x 30" All-Thread Alloy. Set includes 1 Stud & 2 Nuts.     |
| 42-48                    | 101-00090843-005        | 1 1/4" x 30" All-Thread Alloy. Set includes 1 Stud & 2 Nuts. |



# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR DUCTILE IRON OR STEEL PIPE

Patents US 7484775, US 7748100, CA 211782

# 471

### Description:

This is a fabricated Steel restraint coupling.

### Application:

Joins and restrains a plain-end Ductile Iron pipe to plain-end Ductile Iron pipe or plain-end Steel pipe to plain-end Steel pipe.

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint per ANSI/AWWA C111/A21.11 SBR, Multi-Seal gasket, or MJ transition gasket for Steel/IPS ODs. 30"-48" sizes supplied with Smith-Blair MJ gasket, all other sizes use standard MJ gaskets

STUDS/NUTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel or fluoropolymer-coated nuts.**

**Pipe Applications:** Ductile Iron, Carbon Steel

### Sizes (in inches):

3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48 (Ductile Iron)

3, 4, 6, 8, 10, 12 (Carbon Steel)

**Working Pressure:** See chart on next page.

**Deflection:** Assembled joints into each follower gland through 12" shall allow for three-degree deflection on 3", five degrees on 4"-12", two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48".





471

# Pipe-Lock™

Fabricated Steel Restraint Coupling  
FOR DUCTILE IRON OR STEEL PIPE

## Pipe Type and Pressure Rating (PSI)

| NOM. SIZE | DUCTILE IRON | STEEL |
|-----------|--------------|-------|
| 3"        | 350          | 250   |
| 4"        | 350          | 250   |
| 6"        | 350          | 250   |
| 8"        | 350          | 250   |
| 10"       | 350          | 250   |
| 12"       | 350          | 250   |
| 14"       | 350          | N/A   |
| 16"       | 350          | N/A   |
| 20"       | 250          | N/A   |
| 24"       | 250          | N/A   |
| 30"       | 250          | N/A   |
| 36"       | 250          | N/A   |
| 42"       | 250          | N/A   |
| 48"       | 250          | N/A   |

## Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

| ANSI/AWWA C900 D.I. O.D. |     | ASTM D2241 IPS/STEEL O.D. |     |
|--------------------------|-----|---------------------------|-----|
| DR 14                    | 305 | SDR 17                    | 250 |
| DR 18                    | 235 | SDR 21                    | 200 |
| DR 25                    | 165 | SDR 26                    | 160 |

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Example:

- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.

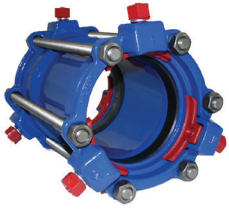
## Straight – Ductile Iron x Ductile Iron

| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES | CATALOG NUMBER   | SLEEVE THK. X LGTH. IN. |     | STUDS |          |          | APPROX. SHIP WT. LBS. |
|--------------------------|------------------|------------------|-------------------------|-----|-------|----------|----------|-----------------------|
|                          |                  |                  | (A)                     | (B) | NO.   | DIA. IN. | LGTH IN. |                       |
| 3                        | 3.96             | 471-00000396-203 | 0.25                    | 7   | 4     | 0.63     | 16       | 29                    |
| 4                        | 4.80             | 471-00000480-203 | 0.25                    | 7   | 4     | 0.75     | 18       | 35                    |
| 6                        | 6.90             | 471-00000690-203 | 0.25                    | 7   | 6     | 0.75     | 18       | 52                    |
| 6                        | 6.90             | 471-00000690-303 | 0.25                    | 10  | 6     | 0.75     | 20       | 60                    |
| 8                        | 9.05             | 471-00000905-203 | 0.25                    | 7   | 6     | 0.75     | 18       | 61                    |
| 8                        | 9.05             | 471-00000905-303 | 0.25                    | 10  | 6     | 0.75     | 20       | 70                    |
| 10                       | 11.10            | 471-00001110-203 | 0.25                    | 7   | 8     | 0.75     | 18       | 90                    |
| 10                       | 11.10            | 471-00001110-303 | 0.25                    | 10  | 8     | 0.75     | 20       | 102                   |
| 12                       | 13.20            | 471-00001320-203 | 0.25                    | 7   | 8     | 0.75     | 18       | 110                   |
| 12                       | 13.20            | 471-00001320-303 | 0.25                    | 10  | 8     | 0.75     | 20       | 122                   |
| 14                       | 15.30            | 471-00001530-203 | 0.25                    | 7   | 10    | 0.75     | 18       | 139                   |
| 14                       | 15.30            | 471-00001530-303 | 0.25                    | 10  | 10    | 0.75     | 20       | 154                   |
| 16                       | 17.40            | 471-00001740-203 | 0.25                    | 7   | 12    | 0.75     | 18       | 168                   |
| 16                       | 17.40            | 471-00001740-303 | 0.25                    | 10  | 12    | 0.75     | 20       | 186                   |
| 18                       | 19.50            | 471-00001950-203 | 0.25                    | 7   | 12    | 0.75     | 18       | 184                   |
| 18                       | 19.50            | 471-00001950-303 | 0.25                    | 10  | 12    | 0.75     | 20       | 203                   |
| 20                       | 21.60            | 471-00002160-203 | 0.25                    | 7   | 14    | 0.75     | 18       | 212                   |
| 20                       | 21.60            | 471-00002160-303 | 0.25                    | 10  | 14    | 0.75     | 20       | 233                   |
| 24                       | 25.80            | 471-00002580-203 | 0.25                    | 10  | 16    | 0.75     | 18       | 266                   |
| 24                       | 25.80            | 471-00002580-303 | 0.375                   | 10  | 16    | 0.75     | 20       | 291                   |
| 30+                      | 32.00            | 471-00003200-303 | 0.375                   | 10  | 20    | 1.00     | 24       | 644                   |
| 30+                      | 32.00            | 471-00003200-503 | 0.375                   | 16  | 20    | 1.00     | 30       | 787                   |

A= Sleeve Thickness B=Sleeve Length  
+ Uses Smith-Blair MJ Gasket

| NOMINAL<br>PIPE SIZE<br>INCHES | PIPE O.D.<br>INCHES | CATALOG<br>NUMBER | SLEEVE THK.<br>X LGTH. IN. |     | STUDS |          |            | APPROX.<br>SHIP WT.<br>LBS. |
|--------------------------------|---------------------|-------------------|----------------------------|-----|-------|----------|------------|-----------------------------|
|                                |                     |                   | (A)                        | (B) | NO.   | DIA. IN. | LGTH IN. © |                             |
| 36+                            | 38.30               | 471-00003830-303  | 0.375                      | 10  | 24    | 1.00     | 24         | 813                         |
| 36+                            | 38.30               | 471-00003830-503  | 0.375                      | 16  | 24    | 1.00     | 30         | 986                         |
| 42+                            | 44.50               | 471-00004450-303  | 0.375                      | 10  | 28    | 1.25     | 24         | 1263                        |
| 42+                            | 44.50               | 471-00004450-503  | 0.375                      | 16  | 28    | 1.25     | 30         | 1464                        |
| 48+                            | 50.80               | 471-00005080-303  | 0.375                      | 10  | 32    | 1.25     | 24         | 1465                        |
| 48+                            | 50.80               | 471-00005080-503  | 0.375                      | 16  | 32    | 1.25     | 30         | 1694                        |

A= Sleeve Thickness B=Sleeve Length  
 + Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Restraint Couplings

FOR PVC PIPE

Patents US 7484775, US 7745100, CA 2511782

# 472

**Description:** This is a fabricated Steel restraint coupling.

**Application:** Joins and restrains PVC pipe to PVC pipe.

**Key Features:**

- Mechanical restraint shall be an integral part of the follower gland, utilizing multiple single tooth wedges
- Comes as a complete unit
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12" — mixing IPS and D.I. O.D. PVC pipe.
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. Per ANSI/AWWA C111/A21.11 SBR, Multi-Seal Gasket, or MJ transition gasket for Steel/IPS ODs. **Optional Multi-Seal gasket available in 4"-12" sizes; 30" and 36" sizes supplied with Smith-Blair® MJ gasket.**

STUDS/NUTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel fluoropolymer-coated nuts.**

**Pipe Applications:** PVC

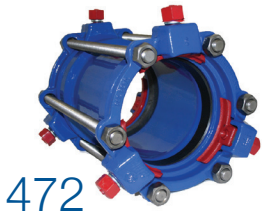
**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Working Pressure:** See *Pressure Chart on next page.*

**Deflection** Assembled joints into each follower gland through 12" shall allow for three-degree deflection on 3", five degrees on 4"-12", two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48".







472

# Pipe-Lock™

## Fabricated Steel Restraint Couplings

FOR PVC PIPE

Patents US 7484775, US 7745100, CA 2511782

### Pipe Type and Pressure Rating (PSI)

| NOM. SIZE | PVC   | DUCTILE IRON | STEEL |
|-----------|---|--------------|-------|
| 3"        | Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart. | 350          | 250   |
| 4"        |   | 350          | 250   |
| 6"        |   | 350          | 250   |
| 8"        |   | 350          | 250   |
| 10"       |   | 350          | 250   |
| 12"       |   | 350          | 250   |
| 14"       |   | 350          | N/A   |
| 16"       |   | 350          | N/A   |
| 20"       |   | 250          | N/A   |
| 24"       |   | 250          | N/A   |
| 30"       | 150   | 250          | N/A   |
| 36"       | 125   | 250          | N/A   |
| 42"       | N/A   | 250          | N/A   |
| 48"       | N/A   | 250          | N/A   |

### Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

| ANSI/AWWA C900<br>D.I. OD |     | ANSI/AWWA C905<br>D.I. OD |      | ASTM D2241 IPS/<br>STEEL OD |     |
|---------------------------|-----|---------------------------|------|-----------------------------|-----|
| DR 14                     | 305 | DR 18                     | 235  | SDR 17                      | 250 |
| DR 18                     | 235 | DR 25                     | 165* | SDR 21                      | 200 |
| DR 25                     | 165 |                           |      | SDR 26                      | 160 |

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.

### Straight – PVC x PVC

| NOMINAL<br>PIPE SIZE<br>INCHES | PIPE O.D. INCHES              | CATALOG<br>NUMBER | SLEEVE THK.<br>X LGTH. IN. |     | STUDS |          |              | APPROX.<br>SHIP WT.<br>LBS. |
|--------------------------------|-------------------------------|-------------------|----------------------------|-----|-------|----------|--------------|-----------------------------|
|                                |                               |                   | (A)                        | (B) | NO.   | DIA. IN. | LGTH.<br>IN. |                             |
| 3                              | 3.50                          | 472-00000350-203  | 0.25                       | 7   | 4     | 0.63     | 16           | 29                          |
| *4                             | *4.50-4.80 X<br>*4.50-4.80    | 472-00000480-243  | 0.25                       | 7   | 4     | 0.75     | 18           | 36                          |
| 4                              | 4.50                          | 472-00000450-203  | 0.25                       | 7   | 4     | 0.75     | 18           | 36                          |
| 4                              | 4.80                          | 472-00000480-203  | 0.25                       | 7   | 4     | 0.75     | 18           | 36                          |
| *6                             | *6.63-6.90 X *<br>6.63 X 6.90 | 472-00000690-243  | 0.25                       | 7   | 4     | 0.75     | 18           | 52                          |
| *6                             | *6.63-6.90 X<br>*6.63 X 6.90  | 472-00000690-343  | 0.25                       | 10  | 6     | 0.75     | 20           | 61                          |
| 6                              | 6.63                          | 472-00000663-203  | 0.25                       | 7   | 6     | 0.75     | 18           | 52                          |
| 6                              | 6.63                          | 472-00000663-303  | 0.25                       | 10  | 6     | 0.75     | 20           | 61                          |
| 6                              | 6.90                          | 472-00000690-203  | 0.25                       | 7   | 6     | 0.75     | 18           | 52                          |
| 6                              | 6.90                          | 472-00000690-303  | 0.25                       | 10  | 6     | 0.75     | 20           | 61                          |
| *8                             | *8.63-9.05 x<br>*8.63-9.05    | 472-00000905-243  | 0.25                       | 7   | 6     | 0.75     | 18           | 62                          |
| *8                             | *8.63-9.05 x<br>*8.63-9.05    | 472-00000905-343  | 0.25                       | 10  | 6     | 0.75     | 20           | 71                          |
| 8                              | 8.63                          | 472-00000863-203  | 0.25                       | 7   | 6     | 0.75     | 18           | 62                          |
| 8                              | 8.63                          | 472-00000863-303  | 0.25                       | 10  | 6     | 0.75     | 20           | 71                          |
| 8                              | 9.05                          | 472-00000905-203  | 0.25                       | 7   | 6     | 0.75     | 18           | 62                          |
| 8                              | 9.05                          | 472-00000905-303  | 0.25                       | 10  | 6     | 0.75     | 20           | 71                          |

A= Sleeve Thickness B=Sleeve Length

\*Uses Multi-Seal Gasket

Straight – PVC x PVC Continued

| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES               | CATALOG NUMBER   | SLEEVE THK. X LGTH. IN. |     | STUDS |          |           | APPROX. SHIP WT. LBS. |
|--------------------------|--------------------------------|------------------|-------------------------|-----|-------|----------|-----------|-----------------------|
|                          |                                |                  | (A)                     | (B) | NO.   | DIA. IN. | LGTH. IN. |                       |
| *10                      | *10.75-11.10 x<br>*10.75-11.10 | 472-00001110-243 | 0.25                    | 7   | 8     | 0.75     | 18        | 92                    |
| *10                      | *10.75-11.10 x<br>*10.75-11.10 | 472-00001110-343 | 0.25                    | 10  | 8     | 0.75     | 20        | 103                   |
| 10                       | 10.75                          | 472-00001075-203 | 0.25                    | 7   | 8     | 0.75     | 18        | 92                    |
| 10                       | 10.75                          | 472-00001075-303 | 0.25                    | 10  | 8     | 0.75     | 20        | 103                   |
| 10                       | 11.10                          | 472-00001110-203 | 0.25                    | 7   | 8     | 0.75     | 18        | 92                    |
| 10                       | 11.10                          | 472-00001110-303 | 0.25                    | 10  | 8     | 0.75     | 20        | 103                   |
| *12                      | *12.75-13.20 x<br>*12.75-13.20 | 472-00001320-243 | 0.25                    | 7   | 8     | 0.75     | 18        | 114                   |
| *12                      | *12.75-13.20 x<br>*12.75-13.20 | 472-00001320-343 | 0.25                    | 10  | 8     | 0.75     | 20        | 125                   |
| 12                       | 12.75                          | 472-00001275-203 | 0.25                    | 7   | 8     | 0.75     | 18        | 114                   |
| 12                       | 12.75                          | 472-00001275-303 | 0.25                    | 10  | 8     | 0.75     | 20        | 125                   |
| 12                       | 13.20                          | 472-00001320-203 | 0.25                    | 7   | 8     | 0.75     | 18        | 114                   |
| 12                       | 13.20                          | 472-00001320-303 | 0.25                    | 10  | 8     | 0.75     | 20        | 125                   |
| 14                       | 15.30                          | 472-00001530-203 | 0.25                    | 7   | 10    | 0.75     | 18        | 142                   |
| 14                       | 15.30                          | 472-00001530-303 | 0.25                    | 10  | 10    | 0.75     | 20        | 157                   |
| 16                       | 17.40                          | 472-00001740-203 | 0.25                    | 7   | 12    | 0.75     | 18        | 172                   |
| 16                       | 17.40                          | 472-00001740-303 | 0.25                    | 10  | 12    | 0.75     | 20        | 190                   |
| 18                       | 19.50                          | 472-00001950-203 | 0.25                    | 7   | 12    | 0.75     | 18        | 190                   |
| 18                       | 19.50                          | 472-00001950-303 | 0.25                    | 10  | 12    | 0.75     | 20        | 208                   |
| 20                       | 21.60                          | 472-00002160-203 | 0.25                    | 7   | 14    | 0.75     | 18        | 218                   |
| 20                       | 21.60                          | 472-00002160-303 | 0.25                    | 10  | 14    | 0.75     | 20        | 240                   |
| 24                       | 25.80                          | 472-00002580-203 | 0.25                    | 7   | 16    | 0.75     | 18        | 272                   |
| 24                       | 25.80                          | 472-00002580-303 | 0.25                    | 10  | 16    | 0.75     | 20        | 297                   |
| 30+                      | 32.00                          | 472-00003200-303 | 0.25                    | 10  | 20    | 1.00     | 24        | 650                   |
| 30+                      | 32.00                          | 472-00003200-503 | 0.25                    | 16  | 20    | 1.00     | 30        | 793                   |
| 36+                      | 38.30                          | 472-00003830-303 | 0.25                    | 10  | 24    | 1.00     | 24        | 821                   |
| 36+                      | 38.30                          | 472-00003830-503 | 0.25                    | 16  | 24    | 1.00     | 30        | 993                   |

A= Sleeve Thickness B=Sleeve Length

\*Uses Mult-Seal Gasket

+ Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR PVC x DUCTILE IRON OR PVC x STEEL

Patents US 7484775, US 7748100, CA 2511782

# 473

**Description:** This is a fabricated Steel restraint coupling.

**Application:** Joins and restrains a straight transition plain-end PVC to plain-end Ductile Iron or plain-end PVC to plain-end Steel.

### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Comes as a complete unit
- Use with the Multi-Seal Gasket for more flexibility — mixing IPS and D.I. O.D. pipe
- Breakaway nut torque per wedge is 45 to 60 ft. lbs
- Longer sleeves available

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. ANSI/AWWA C111/A21.11 SBR or Multi-Seal Gasket

STUDS/NUTS: High strength, low alloy, per AWWA C111; *Optional: 304 Stainless Steel fluoropolymer-coated nuts*

**Pipe Applications:** PVC x Ductile Iron or PVC x Steel

### Sizes (in inches):

PVC: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

STEEL: 3, 4, 6, 8, 10, 12

**Working Pressure:** See Pressure Chart on next page.

**Deflection** Assembled joints into each follower gland through 12" shall allow for three-degree deflection on 3", five degrees on 4"-12", two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48".





473

# Pipe-Lock™

## Fabricated Steel Restraint Coupling

FOR PVC x DUCTILE IRON OR PVC x STEEL

Patents US 7484775, US 7748100, CA 2511782

### Pipe Type and Pressure Rating (PSI)

| NOM. SIZE | PVC   | DUCTILE IRON | STEEL |     |
|-----------|---|--------------|-------|-----|
| 3"        | Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart. | 350          | 250   |     |
| 4"        |   | 350          | 250   |     |
| 6"        |   | 350          | 250   |     |
| 8"        |   | 350          | 250   |     |
| 10"       |   | 350          | 250   |     |
| 12"       |   | 350          | 250   |     |
| 14"       |   | 350          | N/A   |     |
| 16"       |   | 350          | N/A   |     |
| 20"       |   | 250          | N/A   |     |
| 24"       |   | 250          | N/A   |     |
| 30"       |   | 150          | 250   | N/A |
| 36"       |   | 125          | 250   | N/A |
| 42"       | N/A   | 250          | N/A   |     |
| 48"       | N/A   | 250          | N/A   |     |

### Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

| ANSI/AWWA C900 D.I. OD |     | ANSI/AWWA C905 D.I. OD |      | ASTM D2241 IPS/STEEL OD |     |
|------------------------|-----|------------------------|------|-------------------------|-----|
| DR 14                  | 305 | DR 18                  | 235  | SDR 17                  | 250 |
| DR 18                  | 235 | DR 25                  | 165* | SDR 21                  | 200 |
| DR 25                  | 165 |                        |      | SDR 26                  | 160 |

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.

### Straight – PVC x Ductile Iron or PVC x Steel

| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES |       | CATALOG NUMBER   | SLEEVE THK. X LGTH. IN. |    | STUDS |          |           | APPROX. SHIP WT. LBS. |
|--------------------------|------------------|-------|------------------|-------------------------|----|-------|----------|-----------|-----------------------|
|                          | PVC              | DI    |                  | A                       | B  | NO.   | DIA. IN. | LGTH. IN. |                       |
| 3                        | 3.50             | 3.96  | 473-03500396-203 | 0.25                    | 7  | 4     | 0.63     | 16        | 29                    |
| 4                        | *4.50-4.80       | 4.80  | 473-04800480-243 | 0.25                    | 7  | 4     | 0.75     | 18        | 36                    |
| 4                        | 4.50             | 4.80  | 473-04500480-203 | 0.25                    | 7  | 4     | 0.75     | 18        | 36                    |
| 4                        | 4.80             | 4.80  | 473-04800480-203 | 0.25                    | 7  | 4     | 0.75     | 18        | 36                    |
| 6                        | *6.63-6.90       | 6.90  | 473-06900690-243 | 0.25                    | 7  | 6     | 0.75     | 18        | 52                    |
| 6                        | *6.63-6.90       | 6.90  | 473-06900690-343 | 0.25                    | 10 | 6     | 0.75     | 20        | 60                    |
| 6                        | 6.63             | 6.90  | 473-06630690-203 | 0.25                    | 7  | 6     | 0.75     | 18        | 52                    |
| 6                        | 6.90             | 6.90  | 473-06900690-303 | 0.25                    | 10 | 6     | 0.75     | 20        | 60                    |
| 8                        | *8.63-9.05       | 9.05  | 473-09050905-243 | 0.25                    | 7  | 6     | 0.75     | 18        | 61                    |
| 8                        | *8.63-9.05       | 9.05  | 473-09050905-343 | 0.25                    | 10 | 6     | 0.75     | 20        | 70                    |
| 8                        | 8.63             | 9.05  | 473-08630905-203 | 0.25                    | 7  | 6     | 0.75     | 18        | 61                    |
| 8                        | 9.05             | 9.05  | 473-09050905-303 | 0.25                    | 10 | 6     | 0.75     | 20        | 70                    |
| 10                       | *10.75-11.10     | 11.10 | 473-11101110-243 | 0.25                    | 7  | 8     | 0.75     | 18        | 90                    |
| 10                       | *10.75-11.10     | 11.10 | 473-11101110-343 | 0.25                    | 10 | 8     | 0.75     | 20        | 101                   |
| 10                       | 10.75            | 11.10 | 473-10751110-203 | 0.25                    | 7  | 8     | 0.75     | 18        | 90                    |
| 10                       | 10.75            | 11.10 | 473-10751110-303 | 0.25                    | 10 | 8     | 0.75     | 20        | 101                   |
| 10                       | 11.10            | 11.10 | 473-11101110-203 | 0.25                    | 7  | 8     | 0.75     | 18        | 90                    |
| 10                       | 11.10            | 11.10 | 473-11101110-303 | 0.25                    | 10 | 8     | 0.75     | 20        | 101                   |
| 12                       | *12.75-13.20     | 13.20 | 473-13201320-243 | 0.25                    | 7  | 8     | 0.75     | 18        | 111                   |
| 12                       | *12.75-13.20     | 13.20 | 473-13201320-343 | 0.25                    | 10 | 8     | 0.75     | 20        | 123                   |
| 12                       | 12.75            | 13.20 | 473-12751320-203 | 0.25                    | 7  | 8     | 0.75     | 18        | 111                   |

A= Sleeve Thickness B=Sleeve Length

\* Uses Multi-Seal Gasket

## Straight – PVC x Ductile Iron or PVC x Steel Continued

| NOMINAL<br>PIPE SIZE<br>INCHES | PIPE O.D. INCHES |       | CATALOG NUMBER   | SLEEVE THK. X LGTH. IN. |    | STUDS |          |          | APPROX.<br>SHIP WT.<br>LBS. |
|--------------------------------|------------------|-------|------------------|-------------------------|----|-------|----------|----------|-----------------------------|
|                                | PVC              | DI    |                  | A                       | B  | NO.   | DIA. IN. | LGTH. IN |                             |
| 12                             | 12.75            | 13.20 | 473-12751320-303 | 0.25                    | 10 | 8     | 0.75     | 20       | 123                         |
| 12                             | 13.20            | 13.20 | 473-13201320-203 | 0.25                    | 7  | 8     | 0.75     | 18       | 111                         |
| 12                             | 13.20            | 13.20 | 473-13201320-303 | 0.25                    | 10 | 8     | 0.75     | 20       | 123                         |
| 14                             | 15.30            | 15.30 | 473-15301530-203 | 0.25                    | 7  | 10    | 0.75     | 18       | 141                         |
| 14                             | 15.30            | 15.30 | 473-15301530-303 | 0.25                    | 10 | 10    | 0.75     | 20       | 156                         |
| 16                             | 17.40            | 17.40 | 473-17401740-203 | 0.25                    | 7  | 12    | 0.75     | 18       | 170                         |
| 16                             | 17.40            | 17.40 | 473-17401740-303 | 0.25                    | 10 | 12    | 0.75     | 20       | 188                         |
| 18                             | 19.50            | 19.50 | 473-19501950-203 | 0.25                    | 7  | 12    | 0.75     | 18       | 187                         |
| 18                             | 19.50            | 19.50 | 473-19501950-303 | 0.25                    | 10 | 12    | 0.75     | 20       | 206                         |
| 20                             | 21.60            | 21.60 | 473-21602160-203 | 0.25                    | 7  | 14    | 0.75     | 18       | 215                         |
| 20                             | 21.60            | 21.60 | 473-21602160-303 | 0.25                    | 10 | 14    | 0.75     | 20       | 236                         |
| 24                             | 25.80            | 25.80 | 473-25802580-203 | 0.25                    | 7  | 16    | 0.75     | 18       | 269                         |
| 24                             | 25.80            | 25.80 | 473-25802580-303 | 0.25                    | 10 | 16    | 0.75     | 20       | 294                         |
| 30+                            | 32.00            | 32.00 | 473-32003200-303 | 0.25                    | 10 | 20    | 1.00     | 24       | 647                         |
| 30+                            | 32.00            | 32.00 | 473-32003200-503 | 0.25                    | 16 | 20    | 1.00     | 30       | 790                         |
| 36+                            | 38.30            | 38.30 | 473-38303830-203 | 0.25                    | 10 | 24    | 1.00     | 24       | 817                         |
| 36+                            | 38.30            | 38.30 | 473-38303830-503 | 0.25                    | 16 | 24    | 1.00     | 30       | 989                         |

A= Sleeve Thickness B=Sleeve Length

\* Uses Multi-Seal Gasket

+ Uses Smith-Blair MJ Gasket



# Pipe-Lock™

## Fabricated Steel Couplings

### Ductile Iron, PVC and Steel Pipe REDUCING TRANSITION

Patents US 7484775, US 7748100, CA 2511782

474

475

476

**Description:** This is a fabricated Steel sleeve restraint coupling for reducing transitions

**Application:** A reducing coupling that joins and restrains any combination of plain-end Ductile Iron, Steel or PVC pipe.

#### Key Features:

- Rating based on larger of the 2 OD's: 3"-16" 350 PSI / 18"-48" 250 PSI
- Comes as a complete unit
- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Reducing transition style coupling
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer sleeves available

#### Materials Specifications (subject to change)

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

#### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

#### Kit Specifications

GASKET: SBR Standard Mechanical Joint. ANSI/AWWA C111/A21.11 SBR or Multi-Seal Gasket

STUDS/NUTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel or fluoropolymer-coated nuts.**

**Pipe Applications:** Ductile Iron, Steel, PVC

#### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

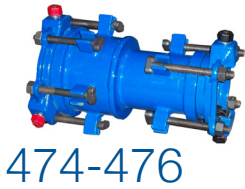
STEEL: 3, 4, 6, 8, 10, 12

PVC: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 24, 30, 36

**Working Pressure:** See chart on next page.

**Deflection** Assembled joints into each follower gland through 12" shall allow for five-degree deflection two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48"





# Pipe-Lock™

Fabricated Steel Couplings

Ductile Iron, PVC and Steel Pipe REDUCING TRANSITION

Patents US 7484775, US 7748100, CA 2511782

474-476

## Pipe Type and Pressure Rating (PSI)

| NOM SIZE | PVC   | DUCTILE IRON | STEEL |     |
|----------|---|--------------|-------|-----|
| 3"       | Rated at the pressure rating of the PVC pipe on which it is installed. See PVC pressure rating chart. | 350          | 250   |     |
| 4"       |   | 350          | 250   |     |
| 6"       |   | 350          | 250   |     |
| 8"       |   | 350          | 250   |     |
| 10"      |   | 350          | 250   |     |
| 12"      |   | 350          | 250   |     |
| 14"      |   | 350          | N/A   |     |
| 16"      |   | 350          | N/A   |     |
| 20"      |   | 250          | N/A   |     |
| 24"      |   | 250          | N/A   |     |
| 30"      |   | 150          | 250   | N/A |
| 36"      |   | 125          | 250   | N/A |
| 42"      | N/A   | 250          | N/A   |     |
| 48"      | N/A   | 250          | N/A   |     |

## Pressure Ratings (PSI) for Cam-Locks™ on PVC Pipe

| ANSI/AWWA C900 D.I. OD |     | ANSI/AWWA C905 D.I. OD |      | ASTM D2241 IPS/STEEL OD |     |
|------------------------|-----|------------------------|------|-------------------------|-----|
| DR 14                  | 305 | DR 18                  | 235  | SDR 17                  | 250 |
| DR 18                  | 235 | DR 25                  | 165* | SDR 21                  | 200 |
| DR 25                  | 165 |                        |      | SDR 26                  | 160 |

\*ANSI/AWWA C905 DI OD- 30":150 PSI. 36":125 PSI.

The pressure rating for a Pipe-Lock will be the smaller of the two pipes when coupling/restraining together pipes with different pressure ratings.

Examples:

- If joining 24" DI to 24" DR18 C905 PVC, the working pressure would be 235 PSI.
- If joining 8" DI to 8" Steel, the working pressure would be 250 PSI.
- If joining 36" DR25 C905 PVC to 48" DI, the working pressure would be 125 PSI.
- If joining 10" Steel to 10" SDR21 PVC pipe, the working pressure would be 200 PSI.



# Pipe-Lock™

## Sleeve Weldment

# 477

### Description:

This is a fabricated Steel sleeve for use with MJ gaskets and restraints.

### Application:

For connecting plain end D.I. and plain-end PVC and for use on steel pipe 3"-12".

### Materials Specifications (subject to change):

SLEEVE: ASTM A283 Gr. C or Carbon Steel having a minimum yield strength of 30,000 PSI.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy

| NOMINAL<br>PIPE SIZE<br>INCHES | CATALOG NUMBER   | SLEEVE THK. X LGTH IN. |    | APPROX.<br>SHIP WT.<br>LBS. |
|--------------------------------|------------------|------------------------|----|-----------------------------|
|                                |                  | A                      | B  |                             |
| 3                              | 477-00030003-200 | 0.25                   | 7  | 8                           |
| 4                              | 477-00040004-200 | 0.25                   | 7  | 12                          |
| 6                              | 477-00060006-200 | 0.25                   | 7  | 16                          |
| 6                              | 477-00060006-300 | 0.25                   | 10 | 21                          |
| 8                              | 477-00080008-200 | 0.25                   | 7  | 21                          |
| 8                              | 477-00080008-300 | 0.25                   | 10 | 27                          |
| 10                             | 477-00100010-200 | 0.25                   | 7  | 25                          |
| 10                             | 477-00100010-300 | 0.25                   | 10 | 33                          |
| 12                             | 477-00120012-200 | 0.25                   | 7  | 29                          |
| 12                             | 477-00120012-300 | 0.25                   | 10 | 38                          |
| 14                             | 477-00140014-200 | 0.25                   | 7  | 34                          |
| 14                             | 477-00140014-300 | 0.25                   | 10 | 44                          |
| 16                             | 477-00160016-200 | 0.25                   | 7  | 38                          |
| 16                             | 477-00160016-300 | 0.25                   | 10 | 50                          |
| 18                             | 477-00180018-200 | 0.25                   | 7  | 42                          |
| 18                             | 477-00180018-300 | 0.25                   | 10 | 56                          |
| 20                             | 477-00200020-200 | 0.25                   | 7  | 47                          |
| 20                             | 477-00200020-300 | 0.25                   | 10 | 62                          |
| 24                             | 477-00240024-200 | 0.25                   | 7  | 55                          |
| 24                             | 477-00240024-300 | 0.25                   | 10 | 73                          |
| 30                             | 477-00300030-200 | 0.25                   | 10 | 90                          |
| 30                             | 477-00300030-300 | 0.25                   | 16 | 133                         |
| 36                             | 477-00360036-200 | 0.25                   | 10 | 107                         |
| 36                             | 477-00360036-300 | 0.25                   | 16 | 159                         |
| 42                             | 477-00420042-200 | 0.25                   | 10 | 124                         |
| 42                             | 477-00420042-300 | 0.25                   | 16 | 184                         |
| 48                             | 477-00480048-200 | 0.25                   | 10 | 141                         |
| 48                             | 477-00480048-300 | 0.25                   | 16 | 210                         |





# Flange-Lock™ Restrained FCA

## Ductile Iron and Steel

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

# 911

**Description:** For connecting and restraining plain end D.I. or Steel pipe.

**Application:** For connecting and restraining plain end D.I. or Steel pipe to flanged pipe fittings, valves, meters, or other flanged equipment.

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Reducing style available
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer adapters available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling. Flat face

FINISH: Flexi-Coat®, Fusion-Bonded epoxy

### Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket

T-BOLTS: High strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

CARBON STEEL: 3, 4, 6, 8, 10, 12

**Working Pressure:** 175 PSI 3-12"; 150 PSI 14" and above

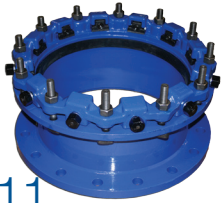
**Deflection:** Assembled joints into each follower gland through 12" shall allow for five-degrees deflection two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48"

NOTE: \*300 lb. flanges available for 300 PSI applications.

For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. 300 PSI rating is limited to series 911

on Ductile Iron pipe only though 16". All 18"-48" 911 on Ductile Iron pipe applications will be limited to 250 PSI. All 911 on Steel pipe 3"-12" will be limited to 250 PSI.

911



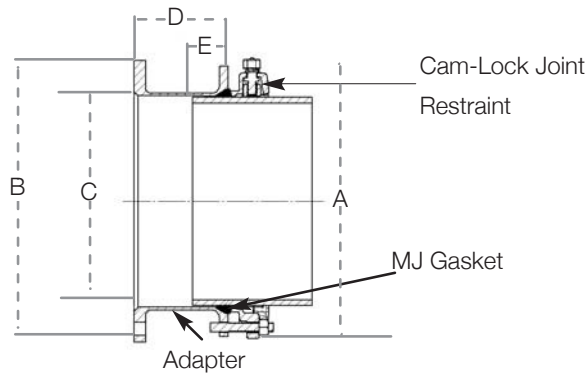
# Flange-Lock Restrained FCA

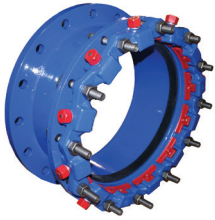
Ductile Iron and Steel

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

Patents US 7484775, US 7748100, CA 2511782

| NOMINAL PIPE SIZE INCHES | O.D. RANGE INCHES | NOMINAL FLANGE RANGE INCHES | CATALOG NUMBER   | WT. EACH LBS. | DIMENSIONS/INCHES |       |       |       |      | MAX. JOINT DEFLECTION (DEGREES) |
|--------------------------|-------------------|-----------------------------|------------------|---------------|-------------------|-------|-------|-------|------|---------------------------------|
|                          |                   |                             |                  |               | A                 | B     | C     | D     | E    |                                 |
| 3                        | 3.96              | 3                           | 911-03960300-000 | 25.00         | 9.82              | 7.50  | 4.62  | 7.88  | 3.00 | 3                               |
| 4                        | 4.80              | 4                           | 911-04800400-000 | 35.00         | 10.67             | 9.00  | 5.00  | 7.88  | 3.00 | 5                               |
| 6                        | 6.90              | 6                           | 911-06900600-000 | 49.00         | 11.19             | 11.00 | 7.03  | 7.88  | 3.00 | 5                               |
| 8                        | 9.05              | 8                           | 911-09050800-000 | 62.00         | 13.29             | 13.50 | 9.25  | 7.88  | 3.00 | 5                               |
| 10                       | 11.10             | 10                          | 911-11101000-000 | 85.00         | 16.97             | 16.00 | 11.25 | 7.88  | 3.00 | 5                               |
| 12                       | 13.20             | 12                          | 911-13201200-000 | 112.00        | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5                               |
| 14                       | 15.30             | 14                          | 911-15301400-000 | 134.00        | 21.18             | 21.00 | 15.50 | 8.13  | 3.00 | 2                               |
| 16                       | 17.40             | 16                          | 911-17401600-000 | 163.00        | 23.28             | 23.50 | 17.59 | 8.13  | 3.00 | 2                               |
| 18                       | 19.50             | 18                          | 911-19501800-000 | 176.00        | 25.98             | 25.00 | 19.69 | 8.13  | 3.00 | 1.5                             |
| 20                       | 21.60             | 20                          | 911-21602000-000 | 206.00        | 28.08             | 27.50 | 21.78 | 8.13  | 3.00 | 1.5                             |
| 24                       | 25.80             | 24                          | 911-25802400-000 | 264.00        | 32.28             | 32.00 | 26.00 | 8.13  | 3.00 | 1                               |
| 30                       | 32.00             | 30                          | 911-32003000-000 | 563.00        | 39.42             | 38.75 | 32.20 | 11.50 | 3.00 | 1                               |
| 36                       | 38.30             | 36                          | 911-38303600-000 | 749.00        | 46.29             | 46.00 | 38.50 | 13.50 | 3.00 | 1                               |
| 42                       | 44.50             | 42                          | 911-44504200-000 | 1091.00       | 53.62             | 53.00 | 44.70 | 13.50 | 3.00 | 1                               |
| 48                       | 50.80             | 48                          | 911-50804800-000 | 1272.00       | 60.50             | 59.50 | 51.00 | 13.50 | 3.00 | 1                               |





# Flange-Lock™ Restrained FCA PVC Pipe

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

Patents US 7484775, US 7748100, CA 2511782

# 920

**Description:** A fabricated Steel Flanged Coupling Adapter with integral restraint.

## Application:

For connecting and restraining PVC pipe to flanged pipe, fittings, valves, meters, other flanged equipment

## Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Reducing style coupling available
- Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Breakaway nut torque per wedge is 45 to 60 ft. lbs.
- Longer sleeves available

## Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling, flat face

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy

## Cam-Lock™ Specifications

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Ductile Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges and actuating bolts are

E-coated Epoxy

## Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket.

T-BOLTS: High Strength, low alloy, per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

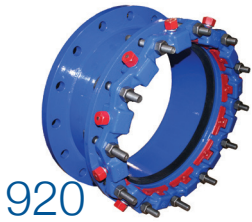
**Pipe Applications:** PVC Pipe

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

**Working Pressure:** 3"-12" 175 PSI; 14"-30" 150 PSI

**Deflection:** Assembled joints into each follower gland through 12" shall allow for five-degree deflection two degrees 14"-24", 1.5 degrees 18"-24", one degree 30"-48".

NOTE: \*300 lb. flanges available for higher pressures. For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. All 911 on Steel pipe 3"-12" and all 920 on PVC applications through 24" will be limited to 250 PSI, 150 PSI on 30" and 125 PSI on 36".



# Flange-Lock Restrained FCA

## PVC Pipe

FOR CONNECTING AND RESTRAINING FLANGED FITTINGS TO PIPE

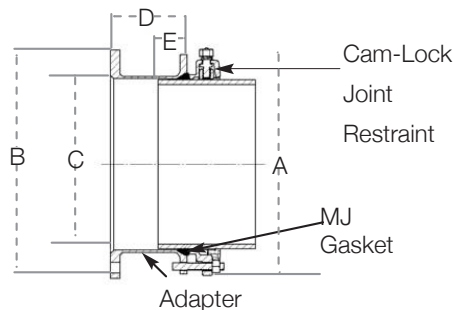
Patents US 7484775, US 7748100, CA 2511782

For PVC Pipe

| NOMINAL PIPE SIZE INCHES | O.D. RANGE INCHES | NOMINAL FLANGE RANGE INCHES | CATALOG NUMBER   | WEIGHT EACH LBS. | DIMENSIONS/INCHES |       |       |       |      | MAX. JOINT DEFLECTION (DEGREES) |
|--------------------------|-------------------|-----------------------------|------------------|------------------|-------------------|-------|-------|-------|------|---------------------------------|
|                          |                   |                             |                  |                  | A                 | B     | C     | D     | E    |                                 |
| 10                       | 10.75-11.10       | 10                          | 920-11101000-100 | 86               | 13.29             | 13.50 | 9.25  | 7.88  | 3.00 | 5                               |
| 10                       | 10.75             | 10                          | 920-10751000-000 | 86               | 16.97             | 16.00 | 11.25 | 7.88  | 3.00 | 5                               |
| 10                       | 11.10             | 10                          | 920-11101000-000 | 86               | 16.97             | 16.00 | 11.25 | 7.88  | 3.00 | 5                               |
| 12                       | 12.75-13.20       | 12                          | 920-13201200-100 | 113              | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5                               |
| 12                       | 12.75             | 12                          | 920-12751200-000 | 113              | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5                               |
| 12                       | 13.20             | 12                          | 920-13201200-000 | 113              | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5                               |
| 14                       | 15.30             | 14                          | 920-15301400-000 | 136              | 21.18             | 21.00 | 15.50 | 7.88  | 3.00 | 2                               |
| 16                       | 17.40             | 16                          | 920-17401600-000 | 165              | 23.28             | 23.50 | 17.59 | 7.88  | 3.00 | 2                               |
| 18                       | 19.50             | 18                          | 920-19501800-000 | 178              | 25.98             | 25.00 | 19.69 | 7.88  | 3.00 | 1.5                             |
| 20                       | 21.60             | 20                          | 920-21602000-000 | 209              | 28.08             | 27.50 | 21.78 | 7.88  | 3.00 | 1.5                             |
| 24                       | 25.80             | 24                          | 920-25802400-000 | 268              | 32.28             | 32.00 | 26.00 | 7.88  | 3.00 | 1                               |
| 30                       | 32.00             | 30                          | 920-32003000-000 | 566              | 39.42             | 38.75 | 32.20 | 11.13 | 3.00 | 1                               |
| 36                       | 38.30             | 36                          | 920-38303600-000 | 752              | 46.29             | 46.00 | 38.50 | 11.13 | 3.00 | 1                               |

For PVC Pipe

| NOMINAL PIPE SIZE INCHES | O.D. RANGE INCHES | NOMINAL FLANGE RANGE INCHES | CATALOG NUMBER   | WEIGHT EACH LBS. | DIMENSIONS/INCHES |       |      |      |      | MAX. JOINT DEFLECTION (DEGREES) |
|--------------------------|-------------------|-----------------------------|------------------|------------------|-------------------|-------|------|------|------|---------------------------------|
|                          |                   |                             |                  |                  | A                 | B     | C    | D    | E    |                                 |
| 3                        | 3.50              | 3                           | 920-03500300-000 | 26.00            | 9.82              | 7.50  | 4.62 | 7.88 | 3.00 | 3                               |
| 4                        | 4.50-4.80         | 4                           | 920-04800400-100 | 35.00            | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5                               |
| 4                        | 4.50              | 4                           | 920-04500400-000 | 35.00            | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5                               |
| 4                        | 4.80              | 4                           | 920-04800400-000 | 35.00            | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5                               |
| 6                        | 6.63-6.90         | 6                           | 920-06900600-100 | 49.00            | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5                               |
| 6                        | 6.63              | 6                           | 920-06630600-000 | 49.00            | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5                               |
| 6                        | 6.90              | 6                           | 920-06900600-000 | 49.00            | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5                               |
| 8                        | 8.63-9.05         | 8                           | 920-09050800-100 | 62.00            | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5                               |
| 8                        | 8.63              | 8                           | 920-08630800-000 | 62.00            | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5                               |
| 8                        | 9.05              | 8                           | 920-09050800-000 | 62.00            | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5                               |





# Fabricated Steel

## Dismantling Joint

FOR FLANGED PIPE OR FLANGED FITTINGS

# 973

### Description:

A fabricated Steel dismantling joint with integral restraint

### Application:

For installing valves, meters, pipe and other flanged fittings

### Materials Specifications (subject to change):

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single Tooth Ductile Iron, heat treated for Ductile Iron pipe applications

ACTUATING BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

T-BOLTS: HSLA (High Strength Low Alloy). Per ANSI/AWWA C111

GASKET: Standard Mechanical Joint AWWA C111/ANSI A21.11 SBR

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213. Other materials and flanges are available upon request

**Pipe Applications:** Flanged pipe or fittings

### Sizes (in inches):

DUCTILE IRON: 3, 4, 6, 8, 10, 11, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48

STEEL: 3, 4, 6, 8, 10, 12

**Pressure Rating:** 150 PSI

| NOMINAL SIZE INCHES | CATALOG NUMBER   | WT. EACH LBS. |
|---------------------|------------------|---------------|
| 3                   | 973-03000300-003 | 32            |
| 4                   | 973-04000400-003 | 48            |
| 6                   | 973-06000600-003 | 68            |
| 8                   | 973-08000800-003 | 88            |
| 10                  | 973-10001000-003 | 118           |
| 12                  | 973-12001200-003 | 160           |
| 14                  | 973-14001400-003 | 286           |
| 16                  | 973-16001600-003 | 345           |
| 18                  | 973-18001800-003 | 370           |
| 20                  | 973-20002000-003 | 448           |
| 24                  | 973-24002400-003 | 574           |
| 30                  | 973-30003000-003 | 1038          |
| 36                  | 973-36003600-003 | 1429          |
| 42                  | 973-42004200-003 | 2043          |
| 48                  | 973-48004800-003 | 2462          |



# Repair Clamps

## What Are Repair Clamps?

Clamping devices for the water and wastewater industry that permanently repair damaged pipe by providing 360° pressure on the damaged section to stop leakage.



*Smith-Blair*  
a xylem brand



# Full Circle<sup>®</sup> Repair Clamp

## Single Band, Low Pressure

# 221

### Description:

These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

### Application:

Works on Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types where pressure does not exceed 50 PSI.

### Key Features:

- Stainless Steel bands
- Working pressure up to 50 PSI
- Nominal temperature range -20°F to 180°F
- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- 360° gasket seal

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI

B.18.2.2 *Optional 304 Stainless bolts with fluoropolymer coated nuts*

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**Pipe Applications:** Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, Fiberglass and other pipe types where pressure does not exceed 50 PSI

**Sizes (in inches):** 2, 2 ¼-2 ½, 3, 3-4, 4, 4-5, 6, 8, 8-10, 10, 10-12, 12, 12-14



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



221

# Full Circle<sup>®</sup> Repair Clamp

## Single Band, Low Pressure

| STANDARD            |   |              |              | WITH LOW ALLOY BOLTS & NUTS | WITH STAINLESS STEEL BOLTS & NUTS | METRIC          |             |          |            |
|---------------------|---|--------------|--------------|-----------------------------|-----------------------------------|-----------------|-------------|----------|------------|
| NOMINAL SIZE INCHES | OD RANGE INCHES   | WIDTH INCHES | WT. EACH LBS | CATALOG NUMBER              | CATALOG NUMBER                    | NOMINAL SIZE MM | OD RANGE MM | WIDTH MM | WT EACH KG |
| 2                   | 2.35-2.63   | 5            | 6            | 221-00023805-000            | 221-00023805-001                  | 50              | 60-67       | 127      | 2.7        |
| 2 1/4-2 1/2         | 2.70-3.00   | 5            | 6            | 221-00027505-000            | 221-00027505-001                  | 65              | 69-76       | 127      | 2.7        |
| 3                   | 2.97-3.25<br>3.46-3.70  | 5            | 6            | 221-00030005-000            | 221-00030005-001                  | 65-80           | 75-83       | 127      | 2.8        |
|                     |   | 5            | 6            | 221-00035005-000            | 221-00035005-001                  |                 | 88-94       | 127      | 2.8        |
| 3-4                 | 3.73-4.00<br>3.96-4.25  | 5            | 6            | 221-00037505-000            | 221-00037505-001                  | 80-100          | 95-102      | 127      | 2.9        |
|                     |   | 5            | 6            | 221-00040005-000            | 221-00040005-001                  |                 | 101-108     | 127      | 2.9        |
| 4                   | 4.45-4.73<br>4.74-5.14  | 5            | 7            | 221-00045005-000            | 221-00045005-001                  | 100             | 113-120     | 127      | 3          |
|                     |   | 5            | 7            | 221-00048005-000            | 221-00048005-001                  |                 | 120-131     | 127      | 3.3        |
| 4-5                 | 4.95-5.35<br>5.22-5.62  | 5            | 7            | 221-00050005-000            | 221-00050005-001                  | 125             | 126-136     | 127      | 3.3        |
|                     |   | 5            | 7            | 221-00052505-000            | 221-00052505-001                  |                 | 133-143     | 127      | 3.4        |
| 6                   | 5.95-6.35<br>6.56-6.96<br>6.84-7.24<br>7.05-7.45<br>7.45-7.85 | 5            | 8            | 221-00060005-000            | 221-00060005-001                  | 125-150         | 151-161     | 127      | 3.4        |
|                     |   | 5            | 8            | 221-00066305-000            | 221-00066305-001                  |                 | 167-177     | 127      | 3.5        |
|                     |   | 5            | 8            | 221-00069005-000            | 221-00069005-001                  |                 | 174-184     | 127      | 3.5        |
|                     |   | 5            | 8            | 221-00071005-000            | 221-00071005-001                  |                 | 179-189     | 127      | 3.6        |
|                     |   | 5            | 8            | 221-00074505-000            | 221-00074505-001                  |                 | 189-199     | 127      | 3.6        |
| 8                   | 7.95-8.35<br>8.54-8.94<br>8.99-9.39<br>9.27-9.67              | 5            | 8            | 221-00080005-000            | 221-00080005-001                  | 200             | 202-212     | 127      | 3.6        |
|                     |   | 5            | 9            | 221-00086305-000            | 221-00086305-001                  |                 | 217-227     | 127      | 3.9        |
|                     |   | 5            | 9            | 221-00090505-000            | 221-00090505-001                  |                 | 226-239     | 127      | 3.9        |
|                     |   | 5            | 9            | 221-00094005-000            | 221-00094005-001                  |                 | 235-246     | 127      | 3.9        |
| 8-10                | 9.70-10.10<br>10.10-10.50                                     | 5            | 9            | 221-00100005-000            | 221-00100005-001                  | 225             | 246-257     | 127      | 3.9        |
|                     |   | 5            | 9            | 221-00102005-000            | 221-00102005-001                  |                 | 247-267     | 127      | 4.3        |
| 10                  | 10.64-11.04<br>11.04-11.44<br>11.34-11.74<br>11.75-12.15      | 5            | 10           | 221-00107505-000            | 221-00107505-001                  | 250             | 270-280     | 127      | 4.3        |
|                     |   | 5            | 10           | 221-00111005-000            | 221-00111005-001                  |                 | 280-291     | 127      | 4.4        |
|                     |   | 5            | 10           | 221-00114005-000            | 221-00114005-001                  |                 | 288-298     | 127      | 4.4        |
|                     |   | 5            | 10           | 221-00117505-000            | 221-00117505-001                  |                 | 298-309     | 127      | 4.4        |
| 10-12               | 12.00-12.40   | 5            | 10           | 221-00120005-000            | 221-00120005-001                  | 250-315         | 305-315     | 127      | 4.5        |
| 12                  | 12.62-13.02<br>13.10-13.50<br>13.40-13.80                     | 5            | 10           | 221-00127505-000            | 221-00127505-001                  | 300             | 321-331     | 127      | 4.6        |
|                     |   | 5            | 10           | 221-00132005-000            | 221-00132005-001                  |                 | 333-343     | 127      | 4.7        |
|                     |   | 5            | 10           | 221-00134005-000            | 221-00134005-001                  |                 | 340-351     | 127      | 4.7        |
| 12-14               | 13.70-14.10<br>14.00-14.40                                    | 5            | 11           | 221-00137005-000            | 221-00137005-001                  | 300-350         | 348-358     | 127      | 5.1        |
|                     |   | 5            | 11           | 221-00140005-000            | 221-00140005-001                  |                 | 356-366     | 127      | 5.3        |





# Full Circle<sup>®</sup> Repair Clamp

## Single Band

# 226

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Stainless Steel bands
- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- Standard widths through 30"
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance
- Range up to .40" in single band
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbons and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.18.2.2 *Optional 304 Stainless bolts with fluoropolymer coated nuts to reduce galling*

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types

**Sizes (in inches):** 2, 2 ¼-2 ½, 3, 3-4, 4, 4-5, 6, 8, 8-10, 10, 10-12, 12, 12-14



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Full Circle<sup>®</sup> Repair Clamp

## Single Band

226

| STANDARD            |   |              |               | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC          |               |          |             |
|---------------------|---|--------------|---------------|--------------------------|--------------------------------|-----------------|---------------|----------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES   | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG |
| 2                   | 2.35-2.63<br>2.35-2.63<br>2.35-2.63<br>2.35-2.63  | 7.5          | 9             | 226-00023807-000         | 226-00023807-001               | 50              | 60-66         | 190      | 4           |
|                     |   | 10           | 12            | 226-00023810-000         | 226-00023810-001               |                 | 60-66         | 254      | 5.4         |
|                     |   | 12.5         | 15            | 226-00023812-000         | 226-00023812-001               |                 | 60-66         | 317      | 6.7         |
|                     |   | 15           | 18            | 226-00023815-000         | 226-00023815-001               |                 | 60-66         | 381      | 8.1         |
| 2 1/4-2 1/2         | 2.70-3.00<br>2.70-3.00<br>2.70-3.00<br>2.70-3.00  | 7.5          | 9             | 226-00027507-000         | 226-00027507-001               | 65              | 69-76         | 190      | 4           |
|                     |   | 10           | 12            | 226-00027510-000         | 226-00027510-001               |                 | 69-76         | 254      | 5.4         |
|                     |   | 12.5         | 15            | 226-00027512-000         | 226-00027512-001               |                 | 69-76         | 317      | 6.7         |
|                     |   | 15           | 18            | 226-00027515-000         | 226-00027515-001               |                 | 69-76         | 381      | 8.1         |
| 3                   | 2.97-3.25<br>2.97-3.25<br>2.97-3.25<br>2.97-3.25  | 7.5          | 9             | 226-00030007-000         | 226-00030007-001               | 65              | 76-82         | 190      | 4.3         |
|                     |   | 10           | 12            | 226-00030010-000         | 226-00030010-001               |                 | 76-82         | 254      | 5.7         |
|                     |   | 12.5         | 15            | 226-00030012-000         | 226-00030012-001               |                 | 76-82         | 317      | 6.9         |
|                     |   | 15           | 18            | 226-00030015-000         | 226-00030015-001               |                 | 76-82         | 381      | 8.3         |
| 3                   | 3.46-3.70<br>3.46-3.70<br>3.46-3.70<br>3.46-3.70  | 7.5          | 9             | 226-00035007-000         | 226-00035007-001               | 80              | 88-93         | 190      | 4.2         |
|                     |   | 10           | 13            | 226-00035010-000         | 226-00035010-001               |                 | 88-93         | 254      | 5.8         |
|                     |   | 12.5         | 16            | 226-00035012-000         | 226-00035012-001               |                 | 88-93         | 317      | 7.1         |
|                     |   | 15           | 18            | 226-00035015-000         | 226-00035015-001               |                 | 88-93         | 381      | 8.5         |
| 3-4                 | 3.73-4.00<br>3.73-4.00<br>3.73-4.00<br>3.73-4.00  | 7.5          | 9             | 226-00037507-000         | 226-00037507-001               | 80              | 95-101        | 190      | 4.2         |
|                     |   | 10           | 13            | 226-00037510-000         | 226-00037510-001               |                 | 95-101        | 254      | 5.8         |
|                     |   | 12.5         | 16            | 226-00037512-000         | 226-00037512-001               |                 | 95-101        | 317      | 7.1         |
|                     |   | 15           | 18            | 226-00037515-000         | 226-00037515-001               |                 | 95-101        | 381      | 8.5         |
| 3-4                 | 3.96-4.25<br>3.96-4.25<br>3.96-4.25<br>3.96-4.25  | 7.5          | 9             | 226-00040007-000         | 226-00040007-001               | 80-100          | 101-107       | 190      | 4.2         |
|                     |   | 10           | 13            | 226-00040010-000         | 226-00040010-001               |                 | 101-107       | 254      | 5.8         |
|                     |   | 12.5         | 16            | 226-00040012-000         | 226-00040012-001               |                 | 101-107       | 317      | 7.1         |
|                     |   | 15           | 18            | 226-00040015-000         | 226-00040015-001               |                 | 101-107       | 381      | 8.5         |
| 4                   | 4.45-4.73<br>4.45-4.73<br>4.45-4.73<br>4.45-4.73  | 7.5          | 10            | 226-00045007-000         | 226-00045007-001               | 100             | 114-120       | 190      | 4.4         |
|                     |   | 10           | 13            | 226-00045010-000         | 226-00045010-001               |                 | 114-120       | 254      | 6           |
|                     |   | 12.5         | 16            | 226-00045012-000         | 226-00045012-001               |                 | 114-120       | 317      | 7.3         |
|                     |   | 15           | 19            | 226-00045015-000         | 226-00045015-001               |                 | 114-120       | 381      | 8.7         |
| 4                   | 4.74-5.14<br>4.74-5.14<br>4.74-5.14<br>4.74-5.14<br>4.74-5.14<br>4.74-5.14<br>4.74-5.14 | 7.5          | 11            | 226-00048007-000         | 226-00048007-001               | 100             | 121-130       | 190      | 4.8         |
|                     |   | 10           | 15            | 226-00048010-000         | 226-00048010-001               |                 | 121-130       | 254      | 6.7         |
|                     |   | 12.5         | 18            | 226-00048012-000         | 226-00048012-001               |                 | 121-130       | 317      | 8.1         |
|                     |   | 15           | 21            | 226-00048015-000         | 226-00048015-001               |                 | 121-130       | 381      | 9.6         |
|                     |   | 20           | 28            | 226-00048020-000         | 226-00048020-001               |                 | 121-130       | 508      | 12.8        |
|                     |   | 25           | 35            | 226-00048025-000         | 226-00048025-001               |                 | 121-130       | 635      | 16.1        |
|                     |   | 30           | 41            | 226-00048030-000         | 226-00048030-001               |                 | 121-130       | 762      | 19          |
| 4-5                 | 4.95-5.35<br>4.95-5.35<br>4.95-5.35<br>4.95-5.35<br>4.95-5.35<br>4.95-5.35<br>4.95-5.35 | 7.5          | 11            | 226-00050007-000         | 226-00050007-001               | 100             | 126-135       | 190      | 4.9         |
|                     |   | 10           | 14            | 226-00050010-000         | 226-00050010-001               |                 | 126-135       | 254      | 6.5         |
|                     |   | 12.5         | 17            | 226-00050012-000         | 226-00050012-001               |                 | 126-135       | 317      | 8           |
|                     |   | 15           | 21            | 226-00050015-000         | 226-00050015-001               |                 | 126-135       | 381      | 9.7         |
|                     |   | 20           | 28            | 226-00050020-000         | 226-00050020-001               |                 | 126-135       | 508      | 12.9        |
|                     |   | 25           | 35            | 226-00050025-000         | 226-00050025-001               |                 | 126-135       | 635      | 16.2        |
|                     |   | 30           | 42            | 226-00050030-000         | 226-00050030-001               |                 | 126-135       | 762      | 19.4        |

NOTE: Other sizes available upon request.

| STANDARD            |   |              |   | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC           |                  |                  |             |
|---------------------|---|--------------|---|--------------------------|--------------------------------|------------------|------------------|------------------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES   | WIDTH INCHES | WT. EACH LBS.   | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM  | O.D. RANGE MM    | WIDTH MM         | WT. EACH KG |
| 4-5                 | 5.22-5.62<br>5.22-5.62<br>5.22-5.62<br>5.22-5.62<br>5.22-5.62<br>5.22-5.62              | 7.5          | 11  | 226-00052507-000         | 226-00052507-001               | 125              | 133-142          | 190              | 4.9         |
|                     |   | 10           | 15  | 226-00052510-000         | 226-00052510-001               |                  | 133-142          | 254              | 6.7         |
|                     |   | 12.5         | 18  | 226-00052512-000         | 226-00052512-001               |                  | 133-142          | 317              | 8.2         |
|                     |   | 15           | 22  | 226-00052515-000         | 226-00052515-001               |                  | 133-142          | 381              | 9.9         |
|                     |   | 20           | 29  | 226-00052520-000         | 226-00052520-001               |                  | 133-142          | 508              | 13.2        |
|                     |   | 25           | 36  | 226-00052525-000         | 226-00052525-001               |                  | 133-142          | 635              | 16.5        |
| 6                   | 5.95-6.35<br>5.95-6.35<br>5.95-6.35<br>5.95-6.35<br>5.95-6.35<br>5.95-6.35<br>5.95-6.35 | 7.5          | 11  | 226-00060007-000         | 226-00060007-001               | 125              | 152-161          | 190              | 5           |
|                     |   | 10           | 15  | 226-00060010-000         | 226-00060010-001               |                  | 152-161          | 254              | 7           |
|                     |   | 12.5         | 18  | 226-00060012-000         | 226-00060012-001               |                  | 152-161          | 317              | 8.5         |
|                     |   | 15           | 22  | 226-00060015-000         | 226-00060015-001               |                  | 152-161          | 381              | 10.2        |
|                     |   | 20           | 30  | 226-00060020-000         | 226-00060020-001               |                  | 152-161          | 508              | 13.6        |
|                     |   | 25           | 37  | 226-00060025-000         | 226-00060025-001               |                  | 152-161          | 635              | 16.9        |
|                     |   | 30           | 44  | 226-00060030-000         | 226-00060030-001               |                  | 152-161          | 762              | 20.3        |
|                     |   | 6            | 6.56-6.96<br>6.56-6.96<br>6.56-6.96<br>6.56-6.96<br>6.56-6.96<br>6.56-6.96<br>6.56-6.96 | 7.5                      | 12                             |                  | 226-00066307-000 | 226-00066307-001 | 150         |
| 10                  | 16  |              |   | 226-00066310-000         | 226-00066310-001               | 167-176          | 254              | 7.2              |             |
| 12.5                | 19  |              |   | 226-00066312-000         | 226-00066312-001               | 167-176          | 317              | 8.8              |             |
| 15                  | 23  |              |   | 226-00066315-000         | 226-00066315-001               | 167-176          | 381              | 10.4             |             |
| 20                  | 31  |              |   | 226-00066320-000         | 226-00066320-001               | 167-176          | 508              | 14.1             |             |
| 25                  | 38  |              |   | 226-00066325-000         | 226-00066325-001               | 167-176          | 635              | 17.6             |             |
| 30                  | 45  |              |   | 226-00066330-000         | 226-00066330-001               | 167-176          | 762              | 20.6             |             |
| 6                   | 6.84-7.24<br>6.84-7.24<br>6.84-7.24<br>6.84-7.24<br>6.84-7.24<br>6.84-7.24<br>6.84-7.24 |              |   | 7.5                      | 12                             | 226-00069007-000 | 226-00069007-001 | 150              |             |
|                     |   | 10           | 16  | 226-00069010-000         | 226-00069010-001               | 174-183          | 254              |                  | 7.2         |
|                     |   | 12.5         | 19  | 226-00069012-000         | 226-00069012-001               | 174-183          | 317              |                  | 8.9         |
|                     |   | 15           | 23  | 226-00069015-000         | 226-00069015-001               | 174-183          | 381              |                  | 10.5        |
|                     |   | 20           | 31  | 226-00069020-000         | 226-00069020-001               | 174-183          | 508              |                  | 14          |
|                     |   | 25           | 39  | 226-00069025-000         | 226-00069025-001               | 174-183          | 635              |                  | 17.5        |
|                     |   | 30           | 46  | 226-00069030-000         | 226-00069030-001               | 174-183          | 762              |                  | 21          |
|                     |   | 6            | 7.05-7.45<br>7.05-7.45<br>7.05-7.45<br>7.05-7.45<br>7.05-7.45<br>7.05-7.45<br>7.05-7.45 | 7.5                      | 12                             | 226-00071007-000 | 226-00071007-001 |                  | 150         |
| 10                  | 16  |              |   | 226-00071010-000         | 226-00071010-001               | 180-189          | 254              | 7.2              |             |
| 12.5                | 19  |              |   | 226-00071012-000         | 226-00071012-001               | 180-189          | 317              | 8.9              |             |
| 15                  | 23  |              |   | 226-00071015-000         | 226-00071015-001               | 180-189          | 381              | 10.5             |             |
| 20                  | 31  |              |   | 226-00071020-000         | 226-00071020-001               | 180-189          | 508              | 14.3             |             |
| 25                  | 39  |              |   | 226-00071025-000         | 226-00071025-001               | 180-189          | 635              | 17.5             |             |
| 30                  | 47  |              |   | 226-00071030-000         | 226-00071030-001               | 180-189          | 762              | 21.4             |             |
| 6                   | 7.45-7.85<br>7.45-7.85<br>7.45-7.85<br>7.45-7.85<br>7.45-7.85<br>7.45-7.85<br>7.45-7.85 |              |   | 7.5                      | 12                             | 226-00074507-000 | 226-00074507-001 | 150              |             |
|                     |   | 10           | 16  | 226-00074510-000         | 226-00074510-001               | 190-199          | 254              |                  | 7.3         |
|                     |   | 12.5         | 20  | 226-00074512-000         | 226-00074512-001               | 190-199          | 317              |                  | 9.1         |
|                     |   | 15           | 24  | 226-00074515-000         | 226-00074515-001               | 190-199          | 381              |                  | 10.9        |
|                     |   | 20           | 32  | 226-00074520-000         | 226-00074520-001               | 190-199          | 508              |                  | 14.5        |
|                     |   | 25           | 40  | 226-00074525-000         | 226-00074525-001               | 190-199          | 635              |                  | 18.2        |
|                     |   | 30           | 47  | 226-00074530-000         | 226-00074530-001               | 190-199          | 762              |                  | 21.8        |
|                     |   | 8            | 7.95-8.35<br>7.95-8.35<br>7.95-8.35<br>7.95-8.35<br>7.95-8.35<br>7.95-8.35<br>7.95-8.35 | 7.5                      | 12                             | 226-00080007-000 | 226-00080007-001 |                  | 200         |
| 10                  | 16  |              |   | 226-00080010-000         | 226-00080010-001               | 202-212          | 254              | 7.3              |             |
| 12.5                | 20  |              |   | 226-00080012-000         | 226-00080012-001               | 202-212          | 317              | 9.1              |             |
| 15                  | 24  |              |   | 226-00080015-000         | 226-00080015-001               | 202-212          | 381              | 10.9             |             |
| 20                  | 32  |              |   | 226-00080020-000         | 226-00080020-001               | 202-212          | 508              | 14.5             |             |
| 25                  | 41  |              |   | 226-00080025-000         | 226-00080025-001               | 202-212          | 635              | 18.2             |             |
| 30                  | 49  |              |   | 226-00080030-000         | 226-00080030-001               | 202-212          | 762              | 21.8             |             |

NOTE: Other sizes available upon request.

| STANDARD            |   |              |               | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC          |               |          |             |
|---------------------|---|--------------|---------------|--------------------------|--------------------------------|-----------------|---------------|----------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES   | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG |
| 8                   | 8.54-8.94<br>8.54-8.94<br>8.54-8.94<br>8.54-8.94<br>8.54-8.94<br>8.54-8.94<br>8.54-8.94               | 7.5          | 13            | 226-00086307-000         | 226-00086307-001               | 200             | 217-277       | 190      | 6.1         |
|                     |   | 10           | 17            | 226-00086310-000         | 226-00086310-001               |                 | 217-277       | 254      | 7.9         |
|                     |   | 12.5         | 21            | 226-00086312-000         | 226-00086312-001               |                 | 217-277       | 317      | 9.6         |
|                     |   | 15           | 25            | 226-00086315-000         | 226-00086315-001               |                 | 217-277       | 381      | 11.4        |
|                     |   | 20           | 34            | 226-00086320-000         | 226-00086320-001               |                 | 217-277       | 508      | 15.5        |
|                     |   | 25           | 42            | 226-00086325-000         | 226-00086325-001               |                 | 217-277       | 635      | 18.6        |
|                     |   | 30           | 50            | 226-00086330-000         | 226-00086330-001               |                 | 217-277       | 762      | 23.2        |
| 8                   | 8.99-9.39<br>8.99-9.39<br>8.99-9.39<br>8.99-9.39<br>8.99-9.39<br>8.99-9.39<br>8.99-9.39               | 7.5          | 13            | 226-00090507-000         | 226-00090507-001               | 200             | 229-238       | 190      | 6           |
|                     |   | 10           | 17            | 226-00090510-000         | 226-00090510-001               |                 | 229-238       | 254      | 8           |
|                     |   | 12.5         | 21            | 226-00090512-000         | 226-00090512-001               |                 | 229-238       | 317      | 9.8         |
|                     |   | 15           | 25            | 226-00090515-000         | 226-00090515-001               |                 | 229-238       | 381      | 11.6        |
|                     |   | 20           | 35            | 226-00090520-000         | 226-00090520-001               |                 | 229-238       | 508      | 15.9        |
|                     |   | 25           | 43            | 226-00090525-000         | 226-00090525-001               |                 | 229-238       | 635      | 19.9        |
|                     |   | 30           | 50            | 226-00090530-000         | 226-00090530-001               |                 | 229-238       | 762      | 22.8        |
| 8                   | 9.27-9.67<br>9.27-9.67<br>9.27-9.67<br>9.27-9.67<br>9.27-9.67<br>9.27-9.67<br>9.27-9.67               | 7.5          | 13            | 226-00094007-000         | 226-00094007-001               | 200             | 236-245       | 190      | 6.1         |
|                     |   | 10           | 17            | 226-00094010-000         | 226-00094010-001               |                 | 236-245       | 254      | 8           |
|                     |   | 12.5         | 22            | 226-00094012-000         | 226-00094012-001               |                 | 236-245       | 317      | 9.9         |
|                     |   | 15           | 25            | 226-00094015-000         | 226-00094015-001               |                 | 236-245       | 381      | 11.6        |
|                     |   | 20           | 35            | 226-00094020-000         | 226-00094020-001               |                 | 236-245       | 508      | 16          |
|                     |   | 25           | 43            | 226-00094025-000         | 226-00094025-001               |                 | 236-245       | 635      | 19.9        |
|                     |   | 30           | 52            | 226-00094030-000         | 226-00094030-001               |                 | 236-245       | 762      | 23.9        |
| 8-10                | 9.70-10.10<br>9.70-10.10<br>9.70-10.10<br>9.70-10.10<br>9.70-10.10<br>9.70-10.10<br>9.70-10.10        | 7.5          | 14            | 226-00100007-000         | 226-00100007-001               | 225             | 247-256       | 190      | 6.2         |
|                     |   | 10           | 17            | 226-00100010-000         | 226-00100010-001               |                 | 247-256       | 254      | 8           |
|                     |   | 12.5         | 22            | 226-00100012-000         | 226-00100012-001               |                 | 247-256       | 317      | 10.2        |
|                     |   | 15           | 26            | 226-00100015-000         | 226-00100015-001               |                 | 247-256       | 381      | 12.1        |
|                     |   | 20           | 35            | 226-00100020-000         | 226-00100020-001               |                 | 247-256       | 508      | 16          |
|                     |   | 25           | 44            | 226-00100025-000         | 226-00100025-001               |                 | 247-256       | 635      | 20          |
|                     |   | 30           | 52            | 226-00100030-000         | 226-00100030-001               |                 | 247-256       | 762      | 24          |
| 10                  | 10.64-11.04<br>10.64-11.04<br>10.64-11.04<br>10.64-11.04<br>10.64-11.04<br>10.64-11.04<br>10.64-11.04 | 7.5          | 14            | 226-00107507-000         | 226-00107507-001               | 250             | 271-280       | 190      | 6.4         |
|                     |   | 10           | 19            | 226-00107510-000         | 226-00107510-001               |                 | 271-280       | 254      | 8.7         |
|                     |   | 12.5         | 23            | 226-00107512-000         | 226-00107512-001               |                 | 271-280       | 317      | 10.6        |
|                     |   | 15           | 27            | 226-00107515-000         | 226-00107515-001               |                 | 271-280       | 381      | 12.3        |
|                     |   | 20           | 36            | 226-00107520-000         | 226-00107520-001               |                 | 271-280       | 508      | 16.5        |
|                     |   | 25           | 45            | 226-00107525-000         | 226-00107525-001               |                 | 271-280       | 635      | 20.7        |
|                     |   | 30           | 54            | 226-00107530-000         | 226-00107530-001               |                 | 271-280       | 762      | 24.9        |
| 10                  | 11.04-11.44<br>11.04-11.44<br>11.04-11.44<br>11.04-11.44<br>11.04-11.44<br>11.04-11.44<br>11.04-11.44 | 7.5          | 14            | 226-00111007-000         | 226-00111007-001               | 250             | 281-290       | 190      | 6.4         |
|                     |   | 10           | 19            | 226-00111010-000         | 226-00111010-001               |                 | 281-290       | 254      | 8.6         |
|                     |   | 12.5         | 23            | 226-00111012-000         | 226-00111012-001               |                 | 281-290       | 317      | 10.5        |
|                     |   | 15           | 28            | 226-00111015-000         | 226-00111015-001               |                 | 281-290       | 381      | 12.7        |
|                     |   | 20           | 37            | 226-00111020-000         | 226-00111020-001               |                 | 281-290       | 508      | 16.8        |
|                     |   | 25           | 46            | 226-00111025-000         | 226-00111025-001               |                 | 281-290       | 635      | 21.1        |
|                     |   | 30           | 55            | 226-00111030-000         | 226-00111030-001               |                 | 281-290       | 762      | 25.3        |
| 10                  | 11.34-11.74<br>11.34-11.74<br>11.34-11.74<br>11.34-11.74<br>11.34-11.74<br>11.34-11.74<br>11.34-11.74 | 7.5          | 15            | 226-00114007-000         | 226-00114007-001               | 250             | 289-298       | 190      | 6.8         |
|                     |   | 10           | 19            | 226-00114010-000         | 226-00114010-001               |                 | 289-298       | 254      | 8.6         |
|                     |   | 12.5         | 24            | 226-00114012-000         | 226-00114012-001               |                 | 289-298       | 317      | 10.8        |
|                     |   | 15           | 28            | 226-00114015-000         | 226-00114015-001               |                 | 289-298       | 381      | 13          |
|                     |   | 20           | 38            | 226-00114020-000         | 226-00114020-001               |                 | 289-298       | 508      | 17.3        |
|                     |   | 25           | 47            | 226-00114025-000         | 226-00114025-001               |                 | 289-298       | 635      | 21.6        |
|                     |   | 30           | 56            | 226-00114030-000         | 226-00114030-001               |                 | 289-298       | 762      | 25.9        |

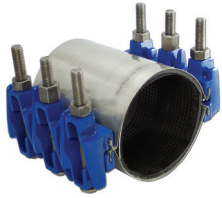
NOTE: Other sizes available upon request.

| STANDARD            |   |              |               | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC          |               |          |             |
|---------------------|---|--------------|---------------|--------------------------|--------------------------------|-----------------|---------------|----------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES   | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG |
| 10                  | 11.75-12.15<br>11.75-12.15<br>11.75-12.15<br>11.75-12.15<br>11.75-12.15<br>11.75-12.15<br>11.75-12.15 | 7.5          | 14            | 226-00117507-000         | 226-00117507-001               | 250             | 299-308       | 190      | 6.6         |
|                     |   | 10           | 20            | 226-00117510-000         | 226-00117510-001               |                 | 299-308       | 254      | 9           |
|                     |   | 12.5         | 24            | 226-00117512-000         | 226-00117512-001               |                 | 299-308       | 317      | 10.9        |
|                     |   | 15           | 28            | 226-00117515-000         | 226-00117515-001               |                 | 299-308       | 381      | 12.8        |
|                     |   | 20           | 39            | 226-00117520-000         | 226-00117520-001               |                 | 299-308       | 508      | 17.4        |
|                     |   | 25           | 48            | 226-00117525-000         | 226-00117525-001               |                 | 299-308       | 635      | 21.9        |
|                     |   | 30           | 57            | 226-00117530-000         | 226-00117530-001               |                 | 299-308       | 762      | 26.1        |
| 10-12               | 12.00-12.40<br>12.00-12.40<br>12.00-12.40<br>12.00-12.40<br>12.00-12.40<br>12.00-12.40<br>12.00-12.40 | 7.5          | 15            | 226-00120007-000         | 226-00120007-001               | 250-300         | 305-314       | 190      | 6.7         |
|                     |   | 10           | 20            | 226-00120010-000         | 226-00120010-001               |                 | 305-314       | 254      | 9.1         |
|                     |   | 12.5         | 24            | 226-00120012-000         | 226-00120012-001               |                 | 305-314       | 317      | 11.2        |
|                     |   | 15           | 29            | 226-00120015-000         | 226-00120015-001               |                 | 305-314       | 381      | 13.4        |
|                     |   | 20           | 39            | 226-00120020-000         | 226-00120020-001               |                 | 305-314       | 508      | 17.8        |
|                     |   | 25           | 49            | 226-00120025-000         | 226-00120025-001               |                 | 305-314       | 635      | 22.3        |
|                     |   | 30           | 58            | 226-00120030-000         | 226-00120030-001               |                 | 305-314       | 762      | 26.8        |
| 12                  | 12.62-13.02<br>12.62-13.02<br>12.62-13.02<br>12.62-13.02<br>12.62-13.02<br>12.62-13.02<br>12.62-13.02 | 7.5          | 16            | 226-00127507-000         | 226-00127507-001               | 300             | 321-330       | 190      | 7.2         |
|                     |   | 10           | 20            | 226-00127510-000         | 226-00127510-001               |                 | 321-330       | 254      | 9.3         |
|                     |   | 12.5         | 25            | 226-00127512-000         | 226-00127512-001               |                 | 321-330       | 317      | 11.5        |
|                     |   | 15           | 29            | 226-00127515-000         | 226-00127515-001               |                 | 321-330       | 381      | 13.3        |
|                     |   | 20           | 40            | 226-00127520-000         | 226-00127520-001               |                 | 321-330       | 508      | 18.3        |
|                     |   | 25           | 50            | 226-00127525-000         | 226-00127525-001               |                 | 321-330       | 635      | 22.9        |
|                     |   | 30           | 60            | 226-00127530-000         | 226-00127530-001               |                 | 321-330       | 762      | 27.5        |
| 12                  | 13.10-13.50<br>13.10-13.50<br>13.10-13.50<br>13.10-13.50<br>13.10-13.50<br>13.10-13.50<br>13.10-13.50 | 7.5          | 17            | 226-00132007-000         | 226-00132007-001               | 300             | 333-342       | 190      | 7.6         |
|                     |   | 10           | 21            | 226-00132010-000         | 226-00132010-001               |                 | 333-342       | 254      | 9.5         |
|                     |   | 12.5         | 25            | 226-00132012-000         | 226-00132012-001               |                 | 333-342       | 317      | 11.6        |
|                     |   | 15           | 29            | 226-00132015-000         | 226-00132015-001               |                 | 333-342       | 381      | 13.4        |
|                     |   | 20           | 40            | 226-00132020-000         | 226-00132020-001               |                 | 333-342       | 508      | 18.6        |
|                     |   | 25           | 51            | 226-00132025-000         | 226-00132025-001               |                 | 333-342       | 635      | 23.2        |
|                     |   | 30           | 61            | 226-00132030-000         | 226-00132030-001               |                 | 333-342       | 762      | 27.9        |
| 12                  | 13.40-13.80<br>13.40-13.80<br>13.40-13.80<br>13.40-13.80<br>13.40-13.80<br>13.40-13.80<br>13.40-13.80 | 7.5          | 18            | 226-00134007-000         | 226-00134007-001               | 300             | 341-350       | 190      | 8.1         |
|                     |   | 10           | 21            | 226-00134010-000         | 226-00134010-001               |                 | 341-350       | 254      | 9.8         |
|                     |   | 12.5         | 27            | 226-00134012-000         | 226-00134012-001               |                 | 341-350       | 317      | 12.2        |
|                     |   | 15           | 32            | 226-00134015-000         | 226-00134015-001               |                 | 341-350       | 381      | 14.6        |
|                     |   | 20           | 42            | 226-00134020-000         | 226-00134020-001               |                 | 341-350       | 508      | 19.5        |
|                     |   | 25           | 53            | 226-00134025-000         | 226-00134025-001               |                 | 341-350       | 635      | 24.4        |
|                     |   | 30           | 64            | 226-00134030-000         | 226-00134030-001               |                 | 341-350       | 762      | 29.3        |
| 12-14               | 13.70-14.10<br>13.70-14.10<br>13.70-14.10<br>13.70-14.10<br>13.70-14.10<br>13.70-14.10<br>13.70-14.10 | 7.5          | 18            | 226-00137007-000         | 226-00137007-001               | 300-350         | 348-358       | 190      | 8.4         |
|                     |   | 10           | 22            | 226-00137010-000         | 226-00137010-001               |                 | 348-358       | 254      | 10.3        |
|                     |   | 12.5         | 28            | 226-00137012-000         | 226-00137012-001               |                 | 348-358       | 317      | 12.8        |
|                     |   | 15           | 34            | 226-00137015-000         | 226-00137015-001               |                 | 348-358       | 381      | 15.4        |
|                     |   | 20           | 45            | 226-00137020-000         | 226-00137020-001               |                 | 348-358       | 508      | 20.5        |
|                     |   | 25           | 56            | 226-00137025-000         | 226-00137025-001               |                 | 348-358       | 635      | 25.7        |
|                     |   | 30           | 67            | 226-00137030-000         | 226-00137030-001               |                 | 348-358       | 762      | 30.8        |
| 12-14               | 14.00-14.40<br>14.00-14.40<br>14.00-14.40<br>14.00-14.40<br>14.00-14.40<br>14.00-14.40<br>14.00-14.40 | 7.5          | 19            | 226-00140007-000         | 226-00140007-001               | 300-350         | 356-365       | 190      | 8.6         |
|                     |   | 10           | 23            | 226-00140010-000         | 226-00140010-001               |                 | 356-365       | 254      | 10.6        |
|                     |   | 12.5         | 29            | 226-00140012-000         | 226-00140012-001               |                 | 356-365       | 317      | 13.3        |
|                     |   | 15           | 35            | 226-00140015-000         | 226-00140015-001               |                 | 356-365       | 381      | 16          |
|                     |   | 20           | 46            | 226-00140020-000         | 226-00140020-001               |                 | 356-365       | 508      | 21.3        |
|                     |   | 25           | 58            | 226-00140025-000         | 226-00140025-001               |                 | 356-365       | 635      | 26.6        |
|                     |   | 30           | 69            | 226-00140030-000         | 226-00140030-001               |                 | 356-365       | 762      | 31.9        |

NOTE: Other sizes available upon request.

## Bolt Numbers

| BAND WIDTH<br>INCHES | NUMBER OF<br>BOLTS | BOLT SIZES   |
|----------------------|--------------------|--|
| 7.5                  | 3                  | 5/8" x 6" or 16mm x<br>152mm<br>and<br>5/8" x 6 7/8" Starter bolts<br>on 4" nominal and smaller. |
| 10                   | 4                  |  |
| 12.5                 | 5                  |  |
| 15                   | 6                  |  |
| 20                   | 8                  |  |
| 25                   | 10                 |  |
| 30                   | 12                 |  |



# Full Circle<sup>®</sup> Repair Clamp

## Double Band

# 227

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of damage.

**Application:** Works on Cast and Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Removable lugs to allow installation in tight spaces
- May be used to join plain end pipe of the same diameter
- Standard widths through 30" (221 standard is 5")
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance
- Range up to .80" in double band
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

Band: Stainless Steel Type 304

Lugs: Ductile Iron ASTM A536, 80-55-06

Gasket: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

Bridge Plate: 304 Stainless Steel recessed flush and bonded into gasket

Bolts: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.

18.2.2 **Optional 304 Stainless bolts with fluoropolymer-coated nuts**

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types

**Sizes (in inches):** 3, 4, 6, 8, 10, 12. Other sizes available upon request.

### Bolt Numbers:

| BAND WIDTH INCHES | NUMBER OF BOLTS | BOLT SIZES  |
|-------------------|-----------------|---|
| 7.5               | 6               | Drop-In lug 5/8"x6"<br>or 16mmx152mm<br><br>Closed lug 5/8"x6 7/8"<br>or 16mmx175mm |
| 10                | 8               |   |
| 12.5              | 10              |   |
| 15                | 12              |   |
| 20                | 16              |   |
| 30                | 24              |   |



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Full Circle<sup>®</sup> Repair Clamp

## Double Band

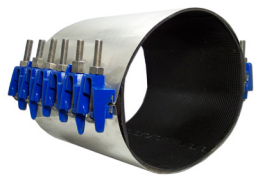
| STANDARD            |  |              |   | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC          |                  |                  |             |
|---------------------|--|--------------|---|--------------------------|--------------------------------|-----------------|------------------|------------------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES  | WIDTH INCHES | WT. EACH LBS.   | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM | O.D. RANGE MM    | WIDTH MM         | WT. EACH KG |
| 3                   | 3.49-4.29<br>3.49-4.29<br>3.49-4.29<br>3.49-4.29<br>3.49-4.29<br>3.49-4.29 | 7.5          | 18  | 227-00035007-000         | 227-00035007-001               | 80-100          | 89-108           | 190              | 8.2         |
|                     |  | 10           | 24  | 227-00035010-000         | 227-00035010-001               |                 | 89-108           | 254              | 11          |
|                     |  | 12.5         | 30  | 227-00035012-000         | 227-00035012-001               |                 | 89-108           | 317              | 13.8        |
|                     |  | 15           | 36  | 227-00035015-000         | 227-00035015-001               |                 | 89-108           | 381              | 16.5        |
|                     |  | 20           | 48  | 227-00035020-000         | 227-00035020-001               |                 | 89-108           | 508              | 22          |
|                     |  | 30           | 72  | 227-00035030-000         | 227-00035030-001               |                 | 89-108           | 762              | 33          |
|                     |  | 4            | 4.44-5.24<br>4.44-5.24<br>4.44-5.24<br>4.44-5.24<br>4.44-5.24 | 7.5                      | 19                             |                 | 227-00045007-000 | 227-00045007-001 | 100         |
| 10                  | 25   |              |   | 227-00045010-000         | 227-00045010-001               | 113-133         | 254              | 11.6             |             |
| 12.5                | 31   |              |   | 227-00045012-000         | 227-00045012-001               | 113-133         | 317              | 14.4             |             |
| 15                  | 37   |              |   | 227-00045015-000         | 227-00045015-001               | 113-133         | 381              | 16.8             |             |
| 20                  | 49   |              |   | 227-00045020-000         | 227-00045020-001               | 113-133         | 508              | 22.6             |             |
| 30                  | 74   |              |   | 227-00045030-000         | 227-00045030-001               | 113-133         | 762              | 33.9             |             |
| 4                   | 4.74-5.57<br>4.74-5.57<br>4.74-5.57<br>4.74-5.57<br>4.74-5.57<br>4.74-5.57 | 7.5          | 19  | 227-00048007-000         | 227-00048007-001               | 100-125         | 121-141          | 190              | 8.6         |
|                     |  | 10           | 25  | 227-00048010-000         | 227-00048010-001               |                 | 121-141          | 254              | 11.5        |
|                     |  | 12.5         | 31  | 227-00048012-000         | 227-00048012-001               |                 | 121-141          | 317              | 14.3        |
|                     |  | 15           | 37  | 227-00048015-000         | 227-00048015-001               |                 | 121-141          | 381              | 17          |
|                     |  | 20           | 50  | 227-00048020-000         | 227-00048020-001               |                 | 121-141          | 508              | 23          |
|                     |  | 30           | 75  | 227-00048030-000         | 227-00048030-001               |                 | 121-141          | 762              | 34.4        |
|                     |  | 6            | 6.62-7.42<br>6.62-7.42<br>6.62-7.42<br>6.62-7.42<br>6.62-7.42 | 7.5                      | 20                             |                 | 227-00066307-000 | 227-00066307-001 | 150         |
| 10                  | 27   |              |   | 227-00066310-000         | 227-00066310-001               | 169-188         | 254              | 12.4             |             |
| 12.5                | 33   |              |   | 227-00066312-000         | 227-00066312-001               | 169-188         | 317              | 15.3             |             |
| 15                  | 39   |              |   | 227-00066315-000         | 227-00066315-001               | 169-188         | 381              | 18               |             |
| 20                  | 53   |              |   | 227-00066320-000         | 227-00066320-001               | 169-188         | 508              | 24.3             |             |
| 30                  | 78   |              |   | 227-00066330-000         | 227-00066330-001               | 169-188         | 762              | 35.9             |             |
| 6                   | 6.84-7.64<br>6.84-7.64<br>6.84-7.64<br>6.84-7.64<br>6.84-7.64              | 7.5          | 20  | 227-00069007-000         | 227-00069007-001               | 150             | 174-194          | 190              | 9.2         |
|                     |  | 10           | 27  | 227-00069010-000         | 227-00069010-001               |                 | 174-194          | 254              | 12.4        |
|                     |  | 12.5         | 33  | 227-00069012-000         | 227-00069012-001               |                 | 174-194          | 317              | 15.3        |
|                     |  | 15           | 39  | 227-00069015-000         | 227-00069015-001               |                 | 174-194          | 381              | 18          |
|                     |  | 20           | 53  | 227-00069020-000         | 227-00069020-001               |                 | 174-194          | 508              | 24.4        |
|                     |  | 30           | 79  | 227-00069030-000         | 227-00069030-001               |                 | 174-194          | 762              | 36.1        |
| 8                   | 8.62-9.42<br>8.62-9.42<br>8.62-9.42<br>8.62-9.42<br>8.62-9.42              | 7.5          | 22  | 227-00086307-000         | 227-00086307-001               | 200             | 219-239          | 190              | 10          |
|                     |  | 10           | 29  | 227-00086310-000         | 227-00086310-001               |                 | 219-239          | 254              | 13.5        |
|                     |  | 12.5         | 35  | 227-00086312-000         | 227-00086312-001               |                 | 219-239          | 317              | 16.4        |
|                     |  | 15           | 42  | 227-00086315-000         | 227-00086315-001               |                 | 219-239          | 381              | 19.5        |
|                     |  | 20           | 56  | 227-00086320-000         | 227-00086320-001               |                 | 219-239          | 508              | 25.9        |
|                     |  | 30           | 84  | 227-00086330-000         | 227-00086330-001               |                 | 219-239          | 762              | 38.9        |

NOTE: Other sizes available upon request.



| STANDARD            |  |              |  | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC          |                  |                  |             |
|---------------------|--|--------------|--|--------------------------|--------------------------------|-----------------|------------------|------------------|-------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES  | WIDTH INCHES | WT. EACH LBS.  | CATALOG NUMBER           | CATALOG NUMBER                 | NOMINAL SIZE MM | O.D. RANGE MM    | WIDTH MM         | WT. EACH KG |
| 8                   | 8.99-9.79<br>8.99-9.79<br>8.99-9.79<br>8.99-9.79<br>8.99-9.79<br>8.99-9.79 | 7.5          | 21   | 227-00090507-000         | 227-00090507-001               | 200             | 229-248          | 190              | 10.1        |
|                     |  | 10           | 29   | 227-00090510-000         | 227-00090510-001               |                 | 229-248          | 254              | 13.7        |
|                     |  | 12.5         | 36   | 227-00090512-000         | 227-00090512-001               |                 | 229-248          | 317              | 16.8        |
|                     |  | 15           | 42   | 227-00090515-000         | 227-00090515-001               |                 | 229-248          | 381              | 19.6        |
|                     |  | 20           | 59   | 227-00090520-000         | 227-00090520-001               |                 | 229-248          | 508              | 27.1        |
|                     |  | 30           | 86   | 227-00090530-000         | 227-00090530-001               |                 | 229-248          | 762              | 39.6        |
|                     |  | 10           | 10.75-11.55<br>10.75-11.55<br>10.75-11.55<br>10.75-11.55 | 10                       | 31                             |                 | 227-00107510-000 | 227-00107510-001 | 250         |
| 15                  | 47   |              |  | 227-00107515-000         | 227-00107515-001               | 273-293         | 381              | 21.8             |             |
| 20                  | 63   |              |  | 227-00107520-000         | 227-00107520-001               | 273-293         | 508              | 29.1             |             |
| 30                  | 94   |              |  | 227-00107530-000         | 227-00107530-001               | 273-293         | 762              | 43.6             |             |
| 10                  | 11.10-11.90<br>11.10-11.90<br>11.10-11.90<br>11.10-11.90                   | 10           | 33   | 227-00111010-000         | 227-00111010-001               | 250             | 282-302          | 254              | 15.4        |
|                     |  | 15           | 47   | 227-00111015-000         | 227-00111015-001               |                 | 282-302          | 381              | 21.9        |
|                     |  | 20           | 65   | 227-00111020-000         | 227-00111020-001               |                 | 282-302          | 508              | 29.9        |
|                     |  | 30           | 97   | 227-00111030-000         | 227-00111030-001               |                 | 282-302          | 762              | 44.9        |
| 10                  | 11.04-12.24<br>11.04-12.24<br>11.04-12.24<br>11.04-12.24                   | 10           | 33   | 227-00111010-050         | 227-00111010-051               | 250-300         | 280-311          | 254              | 15.4        |
|                     |  | 15           | 47   | 227-00111015-050         | 227-00111015-051               |                 | 280-311          | 381              | 21.9        |
|                     |  | 20           | 65   | 227-00111020-050         | 227-00111020-051               |                 | 280-311          | 508              | 30          |
|                     |  | 30           | 97   | 227-00111030-050         | 227-00111030-051               |                 | 280-311          | 762              | 45          |
| 10                  | 11.60-12.40<br>11.60-12.40<br>11.60-12.40<br>11.60-12.40                   | 10           | 33   | 227-00116010-000         | 227-00116010-001               | 250-300         | 295-315          | 254              | 15.5        |
|                     |  | 15           | 47   | 227-00116015-000         | 227-00116015-001               |                 | 295-315          | 381              | 22          |
|                     |  | 20           | 65   | 227-00116020-000         | 227-00116020-001               |                 | 295-315          | 508              | 30.3        |
|                     |  | 30           | 98   | 227-00116020-000         | 227-00116020-001               |                 | 295-315          | 762              | 45.2        |
| 12                  | 12.75-13.55<br>12.75-13.55<br>12.75-13.55<br>12.75-13.55                   | 10           | 33   | 227-00127510-000         | 227-00127510-001               | 300             | 324-344          | 254              | 15.2        |
|                     |  | 15           | 49   | 227-00127515-000         | 227-00127515-001               |                 | 324-344          | 381              | 22.8        |
|                     |  | 20           | 65   | 227-00127520-000         | 227-00127520-001               |                 | 324-344          | 508              | 29.9        |
|                     |  | 30           | 99   | 227-00127530-000         | 227-00127530-001               |                 | 324-344          | 762              | 45.5        |
| 12                  | 13.20-14.00<br>13.20-14.00<br>13.20-14.00<br>13.20-14.00                   | 10           | 34   | 227-00132010-000         | 227-00132010-001               | 300-350         | 335-356          | 254              | 15.9        |
|                     |  | 15           | 49   | 227-00132015-000         | 227-00132015-001               |                 | 335-356          | 381              | 23          |
|                     |  | 20           | 65   | 227-00132020-000         | 227-00132020-001               |                 | 335-356          | 508              | 30.3        |
|                     |  | 30           | 99   | 227-00132030-000         | 227-00132030-001               |                 | 335-356          | 762              | 46          |
| 12                  | 13.14-14.34<br>13.14-14.34<br>13.14-14.34<br>13.14-14.34                   | 10           | 34   | 227-00132010-050         | 227-00132010-051               | 300-350         | 334-364          | 254              | 15.9        |
|                     |  | 15           | 49   | 227-00132015-050         | 227-00132015-051               |                 | 334-364          | 381              | 23          |
|                     |  | 20           | 65   | 227-00132020-050         | 227-00132020-051               |                 | 334-364          | 508              | 30.3        |
|                     |  | 30           | 100  | 227-00132030-050         | 227-00132030-051               |                 | 334-364          | 762              | 46          |
| 12                  | 13.65-14.45<br>13.65-14.45<br>13.65-14.45<br>13.65-14.45                   | 10           | 35   | 227-00136510-000         | 227-00136510-001               | 300-350         | 347-367          | 254              | 15.9        |
|                     |  | 15           | 50   | 227-00136515-000         | 227-00136515-001               |                 | 347-367          | 381              | 23          |
|                     |  | 20           | 68   | 227-00136520-000         | 227-00136520-001               |                 | 347-367          | 508              | 31.3        |
|                     |  | 30           | 102  | 227-00136530-000         | 227-00136530-001               |                 | 347-367          | 762              | 46.9        |
| 12                  | 13.65-14.85<br>13.65-14.85<br>13.65-14.85<br>13.65-14.85                   | 10           | 34   | 227-00136510-050         | 227-00136510-051               | 300-350         | 347-377          | 254              | 15.9        |
|                     |  | 15           | 50   | 227-00136515-050         | 227-00136515-051               |                 | 347-377          | 381              | 23          |
|                     |  | 20           | 65   | 227-00136520-050         | 227-00136520-051               |                 | 347-377          | 508              | 30.3        |
|                     |  | 30           | 102  | 227-00136530-050         | 227-00136530-051               |                 | 347-377          | 762              | 46          |

NOTE: Other sizes available upon request.



# Full Circle<sup>®</sup> Repair Clamp

## Double Band and Triple Band

(FOR LARGE DIAMETER PIPE)

# 228

**Description:** These clamps provide fast, economical means for repairing full circumferential breaks, holes, cracks and other types of breaks.

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Stainless Steel bands
- Removable lugs to allow installation in tight spaces
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance
- Drop-in bolts for easier installation



### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B.

18.2.2 *Optional 304 Stainless bolts with fluoropolymer coated nuts*

FINISH: Flexi-Coat<sup>®</sup> Fusion Bonded Epoxy

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers

**Pipe Applications:** Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types

**Sizes (in inches):** 14, 16, 18, 20, 24. Other sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



228

# Full Circle® Repair Clamp

## Double Band and Triple Band

(FOR LARGE DIAMETER PIPE)

### Double Band

| STANDARD    |              |               | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC        |          |             |
|-------------|--------------|---------------|--------------------------|--------------------------------|---------------|----------|-------------|
| O.D. RANGES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER           | CATALOG NUMBER                 | O.D. RANGE MM | WIDTH MM | WT. EACH KG |
| 14.38-15.13 | 10           | 35            | 228-20143810-000         | 228-20143810-001               | 366-384       | 254      | 16.2        |
|             | 15           | 53            | 228-20143815-000         | 228-20143815-001               |               | 381      | 24.3        |
|             | 20           | 71            | 228-20143820-000         | 228-20143820-001               |               | 508      | 32.4        |
|             | 30           | 106           | 228-20143830-000         | 228-20143830-001               |               | 762      | 48.6        |
| 15.07-15.82 | 10           | 38            | 228-20150710-000         | 228-20150710-001               | 383-402       | 254      | 17.5        |
|             | 15           | 55            | 228-20150715-000         | 228-20150715-001               |               | 381      | 25.3        |
|             | 20           | 71            | 228-20150720-000         | 228-20150720-001               |               | 508      | 32.7        |
|             | 30           | 107           | 228-20150730-000         | 228-20150730-001               |               | 762      | 49          |
| 15.92-16.67 | 10           | 39            | 228-20159210-000         | 228-20159210-001               | 409-423       | 254      | 17.9        |
|             | 15           | 56            | 228-20159215-000         | 228-20159215-001               |               | 381      | 25.5        |
|             | 20           | 74            | 228-20159220-000         | 228-20159220-001               |               | 508      | 34          |
|             | 30           | 149           | 228-20159230-000         | 228-20159230-001               |               | 762      | 51.1        |
| 16.56-17.31 | 10           | 39            | 228-20165610-000         | 228-20165610-001               | 421-440       | 254      | 18          |
|             | 15           | 57            | 228-20165615-000         | 228-20165615-001               |               | 381      | 26.1        |
|             | 20           | 76            | 228-20165620-000         | 228-20165620-001               |               | 508      | 35.1        |
|             | 30           | 117           | 228-20165630-000         | 228-20165630-001               |               | 762      | 54          |
| 17.15-17.90 | 10           | 39            | 228-20171510-000         | 228-20171510-001               | 436-455       | 254      | 18.1        |
|             | 15           | 57            | 228-20171515-000         | 228-20171515-001               |               | 381      | 26.3        |
|             | 20           | 77            | 228-20171520-000         | 228-20171520-001               |               | 508      | 35.3        |
|             | 30           | 118           | 228-20171530-000         | 228-20171530-001               |               | 762      | 54.5        |
| 17.82-18.57 | 10           | 40            | 228-20178210-000         | 228-20178210-001               | 453-472       | 254      | 18.4        |
|             | 15           | 58            | 228-20178215-000         | 228-20178215-001               |               | 381      | 26.7        |
|             | 20           | 77            | 228-20178220-000         | 228-20178220-001               |               | 508      | 35.6        |
|             | 30           | 119           | 228-20178230-000         | 228-20178230-001               |               | 762      | 54.8        |
| 18.46-19.21 | 10           | 41            | 228-20184610-000         | 228-20184610-001               | 469-488       | 254      | 19          |
|             | 15           | 59            | 228-20184615-000         | 228-20184615-001               |               | 381      | 27          |
|             | 20           | 78            | 228-20184620-000         | 228-20184620-001               |               | 508      | 25.9        |
|             | 30           | 120           | 228-20184630-000         | 228-20184630-001               |               | 762      | 55.2        |
| 19.23-19.98 | 10           | 47            | 228-20192310-000         | 228-20192310-001               | 488-507       | 254      | 21.5        |
|             | 15           | 60            | 228-20192315-000         | 228-20192315-001               |               | 381      | 27.6        |
|             | 20           | 80            | 228-20192320-000         | 228-20192320-001               |               | 508      | 36.8        |
|             | 30           | 121           | 228-20192330-000         | 228-20192330-001               |               | 762      | 55.6        |
| 19.90-20.65 | 10           | 42            | 228-20199010-000         | 228-20199010-001               | 505-525       | 254      | 19.4        |
|             | 15           | 60            | 228-20199015-000         | 228-20199015-001               |               | 381      | 27.7        |
|             | 20           | 81            | 228-20199020-000         | 228-20199020-001               |               | 508      | 37          |
|             | 30           | 121           | 228-20199030-000         | 228-20199030-001               |               | 762      | 55.8        |
| 20.70-21.45 | 10           | 44            | 228-20207010-000         | 228-20207010-001               | 526-545       | 254      | 20          |
|             | 15           | 63            | 228-20207015-000         | 228-20207015-001               |               | 381      | 28.8        |
|             | 20           | 83            | 228-20207020-000         | 228-20207020-001               |               | 508      | 38.4        |
|             | 30           | 126           | 228-20207030-000         | 228-20207030-001               |               | 762      | 58          |

NOTE: Other sizes available upon request.

## Double Band Continued

| STANDARD    |              |               | W/LOW ALLOY BOLTS & NUTS | W/STAINLESS STEEL BOLTS & NUTS | METRIC        |          |             |
|-------------|--------------|---------------|--------------------------|--------------------------------|---------------|----------|-------------|
| O.D. RANGES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER           | CATALOG NUMBER                 | O.D. RANGE MM | WIDTH MM | WT. EACH KG |
| 21.52-22.27 | 10           | 45            | 228-20215210-000         | 228-20215210-001               | 547-566       | 254      | 20.8        |
|             | 15           | 65            | 228-20215215-000         | 228-20215215-001               |               | 381      | 29.9        |
|             | 20           | 87            | 228-20215220-000         | 228-20215220-001               |               | 508      | 39.8        |
|             | 30           | 131           | 228-20215230-000         | 228-20215230-001               |               | 762      | 60.2        |
| 22.12-22.87 | 10           | 46            | 228-20221210-000         | 228-20221210-001               | 562-580       | 254      | 21.3        |
|             | 15           | 67            | 228-20221215-000         | 228-20221215-001               |               | 381      | 30.7        |
|             | 20           | 89            | 228-20221220-000         | 228-20221220-001               |               | 508      | 40.9        |
|             | 30           | 135           | 228-20221230-000         | 228-20221230-001               |               | 762      | 61.9        |
| 22.90-23.65 | 10           | 48            | 228-20229010-000         | 228-20229010-001               | 582-600       | 254      | 22.1        |
|             | 15           | 69            | 228-20229015-000         | 228-20229015-001               |               | 381      | 31.18       |
|             | 20           | 92            | 228-20229020-000         | 228-20229020-001               |               | 508      | 42.3        |
|             | 30           | 139           | 228-20229030-000         | 228-20229030-001               |               | 762      | 63.9        |

NOTE: Other sizes available upon request.

## Double Band Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF BOLTS | BOLT SIZES                                       |
|-------------------|-----------------|--|
| 10                | 8               | Drop-in lug<br>5/8" x 6"<br>and<br>5/8" x 6 7/8" |
| 15                | 12              |  |
| 20                | 16              |  |
| 30                | 24              |  |

## Triple Band

| STANDARD             |                 |                  | W/LOW ALLOY<br>BOLTS & NUTS | W/STAINLESS STEEL<br>BOLTS & NUTS | METRIC           |          |                 |
|----------------------|-----------------|------------------|-----------------------------|-----------------------------------|------------------|----------|-----------------|
| O.D. RANGE<br>INCHES | WIDTH<br>INCHES | WT. EACH<br>LBS. | CATALOG NUMBER              | CATALOG NUMBER                    | O.D. RANGE<br>MM | WIDTH MM | WT. EACH<br>KG. |
| 23.28-24.38          | 10              | 73               | 228-30232810-000            | 228-30232810-001                  | 592-619          | 254      | 33.32           |
|                      | 15              | 105              | 228-30232815-000            | 228-30232815-001                  |                  | 381      | 47.72           |
|                      | 20              | 127              | 228-30232820-000            | 228-30232820-001                  |                  | 508      | 57.79           |
|                      | 30              | 181              | 228-30232830-000            | 228-30232830-001                  |                  | 762      | 82.17           |
| 24.38-25.48          | 10              | 75               | 228-30243810-000            | 228-30243810-001                  | 620-647          | 254      | 34.23           |
|                      | 15              | 108              | 228-30243815-000            | 228-30243815-001                  |                  | 381      | 49.12           |
|                      | 20              | 130              | 228-30243820-000            | 228-30243820-001                  |                  | 508      | 59.16           |
|                      | 30              | 185              | 228-30243830-000            | 228-30243830-001                  |                  | 762      | 84.08           |
| 25.70-26.80          | 10              | 77               | 228-30257010-000            | 228-30257010-001                  | 653-680          | 254      | 35.14           |
|                      | 15              | 109              | 228-30257015-000            | 228-30257015-001                  |                  | 381      | 49.49           |
|                      | 20              | 132              | 228-30257020-000            | 228-30257020-001                  |                  | 508      | 60.06           |
|                      | 30              | 188              | 228-30257030-000            | 228-30257030-001                  |                  | 762      | 85.44           |
| 26.48-27.58          | 10              | 78               | 228-30264810-000            | 228-30264810-001                  | 673-700          | 254      | 35.59           |
|                      | 15              | 112              | 228-30264815-000            | 228-30264815-001                  |                  | 381      | 50.85           |
|                      | 20              | 135              | 228-30264820-000            | 228-30264820-001                  |                  | 508      | 61.43           |
|                      | 30              | 191              | 228-30264830-000            | 228-30264830-001                  |                  | 762      | 86.8            |
| 27.65-28.75          | 10              | 81               | 228-30276510-000            | 228-30276510-001                  | 703-730          | 254      | 36.96           |
|                      | 15              | 116              | 228-30276515-000            | 228-30276515-001                  |                  | 381      | 52.66           |
|                      | 20              | 140              | 228-30276520-000            | 228-30276520-001                  |                  | 508      | 63.7            |
|                      | 30              | 197              | 228-30276530-000            | 228-30276530-001                  |                  | 762      | 89.53           |
| 28.73-29.83          | 10              | 83               | 228-30287310-000            | 228-30287310-001                  | 730-757          | 254      | 37.86           |
|                      | 15              | 118              | 228-30287315-000            | 228-30287315-001                  |                  | 381      | 53.57           |
|                      | 20              | 145              | 228-30287320-000            | 228-30287320-001                  |                  | 508      | 65.97           |
|                      | 30              | 201              | 228-30287330-000            | 228-30287330-001                  |                  | 762      | 91.34           |
| 29.62-30.72          | 10              | 85               | 228-30296210-000            | 228-30296210-001                  | 753-780          | 254      | 38.77           |
|                      | 15              | 121              | 228-30296215-000            | 228-30296215-001                  |                  | 381      | 54.93           |
|                      | 20              | 147              | 228-30296220-000            | 228-30296220-001                  |                  | 508      | 66.87           |
|                      | 30              | 205              | 228-30296230-000            | 228-30296230-001                  |                  | 762      | 93.16           |

NOTE: Other sizes available upon request.

## Triple Band Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF BOLTS | BOLT SIZES  |
|-------------------|-----------------|---|
| 10                | 12              | 5/8" x 6"<br>5/8" x 6 7/8"<br>Open and<br>closed lugs |
| 15                | 18              |   |
| 20                | 24              |   |
| 30                | 36              |   |



# Full Circle<sup>®</sup> Collar Leak Clamp

## 229

### Description:

Designed as an easy way to fix a leaky solvent weld bell on PVC pipe by assembling parts outside the collar. This can be done without cutting or draining the pipe.

**Application:** For leaking plastic solvent weld belled end pipe joints

### Key Features:

- Removable lugs to allow installation in tight spaces
- 360° gasket seal
- Flexi-Coat<sup>®</sup> Epoxy Finish for corrosion resistance

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalies, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. *Consult manufacturer for specific applications and other service temperatures*

BRIDGE PLATE: 304 Stainless Steel, recessed flush and bonded into the gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy, semi-finished hexagon nuts per ANSI B. 18.2.2 *Optional 304 Stainless bolts with fluoropolymer coating*

**Pipe Applications:** PVC joints and threaded Steel couplings

**Sizes (in inches):** 2, 2½, 3, 3½, 4, 5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



229

# Full Circle<sup>®</sup> Collar Leak Clamp

| STANDARD            |             |              |               | CATALOG NUMBER   | METRIC          |         |          |              |
|---------------------|-------------|--------------|---------------|------------------|-----------------|---------|----------|--------------|
| NOMINAL SIZE INCHES | O.D. INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOMINAL SIZE MM | O.D. MM | WIDTH MM | WT. EACH KG. |
| 2                   | 2.38        | 7.5          | 9             | 229-00023807-000 | 50              | 60      | 190      | 4.1          |
| 2                   | 2.38        | 12.5         | 15            | 229-00023812-000 | 50              | 60      | 318      | 6.8          |
| 2 1/2               | 2.88        | 7.5          | 10            | 229-00028807-000 | 65              | 70      | 190      | 4.5          |
| 2 1/2               | 2.88        | 12.5         | 17            | 229-00028812-000 | 65              | 70      | 318      | 7.7          |
| 3                   | 3.50        | 7.5          | 10            | 229-00035007-000 | 80              | 89      | 190      | 4.5          |
| 3                   | 3.50        | 12.5         | 17            | 229-00035012-000 | 80              | 89      | 318      | 7.7          |
| 3 1/2               | 4.00        | 7.5          | 10            | 229-00040007-000 | 90              | 102     | 190      | 4.5          |
| 3 1/2               | 4.00        | 12.5         | 17            | 229-00040012-000 | 90              | 102     | 318      | 7.7          |
| 4                   | 4.50        | 7.5          | 10            | 229-00045007-000 | 100             | 115     | 190      | 4.5          |
| 4                   | 4.50        | 12.5         | 17            | 229-00045012-000 | 100             | 115     | 318      | 7.7          |
| 5                   | 5.56        | 7.5          | 12            | 229-00055607-000 | 125             | 141     | 190      | 5.4          |
| 5                   | 5.56        | 12.5         | 20            | 229-00055612-000 | 125             | 141     | 318      | 9.1          |
| 6                   | 6.63        | 7.5          | 12            | 229-00066307-000 | 150             | 168     | 190      | 5.4          |
| 6                   | 6.63        | 12.5         | 20            | 229-00066312-000 | 150             | 168     | 318      | 9.1          |
| 8                   | 8.63        | 7.5          | 14            | 229-00086307-000 | 200             | 219     | 190      | 6.4          |
| 8                   | 8.63        | 12.5         | 23            | 229-00086312-000 | 200             | 219     | 318      | 10.6         |
| 10                  | 10.75       | 7.5          | 15            | 229-00107507-000 | 250             | 273     | 190      | 6.8          |
| 10                  | 10.75       | 12.5         | 25            | 229-00107512-000 | 250             | 273     | 318      | 11.4         |
| 12                  | 12.75       | 7.5          | 16            | 229-00127507-000 | 300             | 324     | 190      | 7.3          |
| 12                  | 12.75       | 12.5         | 27            | 229-00127512-000 | 300             | 324     | 318      | 12.1         |

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF BOLTS | BOLT SIZES |
|-------------------|-----------------|------------|
| 7.5               | 3               | 5/8"x6"    |
| 12.5              | 5               | 5/8"x6"    |

5/8" x 6 7/8" starter bolts on 4" nominal and smaller.



# Tapped Full Circle<sup>®</sup> Repair Clamp Single Band

# 238

## Description:

A tapped clamp to repair damaged pipe at broken or torn out service connections or branch lines.

**Application:** Service connection or branch line connections.

## Key Features:

- Stainless Steel outlet welded to band and features a choice of NPT, CC, AWWA or BSP threads
- Removable lugs allow installation in tight spaces
- Maximum support and reinforcement with 360° coverage
- Drop-in bolts in the joint to be opened help ease installation
- A wide variety of outlet sizes and thread types available to meet demand
- Lugs have a Fusion-Bonded Flexi-Coat<sup>®</sup> Epoxy Finish for great corrosion resistance
- One starter (longer) bolt minimum per clamp thru 4.5" O.D. size to help with installation
- Range up to .40"
- Pressure ratings up to 300 PSI

## Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536, 80-55-06

**GASKET:** Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

**Temperature Range:** -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded into gasket

**BOLTS:** High strength low alloy electrogalvanized steel with heavy semi-finished hexagon nuts. Per AN I B.

18.2.2. **Optional 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers.

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, PVC, HDPE, and most other types of pipe

## Sizes (in inches):

- 3, 4, 6, 8, 10, 12 offered with ¾", 1" NPT or CC taps
- 4, 6, 8, 10, 12 offered with 1¼", 1½" or 2" NPT taps
- 4, 6, 8, 10, 12 offered with 2" CC taps



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.





# Tapped Full Circle<sup>®</sup> Repair Clamp Single Band

With Stainless Steel Bolts

| TAP SIZE   | LAST 3 DIGITS FOR ALLOY BOLTS | LAST 3 DIGITS FOR STAINLESS STEEL BOLTS |
|------------|-------------------------------|---|
| 3/4" NPT   | -006                          | -106                                    |
| 1" NPT     | -008                          | -108                                    |
| 1 1/4" NPT | -010                          | -110                                    |
| 1 1/2" NPT | -012                          | -112                                    |
| 2" NPT     | -014                          | -114                                    |
| 3/4" CC    | -007                          | -107                                    |
| 1" CC      | -009                          | -109                                    |
| 1 1/4" CC  | -011                          | -111                                    |
| 1 1/2" CC  | -013                          | -113                                    |
| 2" CC      | -015                          | -115                                    |

3/4" and 1" NPT Taps

| NOMINAL SIZE INCHES | STANDARD          |              |               | 3/4" NPT 20MM    | 1" NPT 25MM      | METRIC          |               |          |              |
|---------------------|-------------------|--------------|---------------|------------------|------------------|-----------------|---------------|----------|--------------|
|                     | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | NOMINAL SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 3                   | 3.46-3.70         | 7.5          | 8.3           | 238-00035007-006 | 238-00035007-008 | 80              | 88-93         | 190      | 3.8          |
|                     | 3.46-3.70         | 12.5         | 12.8          | 238-00035012-006 | 238-00035012-008 |                 | 88-93         | 317      | 5.8          |
| 3                   | 3.73-4.00         | 7.5          | 8.3           | 238-00037507-006 | 238-00037507-008 | 80              | 95-101        | 190      | 3.8          |
|                     | 3.73-4.00         | 12.5         | 12.8          | 238-00037512-006 | 238-00037512-008 |                 | 95-101        | 317      | 5.8          |
| 3                   | 3.96-4.25         | 7.5          | 8.3           | 238-00040007-006 | 238-00040007-008 | 80-100          | 101-107       | 190      | 3.8          |
|                     | 3.96-4.25         | 12.5         | 12.8          | 238-00040012-006 | 238-00040012-008 |                 | 101-107       | 317      | 5.8          |
| 4                   | 4.45-4.73         | 7.5          | 8.3           | 238-00045007-006 | 238-00045007-008 | 100             | 114-120       | 190      | 3.8          |
|                     | 4.45-4.73         | 12.5         | 12.8          | 238-00045012-006 | 238-00045012-008 |                 | 114-120       | 317      | 5.8          |
| 4                   | 4.74-5.14         | 7.5          | 10.7          | 238-00048007-006 | 238-00048007-008 | 100             | 121-130       | 190      | 4.9          |
|                     | 4.74-5.14         | 12.5         | 18            | 238-00048012-006 | 238-00048012-008 |                 | 121-130       | 317      | 8.3          |
| 6                   | 6.56-6.96         | 7.5          | 11.1          | 238-00066307-006 | 238-00066307-008 | 150             | 167-176       | 190      | 5.4          |
|                     | 6.56-6.96         | 12.5         | 17.1          | 238-00066312-006 | 238-00066312-008 |                 | 167-176       | 317      | 8.9          |
| 6                   | 6.84-7.24         | 7.5          | 11.3          | 238-00069007-006 | 238-00069007-008 | 150             | 174-183       | 190      | 5.4          |
|                     | 6.84-7.24         | 12.5         | 19.3          | 238-00069012-006 | 238-00069012-008 |                 | 174-183       | 317      | 8.9          |
| 8                   | 8.54-8.94         | 7.5          | 13.2          | 238-00086307-006 | 238-00086307-008 | 200             | 217-227       | 190      | 6.1          |
|                     | 8.54-8.94         | 12.5         | 21.4          | 238-00086312-006 | 238-00086312-008 |                 | 217-227       | 317      | 9.8          |
| 8                   | 8.99-9.39         | 7.5          | 13.2          | 238-00090507-006 | 238-00090507-008 | 200             | 229-238       | 190      | 6.1          |
|                     | 8.99-9.39         | 12.5         | 21.4          | 238-00090512-006 | 238-00090512-008 |                 | 229-238       | 317      | 9.8          |

Suitable anchorage must be provided. Excessive pipe movement could cause pipe to pull out. Other tap sizes available.

## 1¼", 1½" and 2" NPT Taps

| STANDARD               |                         |                 |                     | 1 1/4" NPT<br>32 MM | 1 1/2" NPT<br>40 MM | 2" NPT<br>50 MM  | METRIC             |                     |             |                    |
|------------------------|-------------------------|-----------------|---------------------|---------------------|---------------------|------------------|--------------------|---------------------|-------------|--------------------|
| NOM.<br>SIZE<br>INCHES | O.D.<br>RANGE<br>INCHES | WIDTH<br>INCHES | WT.<br>EACH<br>LBS. | CATALOG NUMBER      | CATALOG NUMBER      | CATALOG NUMBER   | NOM.<br>SIZE<br>MM | O.D.<br>RANGE<br>MM | WIDTH<br>MM | WT.<br>EACH<br>KG. |
| 4                      | 4.45-4.73               | 7.5             | 10                  | 238-00045007-010    | 238-00045007-012    | 238-00045007-014 | 100                | 114-120             | 190         | 4.1                |
|                        | 4.45-4.73               | 10              | 13                  | 238-00045010-010    | 238-00045010-012    | 238-00045010-014 |                    | 114-120             | 254         | 5.9                |
|                        | 4.45-4.73               | 12.5            | 16                  | 238-00045012-010    | 238-00045012-012    | 238-00045012-014 |                    | 114-120             | 317         | 7.3                |
|                        | 4.45-4.73               | 15              | 19                  | 238-00045015-010    | 238-00045015-012    | 238-00045015-014 |                    | 114-120             | 381         | 8.6                |
| 4                      | 4.74-5.14               | 7.5             | 11                  | 238-00048007-010    | 238-00048007-012    | 238-00048007-014 | 100                | 121-130             | 190         | 5.0                |
|                        | 4.74-5.14               | 10              | 15                  | 238-00048010-010    | 238-00048010-012    | 238-00048010-014 |                    | 121-130             | 254         | 6.8                |
|                        | 4.74-5.14               | 12.5            | 18                  | 238-00048012-010    | 238-00048012-012    | 238-00048012-014 |                    | 121-130             | 317         | 8.2                |
|                        | 4.74-5.14               | 15              | 21                  | 238-00048015-010    | 238-00048015-012    | 238-00048015-014 |                    | 121-130             | 381         | 9.5                |
| 6                      | 6.56-6.96               | 7.5             | 12                  | 238-00066307-010    | 238-00066307-012    | 238-00066307-014 | 150                | 167-176             | 190         | 5.4                |
|                        | 6.56-6.96               | 10              | 16                  | 238-00066310-010    | 238-00066310-012    | 238-00066310-014 |                    | 167-176             | 254         | 7.3                |
|                        | 6.56-6.96               | 12.5            | 19                  | 238-00066312-010    | 238-00066312-012    | 238-00066312-014 |                    | 167-176             | 317         | 8.6                |
|                        | 6.56-6.96               | 15              | 23                  | 238-00066315-010    | 238-00066315-012    | 238-00066315-014 |                    | 167-176             | 381         | 11.8               |
| 6                      | 6.84-7.24               | 7.5             | 12                  | 238-00069007-010    | 238-00069007-012    | 238-00069007-014 | 150                | 174-183             | 190         | 5.4                |
|                        | 6.84-7.24               | 10              | 16                  | 238-00069010-010    | 238-00069010-012    | 238-00069010-014 |                    | 174-183             | 254         | 7.3                |
|                        | 6.84-7.24               | 12.5            | 19                  | 238-00069012-010    | 238-00069012-012    | 238-00069012-014 |                    | 174-183             | 317         | 8.6                |
|                        | 6.84-7.24               | 15              | 23                  | 238-00069015-010    | 238-00069015-012    | 238-00069015-014 |                    | 174-183             | 381         | 10.4               |
| 8                      | 8.54-8.94               | 7.5             | 13                  | 238-00086307-010    | 238-00086307-012    | 238-00086307-014 | 200                | 217-227             | 190         | 5.9                |
|                        | 8.54-8.94               | 10              | 17                  | 238-00086310-010    | 238-00086310-012    | 238-00086310-014 |                    | 217-227             | 254         | 7.7                |
|                        | 8.54-8.94               | 12.5            | 21                  | 238-00086312-010    | 238-00086312-012    | 238-00086312-014 |                    | 217-227             | 317         | 9.5                |
|                        | 8.54-8.94               | 15              | 25                  | 238-00086315-010    | 238-00086315-012    | 238-00086315-014 |                    | 217-227             | 381         | 11.30              |
| 8                      | 8.99-9.39               | 7.5             | 13                  | 238-00090507-010    | 238-00090507-012    | 238-00090507-014 | 200                | 229-238             | 190         | 5.9                |
|                        | 8.99-9.39               | 10              | 17                  | 238-00090510-010    | 238-00090510-012    | 238-00090510-014 |                    | 229-238             | 254         | 7.7                |
|                        | 8.99-9.39               | 12.5            | 21                  | 238-00090512-010    | 238-00090512-012    | 238-00090512-014 |                    | 229-238             | 317         | 9.5                |
|                        | 8.99-9.39               | 15              | 25                  | 238-00090515-010    | 238-00090515-012    | 238-00090515-014 |                    | 229-238             | 381         | 11.34              |
| 10                     | 10.64-11.04             | 7.5             | 14                  | 238-00107507-010    | 238-00107507-012    | 238-00107507-014 | 250                | 270-280             | 190         | 6.4                |
|                        | 10.64-11.04             | 10              | 19                  | 238-00107510-010    | 238-00107510-012    | 238-00107510-014 |                    | 270-280             | 254         | 8.6                |
|                        | 10.64-11.04             | 12.5            | 23                  | 238-00107512-010    | 238-00107512-012    | 238-00107512-014 |                    | 270-280             | 317         | 10.4               |
|                        | 10.64-11.04             | 15              | 27                  | 238-00107515-010    | 238-00107515-012    | 238-00107515-014 |                    | 270-280             | 381         | 12.2               |
| 10                     | 11.04-11.44             | 7.5             | 14                  | 238-00111007-010    | 238-00111007-012    | 238-00111007-014 | 250                | 280-291             | 190         | 6.4                |
|                        | 11.04-11.44             | 10              | 19                  | 238-00111010-010    | 238-00111010-012    | 238-00111010-014 |                    | 280-291             | 254         | 8.6                |
|                        | 11.04-11.44             | 12.5            | 23                  | 238-00111012-010    | 238-00111012-012    | 238-00111012-014 |                    | 280-291             | 317         | 10.4               |
|                        | 11.04-11.44             | 15              | 27                  | 238-00111015-010    | 238-00111015-012    | 238-00111015-014 |                    | 280-291             | 381         | 12.7               |
| 12                     | 12.62-13.02             | 7.5             | 16                  | 238-00127507-010    | 238-00127507-012    | 238-00127507-014 | 300                | 321-331             | 190         | 7.3                |
|                        | 12.62-13.02             | 10              | 20                  | 238-00127510-010    | 238-00127510-012    | 238-00127510-014 |                    | 321-331             | 254         | 9.1                |
|                        | 12.62-13.02             | 12.5            | 25                  | 238-00127512-010    | 238-00127512-012    | 238-00127512-014 |                    | 321-331             | 317         | 11.3               |
|                        | 12.62-13.02             | 15              | 29                  | 238-00127515-010    | 238-00127515-012    | 238-00127515-014 |                    | 321-331             | 381         | 13.15              |
| 12                     | 13.10-13.50             | 7.5             | 16                  | 238-00132007-010    | 238-00132007-012    | 238-00132007-014 | 300                | 333-343             | 190         | 7.7                |
|                        | 13.10-13.50             | 10              | 20                  | 238-00132010-010    | 238-00132010-012    | 238-00132010-014 |                    | 333-343             | 254         | 9.5                |
|                        | 13.10-13.50             | 12.5            | 25                  | 238-00132012-010    | 238-00132012-012    | 238-00132012-014 |                    | 333-343             | 317         | 11.3               |
|                        | 13.10-13.50             | 15              | 29                  | 238-00132015-010    | 238-00132015-012    | 238-00132015-014 |                    | 333-343             | 381         | 13.2               |

Maximum available clamp width is 35". Suitable anchorage must be provided. Excessive pipe movement could cause pipe to pull out. Other tap sizes available.

## 3/4", 1" and 2" CC Taps

| STANDARD         |                   |              |               | 3/4" CC 20 MM    | 1" CC 25 MM      | 2" CC 50 MM        | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|------------------|--------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | CATALOG NUMBER     | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 3                | 3.46-3.70         | 7.5          | 9             | 238-00035007-007 | 238-00035007-009 | N/A<br>N/A N/A N/A | 80           | 88-93         | 190      | 4.0          |
|                  | 3.46-3.70         | 10           | 13            | 238-00035010-007 | 238-00035010-009 |                    |              | 88-93         | 254      | 5.9          |
|                  | 3.46-3.70         | 12.5         | 16            | 238-00035012-007 | 238-00035012-009 |                    |              | 88-93         | 317      | 7.3          |
|                  | 3.46-3.70         | 15           | 18            | 238-00035015-007 | 238-00035015-009 |                    |              | 88-93         | 381      | 8.2          |
| 3                | 3.73-4.00         | 7.5          | 9             | 238-00037507-007 | 238-00037507-009 | N/A<br>N/A N/A N/A | 80           | 95-101        | 190      | 4.0          |
|                  | 3.73-4.00         | 10           | 13            | 238-00037510-007 | 238-00037510-009 |                    |              | 95-101        | 254      | 5.9          |
|                  | 3.73-4.00         | 12.5         | 16            | 238-00037512-007 | 238-00037512-009 |                    |              | 95-101        | 317      | 7.3          |
|                  | 3.73-4.00         | 15           | 18            | 238-00037515-007 | 238-00037515-009 |                    |              | 95-101        | 381      | 8.2          |
| 3                | 3.96-4.25         | 7.5          | 9             | 238-00040007-007 | 238-00040007-009 | N/A<br>N/A N/A N/A | 80           | 101-107       | 190      | 4.0          |
|                  | 3.96-4.25         | 10           | 13            | 238-00040010-007 | 238-00040010-009 |                    |              | 101-107       | 254      | 5.9          |
|                  | 3.96-4.25         | 12.5         | 16            | 238-00040012-007 | 238-00040012-009 |                    |              | 101-107       | 317      | 7.3          |
|                  | 3.96-4.25         | 15           | 18            | 238-00040015-007 | 238-00040015-009 |                    |              | 101-107       | 381      | 8.2          |
| 4                | 4.45-4.73         | 7.5          | 10            | 238-00045007-007 | 238-00045007-009 | 238-00045007-015   | 100          | 114-120       | 190      | 4.0          |
|                  | 4.45-4.73         | 10           | 13            | 238-00045010-007 | 238-00045010-009 | 238-00045010-015   |              | 114-120       | 254      | 5.9          |
|                  | 4.45-4.73         | 12.5         | 16            | 238-00045012-007 | 238-00045012-009 | 238-00045012-015   |              | 114-120       | 317      | 7.3          |
|                  | 4.45-4.73         | 15           | 19            | 238-00045015-007 | 238-00045015-009 | 238-00045015-015   |              | 114-120       | 381      | 8.2          |
| 4                | 4.74-5.14         | 7.5          | 10            | 238-00048007-007 | 238-00048007-009 | 238-00048007-015   | 100          | 121-130       | 190      | 5.0          |
|                  | 4.74-5.14         | 10           | 13            | 238-00048010-007 | 238-00048010-009 | 238-00048010-015   |              | 121-130       | 254      | 6.8          |
|                  | 4.74-5.14         | 12.5         | 16            | 238-00048012-007 | 238-00048012-009 | 238-00048012-015   |              | 121-130       | 317      | 8.2          |
|                  | 4.74-5.14         | 15           | 19            | 238-00048015-007 | 238-00048015-009 | 238-00048015-015   |              | 121-130       | 381      | 9.5          |
| 6                | 6.56-6.96         | 7.5          | 12            | 238-00066307-007 | 238-00066307-009 | 238-00066307-015   | 150          | 167-176       | 190      | 5.4          |
|                  | 6.56-6.96         | 10           | 16            | 238-00066310-007 | 238-00066310-009 | 238-00066310-015   |              | 167-176       | 254      | 7.3          |
|                  | 6.56-6.96         | 12.5         | 19            | 238-00066312-007 | 238-00066312-009 | 238-00066312-015   |              | 167-176       | 317      | 8.2          |
|                  | 6.56-6.96         | 15           | 23            | 238-00066315-007 | 238-00066315-009 | 238-00066315-015   |              | 167-176       | 381      | 10.4         |
| 6                | 6.84-7.24         | 7.5          | 12            | 238-00069007-007 | 238-00069007-009 | 238-00069007-015   | 150          | 174-183       | 190      | 5.4          |
|                  | 6.84-7.24         | 10           | 16            | 238-00069010-007 | 238-00069010-009 | 238-00069010-015   |              | 174-183       | 254      | 7.3          |
|                  | 6.84-7.24         | 12.5         | 19            | 238-00069012-007 | 238-00069012-009 | 238-00069012-015   |              | 174-183       | 317      | 8.2          |
|                  | 6.84-7.24         | 15           | 23            | 238-00069015-007 | 238-00069015-009 | 238-00069015-015   |              | 174-183       | 381      | 10.4         |
| 8                | 8.54-8.94         | 7.5          | 13            | 238-00086307-007 | 238-00086307-009 | 238-00086307-015   | 200          | 217-227       | 190      | 5.9          |
|                  | 8.54-8.94         | 10           | 17            | 238-00086310-007 | 238-00086310-009 | 238-00086310-015   |              | 217-227       | 254      | 7.7          |
|                  | 8.54-8.94         | 12.5         | 21            | 238-00086312-007 | 238-00086312-009 | 238-00086312-015   |              | 217-227       | 317      | 9.5          |
|                  | 8.54-8.94         | 15           | 25            | 238-00086315-007 | 238-00086315-009 | 238-00086315-015   |              | 217-227       | 381      | 11.3         |
| 8                | 8.99-9.39         | 7.5          | 13            | 238-00090507-007 | 238-00090507-009 | 238-00090507-015   | 200          | 229-238       | 190      | 5.9          |
|                  | 8.99-9.39         | 10           | 17            | 238-00090510-007 | 238-00090510-009 | 238-00090510-015   |              | 229-238       | 254      | 7.7          |
|                  | 8.99-9.39         | 12.5         | 21            | 238-00090512-007 | 238-00090512-009 | 238-00090512-015   |              | 229-238       | 317      | 9.5          |
|                  | 8.99-9.39         | 15           | 25            | 238-00090515-007 | 238-00090515-009 | 238-00090515-015   |              | 229-238       | 381      | 11.3         |
| 10               | 10.64-11.04       | 7.5          | 14            | 238-00107507-007 | 238-00107507-009 | 238-00107507-015   | 254          | 270-280       | 190      | 6.4          |
|                  | 10.64-11.04       | 10           | 19            | 238-00107510-007 | 238-00107510-009 | 238-00107510-015   |              | 270-280       | 254      | 8.2          |
|                  | 10.64-11.04       | 12.5         | 23            | 238-00107512-007 | 238-00107512-009 | 238-00107512-015   |              | 270-280       | 317      | 10.4         |
|                  | 10.64-11.04       | 15           | 27            | 238-00107515-007 | 238-00107515-009 | 238-00107515-015   |              | 270-280       | 381      | 12.3         |
| 10               | 11.04-11.44       | 7.5          | 14            | 238-00111007-007 | 238-00111007-009 | 238-00111007-015   | 254          | 280-291       | 190      | 6.4          |
|                  | 11.04-11.44       | 10           | 19            | 238-00111010-007 | 238-00111010-009 | 238-00111010-015   |              | 280-291       | 254      | 8.2          |
|                  | 11.04-11.44       | 12.5         | 23            | 238-00111012-007 | 238-00111012-009 | 238-00111012-015   |              | 280-291       | 317      | 10.4         |
|                  | 11.04-11.44       | 15           | 27            | 238-00111015-007 | 238-00111015-009 | 238-00111015-015   |              | 280-291       | 381      | 12.3         |
| 12               | 12.62-13.02       | 7.5          | 16            | 238-00127507-007 | 238-00127507-009 | 238-00127507-015   | 305          | 321-331       | 190      | 7.3          |
|                  | 12.62-13.02       | 10           | 20            | 238-00127510-007 | 238-00127510-009 | 238-00127510-015   |              | 321-331       | 254      | 9.1          |
|                  | 12.62-13.02       | 12.5         | 25            | 238-00127512-007 | 238-00127512-009 | 238-00127512-015   |              | 321-331       | 317      | 11.3         |
|                  | 12.62-13.02       | 15           | 29            | 238-00127515-007 | 238-00127515-009 | 238-00127515-015   |              | 321-331       | 381      | 13.2         |
| 12               | 13.10-13.50       | 7.5          | 16            | 238-00132007-007 | 238-00132007-009 | 238-00132007-015   | 305          | 333-343       | 190      | 7.7          |
|                  | 13.10-13.50       | 10           | 20            | 238-00132010-007 | 238-00132010-009 | 238-00132010-015   |              | 333-343       | 254      | 9.5          |
|                  | 13.10-13.50       | 12.5         | 25            | 238-00132012-007 | 238-00132012-009 | 238-00132012-015   |              | 333-343       | 317      | 11.3         |
|                  | 13.10-13.50       | 15           | 29            | 238-00132015-007 | 238-00132015-009 | 238-00132015-015   |              | 333-343       | 381      | 13.2         |



# Tapped Full Circle<sup>®</sup> Repair Clamp Double Band

## 239

### Description:

A tapped clamp to repair damaged pipe at broken or torn out service connections or branch lines.

**Application:** Service connection or branch line connections.

### Key Features:

- Stainless Steel outlet welded to band
- Select from outlets with NPT, CC or BSP (AWWA) threads
- Removable lugs allow installation in tight spaces
- Maximum support and reinforcement with 360° coverage
- Drop-in bolts in the joint to be opened help ease installation
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- A wide variety of outlet sizes and thread types available to meet demand
- All closed lugs on the multi-band, except the joint, which is opened for installation
- Lugs have a Fusion-Bonded Flexi-Coat<sup>®</sup> Epoxy Finish for great corrosion resistance
- One starter (longer) bolt minimum per clamp thru 4.5" O.D. size to help with installation
- Widths up to 30"
- Pressure rating up to 175 PSI

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536, 80-55-06

GASKET: Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and many other chemicals

Temperature Range: -20°F to 180°F. Consult manufacturer for specific applications and other service temperatures

BRIDGE PLATE: 302 Stainless Steel recessed flush and bonded into gasket

BOLTS: High strength, low alloy electrogalvanized steel with heavy semi-finished hexagon nuts. Per ANSI B. 18.2.2 **Optional 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**NOTE:** Also available in metric sizes. HDPE applications will require clamps with spring washers.

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, PVC, HDPE and most other types of pipe

### Sizes (in inches):

- 4, 6, 8, 10, 12 offered with ¾", 1 1/4", 1 1/2" or 2" NPT Taps
- 4, 6, 8, 10, 12 offered with ¾", 1" or 2" taps.
- 4, 6, 8, 10, 12 offered with 1¼", 1½" or 2" NPT taps.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

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# Tapped Full Circle<sup>®</sup> Repair Clamp Double Band

## Bolt Numbers

| BAND WIDTH INCHES | # OF BOLTS | BOLT SIZES  |
|-------------------|------------|---|
| 7.5               | 6          | Drop-in lug 5/8" x 6"<br>Closed lug 5/8" x 6 7/8" |
| 10                | 8          |   |
| 12.5              | 10         |   |
| 15                | 12         |   |

## Stainless Steel Bolts

| TAP SIZE   | LAST 3 DIGITS FOR ALLOY BOLTS | LAST 3 DIGITS FOR STAINLESS STEEL BOLTS |
|------------|-------------------------------|---|
| 3/4" NPT   | -6                            | -106                                    |
| 1" NPT     | -8                            | -108                                    |
| 1 1/4" NPT | -10                           | -110                                    |
| 1 1/2" NPT | -12                           | -112                                    |
| 2" NPT     | -14                           | -114                                    |
| 3/4" CC    | -7                            | -107                                    |
| 1" CC      | -9                            | -109                                    |
| 1 1/4" CC  | -11                           | -111                                    |
| 1 1/2" CC  | -13                           | -113                                    |
| 2" CC      | -15                           | -115                                    |

## 3/4" and 1" NPT Taps

| NOMINAL SIZE INCHES | STANDARD          |              |               | 3/4" NPT 20 MM   | 1" NPT 25 MM     | METRIC       |               |          |              |
|---------------------|-------------------|--------------|---------------|------------------|------------------|--------------|---------------|----------|--------------|
|                     | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 4                   | 4.44-5.24         | 7.5          | 19            | 239-00045007-006 | 239-00045007-008 | 100          | 113-133       | 190      | 8.6          |
|                     | 4.44-5.24         | 10           | 25            | 239-00045010-006 | 239-00045010-008 |              | 113-133       | 254      | 11.3         |
|                     | 4.44-5.24         | 12.5         | 31            | 239-00045012-006 | 239-00045012-008 |              | 113-133       | 317      | 14.0         |
|                     | 4.44-5.24         | 15           | 37            | 239-00045015-006 | 239-00045015-008 |              | 113-133       | 381      | 16.8         |
| 6                   | 6.62-7.42         | 7.5          | 20            | 239-00066307-006 | 239-00066307-008 | 125          | 168-188       | 190      | 9.1          |
|                     | 6.62-7.42         | 10           | 27            | 239-00066310-006 | 239-00066310-008 |              | 168-188       | 254      | 12.2         |
|                     | 6.62-7.42         | 12.5         | 33            | 239-00066312-006 | 239-00066312-008 |              | 168-188       | 317      | 15.0         |
|                     | 6.62-7.42         | 15           | 39            | 239-00066315-006 | 239-00066315-008 |              | 168-188       | 381      | 17.7         |
| 6                   | 6.84-7.64         | 7.5          | 20            | 239-00069007-006 | 239-00069007-008 | 150          | 174-194       | 190      | 9.1          |
|                     | 6.84-7.64         | 10           | 27            | 239-00069010-006 | 239-00069010-008 |              | 174-194       | 254      | 12.2         |
|                     | 6.84-7.64         | 12.5         | 33            | 239-00069012-006 | 239-00069012-008 |              | 174-194       | 317      | 15.0         |
|                     | 6.84-7.64         | 15           | 39            | 239-00069015-006 | 239-00069015-008 |              | 174-194       | 381      | 17.7         |
| 8                   | 8.62-9.42         | 7.5          | 22            | 239-00086307-006 | 239-00086307-008 | 200          | 219-239       | 190      | 10.0         |
|                     | 8.62-9.42         | 10           | 30            | 239-00086310-006 | 239-00086310-008 |              | 219-239       | 254      | 13.6         |
|                     | 8.62-9.42         | 12.5         | 36            | 239-00086312-006 | 239-00086312-008 |              | 219-239       | 317      | 16.3         |
|                     | 8.62-9.42         | 15           | 43            | 239-00086315-006 | 239-00086315-008 |              | 219-239       | 381      | 19.5         |

## 3/4" and 1" NPT Taps Continued

| STANDARD            |                   |              |               | 3/4" NPT 20 MM   | 1" NPT 25 MM     | METRIC       |               |          |              |
|---------------------|-------------------|--------------|---------------|------------------|------------------|--------------|---------------|----------|--------------|
| NOMINAL SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 8                   | 8.99-9.79         | 7.5          | 22            | 239-00090507-006 | 239-00090507-008 | 200          | 229-248       | 190      | 10.0         |
|                     | 8.99-9.79         | 10           | 30            | 239-00090510-006 | 239-00090510-008 |              | 229-248       | 254      | 13.6         |
|                     | 8.99-9.79         | 12.5         | 36            | 239-00090512-006 | 239-00090512-008 |              | 229-248       | 317      | 16.3         |
|                     | 8.99-9.79         | 15           | 43            | 239-00090515-006 | 239-00090515-008 |              | 229-248       | 381      | 19.5         |
| 10                  | 10.75-11.55       | 10           | 31            | 239-00107510-006 | 239-00107510-008 | 250          | 273-293       | 254      | 14.1         |
|                     | 10.75-11.55       | 12.5         | 40            | 239-00107512-006 | 239-00107512-008 |              | 273-293       | 317      | 18.1         |
|                     | 10.75-11.55       | 15           | 48            | 239-00107515-006 | 239-00107515-008 |              | 273-293       | 381      | 21.8         |
| 10                  | 11.10-11.90       | 10           | 34            | 239-00111010-006 | 239-00111010-008 | 250          | 282-302       | 254      | 15.4         |
|                     | 11.10-11.90       | 12.5         | 43            | 239-00111012-006 | 239-00111012-008 |              | 282-302       | 317      | 19.5         |
|                     | 11.10-11.90       | 15           | 48            | 239-00111015-006 | 239-00111015-008 |              | 282-302       | 381      | 21.8         |
| 12                  | 12.75-13.55       | 10           | 34            | 239-00127510-006 | 239-00127510-008 | 300          | 324-344       | 254      | 15.4         |
|                     | 12.75-13.55       | 12.5         | 43            | 239-00127512-006 | 239-00127512-008 |              | 324-344       | 317      | 19.5         |
|                     | 12.75-13.55       | 15           | 50            | 239-00127515-006 | 239-00127515-008 |              | 324-344       | 381      | 22.7         |
| 12                  | 13.20-14.00       | 10           | 34            | 239-00132010-006 | 239-00132010-008 | 300          | 335-355       | 254      | 15.4         |
|                     | 13.20-14.00       | 12.5         | 43            | 239-00132012-006 | 239-00132012-008 |              | 335-355       | 317      | 19.5         |
|                     | 13.20-14.00       | 15           | 50            | 239-00132015-006 | 239-00132015-008 |              | 335-355       | 381      | 22.7         |

## 1 1/4", 1 1/2" and 2" NPT Taps

| STANDARD         |                   |              |               | 1 1/4" NPT 32 MM | 1 1/2" NPT 40 MM | 2" NPT 50 MM     | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|------------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | CATALOG NUMBER   | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 4                | 4.44-5.24         | 7.5          | 19            | 239-00045007-010 | 239-00045007-012 | 239-00045007-014 | 100          | 113-133       | 190      | 8.6          |
|                  | 4.44-5.24         | 10           | 25            | 239-00045010-010 | 239-00045010-012 | 239-00045010-014 |              | 113-133       | 254      | 11.3         |
|                  | 4.44-5.24         | 12.5         | 31            | 239-00045012-010 | 239-00045012-012 | 239-00045012-014 |              | 113-133       | 317      | 14.0         |
|                  | 4.44-5.24         | 15           | 37            | 239-00045015-010 | 239-00045015-012 | 239-00045015-014 |              | 113-133       | 381      | 16.8         |
| 6                | 6.62-7.42         | 7.5          | 20            | 239-00066307-010 | 239-00066307-012 | 239-00066307-014 | 150          | 169-188       | 190      | 9.1          |
|                  | 6.62-7.42         | 10           | 27            | 239-00066310-010 | 239-00066310-012 | 239-00066310-014 |              | 169-188       | 254      | 12.2         |
|                  | 6.62-7.42         | 12.5         | 33            | 239-00066312-010 | 239-00066312-012 | 239-00066312-014 |              | 169-188       | 317      | 15.0         |
|                  | 6.62-7.42         | 15           | 39            | 239-00066315-010 | 239-00066315-012 | 239-00066315-014 |              | 169-188       | 381      | 17.7         |
| 6                | 6.84-7.64         | 7.5          | 20            | 239-00069007-010 | 239-00069007-012 | 239-00069007-014 | 150          | 174-194       | 190      | 9.1          |
|                  | 6.84-7.64         | 10           | 27            | 239-00069010-010 | 239-00069010-012 | 239-00069010-014 |              | 174-194       | 254      | 12.2         |
|                  | 6.84-7.64         | 12.5         | 33            | 239-00069012-010 | 239-00069012-012 | 239-00069012-014 |              | 174-194       | 317      | 15.0         |
|                  | 6.84-7.64         | 15           | 39            | 239-00069015-010 | 239-00069015-012 | 239-00069015-014 |              | 174-194       | 381      | 17.7         |
| 8                | 8.62-9.42         | 7.5          | 22            | 239-00086307-010 | 239-00086307-012 | 239-00086307-014 | 200          | 219-239       | 190      | 10.0         |
|                  | 8.62-9.42         | 10           | 30            | 239-00086310-010 | 239-00086310-012 | 239-00086310-014 |              | 219-239       | 254      | 13.6         |
|                  | 8.62-9.42         | 12.5         | 36            | 239-00086312-010 | 239-00086312-012 | 239-00086312-014 |              | 219-239       | 317      | 16.3         |
|                  | 8.62-9.42         | 15           | 43            | 239-00086315-010 | 239-00086315-012 | 239-00086315-014 |              | 219-239       | 381      | 19.5         |
| 8                | 8.99-9.79         | 7.5          | 22            | 239-00090507-010 | 239-00090507-012 | 239-00090507-014 | 200          | 229-248       | 190      | 10.0         |
|                  | 8.99-9.79         | 10           | 30            | 239-00090510-010 | 239-00090510-012 | 239-00090510-014 |              | 229-248       | 254      | 13.6         |
|                  | 8.99-9.79         | 12.5         | 36            | 239-00090512-010 | 239-00090512-012 | 239-00090512-014 |              | 229-248       | 317      | 16.3         |
|                  | 8.99-9.79         | 15           | 43            | 239-00090515-010 | 239-00090515-012 | 239-00090515-014 |              | 229-248       | 381      | 19.5         |
| 10               | 10.75-11.55       | 10           | 31            | 239-00107510-010 | 239-00107510-012 | 239-00107510-014 | 250          | 273-293       | 254      | 14.1         |
|                  | 10.75-11.55       | 12.5         | 40            | 239-00107512-010 | 239-00107512-012 | 239-00107512-014 |              | 273-293       | 317      | 18.1         |
|                  | 10.75-11.55       | 15           | 48            | 239-00107515-010 | 239-00107515-012 | 239-00107515-014 |              | 273-293       | 381      | 21.8         |
| 10               | 11.10-11.90       | 10           | 31            | 239-00111010-010 | 239-00111010-012 | 239-00111010-014 | 250          | 281-310       | 254      | 14.1         |
|                  | 11.10-11.90       | 12.5         | 40            | 239-00111012-010 | 239-00111012-012 | 239-00111012-014 |              | 281-310       | 317      | 18.1         |
|                  | 11.10-11.90       | 15           | 48            | 239-00111015-010 | 239-00111015-012 | 239-00111015-014 |              | 281-310       | 381      | 21.8         |
| 12               | 12.75-13.55       | 10           | 34            | 239-00127510-010 | 239-00127510-012 | 239-00127510-014 | 300          | 324-353       | 254      | 15.4         |
|                  | 12.75-13.55       | 12.5         | 43            | 239-00127512-010 | 239-00127512-012 | 239-00127512-014 |              | 324-353       | 317      | 19.5         |
|                  | 12.75-13.55       | 15           | 50            | 239-00127515-010 | 239-00127515-012 | 239-00127515-014 |              | 324-353       | 381      | 22.7         |
| 12               | 13.20-14.00       | 10           | 34            | 239-00132010-010 | 239-00132010-012 | 239-00132010-014 | 300          | 334-364       | 254      | 15.4         |
|                  | 13.20-14.00       | 12.5         | 43            | 239-00132012-010 | 239-00132012-012 | 239-00132012-014 |              | 334-364       | 317      | 19.5         |
|                  | 13.20-14.00       | 15           | 50            | 239-00132015-010 | 239-00132015-012 | 239-00132015-014 |              | 334-364       | 381      | 22.7         |

Maximum available clamp width is 30 inches. All sizes of Full Circle®s are available with tapped outlets.

Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the clamp.

## 3/4", 1" and 2" CC Taps - Low Alloy Bolts and Nuts

| STANDARD         |                   |              |               | 3/4" CC 20 MM    | 1" CC 25 MM      | 2" CC 50 MM      | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|------------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | CATALOG NUMBER   | CATALOG NUMBER   | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 4                | 4.44-5.24         | 7.5          | 19            | 239-00045007-007 | 239-00045007-009 | 239-00045007-015 | 100          | 113-133       | 190      | 8.6          |
|                  | 4.44-5.24         | 10           | 25            | 239-00045010-007 | 239-00045010-009 | 239-00045010-015 |              | 113-133       | 254      | 11.3         |
|                  | 4.44-5.24         | 12.5         | 31            | 239-00045012-007 | 239-00045012-009 | 239-00045012-015 |              | 113-133       | 317      | 14.0         |
|                  | 4.44-5.24         | 15           | 37            | 239-00045015-007 | 239-00045015-009 | 239-00045015-015 |              | 113-133       | 381      | 16.8         |
| 6                | 6.62-7.42         | 7.5          | 20            | 239-00066307-007 | 239-00066307-009 | 239-00066307-015 | 150          | 169-188       | 190      | 9.1          |
|                  | 6.62-7.42         | 10           | 27            | 239-00066310-007 | 239-00066310-009 | 239-00066310-015 |              | 169-188       | 254      | 12.2         |
|                  | 6.62-7.42         | 12.5         | 33            | 239-00066312-007 | 239-00066312-009 | 239-00066312-015 |              | 169-188       | 317      | 15.0         |
|                  | 6.62-7.42         | 15           | 39            | 239-00066315-007 | 239-00066315-009 | 239-00066315-015 |              | 169-188       | 381      | 17.7         |
| 6                | 6.84-7.64         | 7.5          | 20            | 239-00069007-007 | 239-00069007-009 | 239-00069007-015 | 150          | 174-194       | 190      | 9.1          |
|                  | 6.84-7.64         | 10           | 27            | 239-00069010-007 | 239-00069010-009 | 239-00069010-015 |              | 174-194       | 254      | 12.2         |
|                  | 6.84-7.64         | 12.5         | 33            | 239-00069012-007 | 239-00069012-009 | 239-00069012-015 |              | 174-194       | 317      | 15.0         |
|                  | 6.84-7.64         | 15           | 39            | 239-00069015-007 | 239-00069015-009 | 239-00069015-015 |              | 174-194       | 381      | 17.7         |
| 8                | 8.62-9.42         | 7.5          | 22            | 239-00086307-007 | 239-00086307-009 | 239-00086307-015 | 200          | 219-239       | 190      | 10.0         |
|                  | 8.62-9.42         | 10           | 30            | 239-00086310-007 | 239-00086310-009 | 239-00086310-015 |              | 219-239       | 254      | 13.6         |
|                  | 8.62-9.42         | 12.5         | 36            | 239-00086312-007 | 239-00086312-009 | 239-00086312-015 |              | 219-239       | 317      | 16.3         |
|                  | 8.62-9.42         | 15           | 43            | 239-00086315-007 | 239-00086315-009 | 239-00086315-015 |              | 219-239       | 381      | 19.5         |
| 8                | 8.99-9.79         | 7.5          | 22            | 239-00090507-007 | 239-00090507-009 | 239-00090507-015 | 200          | 229-248       | 190      | 10.0         |
|                  | 8.99-9.79         | 10           | 30            | 239-00090510-007 | 239-00090510-009 | 239-00090510-015 |              | 229-248       | 254      | 13.6         |
|                  | 8.99-9.79         | 12.5         | 36            | 239-00090512-007 | 239-00090512-009 | 239-00090512-015 |              | 229-248       | 317      | 16.3         |
|                  | 8.99-9.79         | 15           | 43            | 239-00090515-007 | 239-00090515-009 | 239-00090515-015 |              | 229-248       | 381      | 19.5         |
| 10               | 10.75-11.55       | 10           | 31            | 239-00107510-007 | 239-00107510-009 | 239-00107510-015 | 250          | 273-293       | 254      | 14.1         |
|                  | 10.75-11.55       | 12.5         | 40            | 239-00107512-007 | 239-00107512-009 | 239-00107512-015 |              | 273-293       | 317      | 18.1         |
|                  | 10.75-11.55       | 15           | 48            | 239-00107515-007 | 239-00107515-009 | 239-00107515-015 |              | 273-293       | 381      | 21.8         |
| 10               | 11.10-11.90       | 10           | 31            | 239-00111010-007 | 239-00111010-009 | 239-00111010-015 | 250          | 281-310       | 254      | 14.1         |
|                  | 11.10-11.90       | 12.5         | 40            | 239-00111012-007 | 239-00111012-009 | 239-00111012-015 |              | 281-310       | 317      | 18.1         |
|                  | 11.10-11.90       | 15           | 48            | 239-00111015-007 | 239-00111015-009 | 239-00111015-015 |              | 281-310       | 381      | 21.8         |
| 12               | 12.75-13.55       | 10           | 34            | 239-00127510-007 | 239-00127510-009 | 239-00127510-015 | 300          | 324-353       | 254      | 15.4         |
|                  | 12.75-13.55       | 12.5         | 43            | 239-00127512-007 | 239-00127512-009 | 239-00127512-015 |              | 324-353       | 317      | 19.5         |
|                  | 12.75-13.55       | 15           | 50            | 239-00127515-007 | 239-00127515-009 | 239-00127515-015 |              | 324-353       | 381      | 22.7         |
| 12               | 13.20-14.00       | 10           | 34            | 239-00132010-007 | 239-00132010-009 | 239-00132010-015 | 300          | 334-364       | 254      | 15.4         |
|                  | 13.20-14.00       | 12.5         | 43            | 239-00132012-007 | 239-00132012-009 | 239-00132012-015 |              | 334-364       | 317      | 19.5         |
|                  | 13.20-14.00       | 15           | 50            | 239-00132015-007 | 239-00132015-009 | 239-00132015-015 |              | 334-364       | 381      | 22.7         |

Maximum available clamp width is 30 inches. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the clamp. Other tap sizes are available.



# Full Circle<sup>®</sup> Redi-Clamp

# 244

**Description:** A repair clamp designed to repair pin holes, punctures or splits.

**Application:** Works on Steel, Copper, IPS-sized PVC and HDPE.

## Key Features:

- Built to a specific pipe O.D
- Smooth ¼" thick gasket material
- Drop-in bolts help ease installation
- Standard widths are 3", 6" and 12"
- Available in IPS and Copper tube sizes
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

## Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemical

**LUGS:** Ductile Iron ASTM A536 with Flexi-Coat<sup>®</sup> Epoxy Finish

**BOLTS:** Carbon Steel SAE J 429 electrogalvanized with di-chromate seal. **Optional: 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel Copper, and IPS-sized PVC and HDPE

**Sizes (in inches):** 1/2", 3/4", 1", 1 ¼", 1 ½" and 2"



### **THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.





244

# Full Circle<sup>®</sup> Redi-Clamp

| STANDARD                               |              |              | CATALOG NUMBER           |                       | CARTON QTY. | METRIC                             |          |              |
|--|--------------|--------------|--------------------------|-----------------------|-------------|------------------------------------|----------|--------------|
| NOMINAL PIPE SIZE AND PIPE O.D. INCHES | WIDTH INCHES | WT. EA. LBS. | ELECTRO-GALVANIZED BOLTS | STAINLESS STEEL BOLTS |             | NOMINAL PIPE SIZE AND PIPE O.D. MM | WIDTH MM | WT. EACH KG. |
| 1/2"<br>0.63                           | 3            | 0.7          | 244-00006303-000         | 244-00006303-001      | 16          | 15 mm                              | 76       | 0.32         |
|  | 6            | 1.4          | 244-00006306-000         | 244-00006306-001      | 10          | 16.00                              | 152      | 0.64         |
| 1/2"<br>0.84                           | 3            | 0.80         | 244-00008403-000         | 244-00008403-001      | 16          | 15 mm<br>21.30                     | 76       | 0.36         |
|  | 6            | 1.60         | 244-00008406-000         | 244-00008406-001      | 10          |                                    | 152      | 0.73         |
|  | *12          | 3.20         | 244-00008412-000         | 244-00008412-001      | 6           |                                    | 305      | 1.45         |
| 3/4"<br>0.88                           | 3            | 0.8          | 244-00008803-000         | 244-00008803-001      | 16          | 20 mm                              | 76       | 0.36         |
|  | 6            | 1.6          | 244-00008806-000         | 244-00008806-001      | 10          | 22.35                              | 152      | 0.73         |
| 3/4"<br>1.05                           | 3            | 0.85         | 244-00010503-000         | 244-00010503-001      | 12          | 20 mm<br>26.70                     | 76       | 0.39         |
|  | 6            | 1.70         | 244-00010506-000         | 244-00010506-001      | 8           |                                    | 152      | 0.77         |
|  | *12          | 3.40         | 244-00010512-000         | 244-00010512-001      | 9           |                                    | 305      | 1.54         |
| 1"<br>1.13                             | 3            | 0.87         | 244-00011303-000         | 244-00011303-001      | 12          | 25 mm                              | 76       | 0.39         |
|  | 6            | 1.70         | 244-00011306-000         | 244-00011306-001      | 8           | 28.70                              | 152      | 0.77         |
| 1"<br>1.32                             | 3            | 0.90         | 244-00013203-000         | 244-00013203-001      | 12          | 25 mm<br>33.53                     | 76       | 0.41         |
|  | 6            | 1.80         | 244-00013206-000         | 244-00013206-001      | 8           |                                    | 152      | 0.82         |
|  | *12          | 3.60         | 244-00013212-000         | 244-00013212-001      | 9           |                                    | 305      | 1.63         |
| 1 1/4"<br>1.38                         | 3            | 0.90         | 244-00013803-000         | 244-00013803-001      | 12          | 32 mm                              | 76       | 0.41         |
|  | 6            | 1.80         | 244-00013806-000         | 244-00013806-001      | 6           | 35.05                              | 152      | 0.82         |
| 1 1/4"<br>1.66                         | 3            | 0.95         | 244-00016603-000         | 244-00016603-001      | 12          | 32 mm<br>42.20                     | 76       | 0.43         |
|  | 6            | 1.95         | 244-00016606-000         | 244-00016606-001      | 6           |                                    | 152      | 0.88         |
|  | *12          | 3.90         | 244-00016612-000         | 244-00016612-001      | 6           |                                    | 305      | 1.77         |
| 1 1/2"<br>1.63                         | 3            | 0.95         | 244-00016303-000         | 244-00016303-001      | 12          | 40 mm                              | 76       | 0.43         |
|  | 6            | 1.95         | 244-00016306-000         | 244-00016306-001      | 6           | 41.40                              | 152      | 0.88         |
| 1 1/2"<br>1.90                         | 3            | 1.00         | 244-00019003-000         | 244-00019003-001      | 10          | 40 mm<br>48.30                     | 76       | 0.45         |
|  | 6            | 2.00         | 244-00019006-000         | 244-00019006-001      | 6           |                                    | 152      | 0.91         |
|  | *12          | 4.00         | 244-00019012-000         | 244-00019012-001      | 6           |                                    | 305      | 1.81         |
| 2"<br>2.13                             | 3            | 1.30         | 244-00021303-000         | 244-00021303-001      | 8           | 50 mm                              | 76       | 0.59         |
|  | 6            | 2.60         | 244-00021306-000         | 244-00021306-001      | 4           | 54.10                              | 152      | 1.18         |
| 2"<br>2.38                             | 3            | 1.60         | 244-00023803-000         | 244-00023803-001      | 8           | 50 mm<br>60.45                     | 76       | 0.73         |
|  | 6            | 3.20         | 244-00023806-000         | 244-00023806-001      | 6           |                                    | 152      | 1.45         |
|  | *12          | 6.40         | 244-00023812-000         | 244-00023812-001      | 4           |                                    | 305      | 2.90         |



# Redi-Clamp®

# 245



**Description:** A repair clamp designed to repair pin holes, punctures or splits.

**Application:** Works on Steel, PVC, HDPE, and Copper tube.

## Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3", 6", 9" and 12"
- Available in IPS, Copper tube, Ductile Iron and other sizes
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

## Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon, water and many chemicals

LUGS: Ductile Iron ASTM A536 with Flexi-Coat® Epoxy Finish

BOLTS: Carbon Steel SAE J 429 electrogalvanized with di-chromate seal. **Optional: 304 Stainless Steel bolts with fluoropolymer coated nuts to prevent galling**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, PVC, HDPE, and Copper tube

**Sizes (in inches):** ½", ¾", 1", 1¼", 1½", 2", 2½", 3" and 3½"-4"



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



245

# Redi-Clamp®

| STANDARD                               |              |              | CATALOG NUMBER           |                       | QTY. PER CTN. | METRIC                             |          |              |
|--|--------------|--------------|--------------------------|-----------------------|---------------|------------------------------------|----------|--------------|
| NOMINAL PIPE SIZE AND PIPE O.D. INCHES | WIDTH INCHES | WT. EA. LBS. | ELECTRO-GALVANIZED BOLTS | STAINLESS STEEL BOLTS |               | NOMINAL PIPE SIZE AND PIPE O.D. MM | WIDTH MM | WT. EACH KG. |
| 1/2"<br>0.84                           | 3            | 0.6          | 245-00008403-000         | 245-00008403-001      | 24            | 15 mm<br>21.33                     | 76       | 0.30         |
|  | 6            | 1.3          | 245-00008406-000         | 245-00008406-001      | 12            |                                    | 152      | 0.60         |
| 3/4"                                   | 3            | 0.7          | 245-00010503-000         | 245-00010503-001      | 16            | 20 mm                              | 76       | 0.30         |
| 1.05                                   | 6            | 1.4          | 245-00010506-000         | 245-00010506-001      | 10            | 26.67                              | 152      | 0.60         |
| 1"<br>1.32                             | 3            | 0.7          | 245-00013203-000         | 245-00013203-001      | 16            | 25 mm<br>33.52                     | 76       | 0.30         |
|  | 6            | 1.5          | 245-00013206-000         | 245-00013206-001      | 10            |                                    | 152      | 0.70         |
| 1 1/4"                                 | 3            | 0.8          | 245-00016603-000         | 245-00016603-001      | 12            | 32 mm                              | 76       | 0.40         |
| 1.66                                   | 6            | 1.6          | 245-00016606-000         | 245-00016606-001      | 6             | 42.16                              | 152      | 0.70         |
| 1 1/2"<br>1.90                         | 3            | 0.9          | 245-00019003-000         | 245-00019003-001      | 12            | 40 mm<br>48.26                     | 76       | 0.40         |
|  | 6            | 1.9          | 245-00019006-000         | 245-00019006-001      | 8             |                                    | 152      | 0.90         |
| 2"                                     | 3            | 0.9          | 245-00020003-000         | 245-00020003-001      | 8             | 50 mm                              | 76       | 0.40         |
| 2.00                                   | 6            | 1.9          | 245-00020006-000         | 245-00020006-001      | 4             | 50.80                              | 152      | 0.90         |
| 2"<br>2.38                             | 3            | 1.0          | 245-00023803-000         | 245-00023803-001      | 8             | 50 mm<br>60.45                     | 76       | 0.50         |
|  | 6            | 2.0          | 245-00023806-000         | 245-00023806-001      | 4             |                                    | 152      | 0.90         |
|  | 9            | 3.0          | 245-00023809-000         | 245-00023809-001      | 4             |                                    | 229      | 1.40         |
|  | 12           | 4.0          | 245-00023812-000         | 245-00023812-001      | 4             |                                    | 305      | 1.80         |
| 2 1/2"<br>2.88                         | 3            | 1.0          | 245-00028803-000         | 245-00028803-001      | 8             | 65 mm<br>73.15                     | 76       | 0.50         |
|  | 6            | 2.1          | 245-00028806-000         | 245-00028806-001      | 3             |                                    | 152      | 1.00         |
|  | 9            | 3.1          | 245-00028809-000         | 245-00028809-001      | 4             |                                    | 229      | 1.40         |
|  | 12           | 4.1          | 245-00028812-000         | 245-00028812-001      | 4             |                                    | 305      | 1.90         |
| 3"<br>3.00                             | 3            | 1.2          | 245-00030003-000         | 245-00030003-001      | 6             | 80 mm<br>76.20                     | 76       | 0.50         |
|  | 6            | 2.5          | 245-00030006-000         | 245-00030006-001      | 3             |                                    | 152      | 1.10         |
|  | 9            | 3.7          | 245-00030009-000         | 245-00030009-001      | 4             |                                    | 229      | 1.70         |
|  | 12           | 5.0          | 245-00030012-000         | 245-00030012-001      | 4             |                                    | 305      | 2.30         |
| 3"<br>3.50                             | 3            | 1.3          | 245-00035003-000         | 245-00035003-001      | 6             | 80 mm<br>88.90                     | 76       | 0.60         |
|  | 6            | 2.6          | 245-00035006-000         | 245-00035006-001      | 4             |                                    | 152      | 1.20         |
|  | 9            | 4.0          | 245-00035009-000         | 245-00035009-001      | 4             |                                    | 229      | 1.80         |
|  | 12           | 5.2          | 245-00035012-000         | 245-00035012-001      | 4             |                                    | 305      | 2.40         |
| 3 1/2"-4"<br>4.00                      | 3            | 1.3          | 245-00040003-000         | 245-00040003-001      | 4             | 90-100 mm<br>101.60                | 76       | 0.60         |
|  | 6            | 2.7          | 245-00040006-000         | 245-00040006-001      | 4             |                                    | 152      | 1.20         |
|  | 9            | 4.0          | 245-00040009-000         | 245-00040009-001      | 4             |                                    | 229      | 1.80         |
|  | 12           | 5.4          | 245-00040012-000         | 245-00040012-001      | 4             |                                    | 305      | 2.40         |

| STANDARD                                     |                 |                 | CATALOG NUMBER              |                       | QTY.<br>PER<br>CTN. | METRIC                                   |          |                    |
|--|-----------------|-----------------|-----------------------------|-----------------------|---------------------|--|----------|--------------------|
| NOMINAL PIPE<br>SIZE AND PIPE<br>O.D. INCHES | WIDTH<br>INCHES | WT.<br>EA. LBS. | ELECTRO-GALVANIZED<br>BOLTS | STAINLESS STEEL BOLTS |                     | NOMINAL PIPE<br>SIZE AND PIPE<br>O.D. MM | WIDTH MM | WT.<br>EACH<br>KG. |
| 4"<br>4.25                                   | 3               | 1.4             | 245-00042503-000            | 245-00042503-001      | 4                   | 100 mm<br>107.95                         | 76       | 0.6                |
|  | 6               | 2.8             | 245-00042506-000            | 245-00042506-001      | 3                   |  | 152      | 1.3                |
| 4"<br>4.50                                   | 3               | 1.4             | 245-00045003-000            | 245-00045003-001      | 4                   | 100 mm<br>114.30                         | 76       | 0.6                |
|  | 6               | 2.8             | 245-00045006-000            | 245-00045006-001      | 3                   |  | 152      | 1.3                |
|  | 9               | 4.2             | 245-00045009-000            | 245-00045009-001      | 3                   |  | 229      | 1.9                |
|  | 12              | 5.6             | 245-00045012-000            | 245-00045012-001      | 4                   |  | 305      | 2.5                |
| 5"<br>5.00                                   | 3               | 1.5             | 245-00050003-000            | 245-00050003-001      | 6                   | 125 mm<br>127.00                         | 76       | 0.7                |
|  | 6               | 3.0             | 245-00050006-000            | 245-00050006-001      | 3                   |  | 152      | 1.4                |
|  | 9               | 4.5             | 245-00050009-000            | 245-00050009-001      | 4                   |  | 229      | 2.0                |
|  | 12              | 6.0             | 245-00050012-000            | 245-00050012-001      | 4                   |  | 305      | 2.7                |
| 5"<br>5.56                                   | 3               | 1.6             | 245-00055603-000            | 245-00055603-001      | 6                   | 125 mm<br>141.22                         | 76       | 0.7                |
|  | 6               | 3.2             | 245-00055606-000            | 245-00055606-001      | 3                   |  | 152      | 1.5                |
|  | 9               | 4.8             | 245-00055609-000            | 245-00055609-001      | 4                   |  | 229      | 2.2                |
|  | 12              | 6.4             | 245-00055612-000            | 245-00055612-001      | 3                   |  | 305      | 2.9                |
| 6"<br>6.00                                   | 3               | 1.8             | 245-00060003-000            | 245-00060003-001      | 6                   | 150 mm<br>152.40                         | 76       | 0.8                |
|  | 6               | 3.6             | 245-00060006-000            | 245-00060006-001      | 3                   |  | 152      | 1.6                |
|  | 9               | 5.4             | 245-00060009-000            | 245-00060009-001      | 3                   |  | 229      | 2.5                |
|  | 12              | 7.2             | 245-00060012-000            | 245-00060012-001      | 3                   |  | 305      | 3.3                |
| 6"<br>6.25                                   | 3               | 1.8             | 245-00062503-000            | 245-00062503-001      | 6                   | 150 mm<br>158.75                         | 76       | 0.8                |
| 6"<br>6.63                                   | 3               | 1.8             | 245-00066303-000            | 245-00066303-001      | 6                   | 150 mm<br>168.4                          | 76       | 0.8                |
|  | 6               | 3.7             | 245-00066306-000            | 245-00066306-001      | 3                   |  | 152      | 1.7                |
|  | 9               | 5.5             | 245-00066309-000            | 245-00066309-001      | 2                   |  | 229      | 2.5                |
|  | 12              | 7.4             | 245-00066312-000            | 245-00066312-001      | 3                   |  | 305      | 3.4                |
| 8"<br>8.00                                   | 3               | 2.1             | 245-00080003-000            | 245-00080003-001      | 4                   | 200 mm<br>203.20                         | 76       | 1.0                |
|  | 6               | 4.2             | 245-00080006-000            | 245-00080006-001      | 2                   |  | 152      | 1.9                |
|  | 9               | 6.3             | 245-00080009-000            | 245-00080009-001      | 2                   |  | 229      | 2.9                |
|  | 12              | 8.4             | 245-00080012-000            | 245-00080012-001      | 2                   |  | 305      | 3.8                |
| 8"<br>8.63                                   | 3               | 2.2             | 245-00086303-000            | 245-00086303-001      | 4                   | 200 mm<br>219.20                         | 76       | 1.0                |
|  | 6               | 4.4             | 245-00086306-000            | 245-00086306-001      | 2                   |  | 152      | 2.0                |
|  | 9               | 6.6             | 245-00086309-000            | 245-00086309-001      | 2                   |  | 229      | 3.0                |
|  | 12              | 8.8             | 245-00086312-000            | 245-00086312-001      | 2                   |  | 305      | 4.0                |
| *10"<br>10.00                                | 3               | 2.5             | 245-00100003-000            | 245-00100003-001      | 4                   | 250 mm<br>254.00                         | 76       | 1.1                |
|  | 6               | 5.0             | 245-00100006-000            | 245-00100006-001      | 2                   |  | 152      | 2.3                |
|  | 9               | 7.5             | 245-00100009-000            | 245-00100009-001      | 2                   |  | 229      | 3.4                |
|  | 12              | 10.0            | 245-00100012-000            | 245-00100012-001      | 2                   |  | 305      | 4.5                |
| *10"<br>10.75                                | 3               | 2.8             | 245-00107503-000            | 245-00107503-001      | 4                   | 250 mm<br>273.05                         | 76       | 1.3                |
|  | 6               | 5.6             | 245-00107506-000            | 245-00107506-001      | 2                   |  | 152      | 2.5                |
|  | 9               | 8.4             | 245-00107509-000            | 245-00107509-001      | 2                   |  | 229      | 3.8                |
|  | 12              | 11.2            | 245-00107512-000            | 245-00107512-001      | 2                   |  | 305      | 5.1                |
| *12"<br>12.00                                | 3               | 2.9             | 245-00120003-000            | 245-00120003-001      | 4                   | 300 mm<br>304.80                         | 76       | 1.3                |
|  | 6               | 5.8             | 245-00120006-000            | 245-00120006-001      | 2                   |  | 152      | 2.6                |
|  | 9               | 8.7             | 245-00120009-000            | 245-00120009-001      | 2                   |  | 229      | 3.9                |
|  | 12              | 11.6            | 245-00120012-000            | 245-00120012-001      | 2                   |  | 305      | 5.3                |
| *12"<br>12.75                                | 3               | 3.0             | 245-00127503-000            | 245-00127503-001      | 4                   | 300 mm<br>323.85                         | 76       | 1.4                |
|  | 6               | 6.0             | 245-00127506-000            | 245-00127506-001      | 2                   |  | 152      | 2.7                |
|  | 9               | 9.0             | 245-00127509-000            | 245-00127509-001      | 2                   |  | 229      | 4.1                |
|  | 12              | 12.0            | 245-00127512-000            | 245-00127512-001      | 2                   |  | 305      | 5.4                |



# Pipe Repair Clamp

## Multi-Band

# 246



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Steel and IPS-sized PVC

### Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 5" and 10"
- Lugs are epoxy coated for great corrosion resistance
- Provides 360° coverage, covering the full pipe surface
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** Ductile Iron ASTM A536; Flexi-Coat Fusion-Bonded Epoxy Finish

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon, water and many chemicals

**NUTS/BOLTS:** High strength, low alloy Steel with heavy, semi-finished hexagon nuts per ANSI B. 18.2.2. Optional 304 Stainless bolts with fluoropolymer coated nuts to reduce galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel and IPS-sized PVC

**Sizes (in inches):** 10, 12, 14, 16, 18, 20, 22, 24, 30



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

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# Pipe Repair Clamp

## Multi-Band

| STANDARD                 |                  |              |              | CATALOG NUMBER   | QTY. PER. CTN. | METRIC               |              |          |              |
|--------------------------|------------------|--------------|--------------|------------------|----------------|----------------------|--------------|----------|--------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES | WIDTH INCHES | WT. EA. LBS. |                  |                | NOMINAL PIPE SIZE MM | PIPE O.D. MM | WIDTH MM | WT. EACH KG. |
| 10"                      | 10.00            | 5            | 12.0         | 246-00100005-000 | 2              | 250                  | 254          | 127      | 5.4          |
|                          |                  | 10           | 24.0         | 246-00100010-000 | 1              |                      |              | 254      | 10.9         |
| 10"                      | 10.25            | 5            | 12.2         | 246-00102505-000 | 2              | 250                  | 268          | 127      | 5.5          |
|                          |                  | 10           | 24.4         | 246-00102510-000 | 1              |                      |              | 254      | 11.1         |
| 10"                      | 10.75            | 5            | 14.1         | 246-00107505-000 | 2              | 250                  | 273          | 127      | 6.4          |
|                          |                  | 10           | 28.2         | 246-00107510-000 | 1              |                      |              | 254      | 12.8         |
| 12"                      | 12.00            | 5            | 15.1         | 246-00120005-000 | 2              | 300                  | 305          | 127      | 6.9          |
|                          |                  | 10           | 30.2         | 246-00120010-000 | 1              |                      |              | 254      | 13.7         |
| 12"                      | 12.25            | 5            | 15.1         | 246-00122505-000 | 2              | 300                  | 311          | 127      | 6.9          |
|                          |                  | 10           | 30.2         | 246-00122510-000 | 1              |                      |              | 254      | 13.7         |
| 12"                      | 12.75            | 5            | 15.1         | 246-00127505-000 | 2              | 300                  | 324          | 127      | 6.9          |
|                          |                  | 10           | 30.2         | 246-00127510-000 | 1              |                      |              | 254      | 13.7         |
| 14"                      | 14.00            | 5            | 15.7         | 246-00140005-000 | 2              | 350                  | 350          | 127      | 7.1          |
|                          |                  | 10           | 31.4         | 246-00140010-000 | 1              |                      |              | 254      | 14.3         |
| 16"                      | 16.00            | 5            | 16.6         | 246-00160005-000 | 1              | 400                  | 400          | 127      | 7.5          |
|                          |                  | 10           | 33.2         | 246-00160010-000 | 1              |                      |              | 254      | 15.1         |
| 18"                      | 18.00            | 5            | 18.1         | 246-00180005-000 | 1              | 450                  | 450          | 127      | 8.2          |
|                          |                  | 10           | 36.2         | 246-00180010-000 | 1              |                      |              | 254      | 16.5         |
| 20"                      | 20.00            | 5            | 19.3         | 246-00200005-000 | 1              | 500                  | 500          | 127      | 8.8          |
|                          |                  | 10           | 38.6         | 246-00200010-000 | 1              |                      |              | 254      | 17.5         |
| 22"                      | 22.00            | 5            | 20.4         | 246-00220005-000 | 1              | 550                  | 550          | 127      | 9.2          |
|                          |                  | 10           | 40.8         | 246-00220010-000 | 1              |                      |              | 254      | 18.5         |
| 24"                      | 24.00            | 5            | 21.8         | 246-00240005-000 | 1              | 600                  | 600          | 127      | 9.9          |
|                          |                  | 10           | 43.6         | 246-00240010-000 | 1              |                      |              | 254      | 19.8         |
| 30"                      | 30.00            | 5            | 22.8         | 246-00300005-000 | 1              | 750                  | 750          | 127      | 10.4         |
|                          |                  | 10           | 45.6         | 246-00300010-000 | 1              |                      |              | 254      | 20.7         |



# Full Circle<sup>®</sup> Redi-Clamp<sup>®</sup>

## All Stainless Steel

# 247



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Works on Steel, Copper, and IPS-sized PVC and HDPE.

### Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3" and 6"
- Available in IPS and Copper tube sizes
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

### Materials Specifications (subject to change):

**BAND:** Stainless Steel Type 304

**LUGS:** ASTM A743 GRCF8 Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals

**NUTS/BOLTS:** 304 Stainless Steel with fluoropolymer coated nuts to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Copper, and IPS-sized PVC and HDPE

**Sizes (in inches):** 1/2, 3/4, 1, 1 1/4, 1 1/2, 2



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

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# Full Circle<sup>®</sup> Redi-Clamp<sup>®</sup>

All Stainless Steel

| STANDARD                       |                |                 |                     | CATALOG NUMBER   | QTY.<br>PER<br>CTN. | METRIC                     |         |          |                    |
|--------------------------------|----------------|-----------------|---------------------|------------------|---------------------|----------------------------|---------|----------|--------------------|
| NOMINAL<br>PIPE SIZE<br>INCHES | O.D.<br>INCHES | WIDTH<br>INCHES | WT.<br>EACH<br>LBS. |                  |                     | NOMINAL<br>PIPE SIZE<br>MM | O.D. MM | WIDTH MM | WT.<br>EACH<br>KG. |
| 1/2"                           | 0.63           | 3               | .70                 | 247-00006303-000 | 6                   | 15                         | 16.00   | 76       | 0.32               |
|                                |                | 6               | 1.40                | 247-00006306-000 | 6                   |                            |         | 152      | 0.64               |
| 1/2"                           | 0.84           | 3               | .80                 | 247-00008403-000 | 6                   | 15                         | 21.30   | 76       | 0.36               |
|                                |                | 6               | 1.60                | 247-00008406-000 | 6                   |                            |         | 152      | 0.73               |
| 3/4"                           | 0.88           | 3               | .80                 | 247-00008803-000 | 6                   | 20                         | 22.35   | 76       | 0.36               |
|                                |                | 6               | 1.60                | 247-00008806-000 | 6                   |                            |         | 152      | 0.73               |
| 3/4"                           | 1.05           | 3               | .85                 | 247-00010503-000 | 6                   | 20                         | 26.70   | 76       | 0.39               |
|                                |                | 6               | 1.70                | 247-00010506-000 | 6                   |                            |         | 152      | 0.77               |
| 1"                             | 1.13           | 3               | .87                 | 247-00011303-000 | 6                   | 25                         | 28.70   | 76       | 0.39               |
|                                |                | 6               | 1.70                | 247-00011306-000 | 6                   |                            |         | 152      | 0.77               |
| 1"                             | 1.32           | 3               | .90                 | 247-00013203-000 | 6                   | 25                         | 33.53   | 76       | 0.41               |
|                                |                | 6               | 1.70                | 247-00013206-000 | 6                   |                            |         | 152      | 0.82               |
| 1 1/4"                         | 1.38           | 3               | .90                 | 247-00013803-000 | 6                   | 32                         | 35.05   | 76       | 0.41               |
|                                |                | 6               | 1.80                | 247-00013806-000 | 6                   |                            |         | 152      | 0.82               |
| 1 1/4"                         | 1.66           | 3               | .95                 | 247-00016603-000 | 6                   | 32                         | 42.20   | 76       | 0.43               |
|                                |                | 6               | 1.95                | 247-00016606-000 | 6                   |                            |         | 152      | 0.88               |
| 1 1/2"                         | 1.63           | 3               | .95                 | 247-00016303-000 | 6                   | 40                         | 41.40   | 76       | 0.43               |
|                                |                | 6               | 1.95                | 247-00016306-000 | 6                   |                            |         | 152      | 0.88               |
| 1 1/2"                         | 1.90           | 3               | 1.00                | 247-00019003-000 | 6                   | 40                         | 48.30   | 76       | 0.45               |
|                                |                | 6               | 2.00                | 247-00019006-000 | 6                   |                            |         | 152      | 0.91               |
| 2"                             | 2.13           | 3               | 1.30                | 247-00021303-000 | 6                   | 50                         | 54.10   | 76       | 0.59               |
|                                |                | 6               | 2.60                | 247-00021306-000 | 6                   |                            |         | 152      | 1.18               |
| 2"                             | 2.38           | 3               | 1.60                | 247-00023803-000 | 8                   | 50                         | 60.45   | 76       | 0.73               |
|                                |                | 6               | 3.20                | 247-00023806-000 | 4                   |                            |         | 152      | 1.45               |





# Redi-Clamp®

All Stainless Steel

# 248



**Description:** A repair clamp designed to repair pin holes, punctures or splits in rigid pipe, like Steel, plastic, or Copper tube.

**Application:** Works on Steel, PVC, HDPE, and Copper tube.

### Key Features:

- Built to a specific pipe O.D
- Drop-in bolts help ease installation
- Standard widths are 3", 6", 9" and 12"
- Available in IPS and Copper tube
- Provides 360° coverage, covering the full pipe surface
- Use 6" long or longer clamps to join pipe ends of like size
- 18-8 Type 304 Stainless Steel band for corrosion resistance
- Economical means of repairing pin hole leaks, punctures and splits in pipe

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: ASTM A743 GRFC8 Cast Stainless (304 equivalent)

GASKET: Nitrile (Buna N) compounded to produce resist oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: -20°F to +180°F

NUTS/BOLTS: 304 Stainless Steel with fluoropolymer coated nuts to prevent galling

WORKING PRESSURE: Up to 150 PSI

**Pipe Applications:** Steel, PVC, HDPE, and Copper tube

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

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# Redi-Clamp®

All Stainless Steel

| STANDARD                               |              |             | CATALOG NUMBER   | QTY. PER CTN. | METRIC                             |          |              |
|--|--------------|-------------|------------------|---------------|------------------------------------|----------|--------------|
| NOMINAL PIPE SIZE AND PIPE O.D. INCHES | WIDTH INCHES | WT EA. LBS. |                  |               | NOMINAL PIPE SIZE AND PIPE O.D. MM | WIDTH MM | WT. EACH KG. |
| 1/2"                                   | 3            | 0.6         | 248-00008403-000 | 24            | 15 mm                              | 76       | 0.3          |
| 0.84                                   | 6            | 1.3         | 248-00008406-000 | 12            | 21.30                              | 152      | 0.6          |
| 3/4"                                   | 3            | 0.7         | 248-00010503-000 | 12            | 20 mm                              | 76       | 0.3          |
| 1.05                                   | 6            | 1.4         | 248-00010506-000 | 9             | 26.70                              | 152      | 0.6          |
| 1"                                     | 3            | 0.7         | 248-00013203-000 | 12            | 25 mm                              | 76       | 0.3          |
| 1.32                                   | 6            | 1.5         | 248-00013206-000 | 9             | 33.40                              | 152      | 0.7          |
| 1 1/4"                                 | 3            | 0.8         | 248-00016603-000 | 12            | 32 mm                              | 76       | 0.4          |
| 1.66                                   | 6            | 1.6         | 248-00016606-000 | 6             | 42.20                              | 152      | 0.7          |
| 1 1/2"                                 | 3            | 0.9         | 248-00019003-000 | 12            | 40 mm                              | 76       | 0.4          |
| 1.90                                   | 6            | 1.9         | 248-00019006-000 | 6             | 48.30                              | 152      | 0.9          |
| 2"                                     | 3            | 0.9         | 248-00020003-000 | 8             | 50 mm                              | 76       | 0.4          |
| 2.00                                   | 6            | 1.9         | 248-00020006-000 | 4             | 50.80                              | 152      | 0.9          |
| 2"                                     | 3            | 1.0         | 248-00023803-000 | 8             | 50 mm                              | 76       | 0.5          |
|  | 6            | 2.0         | 248-00023806-000 | 4             |                                    | 152      | 0.9          |
| 2.38                                   | 9            | 3.0         | 248-00023809-000 | 4             | 60.30                              | 229      | 1.4          |
|  | 12           | 4.0         | 248-00023812-000 | 4             |                                    | 305      | 1.8          |



# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Cast Lugs, Single Band

# 256



**Description:** A single-band clamp designed to provide 360° pressure and complete leak repair

**Application:** For hot soil and other aggressive environments.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5", 15" and 22.5"
- Removable lugs to allow installation in tight places
- Drop-in bolts in the joint to be opened to ease installation
- Maximum support and reinforcement provided by a 360° gasket seal
- The ultimate in corrosion resistant repair clamps - no welded parts
- Range up to .40" in the single band

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** CF8 austenitic Cast Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals

**Temperature Range:** -20°F to +180°F

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded to gasket

**BOLTS:** 304 Stainless Steel bolts with rolled threads, fluoropolymer coated to prevent galling

**Working Pressure:** Up to 300 PSI

### Pipe Applications:

Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes.  
(Use on HDPE requires spring washers)

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



256

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Cast Lugs, Single Band

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 2                | 2.35-2.63         | 7.5          | 7             | 256-00023807-000 | 50           | 60-66         | 190      | 3.0          |
|                  | 2.35-2.63         | 15           | 13            | 256-00023815-000 |              | 60-66         | 381      | 6.0          |
| 2 1/4-2 1/2      | 2.70-3.00         | 7.5          | 7             | 256-00027507-000 | 65           | 69-76         | 190      | 3.0          |
|                  | 2.70-3.00         | 15           | 13            | 256-00027515-000 |              | 69-76         | 381      | 6.0          |
| 3                | 2.97-3.25         | 7.5          | 7             | 256-00030007-000 | 80           | 75-82         | 190      | 2.7          |
|                  | 2.97-3.25         | 15           | 14            | 256-00030015-000 |              | 75-82         | 381      | 6.5          |
| 3                | 3.46-3.70         | 7.5          | 8             | 256-00035007-000 | 80           | 88-93         | 190      | 3.7          |
|                  | 3.46-3.70         | 15           | 16            | 256-00035015-000 |              | 88-93         | 381      | 7.4          |
| 3-4              | 3.73-4.00         | 7.5          | 8             | 256-00037507-000 | 80-100       | 95-101        | 190      | 3.7          |
|                  | 3.73-4.00         | 15           | 16            | 256-00037515-000 |              | 95-101        | 381      | 7.5          |
| 4                | 3.96-4.25         | 7.5          | 8             | 256-00040007-000 | 100          | 101-107       | 190      | 3.7          |
|                  | 3.96-4.25         | 15           | 19            | 256-00040015-000 |              | 101-107       | 381      | 7.8          |
| 4                | 4.45-4.73         | 7.5          | 8             | 256-00045007-000 | 100          | 114-120       | 190      | 3.7          |
|                  | 4.45-4.73         | 15           | 17            | 256-00045015-000 |              | 114-120       | 381      | 8.0          |
| 4                | 4.74-5.14         | 7.5          | 9             | 256-00048007-000 | 100          | 121-130       | 190      | 4.0          |
|                  | 4.74-5.14         | 15           | 18            | 256-00048015-000 |              | 121-130       | 381      | 8.2          |
|                  | 4.74-5.14         | 22.5         | 27            | 256-00048022-000 |              | 121-130       | 572      | 12.3         |
| 4-5              | 4.95-5.35         | 7.5          | 9             | 256-00050007-000 | 125          | 126-135       | 190      | 4.0          |
|                  | 4.95-5.35         | 15           | 18            | 256-00050015-000 |              | 126-135       | 381      | 8.2          |
|                  | 4.95-5.35         | 22.5         | 27            | 256-00050022-000 |              | 126-135       | 572      | 12.3         |
| 4-5              | 5.22-5.62         | 7.5          | 9             | 256-00052507-000 | 125          | 133-142       | 190      | 4.0          |
|                  | 5.22-5.62         | 15           | 18            | 256-00052515-000 |              | 133-142       | 381      | 8.2          |
|                  | 5.22-5.62         | 22.5         | 27            | 256-00052522-000 |              | 133-142       | 572      | 12.3         |
| 6                | 6.56-6.96         | 7.5          | 9             | 256-00066307-000 | 150          | 167-176       | 190      | 4.2          |
|                  | 6.56-6.96         | 15           | 18            | 256-00066315-000 |              | 167-176       | 381      | 8.5          |
|                  | 6.56-6.96         | 22.5         | 28            | 256-00066322-000 |              | 167-176       | 572      | 12.7         |
| 6                | 6.84-7.24         | 7.5          | 10            | 256-00069007-000 | 150          | 174-183       | 190      | 4.6          |
|                  | 6.84-7.24         | 15           | 20            | 256-00069015-000 |              | 174-183       | 381      | 9.1          |
|                  | 6.84-7.24         | 22.5         | 30            | 256-00069022-000 |              | 174-183       | 572      | 13.7         |
|                  | 6.84-7.24         | 30           | 40            | 256-00069030-000 |              | 174-183       | 762      | 18.2         |
| 6                | 7.05-7.45         | 7.5          | 10            | 256-00071007-000 | 150          | 180-189       | 190      | 4.6          |
|                  | 7.05-7.45         | 15           | 20            | 256-00071015-000 |              | 180-189       | 381      | 9.1          |
|                  | 7.05-7.45         | 22.5         | 30            | 256-00071022-000 |              | 180-189       | 572      | 13.7         |
| 6                | 7.45-7.85         | 7.5          | 10            | 256-00074507-000 | 150          | 190-199       | 190      | 4.6          |
|                  | 7.45-7.85         | 15           | 20            | 256-00074515-000 |              | 190-199       | 381      | 9.1          |
|                  | 7.45-7.85         | 22.5         | 30            | 256-00074522-000 |              | 190-199       | 572      | 13.7         |
| 8                | 8.54-8.94         | 7.5          | 13            | 256-00086307-000 | 200          | 217-227       | 190      | 5.8          |
|                  | 8.54-8.94         | 15           | 25            | 256-00086315-000 |              | 217-227       | 381      | 11.3         |
|                  | 8.54-8.94         | 22.5         | 37            | 256-00086322-000 |              | 217-227       | 572      | 17.0         |
| 8                | 8.99-9.39         | 7.5          | 13            | 256-00090507-000 | 200          | 229-238       | 190      | 5.8          |
|                  | 8.99-9.39         | 15           | 25            | 256-00090515-000 |              | 229-238       | 381      | 11.3         |
|                  | 8.99-9.39         | 22.5         | 37            | 256-00090522-000 |              | 229-238       | 572      | 17.0         |
| 8                | 9.27-9.67         | 7.5          | 13            | 256-00094007-000 | 200          | 236-245       | 190      | 5.8          |
|                  | 9.27-9.67         | 15           | 25            | 256-00094015-000 |              | 236-245       | 381      | 11.3         |
|                  | 9.27-9.67         | 22.5         | 37            | 256-00094022-000 |              | 236-245       | 572      | 17.0         |

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 10               | 10.64-11.04       | 7.5          | 12            | 256-00107507-000 | 250          | 271-280       | 190      | 5.9          |
|                  | 10.64-11.04       | 15           | 25            | 256-00107515-000 |              | 271-280       | 381      | 11.7         |
|                  | 10.64-11.04       | 22.5         | 39            | 256-00107522-000 |              | 271-280       | 572      | 17.6         |
| 10               | 11.04-11.44       | 7.5          | 13            | 256-00111007-000 | 250          | 281-290       | 190      | 6.3          |
|                  | 11.04-11.44       | 15           | 27            | 256-00111015-000 |              | 281-290       | 381      | 12.6         |
|                  | 11.04-11.44       | 22.5         | 41            | 256-00111022-000 |              | 281-290       | 572      | 18.9         |
| 10               | 11.34-11.74       | 7.5          | 14            | 256-00114007-000 | 250          | 289-298       | 190      | 6.3          |
|                  | 11.34-11.74       | 15           | 27            | 256-00114015-000 |              | 289-298       | 381      | 12.6         |
|                  | 11.34-11.74       | 22.5         | 42            | 256-00114022-000 |              | 289-298       | 572      | 18.9         |
| 10               | 11.75-12.15       | 7.5          | 14            | 256-00117507-000 | 250          | 299-308       | 190      | 6.3          |
|                  | 11.75-12.15       | 15           | 27            | 256-00117515-000 |              | 299-308       | 381      | 18.9         |
|                  | 11.75-12.15       | 22.5         | 42            | 256-00117522-000 |              | 299-308       | 572      | 18.9         |
| 12               | 12.62-13.02       | 7.5          | 14            | 256-00127507-000 | 300          | 321-330       | 190      | 6.8          |
|                  | 12.62-13.02       | 15           | 29            | 256-00127515-000 |              | 321-330       | 381      | 13.5         |
|                  | 12.62-13.02       | 22.5         | 44            | 256-00127522-000 |              | 321-330       | 572      | 20.3         |
| 12               | 13.10-13.50       | 7.5          | 14            | 256-00132007-000 | 300          | 333-342       | 190      | 6.8          |
|                  | 13.10-13.50       | 15           | 29            | 256-00132015-000 |              | 333-342       | 381      | 13.5         |
|                  | 13.10-13.50       | 22.5         | 44            | 256-00132022-000 |              | 333-342       | 572      | 20.3         |
| 12               | 13.40-13.80       | 7.5          | 15            | 256-00134007-000 | 300          | 341-350       | 190      | 6.8          |
|                  | 13.40-13.80       | 15           | 30            | 256-00134015-000 |              | 341-350       | 381      | 13.5         |
|                  | 13.40-13.80       | 22.5         | 45            | 256-00134022-000 |              | 341-350       | 572      | 20.3         |
| 12               | 13.70-14.10       | 7.5          | 16            | 256-00137007-000 | 300          | 348-358       | 190      | 7.2          |
|                  | 13.70-14.10       | 15           | 32            | 256-00137015-000 |              | 348-358       | 381      | 14.4         |
|                  | 13.70-14.10       | 22.5         | 48            | 256-00137022-000 |              | 348-358       | 572      | 21.7         |
| 12               | 14.00-14.40       | 7.5          | 15            | 256-00140007-000 | 300          | 356-365       | 190      | 7.2          |
|                  | 14.00-14.40       | 15           | 31            | 256-00140015-000 |              | 356-365       | 381      | 14.4         |
|                  | 14.00-14.40       | 22.5         | 47            | 256-00140022-000 |              | 356-365       | 572      | 21.7         |



# Full Circle<sup>®</sup>

## All Stainless Steel Double Band

# 257



**Description:** A double-band cast clamp designed to provide 360° pressure and complete leak repair

**Application:** For hot soil and other corrosive environments.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5", 15" and 22.5"
- Removable lugs to allow installation in tight places
- Drop-in bolts in the joint to be opened to ease installation
- Maximum support and reinforcement provided by a 360° gasket seal
- The ultimate in corrosion resistant repair clamps - no welded parts
- Range up to .80" in the double band

### Materials Specifications (subject to change)

**BAND:** Stainless Steel Type 304

**LUGS:** CF8 austenitic Cast Stainless Steel (304 Equivalent)

**GASKET:** Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalies, most aliphatic hydrocarbon and other chemicals

**Temperature Range:** -20° F to +180° F

**BRIDGE PLATE:** 304 Stainless Steel recessed flush and bonded to gasket

**BOLTS:** 304 Stainless Steel bolts with rolled threads, fluoropolymer coated to prevent galling

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass, and other types of pipe. (Use on HDPE requires spring washers)

**Sizes (in inches):** 4, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

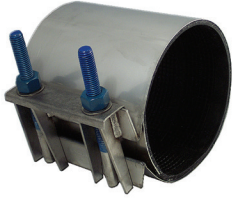


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# Full Circle<sup>®</sup>

## All Stainless Steel Double Band

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 4                | 4.74-5.54         | 7.5          | 15            | 257-00048007-000 | 100          | 121-141       | 190      | 6.9          |
|                  | 4.74-5.54         | 15           | 29            | 257-00048015-000 |              | 121-141       | 381      | 13.7         |
|                  | 4.74-5.54         | 22.5         | 45            | 257-00048022-000 |              | 121-141       | 572      | 20.6         |
| 6                | 6.84-7.64         | 7.5          | 16            | 257-00069007-000 | 150          | 174-194       | 190      | 7.4          |
|                  | 6.84-7.64         | 15           | 32            | 257-00069015-000 |              | 174-194       | 381      | 14.7         |
|                  | 6.84-7.64         | 22.5         | 48            | 257-00069022-000 |              | 174-194       | 572      | 22.1         |
| 8                | 8.99-9.79         | 7.5          | 20            | 257-00090507-000 | 200          | 229-248       | 190      | 9.2          |
|                  | 8.99-9.79         | 15           | 40            | 257-00090515-000 |              | 229-248       | 381      | 18.3         |
|                  | 8.99-9.79         | 22.5         | 61            | 257-00090522-000 |              | 229-248       | 572      | 27.5         |
| 10               | 11.04-11.84       | 7.5          | 22            | 257-00111007-000 | 250          | 281-310       | 190      | 10.1         |
|                  | 11.04-11.84       | 15           | 44            | 257-00111015-000 |              | 281-310       | 381      | 20.2         |
|                  | 11.04-11.84       | 22.5         | 67            | 257-00111022-000 |              | 281-310       | 572      | 30.2         |
| 10               | 11.60-12.40       | 7.5          | 44            | 257-00116007-000 | 250          | 295-314       | 190      | 10.1         |
|                  | 11.60-12.40       | 15           | 44            | 257-00116015-000 |              | 295-314       | 381      | 20.2         |
|                  | 11.60-12.40       | 22.5         | 67            | 257-00116022-000 |              | 295-314       | 572      | 30.2         |
| 12               | 13.14-13.94       | 7.5          | 23            | 257-00132007-000 | 300          | 334-364       | 190      | 10.5         |
|                  | 13.14-13.94       | 15           | 46            | 257-00132015-000 |              | 334-364       | 381      | 21.1         |
|                  | 13.14-13.94       | 22.5         | 70            | 257-00132022-000 |              | 334-364       | 572      | 31.6         |
| 12               | 13.65-14.45       | 7.5          | 24            | 257-00136507-000 | 300          | 347-372       | 190      | 11.0         |
|                  | 13.65-14.45       | 15           | 48            | 257-00136515-000 |              | 347-372       | 381      | 22.0         |
|                  | 13.65-14.45       | 22.5         | 73            | 257-00136522-000 |              | 347-372       | 572      | 33.0         |



# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Fabricated Lugs, Single Band

# 261



**Description:** A single-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE, Fiberglass and other pipe types.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel (Type 304)

LUGS: Stainless Steel (Type 304)

KEEPER BARS: Stainless Steel (Type 304)

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: fluoropolymer coated to prevent galling

**Also in metric sizes. HDPE applications require clamps with spring washers**

**Working Pressure:** Up to 150 PSI

### Pipe Applications:

Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.





261

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 2                | 2.35-2.63         | 7.5          | 5             | 261-00023807-000 | 50           | 60-67         | 190      | 2.1          |
|                  | 2.35-2.63         | 10           | 6             | 261-00023810-000 |              | 60-67         | 254      | 2.9          |
|                  | 2.35-2.63         | 12.5         | 8             | 261-00023812-000 |              | 60-67         | 317      | 3.5          |
|                  | 2.35-2.63         | 15           | 9             | 261-00023815-000 |              | 60-67         | 381      | 4.3          |
| 2 1/4-2 1/2      | 2.70-3.00         | 7.5          | 5             | 261-00027507-000 | 65           | 70-77         | 190      | 2.1          |
|                  | 2.70-3.00         | 10           | 6             | 261-00027510-000 |              | 70-77         | 254      | 2.9          |
|                  | 2.70-3.00         | 12.5         | 8             | 261-00027512-000 |              | 70-77         | 317      | 3.5          |
|                  | 2.70-3.00         | 15           | 9             | 261-00027515-000 |              | 70-77         | 381      | 4.3          |
| 3                | 2.97-3.25         | 7.5          | 5             | 261-00030007-000 | 65           | 76-83         | 190      | 2.2          |
|                  | 2.97-3.25         | 10           | 6             | 261-00030010-000 |              | 76-83         | 254      | 2.9          |
|                  | 2.97-3.25         | 12.5         | 8             | 261-00030012-000 |              | 76-83         | 317      | 3.6          |
|                  | 2.97-3.25         | 15           | 10            | 261-00030015-000 |              | 76-83         | 381      | 4.4          |
| 3                | 3.46-3.70         | 7.5          | 5             | 261-00035007-000 | 80           | 88-93         | 190      | 2.2          |
|                  | 3.46-3.70         | 10           | 7             | 261-00035010-000 |              | 88-93         | 254      | 3.0          |
|                  | 3.46-3.70         | 12.5         | 8             | 261-00035012-000 |              | 88-93         | 317      | 3.7          |
|                  | 3.46-3.70         | 15           | 10            | 261-00035015-000 |              | 88-93         | 381      | 4.5          |
| 3-4              | 3.73-4.00         | 7.5          | 4             | 261-00037507-000 | 80-100       | 95-101        | 190      | 2.3          |
|                  | 3.73-4.00         | 10           | 7             | 261-00037510-000 |              | 95-101        | 254      | 3.1          |
|                  | 3.73-4.00         | 12.5         | 9             | 261-00037512-000 |              | 95-101        | 317      | 3.9          |
|                  | 3.73-4.00         | 15           | 10            | 261-00037515-000 |              | 95-101        | 381      | 4.6          |
| 3-4              | 3.96-4.25         | 7.5          | 4             | 261-00040007-000 | 80-100       | 101-107       | 190      | 2.4          |
|                  | 3.96-4.25         | 10           | 7             | 261-00040010-000 |              | 101-107       | 254      | 3.1          |
|                  | 3.96-4.25         | 12.5         | 9             | 261-00040012-000 |              | 101-107       | 317      | 4.0          |
|                  | 3.96-4.25         | 15           | 10            | 261-00040015-000 |              | 101-107       | 381      | 4.7          |
| 4                | 4.45-4.73         | 7.5          | 6             | 261-00045007-000 | 100          | 114-124       | 190      | 2.5          |
|                  | 4.45-4.73         | 10           | 7             | 261-00045010-000 |              | 114-124       | 254      | 3.3          |
|                  | 4.45-4.73         | 12.5         | 9             | 261-00045012-000 |              | 114-124       | 317      | 4.2          |
|                  | 4.45-4.73         | 15           | 11            | 261-00045015-000 |              | 114-124       | 381      | 5.0          |
| 4                | 4.74-5.14         | 7.5          | 6             | 261-00048007-000 | 100          | 120-131       | 190      | 2.9          |
|                  | 4.74-5.14         | 10           | 8             | 261-00048010-000 |              | 120-131       | 254      | 3.8          |
|                  | 4.74-5.14         | 12.5         | 11            | 261-00048012-000 |              | 120-131       | 317      | 4.8          |
|                  | 4.74-5.14         | 15           | 13            | 261-00048015-000 |              | 120-131       | 381      | 5.7          |
|                  | 4.74-5.14         | 20           | 17            | 261-00048020-000 |              | 120-131       | 508      | 7.6          |
| 4-5              | 4.95-5.35         | 7.5          | 6             | 261-00050007-000 | 125          | 126-135       | 190      | 2.9          |
|                  | 4.95-5.35         | 10           | 8             | 261-00050010-000 |              | 126-135       | 254      | 3.8          |
|                  | 4.95-5.35         | 12.5         | 11            | 261-00050012-000 |              | 126-135       | 317      | 4.8          |
|                  | 4.95-5.35         | 15           | 13            | 261-00050015-000 |              | 126-135       | 381      | 5.7          |
|                  | 4.95-5.35         | 20           | 17            | 261-00050020-000 |              | 126-135       | 508      | 7.6          |
| 4-5              | 5.22-5.62         | 7.5          | 7             | 261-00052507-000 | 125          | 132-143       | 190      | 3.0          |
|                  | 5.22-5.62         | 10           | 9             | 261-00052510-000 |              | 132-143       | 254      | 4.0          |
|                  | 5.22-5.62         | 12.5         | 11            | 261-00052512-000 |              | 132-143       | 317      | 5.0          |
|                  | 5.22-5.62         | 15           | 14            | 261-00052515-000 |              | 132-143       | 381      | 6.0          |
|                  | 5.22-5.62         | 20           | 18            | 261-00052520-000 |              | 132-143       | 508      | 8.0          |

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 6                | 5.95-6.35         | 7.5          | 6             | 261-00060007-000 | 125          | 151-161       | 190      | 3.1          |
|                  | 5.95-6.35         | 10           | 9             | 261-00060010-000 |              | 151-161       | 254      | 4.2          |
|                  | 5.95-6.35         | 12.5         | 12            | 261-00060012-000 |              | 151-161       | 317      | 5.2          |
|                  | 5.95-6.35         | 15           | 13            | 261-00060015-000 |              | 151-161       | 381      | 6.3          |
|                  | 5.95-6.35         | 20           | 18            | 261-00060020-000 |              | 151-161       | 508      | 8.4          |
| 6                | 6.56-6.96         | 7.5          | 6             | 261-00066307-000 | 150          | 167-177       | 190      | 3.3          |
|                  | 6.56-6.96         | 10           | 10            | 261-00066310-000 |              | 167-177       | 254      | 4.4          |
|                  | 6.56-6.96         | 12.5         | 12            | 261-00066312-000 |              | 167-177       | 317      | 5.5          |
|                  | 6.56-6.96         | 15           | 15            | 261-00066315-000 |              | 167-177       | 381      | 6.6          |
|                  | 6.56-6.96         | 20           | 20            | 261-00066320-000 |              | 167-177       | 508      | 8.9          |
|                  | 6.56-6.96         | 25           | 24            | 261-00066325-000 |              | 167-177       | 635      | 11.1         |
|                  | 6.56-6.96         | 30           | 29            | 261-00066330-000 |              | 167-177       | 762      | 13.3         |
| 6                | 6.84-7.24         | 7.5          | 7             | 261-00069007-000 | 150          | 174-184       | 190      | 3.3          |
|                  | 6.84-7.24         | 10           | 10            | 261-00069010-000 |              | 174-184       | 254      | 4.4          |
|                  | 6.84-7.24         | 12.5         | 12            | 261-00069012-000 |              | 174-184       | 317      | 5.5          |
|                  | 6.84-7.24         | 15           | 15            | 261-00069015-000 |              | 174-184       | 381      | 6.6          |
|                  | 6.84-7.24         | 20           | 20            | 261-00069020-000 |              | 174-184       | 508      | 8.9          |
|                  | 6.84-7.24         | 25           | 24            | 261-00069025-000 |              | 174-184       | 635      | 11.1         |
|                  | 6.84-7.24         | 30           | 29            | 261-00069030-000 |              | 174-184       | 762      | 13.3         |
| 6                | 7.05-7.45         | 7.5          | 7             | 261-00071007-000 | 150          | 180-189       | 190      | 3.4          |
|                  | 7.05-7.45         | 10           | 10            | 261-00071010-000 |              | 180-189       | 254      | 4.5          |
|                  | 7.05-7.45         | 12.5         | 12            | 261-00071012-000 |              | 180-189       | 317      | 5.6          |
|                  | 7.05-7.45         | 15           | 15            | 261-00071015-000 |              | 180-189       | 381      | 6.7          |
|                  | 7.05-7.45         | 20           | 20            | 261-00071020-000 |              | 180-189       | 508      | 8.9          |
|                  | 7.05-7.45         | 25           | 25            | 261-00071025-000 |              | 180-189       | 635      | 11.2         |
|                  | 7.05-7.45         | 30           | 30            | 261-00071030-000 |              | 180-189       | 762      | 13.4         |
| 6                | 7.45-7.85         | 7.5          | 7             | 261-00074507-000 | 150          | 190-199       | 190      | 3.5          |
|                  | 7.45-7.85         | 10           | 10            | 261-00074510-000 |              | 190-199       | 254      | 4.7          |
|                  | 7.45-7.85         | 12.5         | 13            | 261-00074512-000 |              | 190-199       | 317      | 5.9          |
|                  | 7.45-7.85         | 15           | 16            | 261-00074515-000 |              | 190-199       | 381      | 7.1          |
|                  | 7.45-7.85         | 20           | 21            | 261-00074520-000 |              | 190-199       | 508      | 9.4          |
|                  | 7.45-7.85         | 25           | 25            | 261-00074525-000 |              | 190-199       | 635      | 11.8         |
|                  | 7.45-7.85         | 30           | 31            | 261-00074530-000 |              | 190-199       | 762      | 14.2         |
| 8                | 7.95-8.35         | 7.5          | 8             | 261-00080007-000 | 200          | 202-212       | 190      | 3.7          |
|                  | 7.95-8.35         | 10           | 11            | 261-00080010-000 |              | 202-212       | 254      | 5.0          |
|                  | 7.95-8.35         | 12.5         | 13            | 261-00080012-000 |              | 202-212       | 317      | 6.2          |
|                  | 7.95-8.35         | 15           | 16            | 261-00080015-000 |              | 202-212       | 381      | 7.5          |
|                  | 7.95-8.35         | 20           | 22            | 261-00080020-000 |              | 202-212       | 508      | 9.9          |
|                  | 7.95-8.35         | 25           | 27            | 261-00080025-000 |              | 202-212       | 635      | 12.4         |
|                  | 7.95-8.35         | 30           | 33            | 261-00080030-000 |              | 202-212       | 762      | 14.9         |
| 8                | 8.54-8.94         | 7.5          | 9             | 261-00086307-000 | 200          | 217-227       | 190      | 3.9          |
|                  | 8.54-8.94         | 10           | 11            | 261-00086310-000 |              | 217-227       | 254      | 5.1          |
|                  | 8.54-8.94         | 12.5         | 14            | 261-00086312-000 |              | 217-227       | 317      | 6.5          |
|                  | 8.54-8.94         | 15           | 17            | 261-00086315-000 |              | 217-227       | 381      | 7.7          |
|                  | 8.54-8.94         | 20           | 23            | 261-00086320-000 |              | 217-227       | 508      | 10.3         |
|                  | 8.54-8.94         | 25           | 28            | 261-00086325-000 |              | 217-227       | 635      | 12.9         |
|                  | 8.54-8.94         | 30           | 34            | 261-00086330-000 |              | 217-227       | 762      | 15.4         |

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 8                | 8.99-9.39         | 7.5          | 9             | 261-00090507-000 | 200          | 228-239       | 190      | 4.0          |
|                  | 8.99-9.39         | 10           | 12            | 261-00090510-000 |              | 228-239       | 254      | 5.3          |
|                  | 8.99-9.39         | 12.5         | 15            | 261-00090512-000 |              | 228-239       | 317      | 6.6          |
|                  | 8.99-9.39         | 15           | 17            | 261-00090515-000 |              | 228-239       | 381      | 7.9          |
|                  | 8.99-9.39         | 20           | 23            | 261-00090520-000 |              | 228-239       | 508      | 10.5         |
|                  | 8.99-9.39         | 25           | 29            | 261-00090525-000 |              | 228-239       | 635      | 13.2         |
|                  | 8.99-9.39         | 30           | 35            | 261-00090530-000 |              | 228-239       | 762      | 15.8         |
| 8                | 9.27-9.67         | 7.5          | 9             | 261-00094007-000 | 200          | 236-245       | 190      | 4.0          |
|                  | 9.27-9.67         | 10           | 12            | 261-00094010-000 |              | 236-245       | 254      | 5.3          |
|                  | 9.27-9.67         | 12.5         | 16            | 261-00094012-000 |              | 236-245       | 317      | 6.7          |
|                  | 9.27-9.67         | 15           | 18            | 261-00094015-000 |              | 236-245       | 381      | 8.0          |
|                  | 9.27-9.67         | 20           | 24            | 261-00094020-000 |              | 236-245       | 508      | 10.7         |
|                  | 9.27-9.67         | 25           | 29            | 261-00094025-000 |              | 236-245       | 635      | 13.2         |
|                  | 9.27-9.67         | 30           | 35            | 261-00094030-000 |              | 236-245       | 762      | 16.0         |
| 8-10             | 9.70-10.10        | 7.5          | 9             | 261-00100007-000 | 225          | 247-256       | 190      | 4.2          |
|                  | 9.70-10.10        | 10           | 12            | 261-00100010-000 |              | 247-256       | 254      | 5.6          |
|                  | 9.70-10.10        | 12.5         | 16            | 261-00100012-000 |              | 247-256       | 317      | 7.0          |
|                  | 9.70-10.10        | 15           | 19            | 261-00100015-000 |              | 247-256       | 381      | 8.4          |
|                  | 9.70-10.10        | 20           | 25            | 261-00100020-000 |              | 247-256       | 508      | 11.3         |
|                  | 9.70-10.10        | 25           | 31            | 261-00100025-000 |              | 247-256       | 635      | 14.1         |
|                  | 9.70-10.10        | 30           | 37            | 261-00100030-000 |              | 247-256       | 762      | 16.9         |
| 10               | 10.64-11.04       | 7.5          | 10            | 261-00107507-000 | 250          | 270-280       | 190      | 4.5          |
|                  | 10.64-11.04       | 10           | 13            | 261-00107510-000 |              | 270-280       | 254      | 6.0          |
|                  | 10.64-11.04       | 12.5         | 16            | 261-00107512-000 |              | 270-280       | 317      | 7.4          |
|                  | 10.64-11.04       | 15           | 19            | 261-00107515-000 |              | 270-280       | 381      | 8.9          |
|                  | 10.64-11.04       | 20           | 24            | 261-00107520-000 |              | 270-280       | 508      | 11.9         |
|                  | 10.64-11.04       | 25           | 33            | 261-00107525-000 |              | 270-280       | 635      | 14.8         |
|                  | 10.64-11.04       | 30           | 39            | 261-00107530-000 |              | 270-280       | 762      | 17.8         |
| 10               | 11.04-11.44       | 7.5          | 10            | 261-00111007-000 | 250          | 280-291       | 190      | 4.5          |
|                  | 11.04-11.44       | 10           | 13            | 261-00111010-000 |              | 280-291       | 254      | 6.0          |
|                  | 11.04-11.44       | 12.5         | 17            | 261-00111012-000 |              | 280-291       | 317      | 7.5          |
|                  | 11.04-11.44       | 15           | 20            | 261-00111015-000 |              | 280-291       | 381      | 9.0          |
|                  | 11.04-11.44       | 20           | 26            | 261-00111020-000 |              | 280-291       | 508      | 12.0         |
|                  | 11.04-11.44       | 25           | 33            | 261-00111025-000 |              | 280-291       | 635      | 15.0         |
|                  | 11.04-11.44       | 30           | 40            | 261-00111030-000 |              | 280-291       | 762      | 18.0         |
| 10               | 11.34-11.74       | 7.5          | 10            | 261-00114007-000 | 250          | 288-299       | 190      | 4.6          |
|                  | 11.34-11.74       | 10           | 14            | 261-00114010-000 |              | 288-299       | 254      | 6.2          |
|                  | 11.34-11.74       | 12.5         | 17            | 261-00114012-000 |              | 288-299       | 317      | 7.7          |
|                  | 11.34-11.74       | 15           | 20            | 261-00114015-000 |              | 288-299       | 381      | 9.3          |
|                  | 11.34-11.74       | 20           | 27            | 261-00114020-000 |              | 288-299       | 508      | 12.4         |
|                  | 11.34-11.74       | 25           | 35            | 261-00114025-000 |              | 288-299       | 635      | 15.7         |
|                  | 11.34-11.74       | 30           | 42            | 261-00114030-000 |              | 288-299       | 762      | 18.5         |
| 10               | 11.75-12.15       | 7.5          | 10            | 261-00117507-000 | 250          | 298-309       | 190      | 4.7          |
|                  | 11.75-12.15       | 10           | 14            | 261-00117510-000 |              | 298-309       | 254      | 6.3          |
|                  | 11.75-12.15       | 12.5         | 17            | 261-00117512-000 |              | 298-309       | 317      | 7.9          |
|                  | 11.75-12.15       | 15           | 21            | 261-00117515-000 |              | 298-309       | 381      | 9.4          |
|                  | 11.75-12.15       | 20           | 28            | 261-00117520-000 |              | 298-309       | 508      | 12.6         |
|                  | 11.75-12.15       | 25           | 35            | 261-00117525-000 |              | 298-309       | 635      | 15.7         |
|                  | 11.75-12.15       | 30           | 42            | 261-00117530-000 |              | 298-309       | 762      | 18.8         |

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 10-12            | 12.00-12.40       | 7.5          | 11            | 261-00120007-000 | 250-300      | 305-315       | 190      | 4.8          |
|                  | 12.00-12.40       | 10           | 14            | 261-00120010-000 |              | 305-315       | 254      | 6.4          |
|                  | 12.00-12.40       | 12.5         | 18            | 261-00120012-000 |              | 305-315       | 317      | 8.0          |
|                  | 12.00-12.40       | 15           | 21            | 261-00120015-000 |              | 305-315       | 381      | 9.5          |
|                  | 12.00-12.40       | 20           | 28            | 261-00120020-000 |              | 305-315       | 508      | 12.7         |
|                  | 12.00-12.40       | 25           | 35            | 261-00120025-000 |              | 305-315       | 635      | 15.9         |
|                  | 12.00-12.40       | 30           | 42            | 261-00120030-000 |              | 305-315       | 762      | 19.1         |
| 12               | 12.62-13.02       | 7.5          | 11            | 261-00127507-000 | 300          | 321-331       | 190      | 5.0          |
|                  | 12.62-13.02       | 10           | 15            | 261-00127510-000 |              | 321-331       | 254      | 6.7          |
|                  | 12.62-13.02       | 12.5         | 18            | 261-00127512-000 |              | 321-331       | 317      | 8.3          |
|                  | 12.62-13.02       | 15           | 22            | 261-00127515-000 |              | 321-331       | 381      | 10.0         |
|                  | 12.62-13.02       | 20           | 29            | 261-00127520-000 |              | 321-331       | 508      | 13.3         |
|                  | 12.62-13.02       | 25           | 37            | 261-00127525-000 |              | 321-331       | 635      | 16.6         |
|                  | 12.62-13.02       | 30           | 45            | 261-00127530-000 |              | 321-331       | 762      | 19.9         |
| 12               | 13.10-13.50       | 7.5          | 11            | 261-00132007-000 | 300          | 333-343       | 190      | 5.1          |
|                  | 13.10-13.50       | 10           | 15            | 261-00132010-000 |              | 333-343       | 254      | 6.8          |
|                  | 13.10-13.50       | 12.5         | 19            | 261-00132012-000 |              | 333-343       | 317      | 8.5          |
|                  | 13.10-13.50       | 15           | 22            | 261-00132015-000 |              | 333-343       | 381      | 10.2         |
|                  | 13.10-13.50       | 20           | 29            | 261-00132020-000 |              | 333-343       | 508      | 13.6         |
|                  | 13.10-13.50       | 25           | 37            | 261-00132025-000 |              | 333-343       | 635      | 17.0         |
|                  | 13.10-13.50       | 30           | 45            | 261-00132030-000 |              | 333-343       | 762      | 20.3         |
| 12               | 13.40-13.80       | 7.5          | 11            | 261-00134007-000 | 300          | 340-351       | 190      | 5.1          |
|                  | 13.40-13.80       | 10           | 15            | 261-00134010-000 |              | 340-351       | 254      | 6.9          |
|                  | 13.40-13.80       | 12.5         | 18            | 261-00134012-000 |              | 340-351       | 317      | 8.5          |
|                  | 13.40-13.80       | 15           | 23            | 261-00134015-000 |              | 340-351       | 381      | 10.3         |
|                  | 13.40-13.80       | 20           | 30            | 261-00134020-000 |              | 340-351       | 508      | 13.7         |
|                  | 13.40-13.80       | 25           | 38            | 261-00134025-000 |              | 340-351       | 635      | 17.1         |
|                  | 13.40-13.80       | 30           | 45            | 261-00134030-000 |              | 340-351       | 762      | 20.5         |

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES                      |
|-------------------|-----------------|---------------------------------|
| 7.5               | 2               | 5/8" X 7"<br>or<br>16mm x 178mm |
| 10                | 3               |                                 |
| 12.5              | 3               |                                 |
| 15                | 4               |                                 |
| 20                | 5               |                                 |
| 25                | 8               |                                 |
| 30                | 10              |                                 |



# Full Circle<sup>®</sup>

## All Stainless Steel, Fabricated Lugs, Double Band

# 262



**Description:** A double-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Works on Cast Iron, Ductile Iron, Steel, Asbestos Cement, Copper, Aluminum, PVC, HDPE and Fiberglass.

### Key Features:

- Designed with "hot" soils in mind
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Stainless Steel Type 304)

KEEPER BARS: Stainless Steel Type 304)

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Also in metric sizes. HDPE applications require clamps with spring washers**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast Iron, Asbestos Cement, PVC, HDPE, Steel, Copper, Fiberglass and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Full Circle<sup>®</sup>

All Stainless Steel, Fabricated Lugs, Double Band

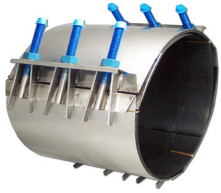
| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 3                | 3.49-4.29         | 7.5          | 8             | 262-00035007-000 | 80           | 88-110        | 190      | 4.1          |
|                  | 3.49-4.29         | 10           | 12            | 262-00035010-000 |              | 88-110        | 254      | 5.4          |
|                  | 3.49-4.29         | 12.5         | 15            | 262-00035012-000 |              | 88-110        | 317      | 6.8          |
|                  | 3.49-4.29         | 15           | 18            | 262-00035015-000 |              | 88-110        | 381      | 8.2          |
|                  | 3.49-4.29         | 20           | 24            | 262-00035020-000 |              | 88-110        | 508      | 10.9         |
| 4                | 4.44-5.24         | 7.5          | 9             | 262-00045007-000 | 100          | 113-133       | 190      | 4.3          |
|                  | 4.44-5.24         | 10           | 13            | 262-00045010-000 |              | 113-133       | 254      | 5.7          |
|                  | 4.44-5.24         | 12.5         | 16            | 262-00045012-000 |              | 113-133       | 317      | 7.1          |
|                  | 4.44-5.24         | 15           | 19            | 262-00045015-000 |              | 113-133       | 381      | 8.5          |
|                  | 4.44-5.24         | 20           | 25            | 262-00045020-000 |              | 113-133       | 508      | 11.4         |
| 4                | 4.74-5.57         | 7.5          | 10            | 262-00048007-000 | 100          | 121-141       | 190      | 4.5          |
|                  | 4.74-5.57         | 10           | 13            | 262-00048010-000 |              | 121-141       | 254      | 5.9          |
|                  | 4.74-5.57         | 12.5         | 16            | 262-00048012-000 |              | 121-141       | 317      | 7.4          |
|                  | 4.74-5.57         | 15           | 20            | 262-00048015-000 |              | 121-141       | 381      | 8.9          |
|                  | 4.74-5.57         | 20           | 26            | 262-00048020-000 |              | 121-141       | 508      | 11.8         |
| 6                | 6.62-7.42         | 7.5          | 10            | 262-00066307-000 | 150          | 168-189       | 190      | 4.9          |
|                  | 6.62-7.42         | 10           | 14            | 262-00066310-000 |              | 168-189       | 254      | 6.5          |
|                  | 6.62-7.42         | 12.5         | 18            | 262-00066312-000 |              | 168-189       | 317      | 8.2          |
|                  | 6.62-7.42         | 15           | 22            | 262-00066315-000 |              | 168-189       | 381      | 9.8          |
|                  | 6.62-7.42         | 20           | 29            | 262-00066320-000 |              | 168-189       | 508      | 13.1         |
| 6                | 6.84-7.64         | 7.5          | 10            | 262-00069007-000 | 150          | 174-194       | 190      | 4.9          |
|                  | 6.84-7.64         | 10           | 15            | 262-00069010-000 |              | 174-194       | 254      | 6.6          |
|                  | 6.84-7.64         | 12.5         | 18            | 262-00069012-000 |              | 174-194       | 317      | 8.3          |
|                  | 6.84-7.64         | 15           | 22            | 262-00069015-000 |              | 174-194       | 381      | 9.9          |
|                  | 6.84-7.64         | 20           | 29            | 262-00069020-000 |              | 174-194       | 508      | 13.2         |
| 8                | 8.62-9.42         | 7.5          | 13            | 262-00086307-000 | 200          | 219-239       | 190      | 5.7          |
|                  | 8.62-9.42         | 10           | 17            | 262-00086310-000 |              | 219-239       | 254      | 7.6          |
|                  | 8.62-9.42         | 12.5         | 21            | 262-00086312-000 |              | 219-239       | 317      | 9.4          |
|                  | 8.62-9.42         | 15           | 25            | 262-00086315-000 |              | 219-239       | 381      | 11.3         |
|                  | 8.62-9.42         | 20           | 34            | 262-00086320-000 |              | 219-239       | 508      | 15.1         |
| 8                | 8.99-9.79         | 7.5          | 13            | 262-00090507-000 | 200          | 229-248       | 190      | 5.9          |
|                  | 8.99-9.79         | 10           | 16            | 262-00090510-000 |              | 229-248       | 254      | 7.9          |
|                  | 8.99-9.79         | 12.5         | 22            | 262-00090512-000 |              | 229-248       | 317      | 9.9          |
|                  | 8.99-9.79         | 15           | 26            | 262-00090515-000 |              | 229-248       | 381      | 11.8         |
|                  | 8.99-9.79         | 20           | 35            | 262-00090520-000 |              | 229-248       | 508      | 15.8         |
| 10               | 10.75-11.55       | 10           | 21            | 262-00107510-000 | 250          | 273-293       | 254      | 9.4          |
|                  | 10.75-11.55       | 15           | 31            | 262-00107515-000 |              | 273-293       | 381      | 14.1         |
|                  | 10.75-11.55       | 20           | 41            | 262-00107520-000 |              | 273-293       | 508      | 18.8         |
| 10               | 11.10-11.90       | 10           | 21            | 262-00111010-000 | 250          | 282-302       | 254      | 9.5          |
|                  | 11.10-11.90       | 15           | 31            | 262-00111015-000 |              | 282-302       | 381      | 14.2         |
|                  | 11.10-11.90       | 20           | 42            | 262-00111020-000 |              | 282-302       | 508      | 19.0         |

| STANDARD         |                   |              |               | CATALOG NUMBER   | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 10               | 11.60-12.40       | 10           | 21            | 262-00116010-000 | 250          | 295-315       | 254      | 9.6          |
|                  | 11.60-12.40       | 15           | 32            | 262-00116015-000 |              | 295-315       | 381      | 14.4         |
|                  | 11.60-12.40       | 20           | 42            | 262-00116020-000 |              | 295-315       | 508      | 19.2         |
| 12               | 12.75-13.55       | 10           | 23            | 262-00127510-000 | 300          | 325-344       | 254      | 10.4         |
|                  | 12.75-13.55       | 15           | 35            | 262-00127515-000 |              | 325-344       | 381      | 15.7         |
|                  | 12.75-13.55       | 20           | 46            | 262-00127520-000 |              | 325-344       | 508      | 20.9         |
| 12               | 13.20-14.00       | 10           | 23            | 262-00132010-000 | 300          | 335-355       | 254      | 10.5         |
|                  | 13.20-14.00       | 15           | 35            | 262-00132015-000 |              | 335-355       | 381      | 15.8         |
|                  | 13.20-14.00       | 20           | 46            | 262-00132020-000 |              | 335-355       | 508      | 21.1         |
| 12               | 13.65-14.45       | 10           | 24            | 262-00136510-000 | 300          | 347-367       | 254      | 10.7         |
|                  | 13.65-14.45       | 15           | 35            | 262-00136515-000 |              | 347-367       | 381      | 16.0         |
|                  | 13.65-14.45       | 20           | 47            | 262-00136520-000 |              | 347-367       | 508      | 21.3         |
| 12               | 14.00-14.80       | 10           | 25            | 262-00140010-000 | 300          | 357-376       | 254      | 11.4         |
|                  | 14.00-14.80       | 15           | 38            | 262-00140015-000 |              | 357-376       | 381      | 17.1         |
|                  | 14.00-14.80       | 20           | 50            | 262-00140020-000 |              | 357-376       | 508      | 22.8         |

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES   |
|-------------------|-----------------|--------------|
| 7.5               | 4               | 5/8" X 7"    |
| 10                | 6               |              |
| 12.5              | 6               | or           |
| 15                | 8               | 16mm x 178mm |
| 20                | 10              |              |





# Full Circle<sup>®</sup> Repair Clamp

## All Stainless Steel, Fabricated Lugs, Multi Band

# 263



**Description:** A multi-band clamp designed to provide 360° seal and complete leak repair.

**Application:** Works on Cast and Ductile iron, Steel, Asbestos Cement, Copper, Aluminum, plastic and Fiberglass.

### Key Features:

- Designed with corrosive soil applications
- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.'s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Larger clamps have a greater range to help reduce inventory

### Materials Specifications (subject to change)

BAND: Stainless Steel Type 304

LUGS: Stainless Steel Type 304

KEEPER BARS: Stainless Steel Type 304

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalies, most aliphatic hydrocarbon and other chemicals

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: Type 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, Steel, Copper, Fiberglass, Aluminum and other types of pipes

**Sizes (in inches):** 2, 2¼-2½, 3, 4, 4-5, 6, 8, 10, 12, 14, 16, 18, 20, 24

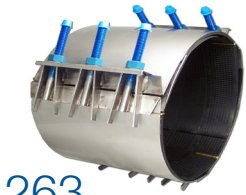
*(Also available in metric sizes.)*

### Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES |
|-------------------|-----------------|------------|
| 10                | 9               | 5/8" x 7"  |
| 15                | 12              |            |
| 20                | 15              |            |
| 30                | 30              |            |



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



263

# Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Multi Band

| STANDARD          |              |               | CATALOG NUMBER   | METRIC        |          |              |
|-------------------|--------------|---------------|------------------|---------------|----------|--------------|
| O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. |                  | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 11.04-12.24       | 10           | 21            | 263-00111010-000 | 280-311       | 254      | 9.6          |
| 11.04-12.24       | 15           | 34            | 263-00111015-000 | 280-311       | 381      | 15.4         |
| 11.04-12.24       | 20           | 47            | 263-00111020-000 | 280-311       | 508      | 21.3         |
| 11.04-12.24       | 30           | 74            | 263-00111030-000 | 280-311       | 762      | 33.6         |
| 13.14-14.34       | 10           | 24            | 263-00132010-000 | 334-364       | 254      | 10.9         |
| 13.14-14.34       | 15           | 35            | 263-00132015-000 | 334-364       | 381      | 15.9         |
| 13.14-14.34       | 20           | 49            | 263-00132020-000 | 334-364       | 508      | 22.2         |
| 13.14-14.34       | 30           | 76            | 263-00132030-000 | 334-364       | 762      | 34.5         |
| 13.65-14.85       | 10           | 27            | 263-00136510-000 | 347-377       | 254      | 12.3         |
| 13.65-14.85       | 15           | 36            | 263-00136515-000 | 347-377       | 381      | 16.3         |
| 13.65-14.85       | 20           | 50            | 263-00136520-000 | 347-377       | 508      | 22.7         |
| 13.65-14.85       | 30           | 78            | 263-00136530-000 | 347-377       | 762      | 35.4         |
| 14.85-16.05       | 10           | 30            | 263-00148510-000 | 377-408       | 254      | 13.6         |
| 14.85-16.05       | 15           | 41            | 263-00148515-000 | 377-408       | 381      | 18.6         |
| 14.85-16.05       | 20           | 53            | 263-00148520-000 | 377-408       | 508      | 24.0         |
| 14.85-16.05       | 30           | 80            | 263-00148530-000 | 377-408       | 762      | 36.3         |
| 15.92-17.12       | 10           | 30            | 263-00159210-000 | 405-435       | 254      | 14.1         |
| 15.92-17.12       | 15           | 41            | 263-00159215-000 | 405-435       | 381      | 18.6         |
| 15.92-17.12       | 20           | 53            | 263-00159220-000 | 405-435       | 508      | 24.0         |
| 15.92-17.12       | 30           | 80            | 263-00159230-000 | 405-435       | 762      | 36.3         |
| 17.15-18.35       | 10           | 31            | 263-00171510-000 | 436-466       | 254      | 14.1         |
| 17.15-18.35       | 15           | 43            | 263-00171515-000 | 436-466       | 381      | 19.5         |
| 17.15-18.35       | 20           | 53            | 263-00171520-000 | 436-466       | 508      | 24.0         |
| 17.15-18.35       | 30           | 80            | 263-00171530-000 | 436-466       | 762      | 36.3         |
| 18.46-19.66       | 10           | 31            | 263-00184610-000 | 469-499       | 254      | 14.1         |
| 18.46-19.66       | 15           | 45            | 263-00184615-000 | 469-499       | 381      | 20.4         |
| 18.46-19.66       | 20           | 53            | 263-00184620-000 | 469-499       | 508      | 24.0         |
| 18.46-19.66       | 30           | 81            | 263-00184630-000 | 469-499       | 762      | 36.7         |
| 19.45-20.65       | 10           | 34            | 263-00194510-000 | 494-524       | 254      | 15.4         |
| 19.45-20.65       | 15           | 46            | 263-00194515-000 | 494-524       | 381      | 20.9         |
| 19.45-20.65       | 20           | 56            | 263-00194520-000 | 494-524       | 508      | 25.4         |
| 19.45-20.65       | 30           | 81            | 263-00194530-000 | 494-524       | 762      | 36.7         |
| 21.52-22.72       | 10           | 34            | 263-00215210-000 | 547-577       | 254      | 15.4         |
| 21.52-22.72       | 15           | 48            | 263-00215215-000 | 547-577       | 381      | 21.8         |
| 21.52-22.72       | 20           | 59            | 263-00215220-000 | 547-577       | 508      | 26.8         |
| 21.52-22.72       | 30           | 84            | 263-00215230-000 | 547-577       | 762      | 38.1         |
| 22.80-24.00       | 10           | 36            | 263-00228010-000 | 579-610       | 254      | 16.3         |
| 22.80-24.00       | 15           | 52            | 263-00228015-000 | 579-610       | 381      | 23.1         |
| 22.80-24.00       | 20           | 62            | 263-00228020-000 | 579-610       | 508      | 28.1         |
| 22.80-24.00       | 30           | 88            | 263-00228030-000 | 579-610       | 762      | 39.9         |
| 24.38-25.58       | 10           | 42            | 263-00243810-000 | 620-647       | 254      | 19.1         |
| 24.38-25.58       | 15           | 60            | 263-00243815-000 | 620-647       | 381      | 27.2         |
| 24.38-25.58       | 20           | 73            | 263-00243820-000 | 620-647       | 508      | 33.1         |
| 24.38-25.58       | 30           | 104           | 263-00243830-000 | 620-647       | 762      | 47.2         |

| STANDARD             |                 |                  | CATALOG NUMBER   | METRIC           |          |                 |
|----------------------|-----------------|------------------|------------------|------------------|----------|-----------------|
| O.D.<br>RANGE INCHES | WIDTH<br>INCHES | WT.<br>EACH LBS. |                  | O.D.<br>RANGE MM | WIDTH MM | WT.<br>EACH KG. |
| 25.70-26.90          | 10              | 43               | 263-00257010-000 | 653-683          | 254      | 19.5            |
| 25.70-26.90          | 15              | 62               | 263-00257015-000 | 653-683          | 381      | 28.1            |
| 25.70-26.90          | 20              | 74               | 263-00257020-000 | 653-683          | 508      | 33.6            |
| 25.70-26.90          | 30              | 106              | 263-00257030-000 | 653-683          | 762      | 48.1            |



# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

# 264



**Description:** A single band clamp designed to provide 360° pressure and complete leak repair

**Application:** For leaks at service outlets.

## Key Features:

- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- A wide variety of outlet sizes and thread types available to meet demand
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .40"
- Larger clamps have a greater range to help reduce inventory

## Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals.

Temperature Range: -20° F to +180° F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Copper, Fiberglass and other types of pipes

*\*HDPE applications will require clamps with spring washers.*

**Sizes (in inches):** 3, 4, 6, 8 (*Also available in metric sizes* ¾", 1", 1 ¼", and 2" NPT and CC tap sizes.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES |
|-------------------|-----------------|------------|
| 7.5               | 2               | 5/8" x 7"  |
| 10                | 3               |            |
| 12.5              | 3               |            |
| 15                | 5               |            |



264

# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

3/4" and 1" NPT and CC Taps

| STANDARD         |                   |              |               | 3/4" NPT<br>20 MM | 3/4" CC<br>20 MM | 1" NPT<br>25 MM | 1" CC<br>25 MM | METRIC       |               |          |              |
|------------------|-------------------|--------------|---------------|-------------------|------------------|-----------------|----------------|--------------|---------------|----------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER    | CATALOG NUMBER   | CATALOG NUMBER  | CATALOG NUMBER | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
| 3                | 3.46-3.70         | 7.5          | 5             | 264-35007-006     | 264-35007-007    | 264-35007-008   | 264-35007-009  | 80           | 88-93         | 190      | 2.3          |
|                  | 3.46-3.70         | 10           | 7             | 264-35010-006     | 264-35010-007    | 264-35010-008   | 264-35010-009  |              | 88-93         | 254      | 3.2          |
|                  | 3.46-3.70         | 12.5         | 8             | 264-35012-006     | 264-35012-007    | 264-35012-008   | 264-35012-009  |              | 88-93         | 317      | 3.6          |
|                  | 3.46-3.70         | 15           | 10            | 264-35015-006     | 264-35015-007    | 264-35015-008   | 264-35015-009  |              | 88-93         | 381      | 4.5          |
| 3                | 3.73-4.00         | 7.5          | 5             | 264-37507-006     | 264-37507-007    | 264-37507-008   | 264-37507-009  | 80           | 95-101        | 190      | 2.3          |
|                  | 3.73-4.00         | 10           | 7             | 264-37510-006     | 264-37510-007    | 264-37510-008   | 264-37510-009  |              | 95-101        | 254      | 3.2          |
|                  | 3.73-4.00         | 12.5         | 9             | 264-37512-006     | 264-37512-007    | 264-37512-008   | 264-37512-009  |              | 95-101        | 317      | 4.1          |
|                  | 3.73-4.00         | 15           | 10            | 264-37515-006     | 264-37515-007    | 264-37515-008   | 264-37515-009  |              | 95-101        | 381      | 4.5          |
| 4                | 3.96-4.25         | 7.5          | 5             | 264-40007-006     | 264-40007-007    | 264-40007-008   | 264-40007-009  | 100          | 101-107       | 190      | 2.3          |
|                  | 3.96-4.25         | 10           | 7             | 264-40010-006     | 264-40010-007    | 264-40010-008   | 264-40010-009  |              | 101-107       | 254      | 3.2          |
|                  | 3.96-4.25         | 12.5         | 9             | 264-40012-006     | 264-40012-007    | 264-40012-008   | 264-40012-009  |              | 101-107       | 317      | 4.1          |
|                  | 3.96-4.25         | 15           | 10            | 264-40015-006     | 264-40015-007    | 264-40015-008   | 264-40015-009  |              | 101-107       | 381      | 4.5          |
| 4                | 4.45-4.73         | 7.5          | 6             | 264-45007-006     | 264-45007-007    | 264-45007-008   | 264-45007-009  | 100          | 114-124       | 190      | 2.7          |
|                  | 4.45-4.73         | 10           | 7             | 264-45010-006     | 264-45010-007    | 264-45010-008   | 264-45010-009  |              | 114-124       | 254      | 3.2          |
|                  | 4.45-4.73         | 12.5         | 9             | 264-45012-006     | 264-45012-007    | 264-45012-008   | 264-45012-009  |              | 114-124       | 317      | 4.1          |
|                  | 4.45-4.73         | 15           | 11            | 264-45015-006     | 264-45015-007    | 264-45015-008   | 264-45015-009  |              | 114-124       | 381      | 5.0          |
| 4                | 4.74-5.14         | 7.5          | 6             | 264-48007-006     | 264-48007-007    | 264-48007-008   | 264-48007-009  | 100          | 120-131       | 190      | 2.7          |
|                  | 4.74-5.14         | 10           | 8             | 264-48010-006     | 264-48010-007    | 264-48010-008   | 264-48010-009  |              | 120-131       | 254      | 3.6          |
|                  | 4.74-5.14         | 12.5         | 11            | 264-48012-006     | 264-48012-007    | 264-48012-008   | 264-48012-009  |              | 120-131       | 317      | 5.0          |
|                  | 4.74-5.14         | 15           | 13            | 264-48015-006     | 264-48015-007    | 264-48015-008   | 264-48015-009  |              | 120-131       | 381      | 5.9          |
| 6                | 6.56-6.96         | 7.5          | 7             | 264-66307-006     | 264-66307-007    | 264-66307-008   | 264-66307-009  | 150          | 167-177       | 190      | 3.2          |
|                  | 6.56-6.96         | 10           | 10            | 264-66310-006     | 264-66310-007    | 264-66310-008   | 264-66310-009  |              | 167-177       | 254      | 4.5          |
|                  | 6.56-6.96         | 12.5         | 12            | 264-66312-006     | 264-66312-007    | 264-66312-008   | 264-66312-009  |              | 167-177       | 317      | 5.4          |
|                  | 6.56-6.96         | 15           | 15            | 264-66315-006     | 264-66315-007    | 264-66315-008   | 264-66315-009  |              | 167-177       | 381      | 6.8          |
| 6                | 6.84-7.24         | 7.5          | 7             | 264-69007-006     | 264-69007-007    | 264-69007-008   | 264-69007-009  | 150          | 174-184       | 190      | 3.2          |
|                  | 6.84-7.24         | 10           | 10            | 264-69010-006     | 264-69010-007    | 264-69010-008   | 264-69010-009  |              | 174-184       | 254      | 4.5          |
|                  | 6.84-7.24         | 12.5         | 12            | 264-69012-006     | 264-69012-007    | 264-69012-008   | 264-69012-009  |              | 174-184       | 317      | 5.4          |
|                  | 6.84-7.24         | 15           | 15            | 264-69015-006     | 264-69015-007    | 264-69015-008   | 264-69015-009  |              | 174-184       | 381      | 6.8          |
| 8                | 8.54-8.94         | 7.5          | 9             | 264-86307-006     | 264-86307-007    | 264-86307-008   | 264-86307-009  | 200          | 217-227       | 190      | 4.1          |
|                  | 8.54-8.94         | 10           | 11            | 264-86310-006     | 264-86310-007    | 264-86310-008   | 264-86310-009  |              | 217-227       | 254      | 5.0          |
|                  | 8.54-8.94         | 12.5         | 14            | 264-86312-006     | 264-86312-007    | 264-86312-008   | 264-86312-009  |              | 217-227       | 317      | 6.4          |
|                  | 8.54-8.94         | 15           | 17            | 264-86315-006     | 264-86315-007    | 264-86315-008   | 264-86315-009  |              | 217-227       | 381      | 7.7          |
| 8                | 8.99-9.39         | 7.5          | 9             | 264-90507-006     | 264-90507-007    | 264-90507-008   | 264-90507-009  | 200          | 225-239       | 190      | 4.1          |
|                  | 8.99-9.39         | 10           | 12            | 264-90510-006     | 264-90510-007    | 264-90510-008   | 264-90510-009  |              | 225-239       | 254      | 5.4          |
|                  | 8.99-9.39         | 12.5         | 15            | 264-90512-006     | 264-90512-007    | 264-90512-008   | 264-90512-009  |              | 225-239       | 317      | 6.8          |
|                  | 8.99-9.39         | 15           | 17            | 264-90515-006     | 264-90515-007    | 264-90515-008   | 264-90515-009  |              | 225-239       | 381      | 7.7          |

## 1¼" through 2" NPT and CC Taps

| STANDARD               |                         |                 |                     | 1 1/4" NPT<br>32 MM | 1 1/2" NPT<br>32 MM | 2" NPT<br>50 MM   | 2" CC<br>50 MM    | METRIC             |                     |             |                    |
|------------------------|-------------------------|-----------------|---------------------|---------------------|---------------------|-------------------|-------------------|--------------------|---------------------|-------------|--------------------|
| NOM.<br>SIZE<br>INCHES | O.D.<br>RANGE<br>INCHES | WIDTH<br>INCHES | WT.<br>EACH<br>LBS. | CATALOG<br>NUMBER   | CATALOG<br>NUMBER   | CATALOG<br>NUMBER | CATALOG<br>NUMBER | NOM.<br>SIZE<br>MM | O.D.<br>RANGE<br>MM | WIDTH<br>MM | WT.<br>EACH<br>KG. |
| 4                      | 4.45-4.73               | 7.5             | 6                   | 264-45007-010       | 264-45007-012       | 264-45007-014     | 264-45007-015     | 100                | 114-124             | 190         | 2.7                |
|                        | 4.45-4.73               | 10              | 7                   | 264-45010-010       | 264-45010-012       | 264-45010-014     | 264-45010-015     |                    | 114-124             | 254         | 3.2                |
|                        | 4.45-4.73               | 12.5            | 9                   | 264-45012-010       | 264-45012-012       | 264-45012-014     | 264-45012-015     |                    | 114-124             | 317         | 4.1                |
|                        | 4.45-4.73               | 15              | 11                  | 264-45015-010       | 264-45015-012       | 264-45015-014     | 264-45015-015     |                    | 114-124             | 381         | 5.0                |
|                        |                         |                 |                     |                     |                     |                   |                   |                    |                     |             |                    |
| 4                      | 4.74-5.14               | 7.5             | 6                   | 264-48007-010       | 264-48007-012       | 264-48007-014     | 264-48007-015     | 100                | 120-131             | 190         | 2.7                |
|                        | 4.74-5.14               | 10              | 8                   | 264-48010-010       | 264-48010-012       | 264-48010-014     | 264-48010-015     |                    | 120-131             | 254         | 3.6                |
|                        | 4.74-5.14               | 12.5            | 11                  | 264-48012-010       | 264-48012-012       | 264-48012-014     | 264-48012-015     |                    | 120-131             | 317         | 5.0                |
|                        | 4.74-5.14               | 15              | 13                  | 264-48015-010       | 264-48015-012       | 264-48015-014     | 264-48015-015     |                    | 120-131             | 381         | 5.9                |
| 6                      | 6.56-6.96               | 7.5             | 7                   | 264-66307-010       | 264-66307-012       | 264-66307-014     | 264-66307-015     | 150                | 167-177             | 190         | 3.2                |
|                        | 6.56-6.96               | 10              | 10                  | 264-66310-010       | 264-66310-012       | 264-66310-014     | 264-66310-015     |                    | 167-177             | 254         | 4.5                |
|                        | 6.56-6.96               | 12.5            | 12                  | 264-66312-010       | 264-66312-012       | 264-66312-014     | 264-66312-015     |                    | 167-177             | 317         | 5.4                |
|                        | 6.56-6.96               | 15              | 15                  | 264-66315-010       | 264-66315-012       | 264-66315-014     | 264-66315-015     |                    | 167-177             | 381         | 6.8                |
| 6                      | 6.84-7.24               | 7.5             | 7                   | 264-69007-010       | 264-69007-012       | 264-69007-014     | 264-69007-015     | 150                | 174-184             | 190         | 3.2                |
|                        | 6.84-7.24               | 10              | 10                  | 264-69010-010       | 264-69010-012       | 264-69010-014     | 264-69010-015     |                    | 174-184             | 254         | 4.5                |
|                        | 6.84-7.24               | 12.5            | 12                  | 264-69012-010       | 264-69012-012       | 264-69012-014     | 264-69012-015     |                    | 174-184             | 317         | 5.4                |
|                        | 6.84-7.24               | 15              | 15                  | 264-69015-010       | 264-69015-012       | 264-69015-014     | 264-69015-015     |                    | 174-184             | 381         | 6.8                |
| 8                      | 8.54-8.94               | 7.5             | 9                   | 264-86307-010       | 264-86307-012       | 264-86307-014     | 264-86307-015     | 200                | 217-227             | 190         | 4.1                |
|                        | 8.54-8.94               | 10              | 11                  | 264-86310-010       | 264-86310-012       | 264-86310-014     | 264-86310-015     |                    | 217-227             | 254         | 5.0                |
|                        | 8.54-8.94               | 12.5            | 14                  | 264-86312-010       | 264-86312-012       | 264-86312-014     | 264-86312-015     |                    | 217-227             | 317         | 6.4                |
|                        | 8.54-8.94               | 15              | 17                  | 264-86315-010       | 264-86315-012       | 264-86315-014     | 264-86315-015     |                    | 217-227             | 381         | 7.7                |
| 8                      | 8.99-9.39               | 7.5             | 9                   | 264-90507-010       | 264-90507-012       | 264-90507-014     | 264-90507-015     | 200                | 225-239             | 190         | 4.1                |
|                        | 8.99-9.39               | 10              | 12                  | 264-90510-010       | 264-90510-012       | 264-90510-014     | 264-90510-015     |                    | 225-239             | 254         | 5.4                |
|                        | 8.99-9.39               | 12.5            | 15                  | 264-90512-010       | 264-90512-012       | 264-90512-014     | 264-90512-015     |                    | 225-239             | 317         | 6.8                |
|                        | 8.99-9.39               | 15              | 17                  | 264-90515-010       | 264-90515-012       | 264-90515-014     | 264-90515-015     |                    | 225-239             | 381         | 7.7                |



# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Double Band

# 265



**Description:** A double-band clamp designed to provide 360° pressure and complete leak repair

**Application:** For leaks at service outlets.

## Key Features:

- Standard widths 7.5" through 30"
- Can be used to repair pipe or join pipe ends
- Can be manufactured to odd size pipe O.D.'s
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- A wide variety of outlet sizes and thread types available to meet demand
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Range up to .80"
- Larger clamps have a greater range to help reduce inventory

## Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals.

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Copper, Fiberglass and other types of pipes.

\*HDPE applications require clamps with spring washers.

**Sizes (in inches):** 4, 6, 8, 10, 12. ¾", 1" NPT and CC. 1¼", 1½", and 2" NPT. 2" CC

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES |
|-------------------|-----------------|------------|
| 7.5               | 4               | 5/8" x 7"  |
| 10                | 6               |            |
| 12.5              | 6               |            |
| 15                | 8               |            |



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



265

# Tapped Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Double Band

3/4" and 1" NPT and CC Taps

| STANDARD            |                   |              |                     | 3/4" NPT<br>20 MM | 3/4" CC<br>20 MM  | 1" NPT<br>25 MM   | 1" CC<br>25 MM    | METRIC             |                     |             |                    |
|---------------------|-------------------|--------------|---------------------|-------------------|-------------------|-------------------|-------------------|--------------------|---------------------|-------------|--------------------|
| NOM.<br>SIZE<br>IN. | O.D.<br>RANGE IN. | WIDTH<br>IN. | WT.<br>EACH<br>LBS. | CATALOG<br>NUMBER | CATALOG<br>NUMBER | CATALOG<br>NUMBER | CATALOG<br>NUMBER | NOM.<br>SIZE<br>MM | O.D.<br>RANGE<br>MM | WIDTH<br>MM | WT.<br>EACH<br>KG. |
| 4                   | 4.44-5.24         | 7.5          | 11                  | 265-045007-006    | 265-045007-007    | 265-045007-008    | 265-045007-009    | 100                | 113-133             | 190         | 4.5                |
|                     | 4.44-5.24         | 10           | 13                  | 265-045010-006    | 265-045010-007    | 265-045010-008    | 265-045010-009    |                    | 113-133             | 254         | 5.9                |
|                     | 4.44-5.24         | 12.5         | 16                  | 265-045012-006    | 265-045012-007    | 265-045012-008    | 265-045012-009    |                    | 113-133             | 317         | 7.3                |
|                     | 4.44-5.24         | 15           | 19                  | 265-045015-006    | 265-045015-007    | 265-045015-008    | 265-045015-009    |                    | 113-133             | 381         | 8.6                |
| 6                   | 6.62-7.42         | 7.5          | 12                  | 265-066307-006    | 265-066307-007    | 265-066307-008    | 265-066307-009    | 150                | 168-189             | 190         | 5.4                |
|                     | 6.62-7.42         | 10           | 16                  | 265-066310-006    | 265-066310-007    | 265-066310-008    | 265-066310-009    |                    | 168-189             | 254         | 7.3                |
|                     | 6.62-7.42         | 12.5         | 19                  | 265-066312-006    | 265-066312-007    | 265-066312-008    | 265-066312-009    |                    | 168-189             | 317         | 8.6                |
|                     | 6.62-7.42         | 15           | 23                  | 265-066315-006    | 265-066315-007    | 265-066315-008    | 265-066315-009    |                    | 168-189             | 381         | 10.4               |
| 6                   | 6.84-7.64         | 7.5          | 12                  | 265-069007-006    | 265-069007-007    | 265-069007-008    | 265-069007-009    | 150                | 174-194             | 190         | 5.4                |
|                     | 6.84-7.64         | 10           | 16                  | 265-069010-006    | 265-069010-007    | 265-069010-008    | 265-069010-009    |                    | 174-194             | 254         | 7.3                |
|                     | 6.84-7.64         | 12.5         | 19                  | 265-069012-006    | 265-069012-007    | 265-069012-008    | 265-069012-009    |                    | 174-194             | 317         | 8.6                |
|                     | 6.84-7.64         | 15           | 23                  | 265-069015-006    | 265-069015-007    | 265-069015-008    | 265-069015-009    |                    | 174-194             | 381         | 10.4               |
| 8                   | 8.62-9.42         | 7.5          | 13                  | 265-086307-006    | 265-086307-007    | 265-086307-008    | 265-086307-009    | 200                | 219-239             | 190         | 5.9                |
|                     | 8.62-9.42         | 10           | 17                  | 265-086310-006    | 265-086310-007    | 265-086310-008    | 265-086310-009    |                    | 219-239             | 254         | 7.7                |
|                     | 8.62-9.42         | 12.5         | 21                  | 265-086312-006    | 265-086312-007    | 265-086312-008    | 265-086312-009    |                    | 219-239             | 317         | 9.5                |
|                     | 8.62-9.42         | 15           | 25                  | 265-086315-006    | 265-086315-007    | 265-086315-008    | 265-086315-009    |                    | 219-239             | 381         | 11.3               |
| 8                   | 8.99-9.79         | 7.5          | 17                  | 265-090507-006    | 265-090507-007    | 265-090507-008    | 265-090507-009    | 200                | 229-248             | 190         | 7.7                |
|                     | 8.99-9.79         | 10           | 21                  | 265-090510-006    | 265-090510-007    | 265-090510-008    | 265-090510-009    |                    | 229-248             | 254         | 9.5                |
|                     | 8.99-9.79         | 12.5         | 25                  | 265-090512-006    | 265-090512-007    | 265-090512-008    | 265-090512-009    |                    | 229-248             | 317         | 11.3               |
|                     | 8.99-9.79         | 15           | 26                  | 265-090515-006    | 265-090515-007    | 265-090515-008    | 265-090515-009    |                    | 229-248             | 381         | 11.8               |
| 10                  | 10.75-11.55       | 10           | 23                  | 265-107510-006    | 265-107510-007    | 265-107510-008    | 265-107510-009    | 250                | 273-293             | 254         | 10.4               |
|                     | 10.75-11.55       | 12.5         | 27                  | 265-107512-006    | 265-107512-007    | 265-107512-008    | 265-107512-009    |                    | 273-293             | 317         | 12.2               |
|                     | 10.75-11.55       | 15           | 33                  | 265-107515-006    | 265-107515-007    | 265-107515-008    | 265-107515-009    |                    | 273-293             | 381         | 15.0               |
| 10                  | 11.10-11.90       | 10           | 23                  | 265-111010-006    | 265-111010-007    | 265-111010-008    | 265-111010-009    | 250                | 282-302             | 254         | 10.4               |
|                     | 11.10-11.90       | 12.5         | 28                  | 265-111012-006    | 265-111012-007    | 265-111012-008    | 265-111012-009    |                    | 282-302             | 317         | 12.7               |
|                     | 11.10-11.90       | 15           | 34                  | 265-111015-006    | 265-111015-007    | 265-111015-008    | 265-111015-009    |                    | 282-302             | 381         | 15.4               |
| 12                  | 12.75-13.55       | 10           | 25                  | 265-127510-006    | 265-127510-007    | 265-127510-008    | 265-127510-009    | 300                | 324-344             | 254         | 11.3               |
|                     | 12.75-13.55       | 12.5         | 29                  | 265-127512-006    | 265-127512-007    | 265-127512-008    | 265-127512-009    |                    | 324-344             | 317         | 13.2               |
|                     | 12.75-13.55       | 15           | 37                  | 265-127515-006    | 265-127515-007    | 265-127515-008    | 265-127515-009    |                    | 324-344             | 381         | 16.8               |
| 12                  | 13.20-14.00       | 10           | 25                  | 265-132010-006    | 265-132010-007    | 265-132010-008    | 265-132010-009    | 300                | 335-355             | 254         | 11.3               |
|                     | 13.20-14.00       | 12.5         | 29                  | 265-132012-006    | 265-132012-007    | 265-132012-008    | 265-132012-009    |                    | 335-355             | 317         | 13.2               |
|                     | 13.20-14.00       | 15           | 37                  | 265-132015-006    | 265-132015-007    | 265-132015-008    | 265-132015-009    |                    | 335-355             | 381         | 17.7               |

NOTE: Additional widths, OD ranges and tap sizes available upon request.



## 1¼", 1½" and 2" NPT Taps, and 2" CC Taps

| STANDARD            |                         |              |                     | 1 1/4" NPT<br>32 MM | 1 1/2" NPT<br>38 MM | 2" NPT<br>50 MM   | 2" CC<br>50 MM    | METRIC             |                     |             |                    |
|---------------------|-------------------------|--------------|---------------------|---------------------|---------------------|-------------------|-------------------|--------------------|---------------------|-------------|--------------------|
| NOM.<br>SIZE<br>IN. | O.D.<br>RANGE<br>INCHES | WIDTH<br>IN. | WT.<br>EACH<br>LBS. | CATALOG<br>NUMBER   | CATALOG<br>NUMBER   | CATALOG<br>NUMBER | CATALOG<br>NUMBER | NOM.<br>SIZE<br>MM | O.D.<br>RANGE<br>MM | WIDTH<br>MM | WT.<br>EACH<br>KG. |
| 4                   | 4.44-5.24               | 7.5          | 10                  | 265-045007-010      | 265-045007-012      | 265-045007-014    | 265-045007-015    | 100                | 113-133             | 190         | 4.5                |
|                     | 4.44-5.24               | 10           | 13                  | 265-045010-010      | 265-045010-012      | 265-045010-014    | 265-045010-015    |                    | 113-133             | 254         | 5.9                |
|                     | 4.44-5.24               | 12.5         | 16                  | 265-045012-010      | 265-045012-012      | 265-045012-014    | 265-045012-015    |                    | 113-133             | 317         | 7.3                |
|                     | 4.44-5.24               | 15           | 19                  | 265-045015-010      | 265-045015-012      | 265-045015-014    | 265-045015-015    |                    | 113-133             | 381         | 8.6                |
| 6                   | 6.62-7.42               | 7.5          | 12                  | 265-066307-010      | 265-066307-012      | 265-066307-014    | 265-066307-015    | 150                | 168-189             | 190         | 5.4                |
|                     | 6.62-7.42               | 10           | 16                  | 265-066310-010      | 265-066310-012      | 265-066310-014    | 265-066310-015    |                    | 168-189             | 254         | 7.3                |
|                     | 6.62-7.42               | 12.5         | 19                  | 265-066312-010      | 265-066312-012      | 265-066312-014    | 265-066312-015    |                    | 168-189             | 317         | 8.6                |
|                     | 6.62-7.42               | 15           | 23                  | 265-066315-010      | 265-066315-012      | 265-066315-014    | 265-066315-015    |                    | 168-189             | 381         | 10.4               |
| 6                   | 6.84-7.64               | 7.5          | 12                  | 265-069007-010      | 265-069007-012      | 265-069007-014    | 265-069007-015    | 150                | 174-194             | 190         | 5.4                |
|                     | 6.84-7.64               | 10           | 16                  | 265-069010-010      | 265-069010-012      | 265-069010-014    | 265-069010-015    |                    | 174-194             | 254         | 7.3                |
|                     | 6.84-7.64               | 12.5         | 19                  | 265-069012-010      | 265-069012-012      | 265-069012-014    | 265-069012-015    |                    | 174-194             | 317         | 8.6                |
|                     | 6.84-7.64               | 15           | 23                  | 265-069015-010      | 265-069015-012      | 265-069015-014    | 265-069015-015    |                    | 174-194             | 381         | 10.4               |
| 8                   | 8.62-9.42               | 7.5          | 13                  | 265-086307-010      | 265-086307-012      | 265-086307-014    | 265-086307-015    | 200                | 219-239             | 190         | 5.9                |
|                     | 8.62-9.42               | 10           | 17                  | 265-086310-010      | 265-086310-012      | 265-086310-014    | 265-086310-015    |                    | 219-239             | 254         | 7.7                |
|                     | 8.62-9.42               | 12.5         | 21                  | 265-086312-010      | 265-086312-012      | 265-086312-014    | 265-086312-015    |                    | 219-239             | 317         | 9.5                |
|                     | 8.62-9.42               | 15           | 25                  | 265-086315-010      | 265-086315-012      | 265-086315-014    | 265-086315-015    |                    | 219-239             | 381         | 11.3               |
| 8                   | 8.99-9.79               | 7.5          | 17                  | 265-090507-010      | 265-090507-012      | 265-090507-014    | 265-090507-015    | 200                | 229-248             | 190         | 7.7                |
|                     | 8.99-9.79               | 10           | 21                  | 265-090510-010      | 265-090510-012      | 265-090510-014    | 265-090510-015    |                    | 229-248             | 254         | 9.5                |
|                     | 8.99-9.79               | 12.5         | 25                  | 265-090512-010      | 265-090512-012      | 265-090512-014    | 265-090512-015    |                    | 229-248             | 317         | 11.3               |
|                     | 8.99-9.79               | 15           | 26                  | 265-090515-010      | 265-090515-012      | 265-090515-014    | 265-090515-015    |                    | 229-248             | 381         | 11.8               |
| 10                  | 10.75-11.55             | 10           | 23                  | 265-107510-010      | 265-107510-012      | 265-107510-014    | 265-107510-015    | 250                | 273-293             | 254         | 10.4               |
|                     | 10.75-11.55             | 12.5         | 27                  | 265-107512-010      | 265-107512-012      | 265-107512-014    | 265-107512-015    |                    | 273-293             | 317         | 12.2               |
|                     | 10.75-11.55             | 15           | 33                  | 265-107515-010      | 265-107515-012      | 265-107515-014    | 265-107515-015    |                    | 273-293             | 381         | 15.0               |
| 10                  | 11.10-11.90             | 10           | 23                  | 265-111010-010      | 265-111010-012      | 265-111010-014    | 265-111010-015    | 250                | 282-302             | 254         | 10.4               |
|                     | 11.10-11.90             | 12.5         | 28                  | 265-111012-010      | 265-111012-012      | 265-111012-014    | 265-111012-015    |                    | 282-302             | 317         | 12.7               |
|                     | 11.10-11.90             | 15           | 34                  | 265-111015-010      | 265-111015-012      | 265-111015-014    | 265-111015-015    |                    | 282-302             | 381         | 15.4               |
| 12                  | 12.75-13.55             | 10           | 25                  | 265-127510-010      | 265-127510-012      | 265-127510-014    | 265-127510-015    | 300                | 324-344             | 254         | 11.3               |
|                     | 12.75-13.55             | 12.5         | 29                  | 265-127512-010      | 265-127512-012      | 265-127512-014    | 265-127512-015    |                    | 324-344             | 317         | 13.2               |
|                     | 12.75-13.55             | 15           | 37                  | 265-127515-010      | 265-127515-012      | 265-127515-014    | 265-127515-015    |                    | 324-344             | 381         | 16.8               |
| 12                  | 13.20-14.00             | 10           | 25                  | 265-132010-010      | 265-132010-012      | 265-132010-014    | 265-132010-015    | 300                | 335-355             | 254         | 11.3               |
|                     | 13.20-14.00             | 12.5         | 29                  | 265-132012-010      | 265-132012-012      | 265-132012-014    | 265-132012-015    |                    | 335-355             | 317         | 13.2               |
|                     | 13.20-14.00             | 15           | 37                  | 265-132015-010      | 265-132015-012      | 265-132015-014    | 265-132015-015    |                    | 335-355             | 381         | 17.7               |

NOTE: Additional widths, OD ranges and tap sizes available upon request.



# Higher Pressure Full Circle® Repair Clamp

## Fabricated Lugs, Multi-Band

# 267



**Description:** A multi-band clamp designed to provide 360° pressure and complete leak repair

**Application:** Repair holes, cracks and other damage to Cast Iron, Steel and other types of rigid pipe at higher pressures.

### Key Features:

- No special tools required to install clamp
- 360° seal around the pipe for complete coverage
- Lighter and easier to install than comparable Cast Iron repair sleeves
- Higher pressure rating than standard band clamps for more pressure range coverage

### Materials Specifications (subject to change)

**BODY:** Carbon Steel ASTM A 285 Grade A ASTM A 283 Grade C or **Optional All 304 Stainless Steel**

**GASKET:** Nitrile (Buna N) compounded to produce superior and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon and other chemicals

**Temperature Range:** -20°F to 180°F

**BOLTS & NUTS:** High strength, low alloy electrogalvanized steel with heavy semi-finished hexagon nuts to STM A-307 (ANSI A21.11) standards. **Optional 304 Stainless Steel nuts, Fluoropolymer coated to prevent galling**

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** 4.50"-14.25" is up to 225 PSI and 15.30"-25.80" is up to 75 PSI

**Pipe Applications:** Cast Iron, Asbestos Cement, Plastic, Steel, Fiberglass and other types of pipes

**Sizes (in inches):** 4, 6, 8, 8-10, 10, 10-12, 12, 12-14, 14-16, 16-18, 18-20, 20, 24, 24-26

**NOTE:** Larger sizes and higher pressures available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Higher Pressure Full Circle<sup>®</sup> Repair Clamp

All Stainless Steel, Fabricated Lugs, Multi-Band

# 268



**Description:** A multi-band clamp designed to provide seal and complete leak repair.

**Application:** Repair holes, cracks and other damage to Cast & Ductile Iron, Steel and other types of rigid pipe at higher pressures.

### Key Features:

- No special tools required to install clamp
- 360° seal around the pipe for complete coverage
- Lighter and easier to install than comparable Cast Iron repair sleeves
- Higher pressure rating than standard band clamps for more pressure range coverage

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 304 Stainless Steel

**GASKET:** Nitrile (Buna N) compounded to produce superior and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon and other chemicals

**Temperature Range:** -20° F to 180° F

**BOLTS & NUTS:** 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are fluoropolymer coated to prevent galling

**Working Pressure:** 4.50-14.56 is 225 PSI, 15.30-17.30 is 150 PSI, and 18.60-26.60 is 75 PSI.

**Pipe Applications:** Cast & Ductile Iron, Asbestos Cement, PVC, HDPE\*, Steel, Fiberglass and other types of pipes. *For other pipe materials, please contact Smith-Blair Engineering.*

*\*HDPE applications require clamps with spring washers.*

**Sizes (in inches):** 4, 6, 8, 8-10, 10, 10-12, 12, 12-14, 14-16, 16-18, 18-20, 20, 24, 24-26

**NOTE:** Larger sizes available upon request.

267-268

# Higher Pressure Full Circle® Repair Clamp

## 267 Pressure Rating

| SIZE O.D. INCHES | WORKING PRESSURE |
|------------------|------------------|
| 4.50-14.25       | 225              |
| 15.30-25.80      | 75               |

## 268 Pressure Rating

| SIZE O.D. INCHES | WORKING PRESSURE |
|------------------|------------------|
| 4.50-14.56       | 225              |
| 15.30-17.00      | 150              |
| 18.00-26.60      | 75               |

| NOM. SIZE INCHES | O.D. RANGE INCHES | 267  |          |                    | 268   |           |                    | 268 CATALOG                                     |          |                    |
|------------------|-------------------|--|----------|--------------------|---|-----------|--------------------|---|----------|--------------------|
|                  |                   | CATALOG NUMBER CARBON STEEL BODY REMOVABLE BOLTS | WIDTH IN | EST. WT. EACH LBS. | CATALOG NUMBER STAINLESS STEEL BODY REMOVABLE BOLTS | WIDTH IN. | EST. WT. EACH LBS. | NUMBER STAINLESS STEEL BODY NON-REMOVABLE BOLTS | WIDTH IN | EST. WT. EACH LBS. |
| 4                | 4.46-4.86         | 267-00048012-000                                 | 12       | 23                 | 268-00048012-100                                    | 12        | 23                 | 268-00048015-000                                | 15       | 21                 |
| 6                | 6.59-6.99         | 267-00066312-000                                 | 12       | 41                 | 268-00066312-100                                    | 12        | 41                 | 268-00066315-000                                | 15       | 36                 |
|                  | 6.84-7.30         | 267-00069012-000                                 | 12       | 42                 | 268-00069012-100                                    | 12        | 42                 | 268-00069015-000                                | 15       | 36                 |
| 8-10             | 7.90-8.30         | 267-00080012-000                                 | 12       | 47                 | 268-00080012-100                                    | 12        | 47                 | 268-00080015-000                                | 15       | 41                 |
| 8-10             | 8.62-9.06         | 267-00086312-000                                 | 12       | 48                 | 268-00086312-100                                    | 12        | 48                 | 268-00086315-000                                | 15       | 41                 |
|                  | 8.62-9.06         | 267-00086316-000                                 | 16       | 64                 | 268-00086316-100                                    | 16        | 64                 | 268-00086320-000                                | 20       | 57                 |
| 8-10             | 8.99-9.45         | 267-00090512-000                                 | 12       | 48                 | 268-00090512-100                                    | 12        | 48                 | 268-00090515-000                                | 15       | 42                 |
|                  | 8.99-9.45         | 267-00090516-000                                 | 16       | 65                 | 268-00090516-100                                    | 16        | 65                 | 268-00090520-000                                | 20       | 58                 |
| 8-10             | 9.20-9.60         | 267-00094512-000                                 | 12       | 48                 | 268-00094512-100                                    | 12        | 48                 | 268-00094515-000                                | 15       | 42                 |
|                  | 9.20-9.60         | 267-00094516-000                                 | 16       | 65                 | 268-00094516-100                                    | 16        | 65                 | 268-00094520-000                                | 20       | 58                 |
| 8-10             | 9.60-10.00        | 267-00096512-000                                 | 12       | 48                 | 268-00096512-100                                    | 12        | 48                 | 268-00096515-000                                | 15       | 43                 |
|                  | 9.60-10.00        | 267-00096516-000                                 | 16       | 65                 | 268-00096516-100                                    | 16        | 65                 | 268-00096520-000                                | 20       | 58                 |
| 10-12            | 9.90-10.30        | 267-00100012-000                                 | 12       | 50                 | 268-00100012-100                                    | 12        | 50                 | 268-00100015-000                                | 15       | 47                 |
|                  | 9.90-10.30        | 267-00100016-000                                 | 16       | 67                 | 268-00100016-100                                    | 16        | 67                 | 268-00100020-000                                | 20       | 60                 |
| 10-12            | 10.73-11.13       | 267-00107512-000                                 | 12       | 50                 | 268-00107512-100                                    | 12        | 50                 | 268-00107515-000                                | 15       | 47                 |
|                  | 10.73-11.13       | 267-00107516-000                                 | 16       | 67                 | 268-00107516-100                                    | 16        | 67                 | 268-00107520-000                                | 20       | 62                 |
|                  | 10.73-11.13       | 267-00107520-000                                 | 20       | 83                 | 268-00107520-100                                    | 20        | 83                 | 268-00107525-000                                | 25       | 77                 |
| 10-12            | 11.05-11.45       | 267-00111012-000                                 | 12       | 56                 | 268-00111012-100                                    | 12        | 56                 | 268-00111015-000                                | 15       | 51                 |
|                  | 11.05-11.45       | 267-00111016-000                                 | 16       | 70                 | 268-00111016-100                                    | 16        | 70                 | 268-00111020-000                                | 20       | 65                 |
|                  | 11.05-11.45       | 267-00111020-000                                 | 20       | 89                 | 268-00111020-100                                    | 20        | 89                 | 268-00111025-000                                | 25       | 80                 |
| 10-12            | 11.70-12.10       | 267-00117512-000                                 | 12       | 60                 | 268-00117512-100                                    | 12        | 60                 | 268-00117515-000                                | 15       | 55                 |
|                  | 11.70-12.10       | 267-00117516-000                                 | 16       | 80                 | 268-00117516-100                                    | 16        | 80                 | 268-00117520-000                                | 20       | 75                 |
|                  | 11.70-12.10       | 267-00117520-000                                 | 20       | 100                | 268-00117520-100                                    | 20        | 100                | 268-00117525-000                                | 25       | 91                 |
| 12-14            | 12.00-12.40       | 267-00120012-000                                 | 12       | 60                 | 268-00120012-100                                    | 12        | 60                 | 268-00120015-000                                | 15       | 55                 |
|                  | 12.00-12.40       | 267-00120016-000                                 | 16       | 80                 | 268-00120016-100                                    | 16        | 80                 | 268-00120020-000                                | 20       | 75                 |
|                  | 12.00-12.40       | 267-00120020-000                                 | 20       | 100                | 268-00120020-100                                    | 20        | 100                | 268-00120025-000                                | 25       | 91                 |
| 12-14            | 12.50-12.90       | 267-00127512-000                                 | 12       | 62                 | 268-00127512-100                                    | 12        | 62                 | 268-00127515-000                                | 15       | 57                 |
|                  | 12.50-12.90       | 267-00127516-000                                 | 16       | 82                 | 268-00127516-100                                    | 16        | 82                 | 268-00127520-000                                | 20       | 77                 |
|                  | 12.50-12.90       | 267-00127520-000                                 | 20       | 102                | 268-00127520-100                                    | 20        | 102                | 268-00127525-000                                | 25       | 93                 |
| 12-14            | 13.16-13.56       | 267-00132012-000                                 | 12       | 63                 | 268-00132012-100                                    | 12        | 63                 | 268-00132015-000                                | 15       | 58                 |
|                  | 13.16-13.56       | 267-00132016-000                                 | 16       | 83                 | 268-00132016-100                                    | 16        | 83                 | 268-00132020-000                                | 20       | 78                 |
|                  | 13.16-13.56       | 267-00132020-000                                 | 20       | 103                | 268-00132020-100                                    | 20        | 103                | 268-00132025-000                                | 25       | 94                 |

| NOM. SIZE INCHES | O.D. RANGE INCHES | 267 CATALOG NUMBER CARBON STEEL BODY REMOVABLE BOLTS |                    |                | 268 CATALOG NUMBER STAINLESS STEEL BODY REMOVABLE BOLTS |                    |                | 268 CATALOG NUMBER STAINLESS STEEL BODY NON-REMOVABLE BOLTS |                    |     |
|------------------|-------------------|--|--------------------|----------------|---|--------------------|----------------|---|--------------------|-----|
|                  |                   | WIDTH IN   | EST. WT. EACH LBS. | CATALOG NUMBER | WIDTH IN.   | EST. WT. EACH LBS. | CATALOG NUMBER | WIDTH IN  | EST. WT. EACH LBS. |     |
| 12-14            | 13.60-14.09       | 267-00138212-000                                     | 12                 | 64             | 268-00138212-100  | 12                 | 64             | 268-00138215-000  | 15                 | 59  |
|                  | 13.60-14.09       | 267-00138216-000                                     | 16                 | 84             | 268-00138216-100  | 16                 | 84             | 268-00138220-000  | 20                 | 79  |
|                  | 13.60-14.09       | 267-00138220-000                                     | 20                 | 104            | 268-00138220-100  | 20                 | 104            | 268-00138225-000  | 25                 | 95  |
| 12-14            | 14.10-14.58       | 267-00142512-000                                     | 12                 | 65             | 268-00142512-100  | 12                 | 65             | 268-00142515-000  | 15                 | 60  |
|                  | 14.10-14.58       | 267-00142516-000                                     | 16                 | 86             | 268-00142516-100  | 16                 | 86             | 268-00142520-000  | 20                 | 81  |
|                  | 14.10-14.58       | 267-00142520-000                                     | 20                 | 107            | 268-00142520-100  | 20                 | 107            | 268-00142525-000  | 25                 | 98  |
| 14-16            | 15.30-15.80       | 267-00153012-000                                     | 12                 | 68             | 268-00153012-100  | 12                 | 68             | 268-00153015-000  | 15                 | 63  |
|                  | 15.30-15.80       | 267-00153016-000                                     | 16                 | 91             | 268-00153016-100  | 16                 | 91             | 268-00153020-000  | 20                 | 86  |
|                  | 15.30-15.80       | 267-00153020-000                                     | 20                 | 113            | 268-00153020-100  | 20                 | 113            | 268-00153025-000  | 25                 | 104 |
| 14-16            | 15.80-16.30       | 267-00160012-000                                     | 12                 | 70             | 268-00160012-100  | 12                 | 70             | 268-00160015-000  | 15                 | 65  |
|                  | 15.80-16.30       | 267-00160016-000                                     | 16                 | 93             | 268-00160016-100  | 16                 | 93             | 268-00160020-000  | 20                 | 88  |
|                  | 15.80-16.30       | 267-00160020-000                                     | 20                 | 116            | 268-00160020-100  | 20                 | 116            | 268-00160025-000  | 25                 | 107 |
| 14-16            | 16.40-16.80       | 267-00164012-000                                     | 12                 | 71             | 268-00164012-100  | 12                 | 71             | 268-00164015-000  | 15                 | 56  |
|                  | 16.40-16.80       | 267-00164016-000                                     | 16                 | 94             | 268-00164016-100  | 16                 | 94             | 268-00164020-000  | 20                 | 89  |
|                  | 16.40-16.80       | 267-00164020-000                                     | 20                 | 117            | 268-00164020-100  | 20                 | 117            | 268-00164025-000  | 25                 | 108 |
| 16-18            | 17.40-17.80       | 267-00174012-000                                     | 12                 | 74             | 268-00174012-100  | 12                 | 74             | 268-00174015-000  | 15                 | 71  |
|                  | 17.40-17.80       | 267-00174016-000                                     | 16                 | 96             | 268-00174016-100  | 16                 | 96             | 268-00174020-000  | 20                 | 91  |
|                  | 17.40-17.80       | 267-00174020-000                                     | 20                 | 119            | 268-00174020-100  | 20                 | 119            | 268-00174025-000  | 25                 | 110 |
| 16-18            | 18.60-19.20       | 267-00187012-000                                     | 12                 | 76             | 268-00187012-100  | 12                 | 76             | 268-00187015-000  | 15                 | 73  |
|                  | 18.60-19.20       | 267-00187016-000                                     | 16                 | 96             | 268-00187016-100  | 16                 | 96             | 268-00187020-000  | 20                 | 93  |
|                  | 18.60-19.20       | 267-00187020-000                                     | 20                 | 121            | 268-00187020-100  | 20                 | 121            | 268-00187025-000  | 25                 | 112 |
| 18-20            | 19.50-20.10       | 267-00195012-000                                     | 12                 | 78             | 268-00195012-100  | 12                 | 78             | 268-00195015-000  | 15                 | 75  |
|                  | 19.50-20.10       | 267-00195016-000                                     | 16                 | 100            | 268-00195016-100  | 16                 | 100            | 268-00195020-000  | 20                 | 97  |
|                  | 19.50-20.10       | 267-00195020-000                                     | 20                 | 125            | 268-00195020-100  | 20                 | 125            | 268-00195025-000  | 25                 | 116 |
| 18-20            | 20.90-21.59       | 267-00209012-000                                     | 12                 | 80             | 268-00209012-100  | 12                 | 80             | 268-00209015-000  | 15                 | 77  |
|                  | 20.90-21.59       | 267-00209016-000                                     | 16                 | 105            | 268-00209016-100  | 16                 | 105            | 268-00209020-000  | 20                 | 102 |
|                  | 20.90-21.59       | 267-00209020-000                                     | 20                 | 130            | 268-00209020-100  | 25                 | 130            | 268-00209025-000  | 25                 | 121 |
| 20               | 21.60-22.40       | 267-00216012-000                                     | 12                 | 83             | 268-00216012-100  | 12                 | 83             | 268-00216015-000  | 15                 | 80  |
|                  | 21.60-22.40       | 267-00216016-000                                     | 16                 | 109            | 268-00216016-100  | 16                 | 109            | 268-00216020-000  | 20                 | 106 |
|                  | 21.60-22.40       | 267-00216020-000                                     | 20                 | 132            | 268-00216020-100  | 20                 | 132            | 268-00216025-000  | 25                 | 123 |
| 24               | 23.50-24.20       | 267-00235012-000                                     | 12                 | 86             | 268-00235012-100  | 12                 | 86             | 268-00235015-000  | 15                 | 83  |
|                  | 23.50-24.20       | 267-00235016-000                                     | 16                 | 115            | 268-00235016-100  | 16                 | 115            | 268-00235020-000  | 20                 | 112 |
|                  | 23.50-24.20       | 267-00235020-000                                     | 20                 | 140            | 268-00235020-100  | 20                 | 140            | 268-00235025-000  | 25                 | 131 |
| 24-26            | 25.80-26.60       | 267-00258012-000                                     | 12                 | 89             | 268-00258012-100  | 12                 | 89             | 268-00258015-000  | 15                 | 86  |
|                  | 25.80-26.60       | 267-00258016-000                                     | 16                 | 119            | 268-00258016-100  | 16                 | 119            | 268-00258020-000  | 20                 | 116 |
|                  | 25.80-26.60       | 267-00258020-000                                     | 20                 | 147            | 268-00258020-100  | 20                 | 147            | 268-00258025-000  | 25                 | 138 |



# Full Circle<sup>®</sup> Collar Leak Clamp

All Stainless Steel, Single Band

# 269



**Description:** Single band clamp used leaking solvent welds on PVC

**Application:** Leaking solvent weld joints on PVC and most threaded Steel couplings.

### Key Features:

- Designed for "hot" soils
- Standard widths 7.5" through 15"
- Step gasket seals against the face of solvent weld bell to stop the leak
- Use on leaking solvent weld PVC joints and most threaded Steel couplings
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation

### Materials Specifications (subject to change)

BAND: 304 Stainless Steel

LUGS: 304 Stainless Steel

KEEPER BARS: 304 Stainless Steel

GASKET: Nitrile (Buna N) to produce superior storage and performance characteristics while resisting water, acids, alkalis, most aliphatic hydrocarbon and other chemicals

Temperature Range: -20°F to +180°F

BRIDGE PLATE: 304 Stainless Steel recessed flush and bonded to gasket

STUD BOLTS: 304 Stainless Steel Epoxy coated

NUTS: Fluoropolymer coated to prevent galling

**Working Pressure:** 150 PSI

**Pipe Applications:** PVC and Steel. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2, 2½, 3, 3½, 4, 5, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



269

# Full Circle<sup>®</sup> Collar Leak Clamp

All Stainless Steel, Single Band

## Bolt Numbers

| BAND WIDTH INCHES | NUMBER OF STUDS | STUD SIZES |
|-------------------|-----------------|------------|
| 7.5               | 2               | 5/8" x 7"  |

| NOM. SIZE INCHES | O.D. RANGE INCHES | WIDTH INCHES | WT. EACH LBS. | CATALOG NUMBER   | NOM. SIZE MM | O.D. RANGE MM | WIDTH MM | WT. EACH KG. |
|------------------|-------------------|--------------|---------------|------------------|--------------|---------------|----------|--------------|
| 2                | 2.38              | 7.5          | 5             | 269-00023807-000 | 50           | 60-67         | 190      | 2.3          |
| 2.5              | 2.88              | 7.5          | 5             | 269-00028807-000 | 65           | 70-77         | 190      | 2.3          |
| 3                | 3.50              | 7.5          | 5             | 269-00035007-000 | 80           | 88-93         | 190      | 2.3          |
| 3.5              | 4.00              | 7.5          | 6             | 269-00040007-000 | 90           | 101-107       | 190      | 2.7          |
| 4                | 4.50              | 7.5          | 6             | 269-00045007-000 | 100          | 114-124       | 190      | 2.7          |
| 5                | 5.56              | 7.5          | 7             | 269-00055607-000 | 125          | 132-143       | 190      | 3.2          |
| 6                | 6.63              | 7.5          | 8             | 269-00066307-000 | 150          | 167-177       | 190      | 3.6          |
| 8                | 8.63              | 7.5          | 9             | 269-00086307-000 | 200          | 217-227       | 190      | 4.1          |
| 10               | 10.75             | 7.5          | 10            | 269-00107507-000 | 250          | 273-280       | 190      | 4.5          |
| 12               | 12.75             | 7.5          | 11            | 269-00127507-000 | 300          | 323-330       | 190      | 5.0          |



# Bell Joint Leak Clamp

# 274

**Description:** Bell Joint Leak Clamp.

**Application:** Sealing and/or preventing leaks on Cast Iron bell and spigot caulked or rubber ring joints.

## Key Features:

- Designed to fit both caulked or rubber ring joints in virtually all classes and brands of Cast Iron or Ductile Iron pipe within same nominal size
- Suitable for use on C900 and C905 PVC through 24" with the use of longer bolts-DR 18 minimum
- Kee-Lok gasket design eliminates need for field cutting gaskets so the ends are easily joined—no need of staples, tongs, tape or other gadgets to hold the gasket ends together (not available in 14", 30" or 36")
- Flexi-Coat® Fusion-Bonded Epoxy finish standard for great corrosion resistance
- Can be used to prevent leaking bell gaskets as well as repairing them
- Can be installed without interrupting the flow of the pipeline
- Front and back pieces are interchangeable
- All Bell-Spigot pieces are identical, making installation easier

## Materials Specifications (subject to change)

BELL-SPIGOT RING: Ductile Iron per ASTM S36 or Carbon Steel on 14" size only—ASTM A36

GASKET: Nitrile (Buna N) – Compounded to resist oil, natural gas, acids, alkalis, most (aliphatic) hydrocarbon, water and other chemicals

BOLTS & NUTS: High strength, low alloy Steel with heavy, semi-finished hexagon nuts to ANSI-A21.11 standards. Two inch clamps have electrogalvanized Steel studs.

Temperature Range: -20°F to +180°F

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** 150 PSI (water).

**Pipe Applications:** Ductile Iron, Cast Iron

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.





# Bell Joint Leak Clamp

274

Ductile Iron Pipe and Short Bell C900 & C905 PVC (DR 18 minimum)

| STANDARD                 |                        |                  | (+ ) BOLTS |                  | CATALOG NUMBER  | METRIC               |               |                |
|--------------------------|------------------------|------------------|------------|------------------|-----------------|----------------------|---------------|----------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. RANGE INCHES | WEIGHT EACH LBS. | NO.        | BOLT SIZE INCHES |                 | NOMINAL PIPE SIZE MM | O.D. RANGE MM | WEIGHT EACH KG |
| 2                        | 2.50                   | 3                | 4          | 1/2 x 7          | 274-0000250-000 | 50                   | 64            | 1.4            |
| 3                        | 3.80-3.96              | 15               | 4          | 5/8 x 9          | 274-0000380-000 | 80                   | 97-100        | 6.8            |
| 4                        | 4.80-5.00              | 18               | 4          | 5/8 x 9          | 274-0000480-000 | 100                  | 122-127       | 8.2            |
| 6                        | 6.90-7.10              | 22               | 4          | 5/8 x 9          | 274-0000690-000 | 150                  | 175-180       | 10.0           |
| 8                        | 9.05-9.30              | 31               | 6          | 5/8 x 10 1/2     | 274-0000905-000 | 200                  | 230-236       | 14.1           |
| 10                       | 11.10-11.40            | 35               | 6          | 5/8 x 10 1/2     | 274-0001110-000 | 250                  | 282-289       | 15.9           |
| 12                       | 13.20-13.50            | 45               | 6          | 5/8 x 10 1/2     | 274-0001320-000 | 300                  | 336-342       | 20.4           |
| 14*•                     | 15.30                  | 52               | 8          | 5/8 x 11         | 274-0001530-000 | 350                  | 389           | 24.0           |
| 14*•                     | 15.65                  | 54               | 8          | 5/8 x 11         | 274-0001565-000 | 350                  | 398           | 25.0           |
| 16                       | 17.40-17.80            | 73               | 9          | 5/8 x 13         | 274-0001740-000 | 400                  | 442-452       | 33.1           |
| 18                       | 19.50-19.92            | 84               | 12         | 5/8 x 13         | 274-0001950-000 | 450                  | 495-505       | 38.1           |
| 20                       | 21.60-22.06            | 112              | 12         | 5/8 x 13         | 274-0002160-000 | 500                  | 549-560       | 50.8           |
| 24                       | 25.80-26.32            | 124              | 12         | 5/8 x 13         | 274-0002580-000 | 600                  | 655-668       | 56.3           |
| 30†•                     | 31.74-32.74            | 239              | 15         | 5/8 x 17         | 274-0003174-000 | 762                  | 806-832       | 108.6          |
| 36†•                     | 37.96-38.70            | 295              | 18         | 5/8 x 17         | 274-0003796-000 | 914                  | 964-983       | 134.1          |

\*Fabricated Carbon Steel. †Not recommended for PVC pipe. •Available with Bias Cut Gasket Only  
May be used on C900 & C905, Cast Iron pipe sizes. Longer bolts may be required (see below).

Ductile Iron Pipe and Longer Bell C900 & C905 PVC (DR 18 minimum)

| STANDARD                 |                        |                  | (+ ) BOLTS |                          | CATALOG NUMBER** | METRIC               |               |                |
|--------------------------|------------------------|------------------|------------|--------------------------|------------------|----------------------|---------------|----------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. RANGE INCHES | WEIGHT EACH LBS. | NO.        | BOLT OR STUD SIZE INCHES |                  | NOMINAL PIPE SIZE MM | O.D. RANGE MM | WEIGHT EACH KG |
| 4                        | 4.80-5.00              | 19               | 4          | 5/8 x 17                 | 274-4000480-500  | 100                  | 122-127       | 8.6            |
| 6                        | 6.90-7.10              | 23               | 4          | 5/8 x 17                 | 274-4000690-500  | 150                  | 175-180       | 10.4           |
| 8                        | 9.05-9.30              | 33               | 6          | 5/8 x 17                 | 274-3000905-500  | 200                  | 230-236       | 15.0           |
| 10                       | 11.10-11.40            | 37               | 6          | 5/8 x 17                 | 274-30001110-500 | 250                  | 282-289       | 16.8           |
| 12                       | 13.20-13.50            | 48               | 6          | 5/8 x 17                 | 274-30001320-500 | 300                  | 336-342       | 21.8           |
| 14*•                     | 15.30                  | 54               | 8          | 5/8 x 17                 | 274-30001530-500 | 350                  | 389           | 20.9           |
| 14*•                     | 15.65                  | 58               | 8          | 5/8 x 17                 | 274-30001565-500 | 350                  | 398           | 26.3           |
| 16                       | 17.40-17.80            | 78               | 9          | 5/8 x 25                 | 274-40001740-000 | 400                  | 442-452       | 35.4           |
| 18                       | 19.50-19.92            | 90               | 12         | 5/8 x 25                 | 274-40001950-000 | 450                  | 495-505       | 40.8           |
| 20                       | 21.60-22.06            | 118              | 12         | 5/8 x 25                 | 274-40002160-000 | 500                  | 549-560       | 53.5           |
| 24                       | 25.80-26.32            | 130              | 12         | 5/8 x 25                 | 274-40002580-000 | 600                  | 655-668       | 59.0           |
| 30†•                     | 31.74-32.74            | 245              | 15         | 5/8 x 27                 | 274-40003174-000 | 762                  | 806-832       | 111.1          |
| 36†•                     | 37.96-38.70            | 301              | 18         | 5/8 x 27                 | 274-40003796-000 | 914                  | 964-983       | 136.5          |

\*Fabricated Carbon Steel †Not recommended for PVC pipe. •Available with Bias Cut Gasket Only \*\*-500 end code = 12" of thread \*\*-000 end code = All thread.



# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

## 281



**Description:** A wide range repair clamp with double the range of Smith-Blair's standard 261 repair clamp delivering the convenience of handling more applications with fewer product sizes.

**Application:** The repair of leaks due to complete breaks, splits, holes or for joining pipes of the same diameter.

### Key Features:

- Up to .95" range
- Widest range repair clamp in the Smith-Blair's product line
- Can be used to repairs pipes or join pipe ends
- All 304 Stainless Steel construction for corrosion resistance
- A 360° Gasket seal provides maximum support and reinforcement
- Keeper bar helps pull clamp around the pipe and closes the clamp during installation
- Standard widths 7.5", 10.0", 12.5", 15.0", 20.0", 25.0", 30.0"

### Materials Specifications (subject to change):

**BAND:** Type 304 Stainless Steel per ASTM A240

**FINGER:** Type 304 Stainless Steel, per ASTM A 240

**LUG BAR:** Type 304 Stainless Steel per ASTM A 240

**KEEPER BAR:** Type 304 Stainless Steel per ASTM 240

**NUTS:** Type 316 Stainless Steel GR 8 per ASTM A194, Fluoropolymer coated

**WASHER:** Type 304 Stainless Steel per ASTM A 240

**STUD:** Type 304 Stainless Steel per ASTM A276; epoxy coated to minimize galling

**GASKET:** Nitrile (Buna N) per ASTM D2000

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Carbon Steel, Stainless Steel, Ductile Iron, PVC, Asbestos Cement, Copper Aluminum.

**Sizes (in inches):** 3" to 12" nominal



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pull-out. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read product installation instructions prior to installing this product.



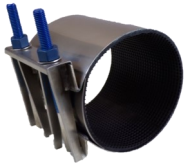
# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

281

All Stainless Steel, Fabricated Lugs, Single Band

| Nom. Size Inches | O.D. Size Inches | Catalog Number   | Width Inches | Approx Wt. Each Lbs. | List Price Each |
|------------------|------------------|------------------|--------------|----------------------|-----------------|
| 3                | 3.46-4.04        | 281-00035007-000 | 7.5          | 6                    | <b>\$161.65</b> |
|                  |                  | 281-00035010-000 | 10           | 8                    | <b>229.00</b>   |
|                  |                  | 281-00035012-000 | 12.5         | 9                    | <b>293.25</b>   |
|                  |                  | 281-00035015-000 | 15           | 12                   | <b>335.55</b>   |
| 4                | 4.45-5.14        | 281-00045007-000 | 7.5          | 7                    | <b>166.00</b>   |
|                  |                  | 281-00045010-000 | 10           | 9                    | <b>232.50</b>   |
|                  |                  | 281-00045012-000 | 12.5         | 12                   | <b>301.00</b>   |
|                  |                  | 281-00045015-000 | 15           | 15                   | <b>357.70</b>   |
| 4                | 4.75-5.45        | 281-00048007-000 | 7.5          | 7                    | <b>169.50</b>   |
|                  |                  | 281-00048010-000 | 10           | 10                   | <b>236.85</b>   |
|                  |                  | 281-00048012-000 | 12.5         | 12                   | <b>309.50</b>   |
|                  |                  | 281-00048015-000 | 15           | 15                   | <b>364.95</b>   |
|                  |                  | 281-00048020-000 | 20           | 19                   | <b>503.80</b>   |
| 6                | 6.56-7.36        | 281-00066307-000 | 7.5          | 8                    | <b>188.90</b>   |
|                  |                  | 281-00066310-000 | 10           | 11                   | <b>266.85</b>   |
|                  |                  | 281-00066312-000 | 12.5         | 13                   | <b>354.60</b>   |
|                  |                  | 281-00066315-000 | 15           | 17                   | <b>418.20</b>   |
|                  |                  | 281-00066320-000 | 20           | 22                   | <b>578.60</b>   |
|                  |                  | 281-00066325-000 | 25           | 26                   | <b>775.30</b>   |
| 6                | 6.83-7.63        | 281-00066330-000 | 30           | 34                   | <b>936.25</b>   |
|                  |                  | 281-00069007-000 | 7.5          | 8                    | <b>191.60</b>   |
|                  |                  | 281-00069010-000 | 10           | 11                   | <b>270.55</b>   |
|                  |                  | 281-00069012-000 | 12.5         | 13                   | <b>360.00</b>   |
|                  |                  | 281-00069015-000 | 15           | 17                   | <b>424.45</b>   |
|                  |                  | 281-00069020-000 | 20           | 22                   | <b>587.25</b>   |
|                  |                  | 281-00069025-000 | 25           | 26                   | <b>785.90</b>   |
| 8                | 8.54-9.34        | 281-00069030-000 | 30           | 34                   | <b>948.65</b>   |
|                  |                  | 281-00086307-000 | 7.5          | 10                   | <b>209.05</b>   |
|                  |                  | 281-00086310-000 | 10           | 13                   | <b>294.45</b>   |
|                  |                  | 281-00086312-000 | 12.5         | 16                   | <b>395.05</b>   |
|                  |                  | 281-00086315-000 | 15           | 19                   | <b>464.65</b>   |
|                  |                  | 281-00086320-000 | 20           | 25                   | <b>643.24</b>   |
|                  |                  | 281-00086325-000 | 25           | 32                   | <b>854.65</b>   |
| 8                | 8.99-9.79        | 281-00086330-000 | 30           | 38                   | <b>1,029.15</b> |
|                  |                  | 281-00090507-000 | 7.5          | 10                   | <b>227.75</b>   |
|                  |                  | 281-00090510-000 | 10           | 13                   | <b>301.30</b>   |
|                  |                  | 281-00090512-000 | 12.5         | 16                   | <b>405.05</b>   |
|                  |                  | 281-00090515-000 | 15           | 19                   | <b>476.20</b>   |
|                  |                  | 281-00090520-000 | 20           | 25                   | <b>659.25</b>   |
|                  |                  | 281-00090525-000 | 25           | 32                   | <b>874.19</b>   |
| 10               | 10.64-11.54      | 281-00090530-000 | 30           | 38                   | <b>1,052.20</b> |
|                  |                  | 281-00107507-000 | 7.5          | 11                   | <b>256.10</b>   |
|                  |                  | 281-00107510-000 | 10           | 14                   | <b>368.50</b>   |
|                  |                  | 281-00107512-000 | 12.5         | 18                   | <b>493.80</b>   |
|                  |                  | 281-00107515-000 | 15           | 22                   | <b>575.37</b>   |
|                  |                  | 281-00107520-000 | 20           | 29                   | <b>792.85</b>   |
|                  |                  | 281-00107525-000 | 25           | 36                   | <b>1,036.00</b> |
|                  |                  | 281-00107530-000 | 30           | 44                   | <b>1,150.90</b> |



# Full Circle® Wide Range Repair Clamp

All Stainless Steel, Fabricated Lugs, Single Band

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All Stainless Steel, Fabricated Lugs, Single Band

| Nom. Size Inches | O.D. Size Inches | Catalog Number   | Width Inches | Approx Wt. Each Lbs. | List Price Each |
|------------------|------------------|------------------|--------------|----------------------|-----------------|
| 10               | 10.64-11.54      | 281-00107507-000 | 7.5          | 11                   | <b>256.10</b>   |
|                  |                  | 281-00107510-000 | 10           | 14                   | <b>368.50</b>   |
|                  |                  | 281-00107512-000 | 12.5         | 18                   | <b>493.80</b>   |
|                  |                  | 281-00107515-000 | 15           | 22                   | <b>575.37</b>   |
|                  |                  | 281-00107520-000 | 20           | 29                   | <b>792.85</b>   |
|                  |                  | 281-00107525-000 | 25           | 36                   | <b>1,036.00</b> |
|                  |                  | 281-00107530-000 | 30           | 44                   | <b>1,150.90</b> |
| 10               | 11.34-12.24      | 281-00114007-000 | 7.5          | 11                   | <b>290.78</b>   |
|                  |                  | 281-00114010-000 | 10           | 15                   | <b>382.17</b>   |
|                  |                  | 281-00114012-000 | 12.5         | 18                   | <b>498.60</b>   |
|                  |                  | 281-00114015-000 | 15           | 22                   | <b>580.70</b>   |
|                  |                  | 281-00114020-000 | 20           | 29                   | <b>800.30</b>   |
|                  |                  | 281-00114025-000 | 25           | 36                   | <b>1,046.35</b> |
|                  |                  | 281-00114030-000 | 30           | 44                   | <b>1,160.84</b> |
| 12               | 12.62-13.57      | 281-00127507-000 | 7.5          | 12                   | <b>290.78</b>   |
|                  |                  | 281-00127510-000 | 10           | 15                   | <b>392.50</b>   |
|                  |                  | 281-00127512-000 | 12.5         | 20                   | <b>510.00</b>   |
|                  |                  | 281-00127515-000 | 15           | 24                   | <b>598.00</b>   |
|                  |                  | 281-00127520-000 | 20           | 31                   | <b>807.25</b>   |
|                  |                  | 281-00127525-000 | 25           | 40                   | <b>1,059.50</b> |
|                  |                  | 281-00127530-000 | 30           | 48                   | <b>1,222.20</b> |
| 12               | 13.44-14.39      | 281-00135007-000 | 7.5          | 12                   | <b>347.45</b>   |
|                  |                  | 281-00135010-000 | 10           | 16                   | <b>463.75</b>   |
|                  |                  | 281-00135012-000 | 12.5         | 20                   | <b>561.85</b>   |
|                  |                  | 281-00135015-000 | 15           | 24                   | <b>639.10</b>   |
|                  |                  | 281-00135020-000 | 20           | 31                   | <b>873.20</b>   |
|                  |                  | 281-00135025-000 | 25           | 40                   | <b>1,067.90</b> |
|                  |                  | 281-00135030-000 | 30           | 48                   | <b>1,225.40</b> |



# Service Saddles

## What Are Service Saddles?

Strapped fittings that are designed to tap branch connections from mains to individual locations. Service saddles are available for virtually any type of pipe applications including Cast Iron, Ductile Iron, Steel, PVC, Asbestos Cement and Concrete Steel Cylinder.



*Smith-Blair*  
a xylem brand



# Service Saddle

## Single Bale

# 311



**Description:** Single bale Ductile Iron service saddle with TaperSeal™ gasket and wraparound bales used to connect branch lines, instruments, and other accessories to pipe.

### Application:

Tapping pipe for branch connections and to install service connections, air and vacuum valves.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- A closed lug on one side, combined with the bale, acts as a hinge for easier installation

### Materials Specifications (subject to change)

BODY: Ductile Iron per ASTM A536

BALE: Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM-B633

NUTS: Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM-B633

WASHERS: Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

GASKET: Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish on Saddle Body

**Optional: 304 Stainless Steel hardware available upon request**

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron. *For other pipe materials, please contact Smith-Blair Engineering.*

**Taps:** 5/8", 3/4" and 1", 1 1/4" and 1 1/2" CC T aps, 3/4", 1", 1 1/4", 1 1/2", and 2" NPT Taps.

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Single Bale

5/8", 3/4" and 1" CC Taps

| STANDARD         |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 5/8" CC/16 MM    | 3/4" CC/20 MM    | 1" CC/25 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1                | 1.31-1.39         | 1             | 311-00013905-000 | 311-00013907-000 | N/A              | 12       | 25           | 33-35         | 1            |
| 1-1/4-1-1/2      | 1.61-1.92         | 1             | 311-00019205-000 | 311-00019207-000 | 311-00019209-000 | 12       | 40           | 41-48         | 1            |
| 2                | 2.38              | 2             | 311-00023805-000 | 311-00023807-000 | 311-00023809-000 | 12       | 50           | 60            | 1            |
| 2                | 2.35-2.56         | 2             | 311-00025605-000 | 311-00025607-000 | 311-00025609-000 | 12       | 50           | 60-65         | 1            |
| 2-1/4-2-1/2      | 2.44-2.91         | 2             | 311-00029105-000 | 311-00029107-000 | 311-00029109-000 | 8        | 57-65        | 62-73         | 1            |
| 3                | 2.97-3.54         | 2             | 311-00035405-000 | 311-00035407-000 | 311-00035409-000 | 12       | 80           | 76-89         | 1            |
| 4                | 4.40-4.50         | 3             | 311-00045005-000 | 311-00045007-000 | 311-00045009-000 | 12       | 80-100       | 112-115       | 1            |
| 4                | 4.40-4.80         | 4             | 311-00048005-000 | 311-00048007-000 | 311-00048009-000 | 12       | 103          | 112-122       | 1            |
| 4-5              | 4.74-5.63         | 3             | 311-00056305-000 | 311-00056307-000 | 311-00056309-000 | 10       | 100-125      | 121-143       | 2            |
| 5-6              | 5.94-6.70         | 4             | 311-00066305-000 | 311-00066307-000 | 311-00066309-000 | 8        | 125-150      | 151-170       | 2            |
| 5-6              | 5.94-6.90         | 4             | 311-00069005-000 | 311-00069007-000 | 311-00069009-000 | 8        | 125-150      | 151-175       | 2            |
| 6                | 6.84-7.60         | 5             | 311-00076005-000 | 311-00076007-000 | 311-00076009-000 | 10       | 150          | 174-193       | 2            |
| 6-8              | 7.69-8.72         | 5             | 311-00087205-000 | 311-00087207-000 | 311-00087209-000 | 10       | 150-200      | 195-221       | 2            |
| 6-8              | 7.69-9.05         | 5             | 311-00090505-000 | 311-00090507-000 | 311-00090509-000 | 10       | 150-200      | 195-230       | 2            |
| 8-10             | 8.54-10-10        | 5             | 311-00101005-000 | 311-00101007-000 | 311-00101009-000 | 10       | 200-250      | 217-256       | 2            |
| 10-12            | 10.64-12.12       | 5             | 311-00121205-000 | 311-00121207-000 | 311-00121209-000 | 6        | 250-300      | 271-307       | 3            |
| 12-14            | 12.62-14.32       | 7             | 311-00143205-000 | 311-00143207-000 | 311-00143209-000 | 6        | 300-350      | 321-363       | 3            |

3/4" and 1" NPT Taps

| STANDARD         |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3/4" NPT/20 MM   | 1" NPT/25 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1                | 1.31-1.39         | 1             | 311-00013906-000 | N/A              | 12       | 25-32        | 33-35         | 1            |
| 1-1/4-1 1/2      | 1.61-1.92         | 1             | 311-00019206-000 | 311-00019208-000 | 12       | 40           | 41-48         | 1            |
| 2                | 2.38              | 2             | 311-00023806-000 | 311-00023808-000 | 12       | 50           | 60            | 1            |
| 2                | 2.35-2.56         | 2             | 311-00025606-000 | 311-00025608-000 | 12       | 50           | 60-65         | 1            |
| 2-1/4-2-1/2      | 2.44-2.91         | 2             | 311-00029106-000 | 311-00029108-000 | 8        | 57-65        | 62-73         | 1            |
| 3                | 2.97-3.54         | 2             | 311-00035406-000 | 311-00035408-000 | 12       | 80           | 76-89         | 1            |
| 4                | 4.40-4.50         | 3             | 311-00045006-000 | 311-00045008-000 | 12       | 80-100       | 112-114       | 1            |
| 4                | 4.40-4.80         | 3             | 311-00048006-000 | 311-00048008-000 | 12       | 103          | 112-122       | 1            |
| 4-5              | 4.74-5.63         | 3             | 311-00056306-000 | 311-00056308-000 | 10       | 100-125      | 120-143       | 2            |
| 5-6              | 5.94-6.70         | 4             | 311-00066306-000 | 311-00066308-000 | 8        | 125-150      | 151-170       | 2            |
| 5-6              | 5.94-6.90         | 4             | 311-00069006-000 | 311-00069008-000 | 8        | 125-150      | 151-175       | 2            |
| 6                | 6.84-7.60         | 5             | 311-00076006-000 | 311-00076008-000 | 10       | 150          | 174-193       | 2            |
| 6-8              | 7.69-8.72         | 5             | 311-00087206-000 | 311-00087208-000 | 10       | 150-200      | 195-221       | 2            |
| 6-8              | 7.69-9.05         | 5             | 311-00090506-000 | 311-00090508-000 | 10       | 150-200      | 195-230       | 2            |
| 8-10             | 8.54-10.10        | 5             | 311-00101006-000 | 311-00101008-000 | 10       | 200-250      | 217-256       | 2            |
| 10-12            | 10.64-12.12       | 5             | 311-00121206-000 | 311-00121208-000 | 6        | 250-300      | 271-307       | 3            |
| 12-14            | 12.62-14.32       | 7             | 311-00143206-000 | 311-00143208-000 | 6        | 300-350      | 321-363       | 3            |

## 1¼" and 1½" CC Taps

| STANDARD         |                   |               | CATALOG NUMBER   |                  | CTN. QTY. | METRIC       |               |              |
|------------------|-------------------|---------------|------------------|------------------|-----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" CC/32 MM  | 1 1/2" - 40MM    |           | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                | 2.35-2.56         | 2             | 311-00025611-000 | N/A              | 6         | 50           | 60-65         | 1            |
| 2-1/4-2-1/2      | 2.44-2.91         | 3             | 311-00029111-000 | 311-00029113-000 | 6         | 57-65        | 62-73         | 1            |
| 3                | 2.97-3.54         | 3             | 311-00035411-000 | 311-00035413-000 | 6         | 80           | 76-89         | 1            |
| 4                | 4.40-4.50         | 3             | 311-00045011-000 | 311-00045013-000 | 6         | 80-100       | 112-115       | 2            |
| 4                | 4.40-4.80         | 4             | 311-00048011-000 | 311-00048013-000 | 6         | 103          | 112-122       | 1            |
| 4-5              | 4.74-5.63         | 5             | 311-00056311-000 | 311-00056313-000 | 6         | 100-125      | 121-143       | 2            |
| 5-6              | 5.94-6.70         | 5             | 311-00066311-000 | 311-00066313-000 | 6         | 125-150      | 151-170       | 2            |
| 5-6              | 5.94-6.90         | 5             | 311-00069011-000 | 311-00069013-000 | 6         | 125-150      | 151-175       | 2            |
| 6                | 6.84-7.60         | 6             | 311-00076011-000 | 311-00076013-000 | 6         | 150          | 174-193       | 3            |
| 6-8              | 7.69-8.72         | 6             | 311-00087211-000 | 311-00087213-000 | 6         | 150-200      | 195-221       | 3            |
| 6-8              | 7.69-9.05         | 6             | 311-00090511-000 | 311-00090513-000 | 6         | 150-200      | 195-230       | 3            |
| 8-10             | 8.54-10.10        | 6             | 311-00101011-000 | 311-00101013-000 | 6         | 200-250      | 217-256       | 3            |
| 10-12            | 10.64-12.12       | 6             | 311-00121211-000 | 311-00121213-000 | 6         | 250-300      | 271-307       | 3            |
| 12-14            | 12.62-14.32       | 7             | 311-00143211-000 | 311-00143213-000 | 6         | 300-350      | 321-363       | 3            |

## 1¼", 1½" and 2" NPT Taps

| STANDARD         |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY. | METRIC       |               |              |
|------------------|-------------------|---------------|------------------|------------------|------------------|-----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32MM  | 1-1/2" NPT/40MM  | 2" NPT/50 MM     |           | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                | 2.35-2.56         | 2             | 311-00025610-000 | 311-00025612-000 | N/A N/A          | 6         | 50           | 60-65         | 1            |
| 2-1/4-2-1/2      | 2.44-2.91         | 3             | 311-00029110-000 | 311-00029112-000 |                  | 6         | 57-65        | 62-73         | 1            |
| 3                | 2.97-3.54         | 3             | 311-00035410-000 | 311-00035412-000 | N/A              | 6         | 80           | 76-89         | 1            |
| 4                | 4.40-4.50         | 4             | 311-00045010-000 | 311-00045012-000 | 311-00045014-000 | 6         | 80-100       | 112-114       | 2            |
| 4                | 4.40-4.80         | 4             | 311-00048010-000 | 311-00048012-000 | 311-00048014-000 | 6         | 103          | 112-122       | 2            |
| 4-5              | 4.74-5.63         | 5             | 311-00056310-000 | 311-00056312-000 | 311-00056314-000 | 6         | 100-125      | 121-143       | 2            |
| 5-6              | 5.94-6.70         | 5             | 311-00066310-000 | 311-00066312-000 | 311-00066314-000 | 6         | 125-150      | 151-175       | 2            |
| 5-6              | 5.94-6.90         | 5             | 311-00069010-000 | 311-00069012-000 | 311-00069014-000 | 6         | 125-150      | 151-175       | 2            |
| 6                | 6.84-7.60         | 6             | 311-00076010-000 | 311-00076012-000 | 311-00076014-000 | 6         | 150          | 174-193       | 3            |
| 6-8              | 7.69-8.72         | 6             | 311-00087210-000 | 311-00087212-000 | 311-00087214-000 | 6         | 150-200      | 195-221       | 3            |
| 6-8              | 7.69-9.05         | 6             | 311-00090510-000 | 311-00090512-000 | 311-00090514-000 | 6         | 150-200      | 195-230       | 3            |
| 8-10             | 8.54-10.10        | 6             | 311-00101010-000 | 311-00101012-000 | 311-00101014-000 | 6         | 200-250      | 217-256       | 3            |
| 10-12            | 10.64-12.12       | 6             | 311-00121210-000 | 311-00121212-000 | 311-00121214-000 | 6         | 250-300      | 271-307       | 3            |
| 12-14            | 12.62-14.32       | 7             | 311-00143210-000 | 311-00143212-000 | 311-00143214-000 | 6         | 300-350      | 321-363       | 3            |

## BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                   |
|--------|-------------|---------------------------|
| 1/2"   | 59          | 3/4" BSP 311-00013950-000 |
| 3/4"   | 50          |                           |
| 1"     | 51          |                           |
| 1 1/4" | 54          |                           |
| 1 1/2" | 52          |                           |
| 2"     | 53          |                           |
| 2 1/2" | 55          |                           |
| 3"     | 56          |                           |





# Service Saddle

## Double Bale

# 313



**Description:** Double bale Ductile Iron service saddle with TaperSeal™ gasket and wraparound bales to connect branch lines, instruments, and other accessories to pipe.

**Application:** Tapping pipe for branch connections and to install service connections, air and vacuum valves.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- A closed lug on one side, combined with the bale, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODY:** Ductile Iron per ASTM A536

**BALE:** Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM-B633

**NUTS:** Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM-B633

**WASHERS:** Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

**GASKET:** Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish, per AWWA C213

**Optional:** 304 Stainless Steel hardware available upon request

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, and Cast Iron. *For other pipe material, please contact Smith-Blair Engineering.*

**Taps:** ¾" and 1" NPT taps; 1¼", 1½", 2" and 2½" NPT taps, 3" & 4" NPT taps; ", ¾" and 1" CC taps; 1¼", 1½" and 2" CC taps

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Double Bale

313

5/8", 3/4" and 1" CC Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 5/8" CC/16 MM    | 3/4" CC/20 MM    | 1" CC/25 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1-1/4-1-1/2       | 1.61-1.92         | 3             | 313-00019205-000 | 313-00019207-000 | 313-00019209-000 | 6        | 32-40        | 41-48         | 1            |
| 2                 | 2.35-2.56         | 3             | 313-00025605-000 | 313-00025607-000 | 313-00025609-000 | 6        | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 3             | 313-00029105-000 | 313-00029107-000 | 313-00029109-000 | 6        | 57-63        | 62-73         | 2            |
| 3                 | 2.97-3.54         | 4             | 313-00035405-000 | 313-00035407-000 | 313-00035409-000 | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 6             | 313-00041305-000 | 313-00041307-000 | 313-00041309-000 | 6        | 80-100       | 95-105        | 3            |
| 4                 | 4.40-4.50         | 6             | 313-00045005-000 | 313-00045007-000 | 313-00045009-000 | 6        | 100          | 112-114       | 3            |
| 4                 | 4.40-4.80         | 6             | 313-00048005-000 | 313-00048007-000 | 313-00048009-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 5.00-5.63         | 6             | 313-00056305-000 | 313-00056307-000 | 313-00056309-000 | 6        | 100-125      | 121-143       | 3            |
| 6                 | 5.94-6.70         | 6             | 313-00066305-000 | 313-00066307-000 | 313-00066309-000 | 4        | 150          | 151-170       | 3            |
| 6                 | 5.94-6.90         | 6             | 313-00069005-000 | 313-00069007-000 | 313-00069009-000 | 4        | 150          | 151-175       | 3            |
| 6                 | 6.84-7.60         | 7             | 313-00076005-000 | 313-00076007-000 | 313-00076009-000 | 4        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 7             | 313-00087205-000 | 313-00087207-000 | 313-00087209-000 | 4        | 150-200      | 195-221       | 4            |
| 6-8               | 7.69-9.05         | 8             | 313-00090505-000 | 313-00090507-000 | 313-00090509-000 | 4        | 150-200      | 195-230       | 4            |
| 8-10              | 8.54-10.10        | 8             | 313-00101005-000 | 313-00101007-000 | 313-00101009-000 | 4        | 200-250      | 217-256       | 4            |
| 10                | 10.75-11.10       | 10            | 313-00111005-000 | 313-00111007-000 | 313-00111009-000 | 4        | 250          | 273-282       | 4            |
| 10-12             | 10.64-12.12       | 10            | 313-00121205-000 | 313-00121207-000 | 313-00121209-000 | 4        | 250-300      | 271-307       | 4            |
| 12                | 12.75-13.20       | 14            | 313-00132005-000 | 313-00132007-000 | 313-00132009-000 | 4        | 300          | 324-335       | 7            |
| 12-14             | 12.62-14.32       | 15            | 313-00143205-000 | 313-00143207-000 | 313-00143209-000 | 4        | 300-350      | 321-363       | 7            |
| 12-14             | 14.73-15.65       | 18            | 313-00156505-000 | 313-00156507-000 | 313-00156509-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 313-00172505-000 | 313-00172507-000 | 313-00172509-000 | 1        | 350-400      | 406-438       | 9            |
| 16                | 17.25-17.80       | 19            | 313-00178005-000 | 313-00178007-000 | 313-00178009-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 313-00188805-000 | 313-00188807-000 | 313-00188809-000 | 1        | 400-450      | 442-479       | 9            |
| *18               | 19.38-19.68       | 20            | 313-00195005-000 | 313-00195007-000 | 313-00195009-000 | 1        | 450          | 492-500       | 9            |
| *20               | 21.55-21.65       | 20            | 313-00216005-000 | 313-00216007-000 | 313-00216009-000 | 1        | 500          | 547-550       | 9            |
| *24               | 25.75-25.85       | 20            | 313-00258005-000 | 313-00258007-000 | 313-00258009-000 | 1        | 600          | 654-657       | 9            |

\*Fabricated straps, epoxy coated carbon Steel.

1 1/4", 1 1/2" and 2" CC Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" CC/32 MM  | 1-1/2" CC/40 MM  | 2" CC/50 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                 | 2.35-2.56         | 3             | 313-00025611-000 | N/A              | N/A N/A          | 6        | 50           | 60-65         | 1            |
|                   | 2.97-3.54         | 5             | 313-00035411-000 | 313-00035413-000 |                  | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 8             | 313-00041311-000 | 313-00041313-000 | 313-00041315-000 | 6        | 80-100       | 95-104        | 3            |
| 4                 | 4.40-4.50         | 6             | 313-00045011-000 | 313-00045013-000 | 313-00045015-000 | 6        | 100          | 112-114       | 3            |
| 4                 | 4.40-4.80         | 6             | 313-00048011-000 | 313-00048013-000 | 313-00048015-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 4.74-5.14         | 8             | 313-00051411-000 | 313-00051413-000 | 313-00051415-000 | 6        | 100-125      | 120-130       | 3            |
| 4-5               | 5.00-5.63         | 9             | 313-00056311-000 | 313-00056313-000 | 313-00056315-000 | 4        | 100-125      | 127-143       | 4            |
| 6                 | 5.94-6.70         | 9             | 313-00066311-000 | 313-00066313-000 | 313-00066315-000 | 4        | 150          | 151-170       | 4            |
| 6                 | 5.94-6.90         | 9             | 313-00069011-000 | 313-00069013-000 | 313-00069015-000 | 4        | 150          | 151-175       | 4            |
| 6                 | 6.84-7.60         | 7             | 313-00076011-000 | 313-00076013-000 | 313-00076015-000 | 4        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 11            | 313-00087211-000 | 313-00087213-000 | 313-00087215-000 | 4        | 150-200      | 195-221       | 5            |
| 6-8               | 7.69-9.05         | 11            | 313-00090511-000 | 313-00090513-000 | 313-00090515-000 | 4        | 150-200      | 195-230       | 5            |
| 8-10              | 8.54-10.10        | 9             | 313-00101011-000 | 313-00101013-000 | 313-00101015-000 | 4        | 200-250      | 217-256       | 4            |
| 10                | 10.75-11.10       | 10            | 313-00111011-000 | 313-00111013-000 | 313-00111015-000 | 4        | 250          | 273-282       | 5            |
| 10-12             | 10.64-12.12       | 11            | 313-00121211-000 | 313-00121213-000 | 313-00121215-000 | 4        | 250-300      | 271-307       | 5            |
| 12                | 12.75-13.20       | 14            | 313-00132011-000 | 313-00132013-000 | 313-00132015-000 | 4        | 300          | 324-335       | 6            |
| 12-14             | 12.62-14.32       | 14            | 313-00143211-000 | 313-00143213-000 | 313-00143215-000 | 4        | 300-350      | 321-363       | 6            |
| 12-14             | 14.73-15.65       | 18            | 313-00156511-000 | 313-00156513-000 | 313-00156515-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 313-00172511-000 | 313-00172513-000 | 313-00172515-000 | 1        | 350-400      | 406-438       | 9            |

\*Fabricated straps, epoxy coated carbon Steel.

## 1¼", 1½" and 2" CC Taps Continued

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" CC/32 MM  | 1-1/2" CC/40 MM  | 2" CC/50 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 16                | 17.25-17.80       | 19            | 313-00178011-000 | 313-00178013-000 | 313-00178015-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 313-00188811-000 | 313-00188813-000 | 313-00188815-000 | 1        | 400-450      | 442-479       | 9            |
| *18               | 19.38-19.68       | 20            | 313-00195011-000 | 313-00195013-000 | 313-00195015-000 | 1        | 450          | 492-500       | 9            |
| *20               | 21.55-21.65       | 20            | 313-00216011-000 | 313-00216013-000 | 313-00216015-000 | 1        | 500          | 547-550       | 9            |
| *24               | 25.75-25.85       | 20            | 313-00258011-000 | 313-00258013-000 | 313-00258015-000 | 1        | 600          | 654-657       | 9            |

\*Fabricated straps, epoxy coated carbon Steel.

## ¾" and 1" NPT Taps

| STANDARD         |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | ¾" NPT/20 MM     | 1" NPT/25 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1-1/4-1-1/2      | 1.61-1.92         | 3             | 313-00019206-000 | 313-00019208-000 | 6        | 32-40        | 41-48         | 1            |
| 2                | 2.35-2.56         | 3             | 313-00025606-000 | 313-00025608-000 | 6        | 50           | 60-65         | 1            |
| 2-1/4-2-1/2      | 2.44-2.91         | 3             | 313-00029106-000 | 313-00029108-000 | 6        | 57-65        | 62-73         | 2            |
| 3                | 2.97-3.54         | 4             | 313-00035406-000 | 313-00035408-000 | 6        | 80           | 76-89         | 2            |
| 3-4              | 3.74-4.13         | 6             | 313-00041306-000 | 313-00041308-000 | 6        | 80-100       | 95-105        | 3            |
| 4                | 4.40-4.50         | 6             | 313-00045006-000 | 313-00045008-000 | 6        | 100          | 112-114       | 3            |
| 4                | 4.40-4.80         | 6             | 313-00048006-000 | 313-00048008-000 | 6        | 100          | 112-122       | 3            |
| 4-5              | 5.00-5.63         | 6             | 313-00056306-000 | 313-00056308-000 | 6        | 100-125      | 121-143       | 3            |
| 6                | 5.94-6.70         | 6             | 313-00066306-000 | 313-00066308-000 | 4        | 150          | 151-170       | 3            |
| 6                | 5.94-6.90         | 6             | 313-00069006-000 | 313-00069008-000 | 4        | 150          | 151-175       | 3            |
| 6                | 6.84-7.60         | 7             | 313-00076006-000 | 313-00076008-000 | 4        | 150          | 174-193       | 3            |
| 6-8              | 7.69-8.72         | 8             | 313-00087206-000 | 313-00087208-000 | 4        | 150-200      | 195-221       | 4            |
| 6-8              | 7.69-9.05         | 8             | 313-00090506-000 | 313-00090508-000 | 4        | 150-200      | 195-230       | 4            |
| 8-10             | 8.54-10.10        | 8             | 313-00101006-000 | 313-00101008-000 | 4        | 200-250      | 217-256       | 4            |
| 10               | 10.75-11.10       | 10            | 313-00111006-000 | 313-00111008-000 | 4        | 250          | 273-282       | 4            |
| 10-12            | 10.64-12.12       | 10            | 313-00121206-000 | 313-00121208-000 | 4        | 250-300      | 271-307       | 4            |
| 12               | 12.75-13.20       | 14            | 313-00132006-000 | 313-00132008-000 | 4        | 300          | 324-335       | 7            |
| 12-14            | 12.62-14.32       | 15            | 313-00143206-000 | 313-00143208-000 | 4        | 300-350      | 321-363       | 7            |
| 12-14            | 14.73-15.65       | 18            | 313-00156506-000 | 313-00156508-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16            | 15.95-17.25       | 19            | 313-00172506-000 | 313-00172508-000 | 1        | 350-400      | 406-438       | 9            |
| 16               | 17.25-17.80       | 19            | 313-00178006-000 | 313-00178008-000 | 1        | 410          | 438-452       | 9            |
| 16-18            | 17.40-18.88       | 19            | 313-00188806-000 | 313-00188808-000 | 1        | 400-450      | 442-479       | 9            |
| *18              | 19.38-19.68       | 20            | 313-00195006-000 | 313-00195008-000 | 1        | 450          | 492-499       | 9            |
| *20              | 21.55-21.65       | 20            | 313-00216006-000 | 313-00216008-000 | 1        | 500          | 547-550       | 9            |
| *24              | 25.75-25.85       | 20            | 313-00258006-000 | 313-00258008-000 | 1        | 600          | 654-657       | 9            |

\*Fabricated straps, epoxy coated carbon Steel.

## 1¼", 1½", 2" and 2½" NPT Taps

| STANDARD      |                   |               | CATALOG NUMBER   |                  |                  |                  | CTN. QTY. | METRIC       |               |              |
|---------------|-------------------|---------------|------------------|------------------|------------------|------------------|-----------|--------------|---------------|--------------|
| NOM. SIZE IN. | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     | 2-1/2" NPT/65 MM |           | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2             | 2.35-2.56         | 3             | 313-00025610-000 | 313-00025612-000 | -                | -                | 6         | 50           | 60-65         | 1            |
| 3             | 2.97-3.54         | 5             | 313-00035410-000 | 313-00035412-000 | 313-00035414-000 | -                | 6         | 80           | 76-89         | 3            |
| 3-4           | 3.74-4.13         | 8             | 313-00041310-000 | 313-00041312-000 | 313-00041314-000 | 313-00041316-000 | 6         | 80-100       | 95-104        | 3            |
| 4             | 4.40-4.50         | 6             | 313-00045010-000 | 313-00045012-000 | 313-00045014-000 | 313-00045016-000 | 6         | 100          | 112-114       | 3            |
| 4             | 4.40-4.80         | 6             | 313-00048010-000 | 313-00048012-000 | 313-00048014-000 | 313-00048016-000 | 6         | 100          | 112-122       | 3            |
| 4-5           | 4.74-5.14         | 8             | 313-00051410-000 | 313-00051412-000 | 313-00051414-000 | 313-00051416-000 | 6         | 100-125      | 120-130       | 3            |
| 4-5           | 5.00-5.63         | 9             | 313-00056310-000 | 313-00056312-000 | 313-00056314-000 | 313-00056316-000 | 4         | 100-125      | 127-143       | 4            |
| 6             | 5.94-6.70         | 9             | 313-00066310-000 | 313-00066312-000 | 313-00066314-000 | 313-00066316-000 | 4         | 150          | 151-170       | 4            |
| 6             | 5.94-6.90         | 9             | 313-00069010-000 | 313-00069012-000 | 313-00069014-000 | 313-00069016-000 | 4         | 150          | 151-175       | 4            |
| 6             | 6.84-7.60         | 7             | 313-00076010-000 | 313-00076012-000 | 313-00076014-000 | 313-00076016-000 | 4         | 150          | 174-193       | 3            |

\*Fabricated straps, epoxy coated carbon Steel.

## 1¼", 1½", 2" and 2½" NPT Taps Continued

| STANDARD      |                   |               | CATALOG NUMBER   |                  |                  |                  | CTN. QTY. | METRIC       |               |             |
|---------------|-------------------|---------------|------------------|------------------|------------------|------------------|-----------|--------------|---------------|-------------|
| NOM. SIZE IN. | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     | 2-1/2" NPT/65 MM |           | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG |
| 6-8           | 7.69-8.72         | 11            | 313-00087210-000 | 313-00087212-000 | 313-00087214-000 | 313-00087216-000 | 4         | 150-200      | 195-221       | 5           |
| 6-8           | 7.69-9.05         | 11            | 313-00090510-000 | 313-00090512-000 | 313-00090514-000 | 313-00090516-000 | 4         | 150-200      | 195-230       | 5           |
| 8-10          | 8.54-10.10        | 9             | 313-00101010-000 | 313-00101012-000 | 313-00101014-000 | 313-00101016-000 | 4         | 200-250      | 217-256       | 4           |
| 10            | 10.75-11.10       | 10            | 313-00111010-000 | 313-00111012-000 | 313-00111014-000 | 313-00111016-000 | 4         | 250          | 273-282       | 4           |
| 10-12         | 10.64-12.12       | 11            | 313-00121210-000 | 313-00121212-000 | 313-00121214-000 | 313-00121216-000 | 4         | 250-300      | 271-307       | 5           |
| 12            | 12.75-13.20       | 15            | 313-00132010-000 | 313-00132012-000 | 313-00132014-000 | 313-00132016-000 | 4         | 300          | 324-355       | 7           |
| 12-14         | 12.62-14.32       | 14            | 313-00143210-000 | 313-00143212-000 | 313-00143214-000 | 313-00143216-000 | 4         | 300-350      | 321-363       | 6           |
| 12-14         | 14.73-15.65       | 18            | 313-00156510-000 | 313-00156512-000 | 313-00156514-000 | 313-00156516-000 | 1         | 300-350      | 375-397       | 8           |
| 14-16         | 15.95-17.25       | 19            | 313-00172510-000 | 313-00172512-000 | 313-00172514-000 | 313-00172516-000 | 1         | 350-400      | 406-438       | 9           |
| 16            | 17.25-17.80       | 19            | 313-00178010-000 | 313-00178012-000 | 313-00178014-000 | 313-00178016-000 | 1         | 410          | 438-452       | 9           |
| 16-18         | 17.40-18.88       | 19            | 313-00188810-000 | 313-00188812-000 | 313-00188814-000 | 313-00188816-000 | 1         | 400-450      | 442-479       | 9           |
| *18           | 19.38-19.68       | 20            | 313-00195010-000 | 313-00195012-000 | 313-00195014-000 | 313-00195016-000 | 1         | 450          | 479-495       | 9           |
| *20           | 21.55-21.65       | 20            | 313-00216010-000 | 313-00216012-000 | 313-00216014-000 | 313-00216016-000 | 1         | 500          | 547-550       | 9           |
| *24           | 25.75-25.85       | 20            | 313-00258010-000 | 313-00258012-000 | 313-00258014-000 | 313-00258016-000 | 1         | 600          | 654-657       | 9           |

\*Fabricated straps, epoxy coated carbon Steel.

## 3" and 4" NPT Taps

| STANDARD         |                   |               | CATALOG NUMBER                     |                                    | CTN. QTY. | METRIC       |               |              |
|------------------|-------------------|---------------|------------------------------------|------------------------------------|-----------|--------------|---------------|--------------|
| NOM. SIZE INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3" NPT/80 MM                       | 4" NPT/100 MM                      |           | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 6                | 5.94-6.70         | 10            | 313-00066317-000                   | N/A                                | 4         | 150          | 151-171       | 5            |
| 6                | 6.84-7.60         | 13            | 313-00076017-000                   | 313-00076018-000                   | 4         | 150          | 174-193       | 6            |
| 8-10             | 8.54-10.10        | 15            | 313-00101017-000                   | 313-00101018-000                   | 3         | 200-250      | 217-256       | 7            |
| 10               | 10.75-11.10       | 14            |                                    |                                    | - 2       | - 250-300    | - 271-307     | - 6          |
| 10-12            | 11.30-12.12       | 14            | See 357's page 22 313-00121217-000 | See 357's page 22 313-00121218-000 | - 2       | - 300-350    | - 321-363     | - 8          |
| 12               | 12.75-13.20       | 18            | See 357's page 22 313-00143217-000 | See 357's page 22 313-00143218-000 | 2         | 300-350      | 375-397       | 13           |
| 12-14            | 13.40-14.32       | 18            | 313-00156517-000                   | 313-00156518-000                   |           |              |               |              |
| 12-14            | 14.73-15.65       | 28            |                                    |                                    |           |              |               |              |
| 14-16            | 15.98-16.59       | 28            | 313-00165917-000                   | 313-00165918-000                   | 1         | 350-400      | 406-421       | 13           |
| 16               | 17.25-17.80       | 29            | 313-00178017-000                   | 313-00178018-000                   | 1         | 400          | 439-452       | 13           |
| 16-18            | 17.81-18.88       | 30            | 313-00188817-000                   | 313-00188818-000                   | 1         | 400-450      | 452-479       | 13           |
| *18              | 19.38-19.68       | 30            | 313-00195017-000                   | 313-00195018-000                   | 1         | 450          | 492-500       | 14           |

\*Fabricated straps, epoxy coated carbon Steel. ½ inch I.P. Taps can be accommodated by inserting a bushing in the ¼ inch taps.

## BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                     |
|--------|-------------|-----------------------------|
| 1/2"   | 59          | 1-1/4" NPT 313-00025610-000 |
| 3/4"   | 50          |                             |
| 1"     | 51          |                             |
| 1 1/4" | 54          |                             |
| 1 1/2" | 52          | 1-1/4" BSP 313-00025654-000 |
| 2"     | 53          |                             |
| 2 1/2" | 55          |                             |
| 3"     | 56          |                             |



# Service Saddle

## Single Stainless Steel Strap

# 315



**Description:** Single strap, Ductile Iron service saddle with TaperSeal™ gasket and wraparound 304 Stainless Steel strap for added corrosion resistance

**Application:** For outlets of 3/4" through 2".

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC and other soft or brittle pipe in mind
- The gasket is fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available
- Wide band spreads the load over larger area to prevent damage to the pipe when tightening the strap
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation

### Materials Specifications (subject to change)

BODIES: Ductile Iron per ASTM A536

STRAPS: Type 304 Stainless Steel. Single Strap, 2" wide

NUTS: Type 304 Stainless Steel fluoropolymer coated

WASHERS: Type 304 Stainless Steel

STUDS: Type 304 Stainless Steel

GASKET: Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Steel, Ductile Iron (depending on size and application), Cast Iron, Asbestos Cement, PVC. *For other pipe materials, please contact Smith-Blair Engineering.*

**Taps:** 3/4", 1", 1 1/4" and 1 1/2" CC Taps; 3/4", 1", 1 1/4", 1 1/2" and 2" NPT taps

**Sizes (in inches):** *Varies by tap type; see tables for size details*



# Service Saddle

## Single Stainless Steel Strap

5/8", 3/4" and 1" CC Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 5/8" CC/16 MM    | 3/4" CC/20 MM    | 1" CC/25 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1                 | 1.31-1.39         | 1             | 315-00013905-000 | 315-00013907-000 | N/A              | 12       | 25-32        | 33-35         | 1            |
| 1-1/4-1-1/2       | 1.61-1.92         | 1             | 315-00019205-000 | 315-00019207-000 | 315-00019209-000 | 12       | 40           | 41-48         | 1            |
| 2                 | 2.13              | 2             | 315-00021305-000 | 315-00021307-000 | 315-00021309-000 | 12       | 50           | 54            | 1            |
| 2                 | 2.38              | 2             | 315-00023805-000 | 315-00023807-000 | 315-00023809-000 | 12       | 50           | 60            | 1            |
| 2                 | 2.35-2.56         | 2             | 315-00025605-000 | 315-00025607-000 | 315-00025609-000 | 12       | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 2             | 315-00029105-000 | 315-00029107-000 | 315-00029109-000 | 8        | 57-65        | 62-73         | 1            |
| 3                 | 2.97-3.54         | 2             | 315-00035405-000 | 315-00035407-000 | 315-00035409-000 | 12       | 80           | 76-89         | 1            |
| 4                 | 4.40-4.50         | 3             | 315-00045005-000 | 315-00045007-000 | 315-00045009-000 | 12       | 80-100       | 112-114       | 1            |
| 4                 | 4.40-4.80         | 4             | 315-00048005-000 | 315-00048007-000 | 315-00048009-000 | 10       | 100          | 111-122       | 2            |
| 4-5               | 4.74-5.63         | 3             | 315-00056305-000 | 315-00056307-000 | 315-00056309-000 | 10       | 100-125      | 120-143       | 2            |
| 5-6               | 5.94-6.70         | 4             | 315-00066305-000 | 315-00066307-000 | 315-00066309-000 | 8        | 125-150      | 151-170       | 2            |
| 5-6*              | 5.94-6.90         | 4             | 315-00069005-000 | 315-00069007-000 | 315-00069009-000 | 8        | 125-150      | 151-175       | 2            |
| 6                 | 6.84-7.60         | 4             | 315-00076005-000 | 315-00076007-000 | 315-00076009-000 | 10       | 150          | 174-193       | 2            |
| 6-8               | 7.69-8.72         | 5             | 315-00087205-000 | 315-00087207-000 | 315-00087209-000 | 10       | 150-200      | 195-221       | 2            |
| 6-8*              | 7.69-9.05         | 5             | 315-00090505-000 | 315-00090507-000 | 315-00090509-000 | 10       | 150-200      | 195-230       | 2            |
| 8-10              | 8.54-10.10        | 5             | 315-00101005-000 | 315-00101007-000 | 315-00101009-000 | 10       | 200-250      | 217-256       | 2            |
| 10-12             | 10.64-12.12       | 5             | 315-00121205-000 | 315-00121207-000 | 315-00121209-000 | 6        | 250-300      | 271-307       | 3            |
| 12                | 12.75-13.20       | 6             | 315-00132005-000 | 315-00132007-000 | 315-00132009-000 | 6        | 300          | 324-335       | 3            |
| 12-14             | 12.62-14.32       | 7             | 315-00143205-000 | 315-00143207-000 | 315-00143209-000 | 6        | 300-350      | 321-363       | 3            |

3/4" and 1" NPT Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3/4" NPT/20 MM   | 1" NPT/25 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1                 | 1.31-1.39         | 1             | 315-00013906-000 | N/A              | 12       | 25-32        | 33-35         | 1            |
| 1-1/4-1-1/2       | 1.61-1.92         | 1             | 315-00019206-000 | 315-00019208-000 | 12       | 40           | 41-48         | 1            |
| 2                 | 2.13              | 2             | 315-00021306-000 | 315-00021308-000 | 12       | 50           | 54            | 1            |
| 2                 | 2.38              | 2             | 315-00023806-000 | 315-00023808-000 | 12       | 50           | 60            | 1            |
| 2                 | 2.35-2.56         | 2             | 315-00025606-000 | 315-00025608-000 | 12       | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 2             | 315-00029106-000 | 315-00029108-000 | 8        | 57-65        | 62-73         | 1            |
| 3                 | 2.97-3.54         | 2             | 315-00035406-000 | 315-00035408-000 | 12       | 80           | 76-89         | 1            |
| 4                 | 4.40-4.50         | 3             | 315-00045006-000 | 315-00045008-000 | 12       | 100          | 112-114       | 1            |
| 4                 | 4.40-4.80         | 4             | 315-00048006-000 | 315-00048008-000 | 10       | 100          | 112-122       | 2            |
| 4-5               | 4.74-5.63         | 3             | 315-00056306-000 | 315-00056308-000 | 10       | 100-125      | 121-143       | 2            |
| 5-6               | 5.94-6.70         | 4             | 315-00066306-000 | 315-00066308-000 | 8        | 125-150      | 151-170       | 2            |
| 5-6*              | 5.94-6.90         |               | 315-00069006-000 | 315-00069008-000 | 8        | 125-150      | 151-175       | 2            |
| 6                 | 6.84-7.60         | 5             | 315-00076006-000 | 315-00076008-000 | 8        | 150          | 174-193       | 2            |
| 6-8               | 7.69-8.72         | 5             | 315-00087206-000 | 315-00087208-000 | 10       | 150-200      | 195-221       | 2            |
| *6-8              | 7.69-9.05         | 5             | 315-00090506-000 | 315-00090508-000 | 10       | 150-200      | 195-230       | 2            |
| 8-10              | 8.54-10.10        | 5             | 315-00101006-000 | 315-00101008-000 | 10       | 200-250      | 217-256       | 2            |
| 10-12             | 10.64-12.12       | 5             | 315-00121206-000 | 315-00121208-000 | 6        | 250-300      | 271-307       | 3            |
| 12*               | 12.75-13.20       | 5             | 315-00132006-000 | 315-00132008-000 | 6        | 300          | 324-335       | 3            |
| 12-14             | 12.62-14.32       | 5             | 315-00143206-000 | 315-00143208-000 | 6        | 300-350      | 321-363       | 3            |

## 1¼" and 1½" CC Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" CC/32 MM  | 1-1/2" CC/40 MM  |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                 | 2.35-2.56         | 2             | 315-00025611-000 | N/A              | 6        | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 3             | 315-00029111-000 | 315-00029113-000 | 6        | 57-65        | 62-73         | 1            |
| 3                 | 2.91-2.97         | 3             | 315-00035411-000 | 315-00035413-000 | 6        | 80           | 74-75         | 1            |
| 4                 | 4.40-4.50         | 4             | 315-00045011-000 | 315-00045013-000 | 6        | 100          | 112-114       | 2            |
| 4                 | 4.40-4.80         | 4             | 315-00048011-000 | 315-00048013-000 | 6        | 100          | 112-122       | 2            |
| 4-5               | 4.74-5.63         | 5             | 315-00056311-000 | 315-00056313-000 | 6        | 100-125      | 121-143       | 2            |
| 5-6               | 5.94-6.70         | 5             | 315-00066311-000 | 315-00066313-000 | 6        | 125-150      | 151-170       | 2            |
| 5-6*              | 5.94-6.90         | 5             | 315-00069011-000 | 315-00069013-000 | 6        | 125-150      | 151-175       | 2            |
| 6                 | 6.84-7.60         | 6             | 315-00076011-000 | 315-00076013-000 | 6        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 6             | 315-00087211-000 | 315-00087213-000 | 6        | 150-200      | 195-221       | 3            |
| 6-8*              | 7.69-9.05         | 6             | 315-00090511-000 | 315-00090513-000 | 6        | 150-200      | 195-230       | 3            |
| 8-10              | 8.54-10.10        | 6             | 315-00101011-000 | 315-00101013-000 | 6        | 200-250      | 217-256       | 3            |
| 10-12             | 10.64-12.12       | 6             | 315-00121211-000 | 315-00121213-000 | 6        | 250-300      | 271-307       | 3            |
| 12*               | 12.75-13.20       | 6             | 315-00132011-000 | 315-00132013-000 | 6        | 300          | 324-335       | 3            |
| 12-14             | 12.62-14.32       | 6             | 315-00143211-000 | 315-00143213-000 | 6        | 300-350      | 321-363       | 3            |

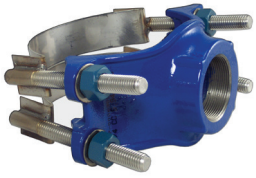
## 1¼", 1½" and 2" NPT Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |   |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|---|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     |          | NOM. SIZE MM | O.D. RANGE MM |   |
| 2                 | 2.35-2.56         | 2             | 315-00025610-000 | 315-00025612-000 | -                | 6        | 50           | 60-65         | 1 |
| 2-1/4-2-1/2       | 2.44-2.91         | 3             | 315-00029110-000 | 315-00029112-000 | -                | 6        | 57-65        | 62-73         | 1 |
| 3                 | 2.97-3.54         | 3             | 315-00035410-000 | 315-00035412-000 | -                | 6        | 80           | 76-89         | 1 |
| 4                 | 4.40-4.50         | 4             | 315-00045010-000 | 315-00045012-000 | 315-00045014-000 | 6        | 100          | 112-114       | 2 |
| 4                 | 4.40-4.80         | 4             | 315-00048010-000 | 315-00048012-000 | 315-00048014-000 | 6        | 100          | 112-122       | 2 |
| 4-5               | 4.74-5.63         | 5             | 315-00056310-000 | 315-00056312-000 | 315-00056314-000 | 6        | 100-125      | 121-143       | 2 |
| 5-6*              | 5.94-6.70         | 3             | 315-00066310-000 | 315-00066312-000 | 315-00066314-000 | 6        | 125-150      | 151-170       | 2 |
| 5-6               | 5.94-6.90         | 3             | 315-00069010-000 | 315-00069012-000 | 315-00069014-000 | 6        | 125-150      | 151-175       | 2 |
| 6                 | 6.84-7.60         | 6             | 315-00076010-000 | 315-00076012-000 | 315-00076014-000 | 6        | 150          | 174-193       | 3 |
| 6-8               | 7.69-8.72         | 6             | 315-00087210-000 | 315-00087212-000 | 315-00087214-000 | 6        | 150-200      | 195-221       | 3 |
| 6-8*              | 7.69-9.05         | 6             | 315-00090510-000 | 315-00090512-000 | 315-00090514-000 | 6        | 150-200      | 195-230       | 3 |
| 8-10              | 8.54-10.10        | 6             | 315-00101010-000 | 315-00101012-000 | 315-00101014-000 | 6        | 200-250      | 217-256       | 3 |
| 10-12             | 10.64-12.12       | 6             | 315-00121210-000 | 315-00121212-000 | 315-00121214-000 | 6        | 250-300      | 271-307       | 3 |
| 12*               | 12.75-13.20       | 6             | 315-00132010-000 | 315-00132012-000 | 315-00132014-000 | 6        | 300          | 324-335       | 3 |
| 12-14             | 12.62-14.32       | 7             | 315-00143210-000 | 315-00143212-000 | 315-00143214-000 | 6        | 300-350      | 321-363       | 3 |

## BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                   |
|--------|-------------|---------------------------|
| 1/2"   | 59          | 3/4" NPT 315-00013906-000 |
| 3/4"   | 50          |                           |
| 1"     | 51          |                           |
| 1 1/4" | 54          |                           |
| 1 1/2" | 52          | 3/4" BSP 315-00013950-000 |
| 2"     | 53          |                           |
| 2 1/2" | 55          |                           |
| 3"     | 56          |                           |



# Service Saddle

## Double Stainless Steel Strap

# 317



**Description:** Double strap Ductile Iron service saddle with TaperSeal™ gasket and wraparound 304 Stainless Steel strap for added corrosion resistance

**Application:** For outlets of 1/2" through 4".

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC and other soft or brittle pipe in mind
- The gasket fully bonds to the cavity to hold it in place
- NPT, CC and other threaded outlets available in sizes 1/2" thru 4"
- Wide bands spread the load over larger area to prevent damage to the pipe when tightening the straps
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**STRAPS:** Type 304 Stainless Steel. Double Strap 1.50" wide

**NUTS:** Type 304 Stainless Steel fluoropolymer coated

**WASHERS:** Type 304 Stainless Steel

**STUDS:** Type 304 Stainless Steel

**GASKET:** Nitrile (Buna N) NSF 61® compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, PVC and HDPE (with spring washers)

**Taps:** 1/2", 3/4", 1", 1 1/4", 1 1/2" and 2" CC Taps; 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3" and 4" NPT Taps

**Sizes (in inches):** Varies by tap type; see tables for size details





# Service Saddle

## Double Stainless Steel Strap

### BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                 |
|--------|-------------|-------------------------|
| 1/2"   | 59          | 3" NPT 317-00076017-000 |
| 3/4"   | 50          |                         |
| 1"     | 51          |                         |
| 1 1/4" | 54          |                         |
| 1 1/2" | 52          | 3" BSP 317-00076056-000 |
| 2"     | 53          |                         |
| 2 1/2" | 55          |                         |
| 3"     | 56          |                         |

### 3/4" and 1" NPT Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3/4" NPT/20 MM   | 1" NPT/25 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1-1/4-1-1/2       | 1.61-1.92         | 3             | 317-00019206-000 | 317-00019208-000 | 6        | 32-40        | 41-48         | 1            |
| 2                 | 2.35-2.56         | 3             | 317-00025606-000 | 317-00025608-000 | 6        | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 3             | 317-00029106-000 | 317-00029108-000 | 6        | 57-65        | 62-73         | 2            |
| 3                 | 2.97-3.54         | 4             | 317-00035406-000 | 317-00035408-000 | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 6             | 317-00041306-000 | 317-00041308-000 | 6        | 80-100       | 95-105        | 3            |
| 4                 | 4.40-4.50         | 6             | 317-00045006-000 | 317-00045008-000 | 6        | 100          | 112-114       | 3            |
| 4*                | 4.40-4.80         | 6             | 317-00048006-000 | 317-00048008-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 5.00-5.63         | 6             | 317-00056306-000 | 317-00056308-000 | 6        | 100-125      | 121-143       | 3            |
| 6                 | 5.94-6.70         | 6             | 317-00066306-000 | 317-00066308-000 | 6        | 150          | 151-170       | 3            |
| 6*                | 5.94-6.90         | 6             | 317-00069006-000 | 317-00069008-000 | 4        | 150          | 151-175       | 3            |
| 6                 | 6.84-7.60         | 7             | 317-00076006-000 | 317-00076008-000 | 4        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 8             | 317-00087206-000 | 317-00087208-000 | 4        | 150-200      | 195-221       | 4            |
| 6-8*              | 7.69-9.05         | 8             | 317-00090506-000 | 317-00090508-000 | 4        | 150-200      | 195-230       | 4            |
| 8-10              | 8.54-10.10        | 8             | 317-00101006-000 | 317-00101008-000 | 4        | 200-250      | 217-256       | 4            |
| 10*               | 10.75-11.10       | 9             | 317-00111006-000 | 317-00111008-000 | 4        | 250          | 273-282       | 4            |
| 10-12             | 10.64-12.12       | 10            | 317-00121206-000 | 317-00121208-000 | 4        | 250-300      | 271-307       | 4            |
| 12*               | 12.75-13.20       | 9             | 317-00132006-000 | 317-00132008-000 | 4        | 300          | 324-335       | 6            |
| 12-14             | 12.62-14.32       | 15            | 317-00143206-000 | 317-00143208-000 | 4        | 300-350      | 321-363       | 7            |
| 12-14             | 14.73-15.65       | 18            | 317-00156506-000 | 317-00156508-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 317-00172506-000 | 317-00172508-000 | 1        | 350-400      | 406-438       | 9            |
| 16                | 17.25-17.80       | 19            | 317-00178006-000 | 317-00178008-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 317-00188806-000 | 317-00188808-000 | 1        | 400-450      | 442-479       | 9            |
| 18*               | 19.38-19.68       | 19            | 317-00195006-000 | 317-00195008-000 | 1        | 450          | 492-500       | 9            |
| 20*               | 21.55-21.65       | 19            | 317-00216006-000 | 317-00216008-000 | 1        | 500          | 547-550       | 9            |
| 24                | 25.75-25.85       | 30            | 317-00258006-000 | 317-00258008-000 | 1        | 600          | 654-657       | 14           |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

" , 3/4" and 1" CC Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 5/8" CC/16 MM    | 3/4" CC/20 MM    | 1" CC/25 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 1-1/4-1-1/2       | 1.61-1.92         | 3             | 317-00019205-000 | 317-00019207-000 | 317-00019209-000 | 6        | 32-40        | 41-48         | 1            |
| 2                 | 2.35-2.56         | 3             | 317-00025605-000 | 317-00025607-000 | 317-00025609-000 | 6        | 50           | 60-65         | 1            |
| 2-1/4-2-1/2       | 2.44-2.91         | 3             | 317-00029105-000 | 317-00029107-000 | 317-00029109-000 | 6        | 57-65        | 62-73         | 2            |
| 3                 | 2.97-3.54         | 4             | 317-00035405-000 | 317-00035407-000 | 317-00035409-000 | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 6             | 317-00041305-000 | 317-00041307-000 | 317-00041309-000 | 6        | 80-100       | 95-105        | 3            |
| 4                 | 4.40-4.50         | 6             | 317-00045005-000 | 317-00045007-000 | 317-00045009-000 | 6        | 100          | 112-114       | 3            |
| 4*                | 4.40-4.80         | 6             | 317-00048005-000 | 317-00048007-000 | 317-00048009-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 5.00-5.63         | 6             | 317-00056305-000 | 317-00056307-000 | 317-00056309-000 | 6        | 100-125      | 121-143       | 3            |
| 6                 | 5.94-6.70         | 6             | 317-00066305-000 | 317-00066307-000 | 317-00066309-000 | 4        | 150          | 151-170       | 3            |
| 6*                | 5.94-6.90         | 6             | 317-00069005-000 | 317-00069007-000 | 317-00069009-000 | 4        | 150          | 151-175       | 3            |
| 6                 | 6.84-7.60         | 7             | 317-00076005-000 | 317-00076007-000 | 317-00076009-000 | 4        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 8             | 317-00087205-000 | 317-00087207-000 | 317-00087209-000 | 4        | 150-200      | 195-221       | 4            |
| 6-8*              | 7.69-9.05         | 8             | 317-00090505-000 | 317-00090507-000 | 317-00090509-000 | 4        | 150-200      | 195-230       | 4            |
| 8-10              | 8.54-10.10        | 8             | 317-00101005-000 | 317-00101007-000 | 317-00101009-000 | 4        | 200-250      | 217-256       | 4            |
| 10*               | 10.75-11.10       | 9             | 317-00111005-000 | 317-00111007-000 | 317-00111009-000 | 4        | 250          | 273-282       | 4            |
| 10-12*            | 10.64-12.12       | 10            | 317-00121205-000 | 317-00121207-000 | 317-00121209-000 | 4        | 250-300      | 271-307       | 4            |
| 12*               | 12.75-13.20       | 10            | 317-00132005-000 | 317-00132007-000 | 317-00132009-000 | 4        | 300          | 324-335       | 7            |
| 12-14             | 12.62-14.32       | 15            | 317-00143205-000 | 317-00143207-000 | 317-00143209-000 | 4        | 300-350      | 321-363       | 7            |
| 12-14             | 14.73-15.65       | 18            | 317-00156505-000 | 317-00156507-000 | 317-00156509-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 317-00172505-000 | 317-00172507-000 | 317-00172509-000 | 1        | 350-400      | 406-438       | 9            |
| 16                | 17.25-17.80       | 19            | 317-00178005-000 | 317-00178007-000 | 317-00178009-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 317-00188805-000 | 317-00188807-000 | 317-00188809-000 | 1        | 400-450      | 442-479       | 9            |
| 18*               | 19.38-19.68       | 19            | 317-00195005-000 | 317-00195007-000 | 317-00195009-000 | 1        | 450          | 492-500       | 9            |
| 20*               | 21.55-21.65       | 19            | 317-00216005-000 | 317-00216007-000 | 317-00216009-000 | 1        | 500          | 547-550       | 9            |
| 24                | 25.75-25.85       | 30            | 317-00258005-000 | 317-00258007-000 | 317-00258009-000 | 1        | 600          | 654-657       | 9            |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

1 1/4", 1 1/2" and 2" CC Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" CC/32 MM  | 1-1/2" CC/40 MM  | 2" CC/50 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                 | 2.35-2.56         | 3             | 317-00025611-000 | N/A              | N/A N/A          | 6        | 50           | 60-65         | 1            |
| 3                 | 2.97-3.54         | 5             | 317-00035411-000 | 317-00035413-000 | N/A N/A          | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 8             | 317-00041311-000 | 317-00041313-000 | 317-00041315-000 | 6        | 80-100       | 95-105        | 3            |
| 4                 | 4.40-4.50         | 9             | 317-00045011-000 | 317-00045013-000 | 317-00045015-000 | 6        | 100          | 112-114       | 3            |
| 4*                | 4.40-4.80         | 9             | 317-00048011-000 | 317-00048013-000 | 317-00048015-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 5.00-5.14         | 9             | 317-00051411-000 | 317-00051413-000 | 317-00051415-000 | 6        | 100-125      | 120-130       | 3            |
| 4-5               | 5.00-5.63         | 9             | 317-00056311-000 | 317-00056313-000 | 317-00056315-000 | 6        | 100-125      | 121-143       | 4            |
| 6                 | 5.94-6.70         | 9             | 317-00066311-000 | 317-00066313-000 | 317-00066315-000 | 4        | 150          | 151-170       | 4            |
| 6*                | 5.94-6.90         | 9             | 317-00069011-000 | 317-00069013-000 | 317-00069015-000 | 4        | 150          | 151-175       | 4            |
| 6                 | 6.84-7.60         | 8             | 317-00076011-000 | 317-00076013-000 | 317-00076015-000 | 4        | 150          | 174-193       | 4            |
| 6-8               | 7.69-8.72         | 11            | 317-00087211-000 | 317-00087213-000 | 317-00087215-000 | 4        | 150-200      | 195-221       | 5            |
| 6-8*              | 7.64-9.05         | 11            | 317-00090511-000 | 317-00090513-000 | 317-00090515-000 | 4        | 150-200      | 195-230       | 5            |
| 8-10              | 8.54-10.10        | 9             | 317-00101011-000 | 317-00101013-000 | 317-00101015-000 | 4        | 200-250      | 217-256       | 4            |
| 10*               | 10.75-11.10       | 11            | 317-00111011-000 | 317-00111013-000 | 317-00111015-000 | 4        | 250          | 273-282       | 4            |
| 10-12             | 10.64-12.12       | 11            | 317-00121211-000 | 317-00121213-000 | 317-00121215-000 | 4        | 250-300      | 271-307       | 5            |
| 12*               | 12.75-13.20       | 14            | 317-00132011-000 | 317-00132013-000 | 317-00132015-000 | 4        | 300          | 324-335       | 6            |
| 12-14             | 12.62-14.32       | 14            | 317-00143211-000 | 317-00143213-000 | 317-00143215-000 | 4        | 300-350      | 321-363       | 6            |
| 12-14             | 14.73-15.65       | 18            | 317-00156511-000 | 317-00156513-000 | 317-00156515-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 317-00172511-000 | 317-00172513-000 | 317-00172515-000 | 1        | 350-400      | 406-438       | 9            |
| 16                | 17.25-17.80       | 19            | 317-00178011-000 | 317-00178013-000 | 317-00178015-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 317-00188811-000 | 317-00188813-000 | 317-00188815-000 | 1        | 400-450      | 442-479       | 9            |
| 18*               | 19.38-19.68       | 19            | 317-00195011-000 | 317-00195013-000 | 317-00195015-000 | 1        | 450          | 492-500       | 9            |
| 20*               | 21.55-21.65       | 19            | 317-00216011-000 | 317-00216013-000 | 317-00216015-000 | 1        | 500          | 547-500       | 9            |
| 24                | 25.75-25.85       | 30            | 317-00258011-000 | 317-00258013-000 | 317-00258015-000 | 1        | 600          | 654-657       | 9            |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

## 1¼", 1½", 2" and 2½" NPT Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     | 2-1/2" NPT/65 MM |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 2                 | 2.35-2.56         | 3             | 317-00025610-000 | 317-00025612-000 | N/A              | N/A              | 6        | 50           | 60-65         | 1            |
| 3                 | 2.97-3.54         | 5             | 317-00035410-000 | 317-00035412-000 | 317-00035414-000 | N/A              | 6        | 80           | 76-89         | 2            |
| 3-4               | 3.74-4.13         | 8             | 317-00041310-000 | 317-00041312-000 | 317-00041314-000 | 317-00041316-000 | 6        | 80-100       | 95-105        | 3            |
| 4                 | 4.40-4.50         | 6             | 317-00045010-000 | 317-00045012-000 | 317-00045014-000 | 317-00045016-000 | 6        | 100          | 112-114       | 3            |
| 4*                | 4.40-4.80         | 6             | 317-00048010-000 | 317-00048012-000 | 317-00048014-000 | 317-00048016-000 | 6        | 100          | 112-122       | 3            |
| 4-5               | 4.74-5.14         | 6             | 317-00051410-000 | 317-00051412-000 | 317-00051414-000 | 317-00051416-000 | 6        | 100          | 120-130       | 3            |
| 4-5               | 5.00-5.63         | 9             | 317-00056310-000 | 317-00056312-000 | 317-00056314-000 | 317-00056316-000 | 4        | 100-125      | 121-143       | 4            |
| 6                 | 6.94-6.70         | 9             | 317-00066310-000 | 317-00066312-000 | 317-00066314-000 | 317-00066316-000 | 4        | 150          | 151-170       | 4            |
| 6*                | 5.94-6.90         | 9             | 317-00069010-000 | 317-00069012-000 | 317-00069014-000 | 317-00069016-000 | 4        | 150          | 151-175       | 4            |
| 6                 | 6.84-7.60         | 7             | 317-00076010-000 | 317-00076012-000 | 317-00076014-000 | 317-00076016-000 | 4        | 150          | 174-193       | 3            |
| 6-8               | 7.69-8.72         | 11            | 317-00087210-000 | 317-00087212-000 | 317-00087214-000 | 317-00087216-000 | 4        | 150-200      | 195-221       | 5            |
| 6-8*              | 7.69-9.05         | 11            | 317-00090510-000 | 317-00090512-000 | 317-00090514-000 | 317-00090516-000 | 4        | 150-200      | 195-230       | 5            |
| 8-10              | 8.54-10.10        | 9             | 317-00101010-000 | 317-00101012-000 | 317-00101014-000 | 317-00101016-000 | 4        | 200-250      | 217-256       | 4            |
| 10*               | 10.75-11.10       | 9             | 317-00111010-000 | 317-00111012-000 | 317-00111014-000 | 317-00111016-000 | 4        | 250          | 273-282       | 5            |
| 10-12             | 10.64-12.12       | 11            | 317-00121210-000 | 317-00121212-000 | 317-00121214-000 | 317-00121216-000 | 4        | 250-300      | 271-307       | 5            |
| 12*               | 12.75-13.20       | 9             | 317-00132010-000 | 317-00132012-000 | 317-00132014-000 | 317-00132016-000 | 4        | 300          | 324-335       | 6            |
| 12-14             | 12.62-14.32       | 14            | 317-00143210-000 | 317-00143212-000 | 317-00143214-000 | 317-00143216-000 | 4        | 300-350      | 321-363       | 6            |
| 12-14             | 14.73-15.65       | 18            | 317-00156510-000 | 317-00156512-000 | 317-00156514-000 | 317-00156516-000 | 1        | 300-350      | 375-397       | 8            |
| 14-16             | 15.95-17.25       | 19            | 317-00172510-000 | 317-00172512-000 | 317-00172514-000 | 317-00172516-000 | 1        | 350-400      | 406-438       | 9            |
| 16                | 17.25-17.80       | 19            | 317-00178010-000 | 317-00178012-000 | 317-00178014-000 | 317-00178016-000 | 1        | 410          | 438-452       | 9            |
| 16-18             | 17.40-18.88       | 19            | 317-00188810-000 | 317-00188812-000 | 317-00188814-000 | 317-00188816-000 | 1        | 400-450      | 442-479       | 9            |
| 18*               | 19.38-19.68       | 19            | 317-00195010-000 | 317-00195012-000 | 317-00195014-000 | 317-00195016-000 | 1        | 450          | 492-500       | 9            |
| 20*               | 21.55-21.65       | 19            | 317-00216010-000 | 317-00216012-000 | 317-00216014-000 | 317-00216016-000 | 1        | 500          | 547-500       | 9            |
| 24                | 25.75-25.85       | 30            | 317-00258010-000 | 317-00258012-000 | 317-00258014-000 | 317-00258016-000 | 1        | 600          | 654-657       | 14           |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

## 3" and 4" NPT Taps

\*Sized for use on C900 PVC Pipe

| STANDARD          |                   |               | CATALOG NUMBER    |                   | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|-------------------|-------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3" NPT/80 MM      | 4" NPT/100 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 6                 | 6.84-7.60         | 13            | 317-00076017-000  | 317-00076018-000  | 2        | 150          | 174-193       | 6            |
| 8-10              | 8.54-10.10        | 15            | 317-00101017-000  | 317-00101018-000  | 3        | 200-250      | 217-256       | 7            |
| 10*               | 10.75-11.10       | 14            | See 357's page 22 | See 357's page 22 | -        | -            | -             | -            |
| 12*               | 12.75-13.20       | 18            | See 357's page 22 | See 357's page 22 | - 2      | - 300-350    | - 321-363     | - 8          |
| 12-14             | 13.40-14.32       | 18            | 317-00143217-000  | 317-00143218-000  |          |              |               |              |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."



# Bronze Service Saddle

## Extra Wide Stainless Strap

# 325



**Description:** Bronze Service Saddle with Stainless Steel strap

**Application:** Ideal for PVC pipe and will provide added corrosion resistance.

### Key Features:

- Buna-N Gasket per ASTM D2000
- Meets applicable AWWA C800 Standards
- Available with 3/4" thru 2" NPT and CC outlets
- Body made of Cast Red Brass for corrosion resistance
- Designed with PVC Pipe applications in mind. O.D. Specific bodies are available
- Maximum support and reinforcement on PVC pipe (nearly 360°)
- Strap will provide a range that covers Steel and Ductile Iron O.D.'s on rigid pipe
- Strap is single 3.5" wide, 304 Stainless Steel, four studs for wide stance on the pipe

### Materials Specifications (subject to change)

**BODY:** 85-5-5-5 Cast Red Brass per ASTM B584 or B62

**GASKET:** NSF-61 Approved Buna-N

**Temperature Range:** -20 to 180

**STRAPS:** 18-8 Type 304 Stainless Steel

**NUTS/WASHERS:** 18-8 Type 304 Premium Grade Stainless Nuts, coated to prevent galling

**Working Pressure:** 150 PSI, depending on size and application

**Pipe Applications:** PVC, Ductile Iron, Cast Iron and Steel

**Sizes (in inches):** 4, 6, 8, 10, 12

3/4" and 1" NPT and CC Taps

For Rigid Pipe Applications

| NOM. SIZE IN. | O.D. RANGE INCHES | CTN. QTY. | CATALOG NUMBER |                |                |                | WT. EACH LBS. |
|---------------|-------------------|-----------|----------------|----------------|----------------|----------------|---------------|
|               |                   |           | 3/4" NPT       | 3/4" CC        | 1" NPT         | 1" CC          |               |
| 4             | 4.50 - 4.80       | 4         | 325-048006-100 | 325-048007-100 | 325-048008-100 | 325-048009-100 | 6.3           |
| 6             | 6.63 - 6.90       | 4         | 325-069006-100 | 325-069007-100 | 325-069008-100 | 325-069009-100 | 7.3           |
| 8             | 8.63 - 9.05       | 4         | 325-090506-100 | 325-090507-100 | 325-090508-100 | 325-090509-100 | 7.9           |
| 10            | 10.75 - 11.10     | 4         | 325-111006-100 | 325-111007-100 | 325-111008-100 | 325-111009-100 | 9.3           |
| 12            | 12.75 - 13.20     | 2         | 325-132006-100 | 325-132007-100 | 325-132008-100 | 325-132009-100 | 10.3          |



# Bronze Service Saddle

## Extra Wide Stainless Strap

325

3/4" and 1" NPT and CC Taps

For PVC Pipe Applications

| NOM. SIZE IN. | O.D. INCHES | CTN. QTY. | CATALOG NUMBER |                |                |                | WT. EACH LBS. |
|---------------|-------------|-----------|----------------|----------------|----------------|----------------|---------------|
|               |             |           | 3/4" NPT       | 3/4" CC        | 1" NPT         | 1" CC          |               |
| 4             | 4.50        | 4         | 325-045006-000 | 325-045007-000 | 325-045008-000 | 325-045009-000 | 6.3           |
|               | 4.80        | 4         | 325-048006-000 | 325-048007-000 | 325-048008-000 | 325-048009-000 | 6.3           |
| 6             | 6.63        | 4         | 325-066306-000 | 325-066307-000 | 325-066308-000 | 325-066309-000 | 7.3           |
|               | 6.90        | 4         | 325-069006-000 | 325-069007-000 | 325-069008-000 | 325-069009-000 | 7.3           |
| 8             | 8.63        | 4         | 325-086306-000 | 325-086307-000 | 325-086308-000 | 325-086309-000 | 7.9           |
|               | 9.05        | 4         | 325-090506-000 | 325-090507-000 | 325-090508-000 | 325-090509-000 | 7.9           |
| 10            | 10.75       | 4         | 325-107506-000 | 325-107507-000 | 325-107508-000 | 325-107509-000 | 9.3           |
|               | 11.10       | 4         | 325-111006-000 | 325-111007-000 | 325-111008-000 | 325-111009-000 | 9.3           |
| 12            | 12.75       | 2         | 325-127506-000 | 325-127507-000 | 325-127508-000 | 325-127509-000 | 10.3          |
|               | 13.20       | 2         | 325-132006-000 | 325-132007-000 | 325-132008-000 | 325-132009-000 | 10.3          |

1 1/4" – 2" NPT and CC Taps

For PVC Pipe Applications

| NOM. SIZE IN. | O.D. INCHES | CTN. QTY. | CATALOG NUMBER |                |                |                |                |                | WT. EACH LBS. |
|---------------|-------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
|               |             |           | 1 1/4" NPT     | 1 1/4" CC      | 1 1/2" NPT     | 1 1/2" CC      | 2" NPT         | 2" CC          |               |
| 4             | 4.50        | 4         | 325-045010-000 | 325-045011-000 | 325-045012-000 | 325-045013-000 | 325-045014-000 | 325-045015-000 | 7.5           |
|               | 4.80        | 4         | 325-048010-000 | 325-048011-000 | 325-048012-000 | 325-048013-000 | 325-048014-000 | 325-048015-000 | 7.5           |
| 6             | 6.63        | 4         | 325-066310-000 | 325-066311-000 | 325-066312-000 | 325-066313-000 | 325-066314-000 | 325-066315-000 | 7.9           |
|               | 6.90        | 4         | 325-069010-000 | 325-069011-000 | 325-069012-000 | 325-069013-000 | 325-069014-000 | 325-069015-000 | 7.9           |
| 8             | 8.63        | 4         | 325-086310-000 | 325-086311-000 | 325-086312-000 | 325-086313-000 | 325-086314-000 | 325-086315-000 | 9.1           |
|               | 9.05        | 4         | 325-090510-000 | 325-090511-000 | 325-090512-000 | 325-090513-000 | 325-090514-000 | 325-090515-000 | 9.1           |
| 10            | 10.75       | 4         | 325-107510-000 | 325-107511-000 | 325-107512-000 | 325-107513-000 | 325-107514-000 | 325-107515-000 | 10.3          |
|               | 11.10       | 4         | 325-111010-000 | 325-111011-000 | 325-111012-000 | 325-111013-000 | 325-111014-000 | 325-111015-000 | 10.3          |
| 12            | 12.75       | 2         | 325-127510-000 | 325-127511-000 | 325-127512-000 | 325-127513-000 | 325-127514-000 | 325-127515-000 | 11.5          |
|               | 13.20       | 2         | 325-132010-000 | 325-132011-000 | 325-132012-000 | 325-132013-000 | 325-132014-000 | 325-132015-000 | 11.5          |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."

1 1/4" – 2" NPT and CC Taps SS Straps

| NOM. SIZE IN. | O.D. RANGE INCHES | CTN. QTY. | CATALOG NUMBER |                |                |                |                |                | WT. EACH LBS. |
|---------------|-------------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
|               |                   |           | 1 1/4" NPT     | 1 1/4" CC      | 1 1/2" NPT     | 1 1/2" CC      | 2" NPT         | 2" CC          |               |
| 4             | 4.50 - 4.80       | 4         | 325-048010-100 | 325-048011-100 | 325-048012-100 | 325-048013-100 | 325-048014-100 | 325-048015-100 | 7.5           |
| 6             | 6.63 - 6.90       | 4         | 325-069010-100 | 325-069011-100 | 325-069012-100 | 325-069013-100 | 325-069014-100 | 325-069015-100 | 7.9           |
| 8             | 8.63 - 9.05       | 4         | 325-090510-100 | 325-090511-100 | 325-090512-100 | 325-090513-100 | 325-090514-100 | 325-090515-100 | 9.1           |
| 10            | 10.75 - 11.10     | 4         | 325-111010-100 | 325-111011-100 | 325-111012-100 | 325-111013-100 | 325-111014-100 | 325-111015-100 | 10.3          |
| 12            | 12.75 - 13.20     | 2         | 325-132010-100 | 325-132011-100 | 325-132012-100 | 325-132013-100 | 325-132014-100 | 325-132015-100 | 11.5          |

When properly sized from the factory, this product (denoted by \*) meets the requirements listed in the Uni-Bell PVC Pipe Association's "Handbook of PVC Pipe" and in the AWWA's "Manual M23: PVC Pipe Design and Installation."



# Service Saddle

## Ductile Iron Body, Double Bale

# 331



### Description:

Double bale Ductile Iron repair saddle with large concentric-ribbed gasket and Carbon Steel bales.

**Application:** Pulled out or broken direct taps, stripped threads, cracked pipe or new installations where wide gasket coverage is desired.

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Concentric ribbed gasket conforms to pipe surface irregularities to assure dependable seal
- NPT, CC and other threaded outlets available in sizes 5/8" to 2"
- Excellent way to repair and restore a damaged branch connection in one operation
- In conjunction with the bales, a closed lug on one side acts as a hinge for easier installation

### Materials Specifications (subject to change)

BODIES: Ductile Iron per ASTM A536

BALES: Carbon Steel ASTM A108 (C1018) or HSLA (C111) electrogalvanized with di-chromate seal ASTM B633

NUTS: Cold formed semi-finished heavy hex Steel A563 electrogalvanized with di-chromate seal ASTM B633

WASHERS: Carbon Steel ASTM A108, electrogalvanized with a di-chromate seal ASTM B633

GASKET: Nitrile (Buna N) NSF 61 compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish per AWWA C213

**Optional Bales: Type 304 Stainless Steel**

**Working Pressure:** Up to 300 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement

**Taps:** 3/4", 1", 1 1/4", 1 1/2" and 2" NPT taps; 5/8", 3/4", 1", 1 1/4" and 1 1/2" CC taps

**Sizes (in inches):** Varies by tap type; see tables for size details.

### BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                   |
|--------|-------------|---------------------------|
| 1/2"   | 59          | 3/4" CC 331-00053207-000  |
| 3/4"   | 50          |                           |
| 1"     | 51          |                           |
| 1 1/4" | 54          |                           |
| 1 1/2" | 52          | 3/4" BSP 331-00053250-000 |
| 2"     | 53          |                           |
| 2 1/2" | 55          |                           |
| 3"     | 56          |                           |



# Service Saddle

## Ductile Iron Body, Double Bale

331

5/8", 3/4" and 1" CC Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 5/8" CC/16 MM    | 3/4" CC/20 MM    | 1" CC/25 MM      |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 4                 | 4.79-5.32         | 7             | 331-00053205-000 | 331-00053207-000 | 331-00053209-000 | 4        | 100          | 122-135       | 3            |
| 6                 | 6.90-7.40         | 8             | 331-00074005-000 | 331-00074007-000 | 331-00074009-000 | 4        | 150          | 175-188       | 4            |
| 8                 | 9.00-9.63         | 10            | 331-00096305-000 | 331-00096307-000 | 331-00096309-000 | 4        | 200          | 229-244       | 4            |
| 10                | 11.04-12.12       | 13            | 331-00121205-000 | 331-00121207-000 | 331-00121209-000 | 4        | 250          | 281-307       | 6            |
| 12                | 13.14-14.38       | 15            | 331-00143805-000 | 331-00143807-000 | 331-00143809-000 | 4        | 300          | 334-365       | 7            |

3/4" and 1" NPT Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 3/4" NPT/20 MM   | 1" NPT/25 MM     |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 4                 | 4.79-5.32         | 7             | 331-00053206-000 | 331-00053208-000 | 4        | 100          | 122-135       | 3            |
| 6                 | 6.90-7.40         | 8             | 331-00074006-000 | 331-00074008-000 | 4        | 150          | 175-188       | 4            |
| 8                 | 9.00-9.63         | 10            | 331-00096306-000 | 331-00096308-000 | 4        | 200          | 229-244       | 4            |
| 10                | 11.04-12.12       | 13            | 331-00121206-000 | 331-00121208-000 | 4        | 250          | 281-307       | 6            |
| 12                | 13.14-14.38       | 15            | 331-00143806-000 | 331-00143808-000 | 4        | 300          | 334-365       | 7            |

1 1/4", 1 1/2" and 2" NPT Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1-1/4" NPT/32 MM | 1-1/2" NPT/32 MM | 2" NPTC/50 MM    |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 4                 | 4.79-5.32         | 7             | 331-00053210-000 | 331-00053212-000 | 331-00053214-000 | 4        | 100          | 122-135       | 3            |
| 6                 | 6.90-7.40         | 8             | 331-00074010-000 | 331-00074012-000 | 331-00074014-000 | 4        | 150          | 175-188       | 4            |
| 8                 | 9.00-9.63         | 10            | 331-00096310-000 | 331-00096312-000 | 331-00096314-000 | 4        | 200          | 229-244       | 4            |
| 10                | 11.04-12.12       | 13            | 331-00121210-000 | 331-00121212-000 | 331-00121214-000 | 4        | 250          | 281-307       | 6            |
| 12                | 13.14-14.38       | 15            | 331-00143810-000 | 331-00143812-000 | 331-00143814-000 | 4        | 300          | 334-365       | 7            |

1 1/4" and 1 1/2" CC Taps

| STANDARD          |                   |               | CATALOG NUMBER   |                  | CTN. QTY | METRIC       |               |              |
|-------------------|-------------------|---------------|------------------|------------------|----------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | 1 1/4" CC/16 MM  | 1 1/2" CC/20 MM  |          | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 4                 | 4.79-5.32         | 7             | 331-00053211-000 | 331-00053213-000 | 4        | 100          | 122-135       | 3            |
| 6                 | 6.90-7.40         | 8             | 331-00074011-000 | 331-00074013-000 | 4        | 150          | 175-188       | 4            |
| 8                 | 9.00-9.63         | 10            | 331-00096311-000 | 331-00096313-000 | 4        | 200          | 229-244       | 4            |
| 10                | 11.04-12.12       | 13            | 331-00121211-000 | 331-00121213-000 | 4        | 250          | 281-307       | 6            |
| 12                | 13.14-14.38       | 15            | 331-00143811-000 | 331-00143813-000 | 4        | 300          | 334-365       | 7            |



# Service Saddle

For PVC or Steel Pipe (not Ductile Iron)

# 357



**Description:** Double strap saddle with large tapped outlet.

**Application:** For distribution or new pipeline installations. *(Not for use on Ductile Iron pipe)*

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Designed with PVC pipe in mind
- The gasket fully bonded to the cavity to hold it in place
- NPT, CC and other threaded outlets available in 3" and 4"
- Wide bands spread the load over larger area to prevent damage to the pipe when tightening the straps
- A closed lug on one side, combined with the straps, acts as a hinge for easier installation

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**BANDS:** Type 304 Stainless Steel

**GASKET:** Nitrile (Buna N) NSF 61 compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**STUD:** Type 304 Stainless Steel

**NUTS & WASHERS:** Type 304 Stainless Steel

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel and PVC (not Ductile Iron)

**Taps:** 3" and 4" NPT taps

**Sizes (in inches):** 6, 8, 10, 12

**3" and 4" NPT Taps**

| STANDARD          |                   |               |                 | CATALOG NUMBER                       | METRIC       |               |              |
|-------------------|-------------------|---------------|-----------------|--------------------------------------|--------------|---------------|--------------|
| NOM. SIZES INCHES | O.D. RANGE INCHES | WT. EACH LBS. | TAP SIZE INCHES |                                      | NOM. SIZE MM | O.D. RANGE MM | WT. EACH KG. |
| 6                 | 6.63-6.90         | 12            | 3               | 357-00069017-000<br>357-00069018-000 | 150          | 168-175       | 6            |
|                   |                   | 12            | 4               |                                      |              |               | 6            |
| 8                 | 8.63-9.05         | 13            | 3               | 357-00090517-000<br>357-00090518-000 | 200          | 219-230       | 6            |
|                   |                   | 13            | 4               |                                      |              |               | 6            |
| 10                | 10.75-11.10       | 14            | 3               | 357-00111017-000<br>357-00111018-000 | 250          | 273-282       | 6            |
|                   |                   | 14            | 4               |                                      |              |               | 6            |
| 12                | 12.75-13.20       | 14            | 3               | 357-00132017-000<br>357-00132018-000 | 300          | 323-335       | 6            |
|                   |                   | 14            | 4               |                                      |              |               | 6            |





# Service Saddle

For Concrete Steel Cylinder Pipe, Double Strap

## 362

**Description:** Double strap service saddle specifically for Concrete Steel Cylinder and concrete coated Steel pipe.

**Application:** Making taps in concrete cylinder and concrete Steel pipe

### Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- Excellent way to tap concrete cylinder or concrete Steel pipe
- NPT, CC and other threaded outlets available in sizes 3/4" to 2"
- Hemispherical washers provide full bearing for the strap nuts and align the straps with the saddle body
- Provides maximum support of the pipe for better performance in the tapped area (nearly 360°)
- The unique twist-lock tapped insert can accommodate up to 1½" variation in the thickness of the concrete finish
- A grout opening is provided in the saddle body alongside the insert for restoring the concrete Finish after the tap is completed

### Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**TAPPED INSERT:** Ductile Iron ASTM A 536. Tap threads are full and free from shear and conform to AWWA standards

**HEMISPHERICAL WASHERS:** Ductile Iron ASTM A 536

**GASKET:** Nitrile (Buna N) NSF O-Ring gasket. Compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20 to +180

**STRAPS:** Carbon Steel ASTM A 285 with Flexi-Coat® Fusion Bonded Epoxy Finish. *Stainless Steel is optional.*

**STUD:** High strength, low alloy

**NUTS & WASHERS:** Type 304 Stainless Steel

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish, per C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Concrete Steel Cylinder, Concrete Steel Pipe

**Taps:** ¾", 1", 1¼", 1½", 2" in NPT Taps; ¾", 1", 1¼", 1½", 2" in CC Taps

**Sizes (in inches):** 12, 14, 16, 18, 20, 21, 24, 27, 30, 33, 36





# Service Saddle

For Concrete Steel Cylinder Pipe, Double Strap

362

## CC BSP and NPT BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE   |
|--------|-------------|---|
| 3/4"   | 50          | 3/4" CC 362-00158807-000<br>3/4" BSP 362-00158850-000 |
| 1"     | 51          |   |
| 1 1/4" | 54          |   |
| 1 1/2" | 52          |   |
| 2"     | 53          |   |
| 2 1/2" | 55          |   |
| 3"     | 56          |   |

## CC Taps

| NOM. PIPE SIZE IN. | STEEL CYL. O.D. INCHES | CONCRETE COATING O.D. RANGE INCHES | WT. EA. LBS. | CATALOG NUMBER   |                  |                  |                  |                  |
|--------------------|------------------------|------------------------------------|--------------|------------------|------------------|------------------|------------------|------------------|
|                    |                        |                                    |              | 3/4" CC/20 MM    | 1" CC/25 MM      | 1-1/4" CC/32 MM  | 1-1/2" CC/40 MM  | 2" CC/50 MM      |
| 12                 | 13-5/8                 | 15.38-15.88                        | 24           | 362-00158807-000 | 362-00158809-000 | 362-00158811-000 | 362-00158813-000 | 362-00158815-000 |
| 14                 | 15-3/4                 | 17.25-18.00                        | 24           | 362-00180007-000 | 362-00180009-000 | 362-00180011-000 | 362-00180013-000 | 362-00180015-000 |
| 16                 | 17-3/8                 | 19.38-19.88                        | 26           | 362-00198807-000 | 362-00198809-000 | 362-00198811-000 | 362-00198813-000 | 362-00198815-000 |
| 18                 | 19                     | 21.75-22.38                        | 26           | 362-00223807-000 | 362-00223809-000 | 362-00223811-000 | 362-00223813-000 | 362-00223815-000 |
| 20                 | 21                     | 23.75-24.38                        | 31           | 362-00243807-000 | 362-00243809-000 | 362-00243811-000 | 362-00243813-000 | 362-00243815-000 |
| 21                 | 22                     | 24.75-25.50                        | 31           | 362-00255007-000 | 362-00255009-000 | 362-00255011-000 | 362-00255013-000 | 362-00255015-000 |
| 24                 | 25-3/4                 | 27.88-28.50                        | 33           | 362-00285007-000 | 362-00285009-000 | 362-00285011-000 | 362-00285013-000 | 362-00285015-000 |
| 27                 | 28                     | 30.75-31.50                        | 35           | 362-00315007-000 | 362-00315009-000 | 362-00315011-000 | 362-00315013-000 | 362-00315015-000 |
| 30                 | 31-7/8                 | 34.13-34.88                        | 37           | 362-00348807-000 | 362-00348809-000 | 362-00348811-000 | 362-00348813-000 | 362-00348815-000 |
| 33                 | 34-7/8                 | 37.13-37.38                        | 38           | 362-00373807-000 | 362-00373809-000 | 362-00373811-000 | 362-00373813-000 | 362-00373815-000 |
| 36                 | 37-7/8                 | 40.25-41.00                        | 40           | 362-00410007-000 | 362-00410009-000 | 362-00410011-000 | 362-00410013-000 | 362-00410015-000 |

NOTE: Other sizes available upon request.

## NPT Taps

| NOM. PIPE SIZE IN. | STEEL CYL. O.D. INCHES | CONCRETE COATING O.D. RANGE INCHES | WT. EA. LBS. | CATALOG NUMBER   |                  |                  |                  |                  |
|--------------------|------------------------|------------------------------------|--------------|------------------|------------------|------------------|------------------|------------------|
|                    |                        |                                    |              | 3/4" NPT/20 MM   | 1" NPT/25 MM     | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     |
| 12                 | 13-3/8                 | 15.38-15.88                        | 23           | 362-00158806-000 | 362-00158808-000 | 362-00158810-000 | 362-00158812-000 | 362-00158814-000 |
| 14                 | 15 1/4                 | 17.25-18.00                        | 24           | 362-00180006-000 | 362-00180008-000 | 362-00180010-000 | 362-00180012-000 | 362-00180014-000 |
| 16                 | 17-3/8                 | 19.38-19.88                        | 26           | 362-00198806-000 | 362-00198808-000 | 362-00198810-000 | 362-00198812-000 | 362-00198814-000 |
| 18                 | 19                     | 21.75-22.38                        | 26           | 362-00223806-000 | 362-00223808-000 | 362-00223810-000 | 362-00223812-000 | 362-00223814-000 |
| 20                 | 21                     | 23.75-24.38                        | 31           | 362-00243806-000 | 362-00243808-000 | 362-00243810-000 | 362-00243812-000 | 362-00243814-000 |
| 21                 | 22                     | 24.75-25.50                        | 31           | 362-00255006-000 | 362-00255008-000 | 362-00255010-000 | 362-00255012-000 | 362-00255014-000 |
| 24                 | 25-3/4                 | 27.88-28.50                        | 33           | 362-00285006-000 | 362-00285008-000 | 362-00285010-000 | 362-00285012-000 | 362-00285014-000 |
| 27                 | 28                     | 30.75-31.50                        | 35           | 362-00315006-000 | 362-00315008-000 | 362-00315010-000 | 362-00315012-000 | 362-00315014-000 |
| 30                 | 31-7/8                 | 34.13-34.88                        | 36           | 362-00348806-000 | 362-00348808-000 | 362-00348810-000 | 362-00348812-000 | 362-00348814-000 |
| 33                 | 34-7/8                 | 37.13-37.38                        | 38           | 362-00373806-000 | 362-00373808-000 | 362-00373810-000 | 362-00373812-000 | 362-00373814-000 |
| 36                 | 37-7/8                 | 40.25-41.00                        | 40           | 362-00410006-000 | 362-00410008-000 | 362-00410010-000 | 362-00410012-000 | 362-00410014-000 |

NOTE: Other sizes available upon request.



# Service Saddle

For Large Diameter Pipe, Triple Strap

# 366



**Description:** Triple strap service saddle specifically for large diameter pipe

**Application:** Large diameter Cast Iron, Asbestos Cement, Steel, or PVC pipe.

## Key Features:

- Excellent way to tap large diameter pipe
- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- NPT, CC and other threaded outlets available in sizes ¾" to 2½"
- Hemispherical washers provide full bearing for the strap nuts and align the straps with the saddle body
- Provides maximum support of the pipe for better performance in the tapped area (nearly 360°)

## Materials Specifications (subject to change)

**BODIES:** Ductile Iron per ASTM A536

**TAPPED INSERT:** Ductile Iron ASTM A 536. Tap threads are full and free from shear and conform to AWWA standards

**HEMISPHERICAL WASHERS:** Ductile Iron ASTM A 536

**GASKET:** Nitrile (Buna N) NSF O-Ring gasket. Compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

**Temperature Range:** -20 to +180

**STRAPS:** Carbon Steel ASTM A 285 with Flexi-Coat® Fusion Bonded Epoxy Finish. **Stainless Steel is optional**

**STUD:** Carbon Steel

**NUTS & WASHERS:** Carbon Steel

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish, per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Cast Iron, Ductile Iron, Asbestos Cement, Steel, Concrete or PVC

**Taps:** ¾", 1", 1¼", 1½", 2", 2½" in NPT Taps; ¾", 1", 1¼", 1½", 2" in CC Taps

**Sizes (in inches):** See tables for size details.



366

# Service Saddle

For Large Diameter Pipe, Triple Strap

3/4", 1", 1 1/4", 1 1/2" and 2" CC Taps

| O.D.<br>INCHES | WT.<br>EA. LBS. | CATALOG NUMBER   |                  |                  |                  |                  |
|----------------|-----------------|------------------|------------------|------------------|------------------|------------------|
|                |                 | 3/4 CC/20 MM     | 1" CC/25 MM      | 1-1/4" CC/32 MM  | 1-1/2"/40 MM     | 2"CC/50 MM       |
| 19.25-20.00    | 38              | 366-00200007-000 | 366-00200009-000 | 366-00200011-000 | 366-00200013-000 | 366-00200015-000 |
| 19.75-20.50    | 38              | 366-00205007-000 | 366-00205009-000 | 366-00205011-000 | 366-00205013-000 | 366-00205015-000 |
| 20.50-21.25    | 38              | 366-00212507-000 | 366-00212509-000 | 366-00212511-000 | 366-00212513-000 | 366-00212515-000 |
| 21.35-22.10    | 39              | 366-00221007-000 | 366-00221009-000 | 366-00221011-000 | 366-00221013-000 | 366-00221015-000 |
| 21.81-22.56    | 39              | 366-00225607-000 | 366-00225609-000 | 366-00225611-000 | 366-00225613-000 | 366-00225615-000 |
| 22.50-23.25    | 39              | 366-00232507-000 | 366-00232509-000 | 366-00232511-000 | 366-00232513-000 | 366-00232515-000 |
| 23.19-23.94    | 39              | 366-00239407-000 | 366-00239409-000 | 366-00239411-000 | 366-00239413-000 | 366-00239415-000 |
| 23.75-24.50    | 42              | 366-00245007-000 | 366-00245009-000 | 366-00245011-000 | 366-00245013-000 | 366-00245015-000 |
| 24.50-25.25    | 42              | 366-00252507-000 | 366-00252509-000 | 366-00252511-000 | 366-00252513-000 | 366-00252515-000 |
| 25.55-26.32    | 44              | 366-00263207-000 | 366-00263209-000 | 366-00263211-000 | 366-00263213-000 | 366-00263215-000 |
| 26.07-26.82    | 44              | 366-00268207-000 | 366-00268209-000 | 366-00268211-000 | 366-00268213-000 | 366-00268215-000 |
| 26.06-27.50    | 44              | 366-00275007-000 | 366-00275009-000 | 366-00275011-000 | 366-00275013-000 | 366-00275015-000 |
| 27.51-28.25    | 45              | 366-00282507-000 | 366-00282509-000 | 366-00282511-000 | 366-00282513-000 | 366-00282515-000 |
| 28.75-29.50    | 45              | 366-00295007-000 | 366-00295009-000 | 366-00295011-000 | 366-00295013-000 | 366-00295015-000 |
| 29.53-30.28    | 47              | 366-00302807-000 | 366-00302809-000 | 366-00302811-000 | 366-00302813-000 | 366-00302815-000 |
| 29.75-30.50    | 47              | 366-00305007-000 | 366-00305009-000 | 366-00305011-000 | 366-00305013-000 | 366-00305015-000 |
| 31.49-32.24    | 49              | 366-00322407-000 | 366-00322409-000 | 366-00322411-000 | 366-00322413-000 | 366-00322415-000 |
| 31.75-32.50    | 49              | 366-00325007-000 | 366-00325009-000 | 366-00325011-000 | 366-00325013-000 | 366-00325015-000 |
| 32.49-33.24    | 49              | 366-00332407-000 | 366-00332409-000 | 366-00332411-000 | 366-00332413-000 | 366-00332415-000 |
| 33.21-33.96    | 49              | 366-00339607-000 | 366-00339609-000 | 366-00339611-000 | 366-00339613-000 | 366-00339615-000 |
| 34.90-35.65    | 52              | 366-00353507-000 | 366-00353509-000 | 366-00353511-000 | 366-00353513-000 | 366-00353515-000 |
| 35.67-36.42    | 52              | 366-00364207-000 | 366-00364209-000 | 366-00364211-000 | 366-00364213-000 | 366-00364215-000 |
| 36.49-37.24    | 54              | 366-00372407-000 | 366-00372409-000 | 366-00372411-000 | 366-00372413-000 | 366-00372415-000 |
| 36.97-37.72    | 54              | 366-00377207-000 | 366-00377209-000 | 366-00377211-000 | 366-00377213-000 | 366-00377215-000 |
| 37.71-38.46    | 54              | 366-00384607-000 | 366-00384609-000 | 366-00384611-000 | 366-00384613-000 | 366-00384615-000 |
| 38.45-39.20    | 54              | 366-00392007-000 | 366-00392009-000 | 366-00392011-000 | 366-00392013-000 | 366-00392015-000 |
| 39.35-40.10    | 56              | 366-00401007-000 | 366-00401009-000 | 366-00401011-000 | 366-00401013-000 | 366-00401015-000 |
| 39.81-40.56    | 56              | 366-00405607-000 | 366-00405609-000 | 366-00405611-000 | 366-00405613-000 | 366-00405615-000 |
| 41.95-42.70    | 56              | 366-00427007-000 | 366-00427009-000 | 366-00427011-000 | 366-00427013-000 | 366-00427015-000 |
| 42.40-43.15    | 57              | 366-00431507-000 | 366-00431509-000 | 366-00431511-000 | 366-00431513-000 | 366-00431515-000 |

NOTE: Sizes larger than shown may be fabricated upon request. Use Smith-Blair 600 Series Tapping Sleeves for larger diameters.

## 3/4", 1", 1 1/4", 2" and 2 1/2" NPT Taps

| O.D.<br>INCHES | WT.<br>EA.<br>LBS. | CATALOG NUMBER   |                  |                  |                  |                  |                  |
|----------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                |                    | 3/4 NPT/20 MM    | 1" NPT/25 MM     | 1-1/4" NPT/32 MM | 1-1/2" NPT/40 MM | 2" NPT/50 MM     | 2-1/2" NPT/65 MM |
| 19.25-20.00    | 38                 | 366-00200006-000 | 366-00200008-000 | 366-00200010-000 | 366-00200012-000 | 366-00200014-000 | 366-00200016-000 |
| 19.75-20.50    | 38                 | 366-00205006-000 | 366-00205008-000 | 366-00205010-000 | 366-00205012-000 | 366-00205014-000 | 366-00205016-000 |
| 20.50-21.25    | 38                 | 366-00212506-000 | 366-00212508-000 | 366-00212510-000 | 366-00212512-000 | 366-00212514-000 | 366-00212516-000 |
| 21.35-22.10    | 39                 | 366-00221006-000 | 366-00221008-000 | 366-00221010-000 | 366-00221012-000 | 366-00221014-000 | 366-00221016-000 |
| 21.81-22.56    | 39                 | 366-00225606-000 | 366-00225608-000 | 366-00225610-000 | 366-00225612-000 | 366-00225614-000 | 366-00225616-000 |
| 22.50-23.25    | 39                 | 366-00232506-000 | 366-00232508-000 | 366-00232510-000 | 366-00232512-000 | 366-00232514-000 | 366-00232516-000 |
| 23.19-23.94    | 39                 | 366-00239406-000 | 366-00239408-000 | 366-00239410-000 | 366-00239412-000 | 366-00239414-000 | 366-00239416-000 |
| 23.75-24.50    | 42                 | 366-00245006-000 | 366-00245008-000 | 366-00245010-000 | 366-00245012-000 | 366-00245014-000 | 366-00245016-000 |
| 24.50-25.25    | 42                 | 366-00252506-000 | 366-00252508-000 | 366-00252510-000 | 366-00252512-000 | 366-00252514-000 | 366-00252516-000 |
| 25.55-26.32    | 44                 | 366-00263206-000 | 366-00263208-000 | 366-00263210-000 | 366-00263212-000 | 366-00263214-000 | 366-00263216-000 |
| 26.07-26.82    | 44                 | 366-00268206-000 | 366-00268208-000 | 366-00268210-000 | 366-00268212-000 | 366-00268214-000 | 366-00268216-000 |
| 26.65-27.50    | 44                 | 366-00275006-000 | 366-00275008-000 | 366-00275010-000 | 366-00275012-000 | 366-00275014-000 | 366-00275016-000 |
| 27.51-28.25    | 45                 | 366-00282506-000 | 366-00282508-000 | 366-00282510-000 | 366-00282512-000 | 366-00282514-000 | 366-00282516-000 |
| 28.75-29.50    | 45                 | 366-00295006-000 | 366-00295008-000 | 366-00295010-000 | 366-00295012-000 | 366-00295014-000 | 366-00295016-000 |
| 29.53-30.28    | 47                 | 366-00302806-000 | 366-00302808-000 | 366-00302810-000 | 366-00302812-000 | 366-00302814-000 | 366-00302816-000 |
| 29.75-30.50    | 47                 | 366-00305006-000 | 366-00305008-000 | 366-00305010-000 | 366-00305012-000 | 366-00305014-000 | 366-00305016-000 |
| 31.49-32.24    | 49                 | 366-00322406-000 | 366-00322408-000 | 366-00322410-000 | 366-00322412-000 | 366-00322414-000 | 366-00322416-000 |
| 31.75-32.50    | 49                 | 366-00325006-000 | 366-00325008-000 | 366-00325010-000 | 366-00325012-000 | 366-00325014-000 | 366-00325016-000 |
| 32.49-33.24    | 49                 | 366-00332406-000 | 366-00332408-000 | 366-00332410-000 | 366-00332412-000 | 366-00332414-000 | 366-00332416-000 |
| 33.21-33.96    | 49                 | 366-00339606-000 | 366-00339608-000 | 366-00339610-000 | 366-00339612-000 | 366-00339614-000 | 366-00339616-000 |
| 34.90-35.65    | 52                 | 366-00356506-000 | 366-00356508-000 | 366-00356510-000 | 366-00356512-000 | 366-00356514-000 | 366-00356516-000 |
| 35.67-36.42    | 52                 | 366-00364206-000 | 366-00364208-000 | 366-00364210-000 | 366-00364212-000 | 366-00364214-000 | 366-00364216-000 |
| 36.49-37.24    | 54                 | 366-00372406-000 | 366-00372408-000 | 366-00372410-000 | 366-00372412-000 | 366-00372414-000 | 366-00372416-000 |
| 36.97-37.72    | 54                 | 366-00377206-000 | 366-00377208-000 | 366-00377210-000 | 366-00377212-000 | 366-00377214-000 | 366-00377216-000 |
| 37.71-38.46    | 54                 | 366-00384606-000 | 366-00384608-000 | 366-00384610-000 | 366-00384612-000 | 366-00384614-000 | 366-00384616-000 |
| 38.45-39.20    | 54                 | 366-00392006-000 | 366-00392008-000 | 366-00392010-000 | 366-00392012-000 | 366-00392014-000 | 366-00392016-000 |
| 39.35-40.10    | 56                 | 366-00401006-000 | 366-00401008-000 | 366-00401010-000 | 366-00401012-000 | 366-00401014-000 | 366-00401016-000 |
| 39.81-40.56    | 56                 | 366-00405606-000 | 366-00405608-000 | 366-00405610-000 | 366-00405612-000 | 366-00405614-000 | 366-00405616-000 |
| 41.95-42.70    | 56                 | 366-00427006-000 | 366-00427008-000 | 366-00427010-000 | 366-00427012-000 | 366-00427014-000 | 366-00427016-000 |
| 42.40-43.15    | 57                 | 366-00431506-000 | 366-00431508-000 | 366-00431510-000 | 366-00431512-000 | 366-00431514-000 | 366-00431516-000 |

Use Smith-Blair 600 Series Tapping Sleeves for larger diameters.

## BSP Thread Tap Codes

| SIZE   | CODE NUMBER | EXAMPLE                   |
|--------|-------------|---------------------------|
| 3/4"   | 50          | 3/4" BSP 366-00200050-000 |
| 1"     | 51          |                           |
| 1 1/4" | 54          |                           |
| 1 1/2" | 52          |                           |
| 2"     | 53          |                           |
| 2 1/2" | 55          |                           |
| 3"     | 56          |                           |



# Service Saddle

Single Bolt, Stainless Steel, for PVC

# 371

**Description:** Stainless Steel service saddle with single bolt specifically designed for PVC pipe, but can be used on other pipe types.

**Application:** Uniform sealing to provide uniform pipe support.

## Key Features:

- Provides maximum support and reinforcement
- Standard widths are 5" for the 371
- All 304 Stainless Steel construction for great corrosion resistance
- Outlet gasket is bonded into the band to provide optimum sealing efficiency
- Can be manufactured to odd size pipe O.D.s, not restricted to catalog sizes
- A wide variety of outlet sizes and thread types are available to meet demand
- Keeper bar helps pull clamp around the pipe and helps close the clamp during installation
- One saddle covers both Steel pipe size and Ductile Iron O.D. pipe within the same nominal size
- Outlet Gasket has a hydro-mechanical lip to improve sealing as the pipeline pressure increases

## Materials Specifications (subject to change)

BAND: Type 304 Stainless Steel

SIDE BARS & FINGERS: Type 304 Stainless Steel

KEEPER BAR: Type 304 Stainless Steel

STUD BOLTS: Type 304 Stainless Steel with Epoxy Finish on threads

NUTS: Type 304 Stainless Steel Fluorocarbon Finish on threads

WASHERS: Type 304 Stainless Steel

GASKET: Nitrile (Buna N) NSF 61, compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

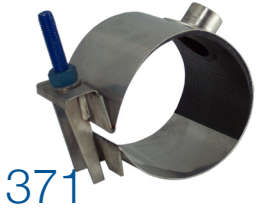
**Working Pressure:** Up to 150 PSI, depending on size and application

**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, and PVC. *For other pipe types, please contact Smith-Blair engineering.*

**Taps:** ½" CC tap and ¾" and 1" CC and NPT taps.

**Sizes (in inches):** 4, 6, 8, 10, 12



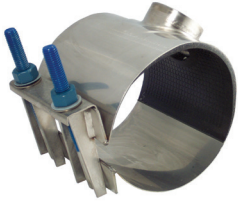


# Service Saddle

Single Bolt, Stainless Steel, for PVC

1/2" CC Tap; 3/4" and 1" CC and NPT Taps

| NOM.<br>SIZE IN. | O.D.<br>RANGE INCHES | CATALOG NUMBER   |                  |                  |                  |                  | WT.<br>EA. LBS. |
|------------------|----------------------|------------------|------------------|------------------|------------------|------------------|-----------------|
|                  |                      | 1/2" CC/15 MM    | 3/4" NPT/20 MM   | 3/4" CC/20 MM    | 1" NPT/25 MM     | 1" CC/25 MM      |                 |
| 4                | 4.50-4.80            | 371-00048004-000 | 371-00048006-000 | 371-00048007-000 | 371-00048008-000 | 371-00048009-000 | 3               |
| 6                | 6.63-6.90            | 371-00069004-000 | 371-00069006-000 | 371-00069007-000 | 371-00069008-000 | 371-00069009-000 | 4               |
| 8                | 8.63-9.05            | 371-00090504-000 | 371-00090506-000 | 371-00090507-000 | 371-00090508-000 | 371-00090509-000 | 5               |
| 10               | 10.75-11.10          | 371-00111004-000 | 371-00111006-000 | 371-00111007-000 | 371-00111008-000 | 371-00111009-000 | 5               |
| 12               | 12.75-13.20          | 371-00132004-000 | 371-00132006-000 | 371-00132007-000 | 371-00132008-000 | 371-00132009-000 | 6               |



# Service Saddle

Double Bolt, Stainless Steel, for PVC

# 372

**Description:** Stainless Steel service saddle with double bolt specifically designed for PVC pipe, but can be used on other pipe types.

**Application:** Uniform sealing to provide uniform pipe support, without crushing action.

## Key Features:

- Provides maximum support and reinforcement
- Standard width is 7½"
- All 304 Stainless Steel construction for great corrosion resistance
- Outlet gasket is bonded into the band to provide optimum sealing efficiency
- Can be manufactured to odd size pipe O.D.s, not restricted to catalog sizes
- A wide variety of outlet sizes and thread types are available to meet demand up to 2"
- Keeper bar helps pull clamp around the pipe and helps close the clamp during installation
- One saddle covers both iron pipe size and Ductile Iron O.D. pipe within the same nominal size
- Outlet Gasket has a hydro-mechanical lip to improve sealing as the pipeline pressure increases

## Materials Specifications (subject to change)

BAND: Type 304 Stainless Steel

SIDE BARS & FINGERS: Type 304 Stainless Steel

KEEPER BAR: Type 304 Stainless Steel

STUD BOLTS: Type 304 Stainless Steel with Epoxy Finish on threads

NUTS: Type 304 Stainless Steel Fluorocarbon Finish on threads

WASHERS: Type 304 Stainless Steel

GASKET: Nitrile (Buna N) NSF 61, compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemical

Temperature Range: -20°F to 180°F

**Working Pressure:** Up to 150 PSI, depending on size and application

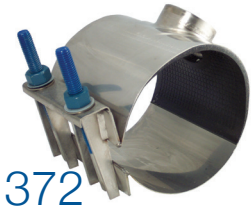
**Pipe Applications:** Steel, Ductile Iron, Cast Iron, Asbestos Cement, and PVC. *For other types of pipe, please contact Smith-Blair engineering.*

**Taps:** ½", ¾" and 1" NPT taps and CC taps; 1¼" and 1½" CC and NPT Taps; 2" CC and NPT taps

**Sizes (in inches):** 4, 6, 8, 10, 12, 14, 16







372

# Service Saddle

Double Bolt, Stainless Steel, for PVC

1/2", 3/4" and 1" NPT and CC Taps

| NOM. SIZE IN. | O.D. RANGE INCHES | CATALOG NUMBER   |                  |                  |                  |                  | WT. |
|---------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----|
|               |                   | 1/2" CC/15 MM    | 3/4" NPT/20 MM   | 3/4" CC/20 MM    | 1" NPT/25 MM     | 1" CC/25 MM      |     |
| 4             | 4.50-4.80         | 372-00048004-000 | 372-00048006-000 | 372-00048007-000 | 372-00048008-000 | 372-00048009-000 | 6   |
| 6             | 6.63-6.90         | 372-00069004-000 | 372-00069006-000 | 372-00069007-000 | 372-00069008-000 | 372-00069009-000 | 6   |
| 8             | 8.63-9.05         | 372-00090504-000 | 372-00090506-000 | 372-00090507-000 | 372-00090508-000 | 372-00090509-000 | 7   |
| 10            | 10.75-11.10       | 372-00111004-000 | 372-00111006-000 | 372-00111007-000 | 372-00111008-000 | 372-00111009-000 | 8   |
| 12            | 12.75-13.20       | 372-00132004-000 | 372-00132006-000 | 372-00132007-000 | 372-00132008-000 | 372-00132009-000 | 9   |
| 14            | 15.20-15.30       | 372-00153004-000 | 372-00153006-000 | 372-00153007-000 | 372-00153008-000 | 372-00153009-000 | 10  |
| 16            | 17.32-17.46       | 372-00174004-000 | 372-00174006-000 | 372-00174007-000 | 372-00174008-000 | 372-00174009-000 | 11  |

1 1/4" and 1 1/2" CC and NPT Taps

| NOM. SIZE IN. | O.D. RANGE INCHES | CATALOG NUMBER   |                  |                  |                  | WT. EA. LBS. |
|---------------|-------------------|------------------|------------------|------------------|------------------|--------------|
|               |                   | 1 1/4" NPT/32 MM | 1 1/4" CC/32 MM  | 1 1/2" NPT/40 MM | 1 1/2" CC/40 MM  |              |
| 4             | 4.50-4.80         | 372-00048010-000 | 372-00048011-000 | 372-00048012-000 | 372-00048013-000 | 6            |
| 6             | 6.63-6.90         | 372-00069010-000 | 372-00069011-000 | 372-00069012-000 | 372-00069013-000 | 6            |
| 8             | 8.63-9.05         | 372-00090510-000 | 372-00090511-000 | 372-00090512-000 | 372-00090513-000 | 7            |
| 10            | 10.75-11.10       | 372-00111010-000 | 372-00111011-000 | 372-00111012-000 | 372-00111013-000 | 8            |
| 12            | 12.75-13.20       | 372-00132010-000 | 372-00132011-000 | 372-00132012-000 | 372-00132013-000 | 9            |
| 14            | 15.20-15.30       | 372-00153010-000 | 372-00153011-000 | 372-00153012-000 | 372-00153013-000 | 11           |
| 16            | 17.32-17.46       | 371-00174010-000 | 372-00174011-000 | 372-00174012-000 | 372-00174013-000 | 12           |

2" CC and NPT Taps

| NOM. SIZE IN. | O.D. RANGE INCHES | CATALOG NUMBER   |                  | WT. EA. LBS. |
|---------------|-------------------|------------------|------------------|--------------|
|               |                   | 2" NPT/50 MM     | 2" CC/50 MM      |              |
| 4             | 4.50-4.80         | 372-00048014-000 | 372-00048015-000 | 6            |
| 6             | 6.63-6.90         | 372-00069014-000 | 372-00069015-000 | 6            |
| 8             | 8.63-9.05         | 372-00090514-000 | 372-00090515-000 | 7            |
| 10            | 10.75-11.10       | 372-00111014-000 | 372-00111015-000 | 8            |
| 12            | 12.75-13.20       | 372-00132014-000 | 372-00132015-000 | 9            |
| 14            | 15.20-15.30       | 372-00153014-000 | 372-00153015-000 | 11           |
| 16            | 17.32-17.46       | 372-00174014-000 | 372-00174015-000 | 12           |

Maximum Working Pressure up to 150 PSI.



# Service Saddle

Ductile Iron Body, for PVC

# 397



**Description:** Ductile Iron saddle with 3" wide Stainless Steel strap.

**Application:** Uniform sealing to provide uniform pipe support, without crushing action.

## Key Features:

- Meets applicable AWWA C800 Standards
- The wide saddle body provides stability on the pipe
- The gasket is bonded into the cavity to hold it in place
- NPT, CC and other threaded outlets available in sizes ¾" thru 2"
- The wide strap spreads the load over larger area to prevent damage to the pipe when tightening
- At recommended torque, the saddle will exceed the working pressure of most standard pipes
- A closed lug on one side, combined with the strap, acts as a hinge for easier installation
- Provides maximum support of the pipe for better performance in the tapped area — nearly 360°

## Materials Specifications (subject to change)

**BODIES:** Ductile Iron ASTM A-536

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish

**GASKET:** Smith-Blair® Nitrile (Buna N) NSF 61® Compounded to resist – oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals

**Temperature Range:** -20°F to 180°F

**STRAPS:** Type 304 Premium Grade Stainless Steel

**NUTS:** Type 304 Stainless Steel-Fluorocarbon Coated to prevent galling

**WASHERS:** Type 304 Stainless Steel

**Working Pressure:** Up to 200 PSI, depending on size and application

**Pipe Applications:** PVC

**Taps:** ¾", 1", 1¼", 1½" and 2" NPT and CC taps

**Sizes (in inches):** 2, 4, 6, 8, 12 (see attached table to determine)



# Service Saddle

Ductile Iron Body, for PVC

¾" and 1" NPT and CC Taps

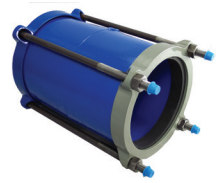
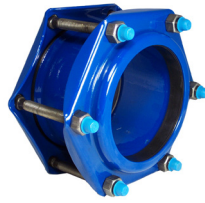
| NOM. SIZE IN. | O.D. IN. | WT. EA. LBS. | CATALOG NUMBER   |                  |                  |                  | CTN. QTY. |
|---------------|----------|--------------|------------------|------------------|------------------|------------------|-----------|
|               |          |              | ¾" NPT           | ¾" CC            | 1" NPT           | 1" CC            |           |
| 2             | 2.38     | 4            | 397-00023806-000 | 397-00023807-000 | 397-00023808-000 | 397-00023809-000 | 6         |
| 4             | 4.50     | 5            | 397-00045006-000 | 397-00045007-000 | 397-00045008-000 | 397-00045009-000 | 4         |
| 4             | 4.80     | 5            | 397-00048006-000 | 397-00048007-000 | 397-00048008-000 | 397-00048009-000 | 4         |
| 6             | 6.63     | 5            | 397-00066306-000 | 397-00066307-000 | 397-00066308-000 | 397-00066309-000 | 4         |
| 6             | 6.90     | 5            | 397-00069006-000 | 397-00069007-000 | 397-00069008-000 | 397-00069009-000 | 4         |
| 8             | 8.63     | 6            | 397-00086306-000 | 397-00086307-000 | 397-00086308-000 | 397-00086309-000 | 4         |
| 8             | 9.05     | 6            | 397-00090506-000 | 397-00090507-000 | 397-00090508-000 | 397-00090509-000 | 4         |
| 12            | 12.75    | 8            | 397-00127506-000 | 397-00127507-000 | 397-00127508-000 | 397-00127509-000 | 2         |
| 12            | 13.20    | 8            | 397-00132006-000 | 397-00132007-000 | 397-00132008-000 | 397-00132009-000 | 2         |

397 Saddles are furnished with a 3" wide, one piece, Stainless Steel strap. Finish Code-000. If you prefer two separate straps, use finish code-001

1¼" through 2" NPT and CC Taps

| NOM. SIZE IN. | O.D. IN. | WT. EA. LBS. | CATALOG NUMBER   |                  |                  |                  |                  |                  | CTN. QTY. |
|---------------|----------|--------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|
|               |          |              | 1-1/4" NPT       | 1-1/4" CC        | 1-1/2" NPT       | 1-1/2" CC        | 2" NPT           | 2" CC            |           |
| 4             | 4.50     | 6            | 397-00045010-000 | 397-00045011-000 | 397-00045012-000 | 397-00045013-000 | 397-00045014-000 | 397-00045015-000 | 6         |
| 4             | 4.80     | 6            | 397-00048010-000 | 397-00048011-000 | 397-00048012-000 | 397-00048013-000 | 397-00048014-000 | 397-00048015-000 | 4         |
| 6             | 6.63     | 7            | 397-00066310-000 | 397-00066311-000 | 397-00066312-000 | 397-00066313-000 | 397-00066314-000 | 397-00066315-000 | 4         |
| 6             | 6.90     | 7            | 397-00069010-000 | 397-00069011-000 | 397-00069012-000 | 397-00069013-000 | 397-00069014-000 | 397-00069015-000 | 4         |
| 8             | 8.63     | 8            | 397-00086310-000 | 397-00086311-000 | 397-00086312-000 | 397-00086313-000 | 397-00086314-000 | 397-00086315-000 | 4         |
| 8             | 9.05     | 8            | 397-00090510-000 | 397-00090511-000 | 397-00090512-000 | 397-00090513-000 | 397-00090514-000 | 397-00090515-000 | 4         |
| 12            | 12.75    | 10           | 397-00127510-000 | 397-00127511-000 | 397-00127512-000 | 397-00127513-000 | 397-00127514-000 | 397-00127515-000 | 2         |
| 12            | 13.20    | 10           | 397-00132010-000 | 397-00132011-000 | 397-00132012-000 | 397-00132013-000 | 397-00132014-000 | 397-00132015-000 | 2         |

397 Saddles are furnished with a 3" wide, one piece, Stainless Steel strap. Finish Code-000. If you prefer two separate straps, use finish code-001



# Couplings

## What Are Couplings?

A coupling connects plain end pipe or tubing sections, to adapt to different sizes or shapes, and for other purposes, such as regulating or measuring fluid flow in different circumstances and applications.



*Smith-Blair*  
a xylem brand



# Steel Fabricated Coupling

## Straight Connection

# 411

**Description:** A bolted sleeve type coupling for joining plain end pipe of the same diameters.

**Application:** Joining plain end pipe without the need for welding or special pipe fittings

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends
- Steel sizes built to specific O.D. and Ductile Iron sizes are built with range to accommodate the variances in Ductile Iron pipe O.D.s

### Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A512 or Carbon Steel having minimum yield of 30,000 PSI

**FOLLOWERS:** Ductile Iron ASTM A536, Steel AISI C 1020, or A715 Grade 80 HSLA Steel. Designed for a high strength-to-weight ratio. Follower thickness determined by coupling size

**BOLTS & NUTS:** High strength, low alloy Steel with heavy semi-finished hexagon nuts **Optional: Stainless Steel and Carbon Steel ASTM A307 electrogalvanized with di-chromate seal**

**GASKET:** Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

**Temperature Range:** -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** All Types. HDPE requires use of stiffeners. *Contact Smith-Blair Engineering for any questions.*

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2, 2½, 3, 3-4, 4, 4-5, 6, 8, 10, 12, 12-14, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54.

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



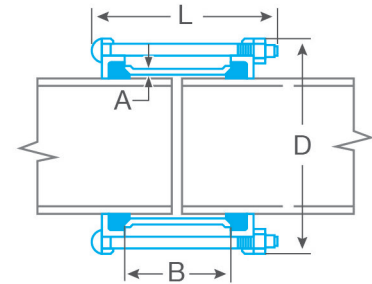
# Steel Fabricated Coupling

## Straight Connection

411

### Total Angular Deflection Per Join

| FOR PIPE O.D. RANGES |                 | SLEEVE LENGTH |             |              |
|----------------------|-----------------|---------------|-------------|--------------|
| INCHES               | MM              | 5"<br>127MM   | 7"<br>178MM | 10"<br>250MM |
| 0.84 thru 2.38       | 21 thru 60.5    | 7°            | 7°          | 7°           |
| 2.50 thru 13.50      | 63.5 thru 342.9 | 4°            | 4½°         | 4½°          |
| 13.60 thru 24.00     | 345.4 thru 610  | 2½°           | 4°          | 4½°          |
| 24.10 thru 36.00     | 612 thru 914    | 2°            | 3½°         | 4°           |
| 36.10 thru 42.00     | 917 thru 1067   | -             | 3°          | 3½°          |
| 42.10 thru 60.00     | 1323 thru 1524  | -             | 2½°         | 3°           |
| 60.10 thru 80.00     | 1527 thru 2032  | -             | -           | 2½°          |
| 80.10 thru 100.00    | 2035 thru 2540  | -             | -           | 2°           |



Dimensions

- A: Sleeve wall thickness
- B: Sleeve length
- D: Overall coupling diameter
- L: Overall coupling length

### Standard Lengths for Steel Sizes

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | CATALOG NO. BUNA-N GASKET | SLEEVE THK. X LGTH. IN. |       | FLANGE O.D. INCHES (D) | BOLTS  |          |               | APPROX. SHIP WT. LBS. |
|--------------------|------------------|---------------------------|-------------------------|-------|------------------------|--------|----------|---------------|-----------------------|
|                    |                  |                           | (A)                     | (B)   |                        | NO.    | DIA. IN. | LGTH. IN. (L) |                       |
| 1/2                | 0.84             | 411-00008401-003          | .120                    | 4 1/2 | 3 5/8                  | 2      | 1/2      | 7             | 2 1/4                 |
| 3/4                | 1.05             | 411-00010501-003          | .120                    | 4 1/2 | 3 7/8                  | 2      | 1/2      | 7             | 2 1/2                 |
| 1                  | 1.32             | 411-00013201-003          | .120                    | 5     | 4 1/4                  | 2      | 1/2      | 7             | 3 1/4                 |
| 1 1/4              | 1.66             | 411-00016601-003          | .120                    | 5     | 4 9/16                 | 2      | 1/2      | 7             | 4                     |
| 1 1/2              | 1.90             | 411-00019001-003          | .120                    | 5     | 4 13/16                | 2      | 1/2      | 7             | 4 1/4                 |
| 2                  | 2.00             | 411-00020001-003          | .120                    | 5     | 4 13/16                | 2      | 1/2      | 7             | 4 1/4                 |
| 2                  | 2.38             | 411-00023801-003          | .120                    | 5     | 5 5/16                 | 2      | 1/2      | 7             | 4 3/4                 |
|                    |                  | 411-00023851-003          | .120                    | 5     | 5 11/16                | 2<br>3 | 5/8      | 8             | 5 1/2                 |
|                    |                  | 411-00023861-003          | .120                    | 5     | 5 11/16                | 3      | 5/8      | 8             | 6 1/2                 |
|                    |                  | 411-00023802-003          | .120                    | 7     | 5 11/16                | 3      | 5/8      | 10 1/2        | 9 1/2                 |
| 2 1/2              | 2.88             | 411-00028801-003          | .203                    | 5     | 6 1/2                  | 3      | 5/8      | 8             | 12 3/4                |
| 3                  | 3.00             | 411-00030001-003          | .203                    | 5     | 6 9/16                 | 3      | 5/8      | 8             | 12 3/4                |
|                    |                  | 411-90035001-003          | .180                    | 5     | 8 3/100                | 3      | 5/8      | 6             | 11 1/2                |
|                    | 3.50             | 411-00035051-003          | .180                    | 5     | 7 9/100                | 4      | 5/8      | 8             | 12 1/4                |
|                    |                  | 411-90035002-003          | .180                    | 7     | 8 3/100                | 3      | 5/8      | 8             | 14 1/2                |
| 3 1/2-4            | 4.00             | 411-00040001-003          | .188                    | 5     | 7 9/16                 | 4      | 5/8      | 8             | 17 1/2                |
| +4                 | 4.50             | 411-90045001-003          | .188                    | 5     | 9 1/20                 | 4      | 5/8      | 6             | 13                    |
|                    |                  | 411-90045002-003          | .188                    | 7     | 9 1/20                 | 4      | 5/8      | 8             | 15 1/2                |
| 4 1/2-5            | 5.00             | 411-00050001-003          | .250                    | 5     | 8 5/8                  | 4      | 5/8      | 8             | 20 1/2                |
| 5                  | 5.56             | 411-00055601-003          | .250                    | 5     | 9 3/16                 | 4      | 5/8      | 8             | 20 1/2                |
|                    |                  | 411-00055602-003          | .250                    | 7     | 9 3/16                 | 4      | 5/8      | 10 1/2        | 23 1/2                |
|                    |                  | 411-00055603-003          | .250                    | 10    | 9 3/16                 | 4      | 5/8      | 13 1/2        | 31 1/2                |
| +6                 | 6.63             | 411-90066301-003          | .250                    | 5     | 11 1/2                 | 6      | 5/8      | 6             | 22 3/4                |
|                    |                  | 411-90066302-003          | .250                    | 7     | 11 1/2                 | 6      | 5/8      | 8             | 26                    |
|                    |                  | 411-90066303-003          | .250                    | 10    | 11 1/2                 | 6      | 5/8      | 10 1/2        | 34 1/4                |

Standard Length Sleeves 1/2" thru 12" Steel Pipe Sizes. + Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges. The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. **ConsultSmith-Blair® regarding your specific coupling pressure requirements.**

## Standard Lengths for Steel Sizes, Continued

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | CATALOG NO. BUNA-N GASKET | SLEEVE THK. X LGTH. IN. |     | FLANGE O.D. INCHES (D) | BOLTS |          |               | APPROX. SHIP WT. LBS. |
|--------------------|------------------|---------------------------|-------------------------|-----|------------------------|-------|----------|---------------|-----------------------|
|                    |                  |                           | (A)                     | (B) |                        | NO.   | DIA. IN. | LGTH. IN. (L) |                       |
| +8                 | 8.63             | 411-90086301-003          | .250                    | 5   | 13 1/2                 | 6     | 5/8      | 6             | 28                    |
|                    |                  | 411-90086302-003          | .250                    | 7   | 13 1/2                 | 6     | 5/8      | 8             | 32                    |
|                    |                  | 411-90086303-003          | .250                    | 10  | 13 1/2                 | 6     | 5/8      | 10 1/2        | 42                    |
| 10                 | 10.00            | 411-00100001-003          | .250                    | 5   | 14 5/16                | 8     | 5/8      | 8             | 33                    |
|                    |                  | 411-00100002-003          | .250                    | 7   | 14 5/16                | 8     | 5/8      | 10 1/2        | 38                    |
|                    |                  | 411-00100003-003          | .250                    | 10  | 14 5/16                | 8     | 5/8      | 13 1/2        | 50                    |
| +10                | 10.75            | 411-90107501-003          | .250                    | 5   | 15 36/59               | 8     | 5/8      | 6             | 34                    |
|                    |                  | 411-90107502-003          | .250                    | 7   | 15 36/59               | 8     | 5/8      | 8             | 40                    |
|                    |                  | 411-90107507-003          | .375                    | 7   | 15 36/59               | 8     | 5/8      | 8             | 49                    |
|                    |                  | 411-90107503-003          | .250                    | 10  | 15 36/59               | 8     | 5/8      | 10 1/2        | 52                    |
| 12                 | 12.00            | 411-00120001-003          | .250                    | 5   | 16 5/16                | 8     | 5/8      | 8             | 37                    |
|                    |                  | 411-00120002-003          | .250                    | 7   | 16 5/16                | 8     | 5/8      | 10 1/2        | 44                    |
|                    |                  | 411-00120003-003          | .250                    | 10  | 16 5/16                | 8     | 5/8      | 13 1/2        | 56                    |
| +12                | 12.75            | 411-90127501-003          | .250                    | 5   | 17 36/59               | 8     | 5/8      | 6             | 39                    |
|                    |                  | 411-90127502-003          | .250                    | 7   | 17 36/59               | 8     | 5/8      | 8             | 46                    |
|                    |                  | 411-90127507-003          | .375                    | 7   | 17 25/41               | 8     | 5/8      | 8             | 56                    |
|                    |                  | 411-90127503-003          | .250                    | 10  | 17 36/59               | 8     | 5/8      | 10 1/2        | 59                    |
| 14                 | 14.00            | 411-00140001-003          | .250                    | 5   | 18 5/16                | 6     | 5/8      | 8             | 41                    |
|                    |                  | 411-00140002-003          | .250                    | 7   | 18 5/16                | 6     | 5/8      | 10 1/2        | 48                    |
|                    |                  | 411-00140007-003          | .375                    | 7   | 18 7/16                | 6     | 5/8      | 10 1/2        | 75                    |
|                    |                  | 411-00140008-003          | .375                    | 10  | 18 7/16                | 6     | 5/8      | 13 1/2        | 94                    |
| 16                 | 16.00            | 411-00160002-003          | .250                    | 7   | 20 5/16                | 8     | 5/8      | 10 1/2        | 56                    |
|                    |                  | 411-00160007-003          | .375                    | 7   | 20 7/16                | 8     | 5/8      | 10 1/2        | 87                    |
|                    |                  | 411-00160003-003          | .250                    | 10  | 20 5/16                | 8     | 5/8      | 10 1/2        | 72                    |
|                    |                  | 411-00160008-003          | .375                    | 10  | 20 7/16                | 8     | 5/8      | 10 1/2        | 108                   |
| 18                 | 18.00            | 411-00180002-003          | .250                    | 7   | 22 7/16                | 8     | 5/8      | 10 1/2        | 81                    |
|                    |                  | 411-00180007-003          | .375                    | 7   | 22 7/16                | 8     | 5/8      | 10 1/2        | 96                    |
|                    |                  | 411-00180003-003          | .250                    | 10  | 22 7/16                | 8     | 5/8      | 10 1/2        | 109                   |
|                    |                  | 411-00180008-003          | .375                    | 10  | 22 7/16                | 8     | 5/8      | 13 1/2        | 119                   |
| 20                 | 20.00            | 411-00200002-003          | .250                    | 7   | 24 7/16                | 10    | 5/8      | 10 1/2        | 91                    |
|                    |                  | 411-00200007-003          | .375                    | 7   | 24 7/16                | 10    | 5/8      | 10 1/2        | 107                   |
|                    |                  | 411-00200003-003          | .250                    | 10  | 24 7/16                | 10    | 5/8      | 13 1/2        | 122                   |
|                    |                  | 411-00200008-003          | .375                    | 7   | 24 7/16                | 10    | 5/8      | 13 1/2        | 134                   |
| 22                 | 22.00            | 411-00220002-003          | .250                    | 7   | 26 7/16                | 10    | 5/8      | 10 1/2        | 98                    |
|                    |                  | 411-00220007-003          | .375                    | 7   | 26 7/16                | 10    | 5/8      | 10 1/2        | 116                   |
|                    |                  | 411-00220003-003          | .250                    | 10  | 26 7/16                | 10    | 5/8      | 13 1/2        | 132                   |
|                    |                  | 411-00220008-003          | .375                    | 10  | 26 7/16                | 10    | 5/8      | 13 1/2        | 145                   |
| 24                 | 24.00            | 411-00240002-003          | .250                    | 7   | 28 7/16                | 10    | 5/8      | 10 1/2        | 106                   |
|                    |                  | 411-00240007-003          | .375                    | 7   | 28 7/16                | 10    | 5/8      | 10 1/2        | 125                   |
|                    |                  | 411-00240003-003          | .250                    | 10  | 28 7/16                | 10    | 5/8      | 13 1/2        | 142                   |
|                    |                  | 411-00240008-003          | .375                    | 10  | 28 7/16                | 10    | 5/8      | 13 1/2        | 156                   |

Standard Length Sleeves 1/2" thru 12" Steel Pipe Sizes

+ Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges.

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. *Consult Smith-Blair regarding your specific coupling pressure requirements.*

Standard Length Sleeves 14" thru 24" Steel Pipe Sizes

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Couplings working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. *Consult Smith-Blair regarding your specific coupling pressure requirements.*

## Standard Lengths for Ductile Iron and Cast Iron Sizes

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | CATALOG NO.      | SLEEVE THK. X LGTH. IN. |     | OVERALL DIA. (D) | BOLTS |          |               | APPROX. SHIP WT. LBS. |
|--------------------|------------------|------------------|-------------------------|-----|------------------|-------|----------|---------------|-----------------------|
|                    |                  |                  | (A)                     | (B) |                  | NO.   | DIA. IN. | LGTH. IN. (L) |                       |
| 2                  | 2.34-2.56        | 411-00025002-003 | .216                    | 7   | 6.3/16           | 2     | 5/8      | 10 1/2        | 13.5                  |
|                    |                  | 411-00025003-003 | .216                    | 10  | 6.3/16           | 2     | 5/8      | 13 1/2        | 16.3                  |
| 2 1/2              | 2.75-2.88        | 411-00027502-003 | .203                    | 7   | 6.3/16           | 3     | 5/8      | 11            | 14.8                  |
|                    |                  | 411-00027503-003 | .203                    | 10  | 6.3/16           | 3     | 5/8      | 14            | 17.8                  |
| 3                  | 3.75-3.86        | 411-00038002-003 | .237                    | 7   | 7 13/16          | 3     | 5/8      | 10 1/2        | 20.3                  |
|                    |                  | 411-00038003-003 | .237                    | 10  | 7 13/16          | 3     | 5/8      | 13 1/2        | 24.6                  |
| 3-4                | 3.87-4.04        | 411-00039602-003 | .188                    | 7   | 7 11/32          | 4     | 5/8      | 11            | 21.4                  |
|                    |                  | 411-00039603-003 | .188                    | 10  | 7 11/32          | 4     | 5/8      | 14            | 25.7                  |
| 4                  | 4.07-4.19        | 411-00041302-003 | .188                    | 7   | 8 3/32           | 4     | 5/8      | 11            | 22.3                  |
|                    |                  | 411-00041303-003 | .188                    | 10  | 8 3/32           | 4     | 5/8      | 14            | 26.8                  |
| 4                  | 4.74-5.06        | 411-00050002-003 | .250                    | 7   | 8 19/32          | 4     | 5/8      | 11            | 27                    |
|                    |                  | 411-00050003-003 | .250                    | 10  | 8 19/32          | 4     | 5/8      | 14            | 32.5                  |
| 4-5                | 5.00-5.16        | 411-00051002-003 | .250                    | 7   | 9 5/32           | 4     | 5/8      | 11            | 27.5                  |
|                    |                  | 411-00051003-003 | .250                    | 10  | 9 5/32           | 4     | 5/8      | 14            | 33.1                  |
| 6                  | 6.84-6.96        | 411-00069002-003 | .250                    | 7   | 10 9/16          | 5     | 5/8      | 11            | 37.2                  |
|                    |                  | 411-00069003-003 | .250                    | 10  | 10 9/16          | 5     | 5/8      | 14            | 44.8                  |
| 6                  | 7.04-7.16        | 411-00071002-003 | .250                    | 7   | 10 9/16          | 5     | 5/8      | 11            | 38.3                  |
|                    |                  | 411-00071003-003 | .250                    | 10  | 10 9/16          | 5     | 5/8      | 14            | 46.1                  |
| 6                  | 7.14-7.26        | 411-00072002-003 | .250                    | 7   | 11 5/16          | 5     | 5/8      | 11            | 38.8                  |
|                    |                  | 411-00072003-003 | .250                    | 10  | 11 5/16          | 5     | 5/8      | 14            | 46.8                  |
| 8                  | 8.91-9.30        | 411-00090502-003 | .250                    | 7   | 12 13/16         | 6     | 5/8      | 11            | 48.8                  |
|                    |                  | 411-00090503-003 | .250                    | 10  | 12 13/16         | 6     | 5/8      | 14            | 58.8                  |
| 8                  | 9.30-9.50        | 411-00094202-003 | .250                    | 7   | 13 23/32         | 6     | 5/8      | 11            | 50.8                  |
|                    |                  | 411-00094203-003 | .250                    | 10  | 13 23/32         | 6     | 5/8      | 14            | 61.2                  |
| 10                 | 11.04-11.16      | 411-00111002-003 | .250                    | 7   | 15 1/8           | 7     | 5/8      | 11            | 59.9                  |
|                    |                  | 411-00111003-003 | .250                    | 10  | 15 1/8           | 7     | 5/8      | 14            | 72.1                  |
| 10                 | 11.34-11.46      | 411-00114002-003 | .250                    | 7   | 15 1/8           | 7     | 5/8      | 11            | 61.5                  |
|                    |                  | 411-00114003-003 | .250                    | 10  | 15 1/8           | 7     | 5/8      | 14            | 74.1                  |
| 10                 | 11.84-12.00      | 411-00119502-003 | .250                    | 7   | 16               | 8     | 5/8      | 11            | 64.5                  |
|                    |                  | 411-00119503-003 | .250                    | 10  | 16               | 8     | 5/8      | 14            | 77.7                  |
| 12                 | 13.14-13.26      | 411-00132007-003 | .375                    | 7   | 17 5/8           | 8     | 5/8      | 11            | 71.3                  |
|                    |                  | 411-00132008-003 | .375                    | 10  | 17 5/8           | 8     | 5/8      | 14            | 85.8                  |
| 12                 | 13.44-13.56      | 411-00135007-003 | .375                    | 7   | 17 7/8           | 8     | 5/8      | 11            | 72.9                  |
|                    |                  | 411-00135008-003 | .375                    | 10  | 17 7/8           | 8     | 5/8      | 14            | 87.8                  |
| 12-14              | 13.88-14.06      | 411-00139207-003 | .375                    | 7   | 18 15/16         | 6     | 5/8      | 11            | 75.2                  |
|                    |                  | 411-00139208-003 | .375                    | 10  | 18 15/16         | 6     | 5/8      | 14            | 90.5                  |
| 14                 | 15.30            | 411-00153007-003 | 3/8                     | 7   | 19 7/8           | 8     | 5/8      | 11            | 86                    |
|                    |                  | 411-00153008-003 | 3/8                     | 10  | 19 7/8           | 8     | 5/8      | 14            | 107                   |
|                    |                  | 411-00153015-003 | 3/8                     | 16  | 19 7/8           | 8     | 5/8      | 20            | 144                   |
|                    |                  | 411-00153016-003 | 3/8                     | 24  | 19 7/8           | 8     | 5/8      | 28            | 196                   |
| 14                 | 15.65            | 411-00156507-003 | 3/8                     | 7   | 20 3/16          | 8     | 5/8      | 11            | 88                    |
|                    |                  | 411-00156508-003 | 3/8                     | 10  | 20 3/16          | 8     | 5/8      | 14            | 109                   |
|                    |                  | 411-00156515-003 | 3/8                     | 16  | 20 3/16          | 8     | 5/8      | 20            | 146                   |
|                    |                  | 411-00156516-003 | 3/8                     | 24  | 20 3/16          | 8     | 5/8      | 28            | 200                   |
| 16                 | 17.40            | 411-00174007-003 | 3/8                     | 7   | 21 15/16         | 8     | 5/8      | 11            | 92                    |
|                    |                  | 411-00174008-003 | 3/8                     | 10  | 21 15/16         | 8     | 5/8      | 14            | 119                   |
|                    |                  | 411-00174015-003 | 3/8                     | 16  | 21 15/16         | 8     | 5/8      | 20            | 160                   |
|                    |                  | 411-00174016-003 | 3/8                     | 24  | 21 15/16         | 8     | 5/8      | 28            | 218                   |
| 16                 | 17.80            | 411-00178007-003 | 3/8                     | 7   | 22 3/8           | 8     | 5/8      | 11            | 93                    |
|                    |                  | 411-00178008-003 | 3/8                     | 10  | 22 3/8           | 8     | 5/8      | 14            | 120                   |
|                    |                  | 411-00178015-003 | 3/8                     | 16  | 22 3/8           | 8     | 5/8      | 20            | 162                   |
|                    |                  | 411-00178016-003 | 3/8                     | 24  | 22 3/8           | 8     | 5/8      | 28            | 221                   |
| 18                 | 19.50            | 411-00195007-003 | 3/8                     | 7   | 24 1/16          | 10    | 5/8      | 11            | 107                   |
|                    |                  | 411-00195008-003 | 3/8                     | 10  | 24 1/16          | 10    | 5/8      | 14            | 133                   |
|                    |                  | 411-00195015-003 | 3/8                     | 16  | 24 1/16          | 10    | 5/8      | 20            | 179                   |
|                    |                  | 411-00195016-003 | 3/8                     | 24  | 24 1/16          | 10    | 5/8      | 28            | 245                   |

Standard and Long Length Sleeves 14" thru 24" CAST IRON

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. **Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.**

NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. **Consult Smith-Blair regarding your specific coupling pressure requirements.**

\*\*\*The last three numbers of the catalog number indicate the type of gasket. (Buna N gaskets are furnished as standard.

BUNA-N-003, BUNA-N Protected -015 (with brass spring molded into leading edge



## Standard Lengths for Ductile Iron and Cast Iron Sizes, Continued

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | CATALOG NO.      | SLEEVE THK. X LGTH. IN. |     | OVERALL DIA. (D) | BOLTS |          |               | APPROX. SHIP WT. LBS. |
|--------------------|------------------|------------------|-------------------------|-----|------------------|-------|----------|---------------|-----------------------|
|                    |                  |                  | (A)                     | (B) |                  | NO.   | DIA. IN. | LGTH. IN. (L) |                       |
| 18                 | 19.92            | 411-00199207-003 | 3/8                     | 7   | 24 1/2           | 10    | 5/8      | 11            | 109                   |
|                    |                  | 411-00199208-003 | 3/8                     | 10  | 24 1/2           | 10    | 5/8      | 14            | 135                   |
|                    |                  | 411-00199215-003 | 3/8                     | 16  | 24 1/2           | 10    | 5/8      | 20            | 182                   |
|                    |                  | 411-00199216-003 | 3/8                     | 24  | 24 1/2           | 10    | 5/8      | 28            | 249                   |
| 20                 | 21.60            | 411-00216007-003 | 3/8                     | 7   | 26 1/8           | 10    | 5/8      | 11            | 117                   |
|                    |                  | 411-00216008-003 | 3/8                     | 10  | 26 1/8           | 10    | 5/8      | 14            | 145                   |
|                    |                  | 411-00216015-003 | 3/8                     | 16  | 26 1/8           | 10    | 5/8      | 20            | 195                   |
|                    |                  | 411-00216016-003 | 3/8                     | 24  | 26 1/8           | 10    | 5/8      | 28            | 266                   |
| 20                 | 22.06            | 411-00220607-003 | 3/8                     | 7   | 26 5/8           | 10    | 5/8      | 11            | 119                   |
|                    |                  | 411-00220608-003 | 3/8                     | 10  | 26 5/8           | 10    | 5/8      | 14            | 148                   |
|                    |                  | 411-00220615-003 | 3/8                     | 16  | 26 5/8           | 10    | 5/8      | 20            | 200                   |
|                    |                  | 411-00220616-003 | 3/8                     | 24  | 26 5/8           | 10    | 5/8      | 28            | 271                   |
| 24                 | 25.80            | 411-00258007-003 | 3/8                     | 7   | 30 3/8           | 12    | 5/8      | 11            | 138                   |
|                    |                  | 411-00258008-003 | 3/8                     | 10  | 30 3/8           | 12    | 5/8      | 14            | 171                   |
|                    |                  | 411-00258015-003 | 3/8                     | 16  | 30 3/8           | 12    | 5/8      | 20            | 231                   |
|                    |                  | 411-00258016-003 | 3/8                     | 24  | 30 3/8           | 12    | 5/8      | 28            | 315                   |
| 24                 | 26.32            | 411-00263207-003 | 3/8                     | 7   | 30 7/8           | 12    | 5/8      | 11            | 140                   |
|                    |                  | 411-00263208-003 | 3/8                     | 10  | 30 7/8           | 12    | 5/8      | 14            | 174                   |
|                    |                  | 411-00263215-003 | 3/8                     | 16  | 30 7/8           | 12    | 5/8      | 20            | 235                   |
|                    |                  | 411-00263216-003 | 3/8                     | 24  | 30 7/8           | 12    | 5/8      | 28            | 321                   |

Standard and Long Length Sleeves 14" thru 24" CAST IRON

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. **Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.**

NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. **Consult Smith-Blair regarding your specific coupling pressure requirements.**

\*\*\*The last three numbers of the catalog number indicate the type of gasket. (Buna N) gaskets are furnished as standard.

BUNA-N-003, BUNA-N Protected -015 (with brass spring molded into leading edge)

## Large Diameter Standard Lengths

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | SLEEVE THK. X LGTH (A) (B) INCHES | FOLLOWER FLANGE O.D. INCHES | BOLTS |                 | CATALOG NUMBER   | APPROX. SHIP WT. LBS. |
|--------------------|------------------|-----------------------------------|-----------------------------|-------|-----------------|------------------|-----------------------|
|                    |                  |                                   |                             | NO.   | DIA. X LGTH (L) |                  |                       |
| 30                 | 30.00            | 1/4 x 7                           | 34 7/16                     | 12    | 5/8 x 11        | 411-00300002-003 | 132                   |
|                    |                  | 1/4 x 10                          | 34 7/16                     | 12    | 5/8 x 14        | 411-00300003-003 | 152                   |
|                    |                  | 3/8 x 7                           | 34 7/16                     | 12    | 5/8 x 11        | 411-00300007-003 | 155                   |
|                    |                  | 3/8 x 10                          | 34 7/16                     | 12    | 5/8 x 14        | 411-00300008-003 | 187                   |
|                    |                  | 1/2 x 10                          | 34 7/16                     | 12    | 5/8 x 14        | 411-00300009-003 | 221                   |
| 30                 | 30.50            | 1/4 x 7                           | 34 15/16                    | 12    | 5/8 x 11        | 411-00305002-003 | 133                   |
|                    |                  | 1/4 x 10                          | 34 15/16                    | 12    | 5/8 x 14        | 411-00305003-003 | 154                   |
|                    |                  | 3/8 x 7                           | 34 15/16                    | 12    | 5/8 x 11        | 411-00305007-003 | 157                   |
|                    |                  | 3/8 x 10                          | 34 15/16                    | 12    | 5/8 x 14        | 411-00305008-003 | 189                   |
|                    |                  | 1/2 x 10                          | 34 15/16                    | 12    | 5/8 x 14        | 411-00305009-003 | 224                   |
| 30                 | 31.74            | 1/4 x 7                           | 36 3/16                     | 14    | 5/8 x 11        | 411-00317402-003 | 139                   |
|                    |                  | 1/4 x 10                          | 36 3/16                     | 14    | 5/8 x 14        | 411-00317403-003 | 163                   |
|                    |                  | 3/8 x 7                           | 36 3/16                     | 14    | 5/8 x 11        | 411-00317407-003 | 164                   |
|                    |                  | 3/8 x 10                          | 36 3/16                     | 14    | 5/8 x 14        | 411-00317408-003 | 198                   |
|                    |                  | 1/2 x 10                          | 36 3/16                     | 14    | 5/8 x 14        | 411-00317409-003 | 235                   |
| 30                 | 32.00            | 1/4 x 7                           | 36 7/16                     | 14    | 5/8 x 11        | 411-00320002-003 | 140                   |
|                    |                  | 1/4 x 10                          | 36 7/16                     | 14    | 5/8 x 14        | 411-00320003-003 | 164                   |
|                    |                  | 3/8 x 7                           | 36 7/16                     | 14    | 5/8 x 11        | 411-00320007-003 | 166                   |
|                    |                  | 3/8 x 10                          | 36 7/16                     | 14    | 5/8 x 14        | 411-00320008-003 | 201                   |
|                    |                  | 1/2 x 10                          | 36 7/16                     | 14    | 5/8 x 14        | 411-00320009-003 | 237                   |

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling. NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## Large Diameter Standard Lengths

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | SLEEVE THK. X LGTH (A) (B) INCHES | FOLLOWER FLANGE O.D. INCHES | BOLTS |                 | CATALOG NUMBER   | APPROX. SHIP WT. LBS. |
|--------------------|------------------|-----------------------------------|-----------------------------|-------|-----------------|------------------|-----------------------|
|                    |                  |                                   |                             | NO.   | DIA. X LGTH (L) |                  |                       |
| 30                 | 34.00            | 1/4 x 7                           | 38 7/16                     | 14    | 5/8 x 11        | 411-00340002-003 | 148                   |
|                    |                  | 1/4 x 10                          | 38 7/16                     | 14    | 5/8 x 14        | 411-00340003-003 | 173                   |
|                    |                  | 3/8 x 7                           | 38 7/16                     | 14    | 5/8 x 11        | 411-00340007-003 | 175                   |
|                    |                  | 3/8 x 10                          | 38 7/16                     | 14    | 5/8 x 14        | 411-00340008-003 | 211                   |
|                    |                  | 1/2 x 10                          | 38 7/16                     | 14    | 5/8 x 14        | 411-00340009-003 | 250                   |
| 36                 | 36.00            | 1/4 x 7                           | 40 7/16                     | 16    | 5/8 x 11        | 411-00360002-003 | 158                   |
|                    |                  | 1/4 x 10                          | 40 7/16                     | 16    | 5/8 x 14        | 411-00360003-003 | 184                   |
|                    |                  | 3/8 x 7                           | 40 7/16                     | 16    | 5/8 x 11        | 411-00360007-003 | 183                   |
|                    |                  | 3/8 x 10                          | 40 7/16                     | 16    | 5/8 x 14        | 411-00360008-003 | 225                   |
|                    |                  | 1/2 x 10                          | 40 7/16                     | 16    | 5/8 x 14        | 411-00360009-003 | 266                   |
| 36                 | 36.50            | 1/4 x 7                           | 40 15/16                    | 16    | 5/8 x 11        | 411-00365002-003 | 159                   |
|                    |                  | 1/4 x 10                          | 40 15/16                    | 16    | 5/8 x 14        | 411-00365003-003 | 186                   |
|                    |                  | 3/8 x 7                           | 40 15/16                    | 16    | 5/8 x 11        | 411-00365007-003 | 188                   |
|                    |                  | 3/8 x 10                          | 40 15/16                    | 16    | 5/8 x 14        | 411-00365008-003 | 227                   |
|                    |                  | 1/2 x 10                          | 40 15/16                    | 16    | 5/8 x 14        | 411-00365009-003 | 269                   |
| 36                 | 36.63            | 1/4 x 7                           | 41 1/16                     | 16    | 5/8 x 11        | 411-00366302-003 | 160                   |
|                    |                  | 1/4 x 10                          | 41 1/16                     | 16    | 5/8 x 14        | 411-00366303-003 | 187                   |
|                    |                  | 3/8 x 7                           | 41 1/16                     | 16    | 5/8 x 11        | 411-00366307-003 | 189                   |
|                    |                  | 3/8 x 10                          | 41 1/16                     | 16    | 5/8 x 14        | 411-00366308-003 | 228                   |
|                    |                  | 1/2 x 10                          | 41 1/16                     | 16    | 5/8 x 14        | 411-00366309-003 | 270                   |
| 36                 | 37.96            | 1/4 x 7                           | 42 13/32                    | 16    | 5/8 x 11        | 411-00379602-003 | 162                   |
|                    |                  | 1/4 x 10                          | 42 13/32                    | 16    | 5/8 x 14        | 411-00379603-003 | 189                   |
|                    |                  | 3/8 x 7                           | 42 13/32                    | 16    | 5/8 x 11        | 411-00379607-003 | 191                   |
|                    |                  | 3/8 x 10                          | 42 13/32                    | 16    | 5/8 x 14        | 411-00379608-003 | 230                   |
|                    |                  | 1/2 x 10                          | 42 13/32                    | 16    | 5/8 x 14        | 411-00379609-003 | 272                   |

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## For Large Diameter Steel and Cast Iron Sizes Standard Lengths

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | SLEEVE THK. X LGTH (A) (B) INCHES | FOLLOWER FLANGE O.D. INCHES | BOLTS |                 | CATALOG NUMBER   | APPROX. SHIP WEIGHT LBS. |
|--------------------|------------------|-----------------------------------|-----------------------------|-------|-----------------|------------------|--------------------------|
|                    |                  |                                   |                             | NO.   | DIA. X LGTH (L) |                  |                          |
| 36                 | 38.30            | 1/4 x 7                           | 42 3/4                      | 16    | 5/8 x 11        | 411-00383002-003 | 166                      |
|                    |                  | 1/4 x 10                          | 42 3/4                      | 16    | 5/8 x 14        | 411-00383003-003 | 194                      |
|                    |                  | 3/8 x 7                           | 42 3/4                      | 16    | 5/8 x 11        | 411-00383007-003 | 196                      |
|                    |                  | 3/8 x 10                          | 42 3/4                      | 16    | 5/8 x 14        | 411-00383008-003 | 237                      |
|                    |                  | 1/2 x 10                          | 42 3/4                      | 16    | 5/8 x 14        | 411-00383009-003 | 281                      |
| 42                 | 42.00            | 1/4 x 7                           | 46 1/2                      | 18    | 5/8 x 11        | 411-00420002-003 | 123                      |
|                    |                  | 1/4 x 10                          | 46 1/2                      | 18    | 5/8 x 14        | 411-00420003-003 | 214                      |
|                    |                  | 3/8 x 7                           | 46 1/2                      | 18    | 5/8 x 11        | 411-00420007-003 | 216                      |
|                    |                  | 3/8 x 10                          | 46 1/2                      | 18    | 5/8 x 14        | 411-00420008-003 | 262                      |
|                    |                  | 1/2 x 10                          | 46 1/2                      | 18    | 5/8 x 14        | 411-00420009-003 | 310                      |
| 42                 | 42.50            | 1/4 x 7                           | 47                          | 18    | 5/8 x 11        | 411-00425002-003 | 186                      |
|                    |                  | 1/4 x 10                          | 47                          | 18    | 5/8 x 14        | 411-00425003-003 | 215                      |
|                    |                  | 3/8 x 7                           | 47                          | 18    | 5/8 x 11        | 411-00425007-003 | 220                      |
|                    |                  | 3/8 x 10                          | 47                          | 18    | 5/8 x 14        | 411-00425008-003 | 263                      |
|                    |                  | 1/2 x 10                          | 47                          | 18    | 5/8 x 14        | 411-00425009-003 | 312                      |

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## For Large Diameter Steel and Cast Iron Sizes Standard Lengths, Continued

| NOM.<br>PIPE SIZE IN. | PIPE<br>O.D.<br>INCHES | SLEEVE<br>THK. X LGTH<br>(A) (B) INCHES | FOLLOWER              | BOTLS |                    | CATALOG NUMBER   | APPROX. SHIP<br>WEIGHT LBS. |
|-----------------------|------------------------|---|-----------------------|-------|--------------------|------------------|-----------------------------|
|                       |                        |   | FLANGE O.D.<br>INCHES | NO.   | DIA. X LGTH<br>(L) |                  |                             |
| 42                    | 42.75                  | 1/4 x 7                                 | 47 1/4                | 18    | 5/8 x 11           | 411-00427502-003 | 187                         |
|                       |                        | 1/4 x 10                                | 47 1/4                | 18    | 5/8 x 14           | 411-00427503-003 | 216                         |
|                       |                        | 3/8 x 7                                 | 47 1/4                | 18    | 5/8 x 11           | 411-00427507-003 | 221                         |
|                       |                        | 3/8 x 10                                | 47 1/4                | 18    | 5/8 x 14           | 411-00427508-003 | 264                         |
|                       |                        | 1/2 x 10                                | 47 1/4                | 18    | 5/8 x 14           | 411-00427509-003 | 315                         |
| 42                    | 44.20                  | 1/4 x 7                                 | 48 11/16              | 18    | 5/8 x 11           | 411-00442002-003 | 190                         |
|                       |                        | 1/4 x 10                                | 48 11/16              | 18    | 5/8 x 14           | 411-00442003-003 | 225                         |
|                       |                        | 3/8 x 7                                 | 48 11/16              | 18    | 5/8 x 11           | 411-00442007-003 | 225                         |
|                       |                        | 3/8 x 10                                | 48 11/16              | 18    | 5/8 x 14           | 411-00442008-003 | 275                         |
|                       |                        | 1/2 x 10                                | 48 11/16              | 18    | 5/8 x 14           | 411-00442009-003 | 325                         |
| 42                    | 44.50                  | 1/4 x 7                                 | 49                    | 18    | 5/8 x 11           | 411-00445002-003 | 193                         |
|                       |                        | 1/4 x 10                                | 49                    | 18    | 5/8 x 14           | 411-00445003-003 | 228                         |
|                       |                        | 3/8 x 7                                 | 49                    | 18    | 5/8 x 11           | 411-00445007-003 | 228                         |
|                       |                        | 3/8 x 10                                | 49                    | 18    | 5/8 x 14           | 411-00445008-003 | 278                         |
|                       |                        | 1/2 x 10                                | 49                    | 18    | 5/8 x 14           | 411-00445009-003 | 329                         |
| 48                    | 48.00                  | 1/4 x 7                                 | 52 1/2                | 20    | 5/8 x 11           | 411-00480002-003 | 208                         |
|                       |                        | 1/4 x 10                                | 52 1/2                | 20    | 5/8 x 14           | 411-00480003-003 | 245                         |
|                       |                        | 3/8 x 7                                 | 52 1/2                | 20    | 5/8 x 11           | 411-00480007-003 | 246                         |
|                       |                        | 3/8 x 10                                | 52 1/2                | 20    | 5/8 x 14           | 411-00480008-003 | 299                         |
|                       |                        | 1/2 x 10                                | 52 1/2                | 20    | 5/8 x 14           | 411-00480009-003 | 354                         |
| 48                    | 48.75                  | 1/4 x 7                                 | 53 1/4                | 20    | 5/8 x 11           | 411-00487502-003 | 212                         |
|                       |                        | 1/4 x 10                                | 53 1/4                | 20    | 5/8 x 14           | 411-00487503-003 | 249                         |
|                       |                        | 3/8 x 7                                 | 53 1/4                | 20    | 5/8 x 11           | 411-00487507-003 | 246                         |
|                       |                        | 3/8 x 10                                | 53 1/4                | 20    | 5/8 x 14           | 411-00487508-003 | 303                         |
|                       |                        | 1/2 x 10                                | 53 1/4                | 20    | 5/8 x 14           | 411-00487509-003 | 358                         |
| 48                    | 50.50                  | 1/4 x 7                                 | 55                    | 20    | 5/8 x 11           | 411-00505002-003 | 217                         |
|                       |                        | 1/4 x 10                                | 55                    | 20    | 5/8 x 14           | 411-00505003-003 | 255                         |
|                       |                        | 3/8 x 7                                 | 55                    | 20    | 5/8 x 11           | 411-00505007-003 | 258                         |
|                       |                        | 3/8 x 10                                | 55                    | 20    | 5/8 x 14           | 411-00505008-003 | 312                         |
|                       |                        | 1/2 x 10                                | 55                    | 20    | 5/8 x 14           | 411-00505009-003 | 372                         |
| 48                    | 50.80                  | 1/4 x 7                                 | 55 5/16               | 20    | 5/8 x 11           | 411-00508002-003 | 220                         |
|                       |                        | 1/4 x 10                                | 55 5/16               | 20    | 5/8 x 14           | 411-00508003-003 | 260                         |
|                       |                        | 3/8 x 7                                 | 55 5/16               | 20    | 5/8 x 11           | 411-00508007-003 | 261                         |
|                       |                        | 3/8 x 10                                | 55 5/16               | 20    | 5/8 x 14           | 411-00508008-003 | 317                         |
|                       |                        | 1/2 x 10                                | 55 5/16               | 20    | 5/8 x 14           | 411-00508009-003 | 375                         |
| 54                    | 57.10                  | 1/4 x 7                                 | 61 19/32              | 24    | 5/8 x 11           | 411-00571002-003 | 238                         |
|                       |                        | 1/4 x 10                                | 61 19/32              | 24    | 5/8 x 14           | 411-00571003-003 | 286                         |
|                       |                        | 3/8 x 7                                 | 61 19/32              | 24    | 5/8 x 11           | 411-00571007-003 | 292                         |
|                       |                        | 3/8 x 10                                | 61 19/32              | 24    | 5/8 x 14           | 411-00571008-003 | 349                         |
|                       |                        | 1/2 x 10                                | 61 19/32              | 24    | 5/8 x 14           | 411-00571009-003 | 414                         |

The basic design of bolted compression couplings does not provide for anchoring the pipes against pullout. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* NOTE: Coupling working pressure depends on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.

## Long Lengths 1/2" through 24" Steel Pipe

| NOM. PIPE SIZE IN. | PIPE OD INCHES | CATALOG NO. BUNA-N GASKET | SLEEVE THK. X LGTH. IN. |     | FLANGE O.D. INCHES (D) | BOLTS |          |               | APPROX. SHIP WT. LBS. |
|--------------------|----------------|---------------------------|-------------------------|-----|------------------------|-------|----------|---------------|-----------------------|
|                    |                |                           | (A)                     | (B) |                        | NO.   | DIA. IN. | LGTH. IN. (L) |                       |
| 1/2                | 0.084          | 411-00008410-003          | 0.120                   | 12  | 3 5/8                  | 2     | 1/2      | 14            | 4                     |
| 3/4                | 1.05           | 411-00010510-003          | 0.120                   | 12  | 3 7/8                  | 2     | 1/2      | 14            | 4 1/2                 |
| 1                  | 1.32           | 411-00013210-003          | 0.120                   | 12  | 4 1/2                  | 2     | 1/2      | 14            | 5 1/2                 |
| 1 1/4              | 1.66           | 411-00016610-003          | 0.120                   | 12  | 4 9/16                 | 2     | 1/2      | 14            | 7                     |
| 1 1/2              | 1.90           | 411-00019010-003          | 0.120                   | 12  | 4 13/16                | 2     | 1/2      | 14            | 7 1/2                 |
| 2                  | 2.00           | 411-00020010-003          | 0.120                   | 12  | 4 13/16                | 2     | 1/2      | 14            | 7 1/2                 |
|                    | 2.38           | 411-00023810-003          | 0.120                   | 12  | 5 11/16                | 3     | 5/8      | 15            | 13                    |
| 2 1/2              | 2.88           | 411-00028810-003          | 0.203                   | 12  | 6 1/2                  | 3     | 5/8      | 15            | 17                    |
| +3                 | 3.50           | 411-90035010-003          | 0.180                   | 12  | 8.03                   | 3     | 5/8      | 13 1/2        | 20 1/2                |
| 3 1/2-4            | 4.00           | 411-00040010-003          | 0.180                   | 12  | 7 9/16                 | 4     | 5/8      | 15            | 25                    |
| +4                 |                | 411-90045010-003          | 0.188                   | 12  | 9.05                   | 4     | 5/8      | 13 1/2        | 22                    |
|                    | 4.50           | 411-90045011-003          | 0.188                   | 16  | 9.05                   | 4     | 5/8      | 17            | 27 1/2                |
|                    |                | 411-90045012-003          | 0.188                   | 24  | 9.05                   | 4     | 5/8      | 25            | 38 1/2                |
| 4 1/2-5            | 5.00           | 411-00050010-003          | 0.250                   | 12  | 8 5/8                  | 4     | 5/8      | 15            | 30                    |
| 5                  | 5.56           | 411-00055611-003          | 0.250                   | 16  | 9 3/16                 | 4     | 5/8      | 19 1/2        | 41                    |
|                    |                | 411-00055612-003          | 0.250                   | 24  | 9 3/16                 | 4     | 5/8      | 27 1/2        | 52                    |
| +6                 | 6.63           | 411-90066311-003          | 0.250                   | 16  | 11 1/2                 | 6     | 5/8      | 17            | 46 1/2                |
|                    |                | 411-90066312-003          | 0.250                   | 24  | 11 1/2                 | 6     | 5/8      | 25            | 65                    |
| +8                 | 8.63           | 411-90086311-000          | 0.250                   | 16  | 13 1/2                 | 6     | 5/8      | 17            | 57                    |
|                    |                | 411-90086312-003          | 0.250                   | 24  | 13 1/2                 | 6     | 5/8      | 25            | 79                    |
| 10                 | 10.00          | 411-00100012-003          | 0.250                   | 16  | 14 5/16                | 8     | 5/8      | 19 1/2        | 67                    |
|                    |                | 411-00100012-003          | 0.250                   | 24  | 14 5/16                | 8     | 5/8      | 27 1/2        | 97                    |
| +10                | 10.75          | 411-90107511-003          | 0.250                   | 16  | 15.61                  | 8     | 5/8      | 17            | 71                    |
|                    |                | 411-90107512-003          | 0.250                   | 24  | 15.61                  | 8     | 5/8      | 25            | 99                    |
| 12                 | 12.00          | 411-00120011-003          | 0.250                   | 16  | 16 1/16                | 8     | 5/8      | 19 1/2        | 77                    |
|                    |                | 411-00120012-003          | 0.250                   | 24  | 16 1/16                | 8     | 5/8      | 27 1/2        | 108                   |
| +12                | 12.75          | 411-90127511-003          | 0.250                   | 16  | 17.61                  | 8     | 5/8      | 17            | 81                    |
|                    |                | 411-90127512-003          | 0.250                   | 24  | 17.61                  | 8     | 5/8      | 25            | 113                   |
|                    |                | 411-90127516-003          | 0.375                   | 24  | 17.61                  | 8     | 5/8      | 25            | 148                   |
| 14                 | 14.00          | 411-00140015-003          | 0.375                   | 16  | 18 7/16                | 6     | 5/8      | 19 1/2        | 126                   |
|                    |                | 411-00140016-003          | 0.375                   | 24  | 18 7/16                | 6     | 5/8      | 27 1/2        | 171                   |
| 16                 | 16.00          | 411-00160015-003          | 0.375                   | 16  | 20 7/16                | 8     | 5/8      | 19 1/2        | 146                   |
|                    |                | 411-00160016-003          | 0.375                   | 24  | 20 7/16                | 8     | 5/8      | 27 1/2        | 197                   |
| 18                 | 18.00          | 411-00180015-003          | 0.375                   | 16  | 22 7/16                | 8     | 5/8      | 19 1/2        | 160                   |
|                    |                | 411-00180016-003          | 0.375                   | 24  | 22 7/16                | 8     | 5/8      | 27 1/2        | 219                   |
| 20                 | 20.00          | 411-00200015-003          | 0.375                   | 16  | 24 7/16                | 10    | 5/8      | 19 1/2        | 180                   |
|                    |                | 411-00200016-003          | 0.375                   | 24  | 24 7/16                | 10    | 5/8      | 27 1/2        | 245                   |
| 22                 | 22.00          | 411-00220015-003          | 0.375                   | 16  | 26 7/16                | 10    | 5/8      | 19 1/2        | 196                   |
|                    |                | 411-00220016-003          | 0.375                   | 24  | 26 7/16                | 10    | 5/8      | 27 1/2        | 265                   |
| 24                 | 24.00          | 411-00240015-003          | 0.375                   | 16  | 28 7/16                | 10    | 5/8      | 19 1/2        | 210                   |
|                    |                | 411-00240016-003          | 0.375                   | 24  | 28 7/16                | 10    | 5/8      | 27 1/2        | 286                   |

+ Indicates couplings furnished with Steel "Z" section, High Strength Follower Flanges.

The basic design of bolted compression couplings does not provide for anchoring the pipes against pull-out. *Suitable anchorage must be provided when excessive pipe movement could cause the pipe to move out of the coupling.* **NOTE: Coupling working pressures depend on many variables such as pipe type, pipe diameter, sleeve thickness, sleeve material, gasket cross section, follower type and number of bolts. Consult Smith-Blair regarding your specific coupling pressure requirements.**



# Steel Transition Coupling

## Transition Connection

# 413



**Description:** Used to connect pipes of different outside diameters when the maximum O.D. variation does not exceed the listed coupling O.D. range.

**Application:** Joining plain end pipe of different diameters within the same nominal pipe size.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc

### Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

**FOLLOWERS:** Ductile Iron ASTM A536 or Steel AISI C 1020. Designed for a high strength to weight ratio

Follower thickness determined by coupling size

**BOLTS & NUTS:** High strength, low alloy Steel with heavy semi-finished hexagon nuts. *Optional: Stainless Steel*

**GASKET:** Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids, and other chemical

Temperature Range: -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** PVC, Steel, Ductile Iron, AC, and others. For other pipe materials, please contact Smith-Blair Engineering.

**Sizes (in inches):** 2, 2½, 3-4, 4-5, 5-6, 6, 8, 8-12, 12, 12-14, 14, 16, 18, 20, 24, 30, 36, 42, 48

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Steel Transition Coupling

## Transition Connection

413

### Straight Sleeve

| NOM. PIPE SIZE IN. | *MAXIMUM COUPLING TRANSITION RANGE IN. | DIMENSIONS            |                      | BOLTS |          |               | APPROX. SHIP WT. LBS. |
|--------------------|--|-----------------------|----------------------|-------|----------|---------------|-----------------------|
|                    |  | SLEEVE LENGTH (B) IN. | SLEEVE THICK. INCHES | NO.   | DIA. IN. | LGTH. IN. (L) |                       |
| 2                  | 2.07-2.81                              | 5                     | 0.216                | 2     | 5/8      | 8             | 8                     |
| 2-3                | 2.69-3.88                              | 5                     | 0.227                | 2     | 5/8      | 8             | 9 1/2                 |
| 3-4                | 3.44-4.88                              | 5                     | 0.258                | 3     | 5/8      | 8             | 13                    |
| 4-5                | 4.74-5.84                              | 5                     | 0.280                | 4     | 5/8      | 8             | 20 1/2                |
| 5-6                | 5.47-6.99                              | 5                     | 0.301                | 5     | 5/8      | 8             | 23 1/2                |
| 6                  | 6.57-7.26                              | 5                     | 0.322                | 5     | 5/8      | 8             | 27 3/4                |
| 8                  | 7.94-8.75                              | 5                     | 0.342                | 6     | 5/8      | 8             | 33 1/2                |
| 8                  | 7.94-9.25                              | 5                     | 3/8                  | 6     | 5/8      | 8             | 40 1/2                |
| 8                  | 8.56-9.45                              | 5                     | 3/8                  | 6     | 5/8      | 8             | 40 1/2                |
| 8-10               | 9.00-10.38                             | 5                     | 3/8                  | 7     | 5/8      | 8             | 41                    |
| 10                 | 9.88-10.84                             | 5                     | 1/4                  | 8     | 5/8      | 8             | 32 3/4                |
| 10                 | 10.63-11.50                            | 5                     | 3/8                  | 7     | 5/8      | 8             | 46                    |
| 10-12              | 11.00-12.06                            | 5                     | 3/8                  | 7     | 5/8      | 8             | 47 1/2                |
| 12                 | 11.88-13.10                            | 5                     | 3/8                  | 8     | 5/8      | 8             | 52 1/4                |
| 12                 | 12.63-13.70                            | 5                     | 3/8                  | 8     | 5/8      | 8             | 56 1/2                |
| 12-14              | 13.88-14.50                            | 5                     | 3/8                  | 6     | 5/8      | 8             | 62                    |
| 14                 | 15.30-15.65                            | 7                     | 3/8                  | 8     | 5/8      | 11            | 86                    |
| 16                 | 17.40-17.80                            | 7                     | 3/8                  | 8     | 5/8      | 11            | 96                    |
| 18                 | 19.50-19.92                            | 7                     | 3/8                  | 10    | 5/8      | 11            | 108                   |
| 20                 | 21.60-22.06                            | 7                     | 3/8                  | 10    | 5/8      | 11            | 118                   |
| 24                 | 25.80-26.32                            | 7                     | 3/8                  | 12    | 5/8      | 11            | 140                   |

Remember to order by stating the exact pipe O.D.'s. Do NOT state the listed transition.

### Expanded Sleeve

| NOM. PIPE SIZE IN. | *MAXIMUM COUPLING TRANSITION IN. | DIMENSIONS            |                      | BOLTS      |          |               | APPROX. SHIP WT. LBS. |
|--------------------|----------------------------------|-----------------------|----------------------|------------|----------|---------------|-----------------------|
|                    |                                  | SLEEVE LENGTH IN. (B) | SLEEVE THICK. INCHES | NO.        | DIA. IN. | LGTH. IN. (L) |                       |
| 14                 | 14.00 to 15.30                   | 12                    | 3/8                  | 8          | 5/8      | 15            | 110                   |
| 16                 | 16.00 to 17.40                   | 12                    | 3/8                  | 8          | 5/8      | 15            | 125                   |
| 18                 | 18.00 to 19.50                   | 12                    | 3/8                  | 8          | 5/8      | 15            | 145                   |
| 20                 | 20.00 to 21.60                   | 12                    | 3/8                  | 10         | 5/8      | 15            | 160                   |
| 24                 | 24.00 to 25.80                   | 12                    | 3/8                  | 12         | 5/8      | 15            | 180                   |
| 30                 | 30.00 to 32.00                   | 12                    | 3/8                  | 14         | 5/8      | 15            | 215                   |
| 36                 | 36.00 to 38.30                   | 12                    | 3/8                  | 16 per End | 5/8      | 4.5           | 260                   |
| 42                 | 42.00 to 44.50                   | 12                    | 3/8                  | 18 per End | 5/8      | 4.5           | 315                   |
| 48                 | 48.00 to 50.80                   | 12<br>12              | 3/8                  | 20 per End | 5/8      | 4.5           | 350                   |

\*Longer sleeve available on request. Most transitions available on request, up to 10% change in diameter. Consult Smith-Blair engineers for details. Remember to order by stating the exact pipe O.D.'s. Do NOT state the listed transition.



# Steel Transition Coupling

## Reducing Connection

# 415



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Used to connect pipes with large differences in outside diameters.

**Application:** Joining plain end pipe of different nominal pipe sizes.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Most sizes will accommodate anchor studs to restrain the joints
- Can be custom made to fit odd O.D.s or other unusual application
- Provided with or without pipe stops to accommodate customer needs
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc...

### Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI. Flexi-Coat® Fusion Bonded Finish

**FOLLOWERS:** Ductile Iron ASTM A536 or Steel AISI C1020 Steel

**BOLTS & NUTS:** High strength, low alloy Steel with heavy semi-finished hexagon nuts. ( Stainless Steel optional)

**GASKET:** Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids, and other chemical  
Temperature Range: -20°F to 180°F

**FINISH:** Flexi-Coat® Fusion Bonded Epoxy

**Working Pressure:** Up to 150 PSI

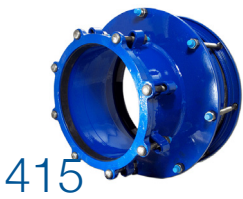
**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC, and Ductile Iron. *For other pipe materials, please contact Smith-Blair Engineering.*

### Sizes (in inches):

**LARGE PIPE END:** 6, 8, 10, 12, 14, 16, 17, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48.

**SMALL PIPE END:** 4, 5, 6, 8, 10, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46.

**NOTE:** Larger sizes available upon request.



# Steel Transition Coupling

## Reducing Connection

415

### Large Pipe End

| NOM. PIPE SIZE IN. | PIPE O.D. RANGE INCHES | SLEEVE THICKNESS (A) IN. | *APPROX. SHIP WT. LBS. |
|--------------------|------------------------|--------------------------|------------------------|
| 6                  | 5.00-7.49              | 19/59                    | 32                     |
| 8                  | 7.50-8.49              | 13/38                    | 35                     |
| 8                  | 8.50-9.49              | 1/4                      | 38                     |
| 10                 | 9.50-10.49             | 1/4                      | 44                     |
| 10                 | 10.50-11.49            | 1/4                      | 47                     |
| 12                 | 11.50-12.49            | 1/4                      | 56                     |
| 12                 | 12.50-13.49            | 1/4                      | 60                     |
| 14                 | 13.50-14.49            | 1/4                      | 71                     |
| 14                 | 14.50-15.49            | 1/4                      | 79                     |
| 16                 | 15.50-16.49            | 1/4                      | 85                     |
| 16                 | 16.50-17.49            | 1/4                      | 91                     |
| 18                 | 17.50-18.49            | 1/4                      | 97                     |
| 18                 | 18.50-19.49            | 1/4                      | 105                    |
| 20                 | 19.50-20.99            | 1/4                      | 114                    |
| 22                 | 21.00-22.99            | 1/4                      | 129                    |
| 24                 | 23.00-24.99            | 1/4                      | 142                    |
| 24                 | 25.00-26.99            | 1/4                      | 156                    |
| 28                 | 27.00-28.99            | 1/4                      | 175                    |
| 30                 | 29.00-30.99            | 1/4                      | 189                    |
| 32                 | 31.00-32.99            | 1/4                      | 207                    |
| 34                 | 33.00-34.99            | 1/4                      | 225                    |
| 36                 | 35.00-36.99            | 1/4                      | 258                    |
| 38                 | 37.00-38.99            | 1/4                      | 279                    |
| 40                 | 39.00-40.99            | 3/8                      | 298                    |
| 42                 | 41.00-42.99            | 3/8                      | 336                    |
| 44                 | 43.00-44.99            | 3/8                      | 359                    |
| 46                 | 45.00-46.99            | 3/8                      | 384                    |
| 48                 | 47.00-48.99            | 3/8                      | 407                    |
| 4                  | 3.50-4.49              | 8/31                     | 13                     |
| 4                  | 4.50-5.49              | 7/25                     | 16                     |
| 6                  | 5.50-6.49              | 28/93                    | 20                     |
| 6                  | 6.50-7.49              | 19/59                    | 20                     |

To order by stating the exact pipe O.D.s Do NOT state the listed O.D. ranges.  
 Larger Sizes available upon request. Specify if pipe stops are required.  
 \*Add together for total weight. Larger sizes available upon request  
 Check 413 ranges first if O. D. difference is 2" or less.

### Small Pipe End

| NOM. PIPE SIZE IN. | PIPE O.D. RANGE INCHES | SLEEVE THICKNESS (A) IN. | *APPROX. SHIP WT. LBS. |
|--------------------|------------------------|--------------------------|------------------------|
| 8                  | 7.50-8.49              | 1/4                      | 21                     |
| 8                  | 8.50-9.49              | 1/4                      | 23                     |
| 10                 | 9.50-10.49             | 1/4                      | 24                     |
| 10                 | 10.50-11.49            | 1/4                      | 30                     |
| 12                 | 11.50-12.49            | 1/4                      | 31                     |
| 12                 | 12.50-13.99            | 1/4                      | 34                     |
| 14                 | 13.50-14.99            | 1/4                      | 40                     |
| 16                 | 15.00-16.99            | 1/4                      | 45                     |
| 18                 | 17.00-18.99            | 1/4                      | 54                     |
| 20                 | 19.50-20.99            | 1/4                      | 68                     |
| 20                 | 21.00-22.99            | 1/4                      | 70                     |
| 24                 | 23.00-24.99            | 1/4                      | 81                     |
| 24                 | 25.00-26.99            | 1/4                      | 98                     |
| 28                 | 27.00-28.99            | 1/4                      | 101                    |
| 30                 | 29.00-30.99            | 1/4                      | 103                    |
| 32                 | 31.00-32.99            | 1/4                      | 105                    |
| 34                 | 33.00-34.99            | 1/4                      | 116                    |
| 36                 | 35.00-36.99            | 1/4                      | 118                    |
| 38                 | 37.00-38.99            | 1/4                      | 124                    |
| 40                 | 39.00-40.99            | 3/8                      | 130                    |
| 42                 | 41.00-42.99            | 3/8                      | 138                    |
| 44                 | 43.00-44.99            | 3/8                      | 150                    |
| 46                 | 45.00-46.99            | 3/8                      | 156                    |

To order by stating the exact pipe O.D.s, do NOT state the listed O.D. ranges.  
 Larger Sizes available upon request. Specify if pipe stops are required.  
 \*Add together for total weight. Larger sizes available upon request  
 Check 413 ranges first if O. D. difference is 2" or less.





# Steel Insulating Coupling

## Straight Transition

# 416



**Description:** Used to connect and insulate metal pipes with the same outside diameters.

**Application:** Joining and insulating plain end metal pipe.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Can be custom made to fit odd O.D.s or other unusual application
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc....

### Materials Specifications (subject to change)

SLEEVE: ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Ductile Iron ASTM A536 or Steel AISI C1020 Steel

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts. *Stainless Steel bolts and nuts optional*

GASKET: Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Sizes (in inches):** 2, 2½, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



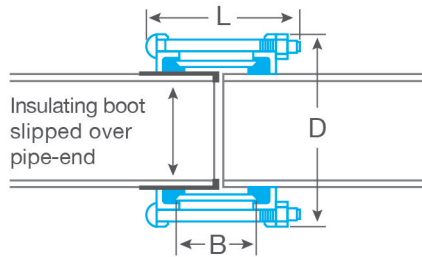
416

# Steel Insulating Coupling

## Straight Transition

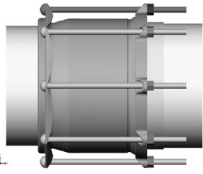
| NOM PIPE SIZE IN. | COUPLING O.D. RANGE INCHES | CATALOG NO.      | SLEEVE DIMENSIONS |                  | OVERALL          | OVERALL          | BOLTS |          |        | APPROX.       |
|-------------------|----------------------------|------------------|-------------------|------------------|------------------|------------------|-------|----------|--------|---------------|
|                   |                            |                  | SLEEVE THK. (A)   | SLEEVE LGTH. (B) | DIAMETER IN. (D) | DIAMETER IN. (L) | QTY.  | DIA. IN. | LGTH.  | SHIP WT. LBS. |
| 2                 | 2.32-2.44                  | 416-00238011-003 | 19/88             | 5                | 6 1/4            | 8 1/2            | 2     | 5/8      | 8 1/2  | 6             |
| 2.5               | 2.82-2.94                  | 416-00288011-003 | 19/84             | 5                | 6 1/2            | 7 1/2            | 2     | 1/2      | 7 3/8  | 10            |
| 3                 | 3.44-3.56                  | 416-00350011-003 | 23/97             | 5                | 7                | 8 1/2            | 2     | 5/8      | 8 1/2  | 11            |
| 4                 | 3.94-4.06                  | 416-00400011-003 | 8/31              | 5                | 8 1/4            | 8 1/2            | 3     | 5/8      | 8 1/2  | 14 1/2        |
| 4                 | 4.44-4.56                  | 416-00450011-003 | 8/31              | 5                | 8 1/4            | 8 1/2            | 3     | 5/8      | 8 1/2  | 15 1/2        |
| 5                 | 5.44-5.62                  | 416-00556011-003 | 7/25              | 5                | 9 1/2            | 8 1/2            | 4     | 5/8      | 8 1/2  | 18 1/2        |
| 6                 | 5.94-6.06                  | 416-00600011-003 | 28/93             | 5                | 10 5/8           | 8 1/2            | 5     | 5/8      | 8 1/2  | 23 1/2        |
| 6                 | 6.57-6.69                  | 416-00663011-003 | 1/4               | 5                | 11 3/8           | 8 1/2            | 5     | 5/8      | 8 1/2  | 26            |
| 8                 | 7.94-8.06                  | 416-00800011-003 | 1/4               | 5                | 12 1/2           | 8 1/2            | 6     | 5/8      | 8 1/2  | 31            |
| 8                 | 8.57-8.75                  | 416-00863011-003 | 1/4               | 7                | 13 3/16          | 11               | 6     | 5/8      | 11     | 38 1/2        |
| 10                | 10.69-10.85                | 416-01075071-003 | 3/8               | 7                | 15 9/16          | 11               | 7     | 5/8      | 11     | 41            |
| 12                | 12.69-12.88                | 416-01275071-003 | 3/8               | 7                | 17 3/16          | 11               | 8     | 5/8      | 11     | 43            |
| 14                | 13.94-14.13                | 416-01400071-003 | 3/8               | 7                | 18 3/4           | 11               | 6     | 5/8      | 10 3/4 | 72            |
| 16                | 15.94-16.13                | 416-01600071-003 | 3/8               | 7                | 20 3/4           | 11               | 8     | 5/8      | 11     | 84            |
| 18                | 17.94-18.13                | 416-01800071-003 | 3/8               | 7                | 22 3/4           | 11               | 8     | 5/8      | 11     | 92            |
| 20                | 19.88-20.09                | 416-02000071-003 | 3/8               | 7                | 24 3/4           | 11               | 10    | 5/8      | 11     | 103           |
| 22                | 21.88-22.09                | 416-02200071-003 | 3/8               | 7                | 26 3/4           | 11               | 10    | 5/8      | 11     | 112           |
| 24                | 23.88-24.09                | 416-02400071-003 | 3/8               | 7                | 28 3/4           | 11               | 10    | 5/8      | 11     | 121           |

Larger sizes available upon request. To order a 416 with two insulating boots (optional), change the end code to 2-003. Example: 416-00238012-003



### Dimensions

- B: Sleeve length
- D: Overall coupling diameter
- L: Overall coupling length



# Steel Insulating Coupling

## Transition Connection

# 417

**Description:** Used to connect and insulate pipes with different outside diameters.

**Application:** Joining and insulating plain end pipe of different diameters.

### Key Features:

- Meets applicable AWWA C219 Standards
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install, no special pipe end preparation required
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Can be custom made to fit odd O.D.s or other unusual application
- Has good deflection capabilities, allows change in piping direction without the need of elbows, bends, etc...

### Materials Specifications (subject to change)

SLEEVE: ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Ductile Iron ASTM A536 or Steel AISI C 1020 Steel

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nut

GASKET: Nitrile (Buna N) NSF® 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast & Ductile Iron

**Sizes (in inches):** 2, 2½, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

**NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Tee Coupling

# 418



**Description:** Bolted tee coupling with threaded outlet

**Application:** Provide a bolted coupling with a threaded branch outlet.

### Key Features:

- Meets applicable AWWA C219 Standards
- Makes size-on-size connections a breeze
- Allows for limited expansion and contraction
- Will dampen vibration to reduce pipe fatigue
- Easy to install because no special pipe end preparation is required
- Coupling portion has good deflection capabilities, allows change in piping direction

### Materials Specifications (subject to change)

TEE SLEEVE: ASTM A536, ASTM A512 or Carbon Steel having minimum yield of 30,000 PSI

FOLLOWER: Ductile Iron ASTM A536, Steel AISI C 1020, or A715 Grade 80 HSLA Steel. Designed for a high strength to weight ratio. Follower thickness determined by coupling size

GASKET: Nitrile (Buna N) NSF 61 compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

Temperature Range: -20°F to 180°F

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts *Stainless Steel optional*

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, PVC, Cast Iron, Asbestos Cement, and others. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** ¾, 1, 1¼, 1½, 2.

| NOM. SIZE INCHES | *O.D. INCHES | TAP SIZE I.P. THREAD INCHES | SLEEVE LENGTH (B) IN. | CATALOG NUMBER   | APPROX. SHIP WT. LBS. |
|------------------|--------------|-----------------------------|-----------------------|------------------|-----------------------|
| 3/4              | 1.02-1.08    | 3/4                         | 5                     | 418-00010506-003 | 4                     |
| 1                | 1.26-1.38    | 1                           | 5                     | 418-00013208-003 | 5                     |
| 1 1/4            | 1.60-1.72    | 1 1/4                       | 5                     | 418-00016610-003 | 7                     |
| 1 1/2            | 1.84-1.96    | 1 1/2                       | 6                     | 416-00019012-003 | 7                     |
| 2                | 2.32-2.44    | 2                           | 6                     | 418-00023814-003 | 10                    |
| 2                | 2.44-2.56    | 2                           | 6                     | 418-00025014-003 | 10                    |



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Top Bolt Couplings

## With Double-Acting Bolt Technology (6" and larger)

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

# 421



Double-acting bolts close in two directions at once, lowering installation times.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Two bolt, stab fit coupling featuring removable/replaceable inner gaskets to expand range of product and reduce number of SKUs that must be stocked.

**Application:** Joining plain end pipe

### Key Features:

- Double-acting bolt technology closes flange in two directions at once, lowering installation times
- Removable inner gasket for larger O.D.s
- Bi-directional inner gasket can be reinstalled
- Corrugated armor — reduces friction between gasket and armor, thus allowing better gasket seating; prevents armor from gouging flange finish, thus reducing possible corrosion point
- Wide range - Up to 1.31 inches
- Reduces inventory by having wide range
- Deflection 4° per end
- Lightweight
- Stab insertion of pipe ends
- Corrosion resistant Flexi-Coat® Epoxy Finish
- Coated 304 Stainless Steel hardware and fluoropolymer coated nuts to reduce galling
- Connectors available for additional corrosion protection using anodes
- Easily disassembled when necessary

### Materials Specifications (subject to change)

SLEEVE: Carbon Steel

FLANGES: Carbon Steel

ARMOR: Half hard 304 Stainless Steel

GASKET: Nitrile (Buna N)

BOLTS: Type 304 Stainless Steel with Flexi-Coat® Fusion Bonded Epoxy Finish

NUTS: Heavy hex Type 304 Stainless Steel with fluoropolymer finish to prevent galling

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** Up to 260 PSI

**Pipe Applications:** Steel, PVC, Ductile Iron, Asbestos Cement, Copper tube and HDPE (with stiffener).

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 10 oversize and 12 oversize, 16, 24



# Top Bolt Couplings

With Double-Acting Bolt Technology (6" and larger)

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

421

## Standard

| NOM SIZE (IN) | CATALOG NUMBER   | OVERALL RANGE | LOWER RANGE (IN)           | UPPER RANGE (IN)           | WIDTH (IN) | HEIGHT (IN) | SLEEVE LENGTH (IN) | LAYING LENGTH (IN) | MAXIMUM GAP (IN) | APPROX. WEIGHT (LBS) |
|---------------|------------------|---------------|----------------------------|----------------------------|------------|-------------|--------------------|--------------------|------------------|----------------------|
| 2             | 421-02130295-031 | 2.13-2.95     | 2.13-2.60                  | 2.50-2.95                  | 5.38       | 7.25        | 4                  | 7.50               | 1                | 9                    |
| 3             | 421-03100420-031 | 3.10-4.20     | 3.10-3.56                  | 3.70-4.20                  | 6.88       | 8.38        | 6                  | 9.50               | 2                | 12                   |
| 4             | 421-04460560-031 | 4.46-5.60     | 4.46-5.05                  | 5.00-5.60                  | 8.75       | 10.00       | 6                  | 9.75               | 2                | 19                   |
| 6             | 421-06560760-031 | 6.56-7.60     | 6.56-7.05                  | 7.00-7.60                  | 10.88      | 12.13       | 8                  | 11.75              | 4                | 27                   |
| 8             | 421-08540985-031 | 8.54-9.85     | 8.54-9.15                  | 9.15-9.85                  | 13.13      | 14.38       | 8                  | 11.75              | 4                | 34                   |
| 10            | 421-10641183-031 | 10.64-11.83   | 10.64-11.18                | 11.13-11.83                | 15.50      | 16.50       | 8                  | 11.75              | 4                | 40                   |
| 12            | 421-12621367-031 | 12.62-13.67   | 12.62-13.06                | 13.10-13.67                | 17.63      | 18.75       | 8                  | 11.75              | 4                | 47                   |
| 10 OS*        | 421-10641220-031 | 10.64-12.20   | 10" Side:<br>10.64-11.18   | 10" Side:<br>11.13-11.83   | 16.13      | 17.25       | 8                  | 11.75              | 4                | 42                   |
|               |                  |               | 10 OS Side:<br>11.05-11.56 | 10 OS Side:<br>11.56-12.20 |            |             |                    |                    |                  |                      |
| 12 OS*        | 421-12621440-031 | 12.62-14.40   | 12" Side:<br>12.62-13.06   | 12" Side:<br>13.10-13.67   | 18.50      | 19.38       | 8                  | 11.75              | 4                | 49                   |
|               |                  |               | 12 OS Side:<br>13.14-13.78 | 12 OS Side:<br>13.73-14.40 |            |             |                    |                    |                  |                      |
| 16            | 421-16001785-031 | 16.00-17.85   | 16.00-16.50                | 17.35-17.85                | 22.00      | 24.00       | 9                  | 12.63              | 4                | 80                   |
| 24            | 421-24002632-031 | 24.00-26.32   | 24.00-24.80                | 25.25-26.32                | 30.31      | 33.00       | 9                  | 12.63              | 4                | 120                  |

\*OS sizes show two different lower and upper ranges: the range on top shows the range of the standard coupling end and the range on bottom shows the range of the oversized coupling.



# Top Bolt® Coupling

## Long Sleeve, With Double-Acting Bolt Technology

PATENT NO. 8,582,945 / 8,776,351 / 9,789,832

# 422



Double-acting bolts close in two directions at once, lowering installation times.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Two bolt, stab fit coupling featuring removable/replaceable inner gaskets to expand range of product and reduce number of SKUs that must be stocked.

### Applications:

- Joining plain-end pipe of same outside diameters
- Joining wide range plain-end pipe of different outside diameters with same nominal size.
- Replacing split or excessively damaged pipe

### Key Features:

- Double-acting bolt technology closes flange in two directions at once, lowering installation times
- Removable inner gasket for larger O.D.s
- Bi-directional inner gasket can be reinstalled
- Corrugated armor — reduces friction between gasket and armor, thus allowing better gasket seating; prevents armor from gouging flange finish, thus reducing possible corrosion points
- Wide range - Up to 1.31 inches
- Reduces inventory by having wide range
- Lightweight
- Stab insertion of pipe ends
- Corrosion resistant Flexi-Coat® Epoxy Finish
- Epoxy coated 304 Stainless Steel hardware and fluoropolymer coated nuts to reduce galling
- Optional anode connector for additional corrosion protection
- Easily disassembled when necessary

### Materials Specifications (subject to change):

SLEEVE: Carbon Steel

FLANGES: Carbon Steel

ARMOR: 304 Stainless Steel

GASKET: Nitrile (Buna N)

BOLTS: Type 304 Stainless Steel with Flexi-Coat® Fusion Bonded Epoxy Finish

NUTS: Type 304 Stainless Steel or equivalent, with fluoropolymer finish to prevent galling

FINISH: Flexi-Coat® Fusion Bonded Epoxy Finish

**Working Pressure:** 260 PSI

**Pipe Applications:** Steel, PVC, Ductile Iron, Asbestos Cement and Copper tube sizes

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12

**Deflection:** 4° per end



# Top Bolt® Coupling

Long Sleeve, With Double-Acting Bolt Technology

PATENT NO. 8,582,945 / 8,776,351 / 9,789,832

422

| NOM. SIZE (IN.) | CATALOG NUMBER   | OVERALL RANGE (IN.) | LOWER RANGE (IN.) | UPPER RANGE (IN.) | WIDTH (IN.) | HEIGHT (IN.) | SLEEVE LENGTH (IN.) | LAYING LENGTH (IN.) | MAX GAP (IN.) | BOXED WEIGHT (LBS.) |
|-----------------|------------------|---------------------|-------------------|-------------------|-------------|--------------|---------------------|---------------------|---------------|---------------------|
| 2               | 422-02130295-031 | 2.13-2.95           | 2.13-2.60         | 2.50-2.95         | 5.38        | 7.25         | 8                   | 12.00               | 4             | 11                  |
| 3               | 422-03100420-031 | 3.10-4.20           | 3.10-3.56         | 3.70-4.20         | 6.88        | 8.38         | 12                  | 16.00               | 8             | 16                  |
| 4               | 422-04460560-031 | 4.46-5.60           | 4.46-5.05         | 5.00-5.60         | 8.75        | 10           | 12                  | 16.00               | 8             | 26                  |
| 6               | 422-06560760-031 | 6.65-7.60           | 6.65-7.05         | 7.00-7.60         | 10.88       | 12.13        | 16                  | 21.00               | 12            | 39                  |
| 8               | 422-08540985-031 | 8.54-9.85           | 8.54-9.15         | 9.15-9.85         | 13.13       | 14.38        | 16                  | 21.00               | 12            | 49                  |
| 10              | 422-10641183-031 | 10.64-11.83         | 10.64-11.18       | 11.13-11.83       | 15.5        | 16.5         | 16                  | 21.00               | 12            | 58                  |
| 12              | 422-12621367-031 | 12.62-13.67         | 12.62-13.06       | 13.10-13.67       | 17.63       | 18.75        | 16                  | 21.00               | 12            | 67                  |





# OMNI Coupling System

## Cast Couplings — Straight & Reducing Transitions

# 441



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

**Description:** Cast Couplings

**Application:** To join plain end pipes with the same or different O.D.s by changing followers and gaskets.

**Key Features:**

- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Flanges and gaskets can be mixed and matched on the same size nominal sleeve
- Most couplings are stab fit, making installation a breeze. No disassembly is required
- Up to 2.4" of range with a single coupling, reducing the need for large coupling inventories
- One sleeve per nominal pipe size takes the guesswork out of deciding which sleeve size to choose
- Flanges are color coded by pipe type: Red for iron pipe size O.D.; Blue for Ductile O.D.; and Gray for Asbestos Cement O.D.
- Gaskets and flanges are permanently marked with a part number and range to facilitate proper selection
- Sleeves are available in a variety of lengths, and custom length Steel sleeves are available for special applications

**Materials Specifications (subject to change)**

**SLEEVE:** Ductile Iron ASTM A536. Ends have smooth inside taper for uniform gasket seating

**GASKET:** Nitrile (Buna N) certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength to weight ratio

**BOLTS & NUTS:** High strength low alloy Steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI A21.11) **Optional: Stainless Steel**

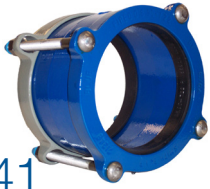
**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2, 2½, 3, 4, 6, 8, 10, 12, 14, 16

441



# OMNI Coupling System

## Cast Couplings — Straight & Reducing Transitions

### Cast Straight and Cast Transition

| NOMINAL PIPE SIZE INCHES | CATALOG NUMBER END CODE (SEE PAGE 14) | O.D.** END 1 INCHES | O.D.** END 2 INCHES | OVERALL BOLT & LAYING LENGTH INCHES | 5/8" BOLT QUANTITY REQUIRED | SLEEVE LENGTH INCHES † | APPROXIMATE SHIPPING WEIGHT LBS. |
|--------------------------|---------------------------------------|---------------------|---------------------|-------------------------------------|-----------------------------|------------------------|----------------------------------|
| 2                        | 441-0000263-900                       | 2.34-2.63           | 2.34-2.63           | 8 1/2                               | 2                           | 4                      | 8 1/2                            |
| 2 1/2                    | 441-0000288-900                       | 2.65-2.88           | 2.65-2.88           | 8 1/2                               | 2                           | 4                      | 9                                |
| 3                        | 441-0000313-900                       | 2.85-3.13           | 2.85-3.13           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-0000350-900                       | 3.44-3.62           | 3.44-3.62           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-0000396-900                       | 3.80-3.96           | 3.80-3.96           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-0000414-900                       | 3.97-4.14           | 3.97-4.14           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-03500313-900                      | 3.44-3.62           | 2.85-3.13           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-03960313-900                      | 3.80-3.96           | 2.85-3.13           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-03960350-900                      | 3.80-3.96           | 3.44-3.62           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-04140313-900                      | 3.97-4.14           | 2.85-3.13           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-04140350-900                      | 3.97-4.14           | 3.44-3.62           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
|                          | 441-04140396-900                      | 3.97-4.14           | 3.80-3.96           | 8 1/2                               | 4                           | 4                      | 13 1/2                           |
| 4†                       | 441-00000415-900                      | 4.00-4.15           | 4.00-4.15           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-00000450-900                      | 4.22-4.50           | 4.22-4.50           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-00000486-900                      | 4.46-4.86           | 4.46-4.86           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-00000510-900                      | 4.80-5.10           | 4.80-5.10           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-00000545-900                      | 5.11-5.45           | 5.11-5.45           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-04500415-900                      | 4.22-4.50           | 4.00-4.15           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-04860415-900                      | 4.46-4.86           | 4.00-4.15           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05100415-900                      | 4.80-5.10           | 4.00-4.15           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05100450-900                      | 4.80-5.10           | 4.22-4.50           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05100486-900                      | 4.80-5.10           | 4.46-4.86           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05450415-900                      | 5.11-5.45           | 4.00-4.15           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05450450-900                      | 5.11-5.45           | 4.22-4.50           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05450486-900                      | 5.11-5.45           | 4.46-4.86           | 8 1/2                               | 4                           | 5                      | 15                               |
|                          | 441-05450510-900                      | 5.11-5.45           | 4.80-5.10           | 8 1/2                               | 4                           | 5                      | 15                               |
| 6†                       | 441-00000615-900                      | 6.00-6.15           | 6.00-6.15           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-00000663-900                      | 6.28-6.63           | 6.28-6.63           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-00000696-900                      | 6.56-6.96           | 6.56-6.96           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-00000722-900                      | 6.90-7.22           | 6.90-7.22           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-00000765-900                      | 7.25-7.65           | 7.25-7.65           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-06630615-900                      | 6.28-6.63           | 6.00-6.15           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-06960615-900                      | 6.56-6.96           | 6.00-6.15           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07220615-900                      | 6.90-7.22           | 6.00-6.15           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07220663-900                      | 6.90-7.22           | 6.28-6.63           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07220696-900                      | 6.90-7.22           | 6.56-6.96           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07650615-900                      | 7.25-7.65           | 6.00-6.15           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07650663-900                      | 7.25-7.65           | 6.28-6.63           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07650696-900                      | 7.25-7.65           | 6.56-6.96           | 8 1/2                               | 4                           | 5                      | 25                               |
|                          | 441-07650722-900                      | 7.25-7.65           | 6.90-7.22           | 8 1/2                               | 4                           | 5                      | 25                               |

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur.  
 \*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. † For longer sleeve length see 442.

## Cast Straight and Cast Transition, Continued

| NOMINAL PIPE SIZE INCHES | CATALOG NUMBER END CODE (SEE PAGE 14) | O.D.** END 1 INCHES | O.D.** END 2 INCHES | OVERALL BOLT & LAYING LENGTH INCHES | 5/8" BOLT QUANTITY REQUIRED | SLEEVE LENGTH INCHES † | APPROXIMATE SHIPPING WEIGHT LBS. |
|--------------------------|---------------------------------------|---------------------|---------------------|-------------------------------------|-----------------------------|------------------------|----------------------------------|
| 8†                       | 441-0000800-900                       | 8.00-8.16           | 8.00-8.16           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-0000863-900                       | 8.40-8.63           | 8.40-8.63           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-0000911-900                       | 8.54-9.11           | 8.54-9.11           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-0000930-900                       | 9.05-9.30           | 9.05-9.30           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-0000945-900                       | 9.05-9.45           | 9.05-9.45           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-0000985-900                       | 9.46-9.85           | 9.46-9.85           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-08630800-900                      | 8.40-8.63           | 8.00-8.16           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09110800-900                      | 8.54-9.11           | 8.00-8.16           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09300800-900                      | 8.00-8.16           | 8.00-8.16           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09300863-900                      | 8.40-8.63           | 8.40-8.63           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09300911-900                      | 8.54-9.11           | 8.54-9.11           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09450800-900                      | 9.05-9.45           | 8.00-8.16           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09450863-900                      | 9.05-9.45           | 8.40-8.63           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09450911-900                      | 9.05-9.45           | 8.54-9.11           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09850800-900                      | 9.46-9.85           | 8.00-8.16           | 9 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09850863-900                      | 9.46-9.85           | 8.40-8.63           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09850911-900                      | 9.46-9.85           | 8.54-9.11           | 8 1/2                               | 6                           | 5                      | 31                               |
|                          | 441-09850945-900                      | 9.46-9.85           | 9.05-9.45           | 8 1/2                               | 6                           | 5                      | 31                               |
| 10†                      | 441-00001000-900                      | 10.00               | 10.00               | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-00001075-900                      | 10.50-10.75         | 10.50-10.75         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-00001160-900                      | 11.10-11.60         | 11.10-11.60         | 11                                  | 6                           | 6                      | 47                               |
|                          | 441-00001188-900                      | 11.65-11.88         | 11.65-11.88         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-00001220-900                      | 11.90-12.20         | 11.90-12.20         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-10751000-900                      | 10.50-10.75         | 10.00               | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-11601000-900                      | 11.10-11.60         | 10.00               | 11                                  | 6                           | 6                      | 47                               |
|                          | 441-11601075-900                      | 11.10-11.60         | 10.50-10.75         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-11881000-900                      | 11.65-11.88         | 10.00               | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-11881075-900                      | 11.65-11.88         | 10.50-10.75         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-11881160-900                      | 11.65-11.88         | 11.10-11.60         | 11                                  | 6                           | 6                      | 47                               |
|                          | 441-12201000-900                      | 11.90-12.20         | 10.00               | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-12201075-900                      | 11.90-12.20         | 10.50-10.75         | 9 1/2                               | 6                           | 6                      | 47                               |
|                          | 441-12201160-900                      | 11.90-12.20         | 11.10-11.60         | 11                                  | 6                           | 6                      | 47                               |
|                          | 441-12201188-900                      | 11.90-12.20         | 11.65-11.88         | 9 1/2                               | 6                           | 6                      | 47                               |

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur.

\*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. †For longer sleeve length see 442.

## Cast Straight and Cast Transition, Continued

| NOMINAL PIPE SIZE INCHES | CATALOG NUMBER END CODE (SEE PAGE 14) | O.D.** END 1 INCHES | O.D.** END 2 INCHES | OVERALL BOLT & LAYING LENGTH INCHES | 5/8" BOLT QUANTITY REQUIRED | SLEEVE LENGTH INCHES † | APPROXIMATE SHIPPING WEIGHT LBS. |
|--------------------------|---------------------------------------|---------------------|---------------------|-------------------------------------|-----------------------------|------------------------|----------------------------------|
| 12†                      | 441-00001200-900                      | 12.00               | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-00001275-900                      | 12.50-12.75         | 12.50-12.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-00001350-900                      | 13.20-13.50         | 13.20-13.50         | 11                                  | 8                           | 6                      | 52                               |
|                          | 441-00001375-900                      | 13.51-13.75         | 13.51-13.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-00001420-900                      | 13.90-14.20         | 13.90-14.20         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-00001440-900                      | 14.21-14.40         | 14.21-14.40         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-12751200-900                      | 12.50-12.75         | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-13501200-900                      | 13.20-13.50         | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-13501275-900                      | 13.20-13.50         | 12.50-12.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-13751200-900                      | 13.51-13.75         | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-13751275-900                      | 13.51-13.75         | 12.50-12.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-13751350-900                      | 13.51-13.75         | 13.20-13.50         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14201200-900                      | 13.90-14.20         | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14201275-900                      | 13.90-14.20         | 12.50-12.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14201350-900                      | 13.90-14.20         | 13.20-13.50         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14201375-900                      | 13.90-14.20         | 13.51-13.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14401200-900                      | 14.21-14.40         | 12.00               | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14401275-900                      | 14.21-14.40         | 12.50-12.75         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14401350-900                      | 14.21-14.40         | 13.20-13.50         | 9 1/2                               | 8                           | 6                      | 52                               |
|                          | 441-14401375-900                      | 14.21-14.40         | 13.51-13.75         | 9 1/2                               | 8                           | 6                      | 52                               |
| 441-14401420-900         | 14.21-14.40                           | 13.90-14.20         | 9 1/2               | 8                                   | 6                           | 52                     |                                  |
| 14†                      | 441-00001550-900                      | 15.30-15.50         | 15.30-15.50         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-00001580-900                      | 15.55-15.80         | 15.55-15.80         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-00001622-900                      | 16.22-16.35         | 16.22-16.35         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-00001655-900                      | 16.41-16.55         | 16.41-16.55         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-00001690-900                      | 16.73-16.90         | 16.73-16.90         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-15801550-900                      | 15.55-15.80         | 15.30-15.50         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16221550-900                      | 16.22-16.35         | 15.30-15.50         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16221580-900                      | 16.22-16.35         | 15.55-15.80         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16551550-900                      | 16.41-16.55         | 15.30-15.50         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16551580-900                      | 16.41-16.55         | 15.55-15.80         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16551622-900                      | 16.41-16.55         | 16.22-16.35         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16801550-900                      | 16.73-16.90         | 15.30-15.50         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16901580-900                      | 16.73-16.90         | 15.55-15.80         | 9 1/2                               | 8                           | 6                      | 59                               |
|                          | 441-16901622-900                      | 16.73-16.90         | 16.22-16.35         | 9 1/2                               | 8                           | 6                      | 59                               |
| 441-16901655-900         | 16.73-16.90                           | 16.41-16.55         | 9 1/2               | 8                                   | 6                           | 59                     |                                  |
| 16†                      | 441-00001780-900                      | 17.40-17.80         | 17.40-17.80         | 11                                  | 10                          | 6                      | 71                               |
|                          | 441-00001890-900                      | 18.46-18.90         | 18.46-18.90         | 9 1/2                               | 10                          | 6                      | 71                               |
|                          | 441-00001920-900                      | 18.90-19.20         | 18.90-19.20         | 9 1/2                               | 10                          | 6                      | 71                               |
|                          | 441-18901780-900                      | 18.46-18.90         | 17.40-17.80         | 11                                  | 10                          | 6                      | 71                               |
|                          | 441-19201780-900                      | 18.90-19.20         | 17.40-17.80         | 11                                  | 10                          | 6                      | 71                               |
|                          | 441-19201890-900                      | 18.90-19.20         | 18.46-18.90         | 9 1/2                               | 10                          | 6                      | 71                               |

Type 441 Couplings will connect any two pipes within the O.D. range without changing parts. Suitable anchorage must be provided when excessive pipe movement could occur.

\*\* Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA standard tolerances. †For longer sleeve length see 442.

## Cast Reducing Couplings

| NOMINAL SIZE INCHES |           | CATALOG NUMBER END CODE<br>(SEE PAGE 14) | O.D.** END 1<br>INCHES | O.D.** END 2<br>INCHES | LAYING<br>LENGTH<br>INCHES | 5/8" BOLTS       |                      | APPROXIMATE<br>SHIPPING<br>WEIGHT<br>LBS. |
|---------------------|-----------|--|------------------------|------------------------|----------------------------|------------------|----------------------|---|
| END 1               | END 2     |  |                        |                        |                            | LENGTH<br>INCHES | QUANTITY<br>REQUIRED |   |
| 2 1/2               | 2         | 441-02880263-900                         | 2.65-2.88              | 2.34-2.63              | 8 1/2                      | 8                | 2                    | 20  |
| 6                   | 4         | 441-06630415-900                         | 6.28-6.63              | 4.00-4.15              | 5                          | 4 1/2            | 8                    | 25  |
|                     |           | 441-06630450-900                         | 6.28-6.63              | 4.22-4.50              |                            |                  |                      |   |
|                     |           | 441-06630486-900                         | 6.28-6.63              | 4.46-4.86              |                            |                  |                      |   |
|                     |           | 441-06630510-900                         | 6.28-6.63              | 4.80-5.10              |                            |                  |                      |   |
|                     |           | 441-06630545-900                         | 6.28-6.63              | 5.11-5.45              |                            |                  |                      |   |
|                     |           | 441-06960415-900                         | 6.56-6.96              | 4.00-4.15              |                            |                  |                      |   |
|                     |           | 441-06960450-900                         | 6.56-6.96              | 4.22-4.50              |                            |                  |                      |   |
|                     |           | 441-06960486-900                         | 6.56-6.96              | 4.46-4.86              |                            |                  |                      |   |
|                     |           | 441-06960510-900                         | 6.56-6.96              | 4.80-5.10              |                            |                  |                      |   |
|                     |           | 441-06960545-900                         | 6.56-6.96              | 5.11-5.45              |                            |                  |                      |   |
|                     |           | 441-07220415-900                         | 6.90-7.22              | 4.00-4.15              |                            |                  |                      |   |
|                     |           | 441-07220450-900                         | 6.90-7.22              | 4.22-4.50              |                            |                  |                      |   |
|                     |           | 441-07220486-900                         | 6.90-7.22              | 4.46-4.86              |                            |                  |                      |   |
|                     |           | 441-07220510-900                         | 6.90-7.22              | 4.80-5.10              |                            |                  |                      |   |
|                     |           | 441-07220545-900                         | 6.90-7.22              | 5.11-5.45              |                            |                  |                      |   |
|                     |           | 411-07650415-900                         | 7.25-7.65              | 4.00-4.15              |                            |                  |                      |   |
|                     |           | 441-07650450-900                         | 7.25-7.65              | 4.22-4.50              |                            |                  |                      |   |
|                     |           | 441-07650486-900                         | 7.25-7.65              | 4.46-4.86              |                            |                  |                      |   |
|                     |           | 411-07650510-900                         | 7.25-7.65              | 4.80-5.10              |                            |                  |                      |   |
| 441-07650545-900    | 7.25-7.65 | 5.11-5.45                                |                        |                        |                            |                  |                      |   |
| 8                   | 6         | 441-08630615-900                         | 8.40-8.63              | 6.00-6.15              | 5                          | 4 1/2            | 10                   | 35  |
|                     |           | 441-08630663-900                         | 8.40-8.63              | 6.28-6.63              |                            |                  |                      |   |
|                     |           | 441-08630696-900                         | 8.40-8.63              | 6.56-6.96              |                            |                  |                      |   |
|                     |           | 441-08630722-900                         | 8.40-8.63              | 6.90-7.22              |                            |                  |                      |   |
|                     |           | 441-08630765-900                         | 8.40-8.63              | 7.25-7.65              |                            |                  |                      |   |
|                     |           | 441-09110615-900                         | 8.54-9.11              | 6.00-6.15              |                            |                  |                      |   |
|                     |           | 441-09110663-900                         | 8.54-9.11              | 6.28-6.63              |                            |                  |                      |   |
|                     |           | 441-09110696-900                         | 8.54-9.11              | 6.56-6.96              |                            |                  |                      |   |
|                     |           | 441-09110722-900                         | 8.54-9.11              | 6.90-7.22              |                            |                  |                      |   |
|                     |           | 441-09110765-900                         | 8.54-9.11              | 7.25-7.65              |                            |                  |                      |   |
|                     |           | 441-09450615-900                         | 9.05-9.45              | 6.00-6.15              |                            |                  |                      |   |
|                     |           | 441-09450663-900                         | 9.05-9.45              | 6.28-6.63              |                            |                  |                      |   |
|                     |           | 441-09450696-900                         | 9.05-9.45              | 6.56-6.96              |                            |                  |                      |   |
|                     |           | 441-09450722-900                         | 9.05-9.45              | 6.90-7.22              |                            |                  |                      |   |
|                     |           | 441-09450765-900                         | 9.05-9.45              | 7.25-7.65              |                            |                  |                      |   |
|                     |           | 441-09850615-900                         | 9.46-9.85              | 6.00-6.15              |                            |                  |                      |   |
|                     |           | 441-09850663-900                         | 9.46-9.85              | 6.28-6.63              |                            |                  |                      |   |
|                     |           | 441-09850696-900                         | 9.46-9.85              | 6.56-6.96              |                            |                  |                      |   |
|                     |           | 441-09850722-900                         | 9.46-9.85              | 6.90-7.22              |                            |                  |                      |   |
| 441-09850765-900    | 9.46-9.85 | 7.25-7.65                                |                        |                        |                            |                  |                      |   |



# OMNI Coupling System

## Long Sleeve Cast Couplings — Straight and Reducing Transitions

# 442



**Description:** Cast Couplings

**Application:** To join plain end pipes with different O.D.s by changing followers and gaskets.

### Key Features:

- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Flanges and gaskets can be mixed and matched on the same size nominal sleeve
- Most couplings are stab fit, making installation a breeze. No disassembly is required
- Up to 2.4" of range with a single coupling, reducing the need for large coupling inventories
- One sleeve per nominal pipe size takes the guesswork out of deciding which sleeve size to choose
- Flanges are color coded by pipe type: Red for standard pipe size O.D.; blue for Ductile O.D.; and Gray for Asbestos Cement O.D.
- Gaskets and flanges are permanently marked with a part number and range to facilitate proper selection
- Sleeves are available in a variety of lengths, and custom length Steel sleeves are available for special applications

### Materials Specifications (subject to change)

**SLEEVE:** Ductile Iron ASTM A536. Ends have smooth inside taper for uniform gasket seating

**GASKET:** Nitrile (Buna N) certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and other chemicals

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength to weight ratio

**BOLTS & NUTS:** High strength low alloy Steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI A21.11) (Stainless Steel Optional)

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 2½, 4, 6, 8, 10, 12, 14, 16



### **THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

442



# OMNI Coupling System

Long Sleeve Cast Couplings — Straight and Reducing Transitions

## Cast Straight and Transition

| NOMINAL PIPE SIZE INCHES | CATALOG NUMBER END CODE (SEE PAGE 14)   | O.D.** END 1 INCHES   | O.D.** END 2 INCHES   | SLEEVE LENGTH INCHES   | 5/8" BOLT QUANTITY REQUIRED   | OVERALL BOLT & LAYING LENGTH INCHES  | APPROXIMATE SHIPPING WEIGHT LBS. |        |        |      |
|--------------------------|---|---|---|--|---|--|----------------------------------|--------|--------|------|
| 4                        | 442-00000415-<br>442-00000450-<br>442-00000486-<br>442-00000510-<br>442-00000545-<br>442-04500415-<br>442-04860415- | 4.00-4.15<br>4.22-4.50<br>4.46-4.86<br>4.80-5.10<br>5.11-5.45<br>4.22-4.50<br>4.46-4.86                             | 4.00-4.15<br>4.22-4.50<br>4.46-4.86<br>4.80-5.10<br>5.11-5.45<br>4.00-4.15<br>4.00-4.15   | 7<br>-200  | 4   | 11   | 21.4                             |        |        |      |
|                          | 442-05100415-<br>442-05100450-<br>442-05100486-<br>442-05450415-<br>442-05450450-<br>442-05450486-<br>442-05450510- | 4.80-5.10<br>4.80-5.10<br>4.80-5.10<br>5.11-5.45<br>5.11-5.45<br>5.11-5.45<br>5.11-5.45                             | 4.00-4.15<br>4.22-4.50<br>4.46-4.86<br>4.00-4.15<br>4.22-4.50<br>4.46-4.86<br>4.80-5.10   | 12<br>-400   | 4   | 15 1/2   | 34.0                             |        |        |      |
|                          | 6   | 442-00000615-<br>442-00000663-<br>442-00000696-<br>442-00000722-<br>442-00000765-<br>442-06630615-<br>442-06960615- | 6.00-6.15<br>6.28-6.63<br>6.56-6.96<br>6.90-7.22<br>7.25-7.65<br>6.28-6.63<br>6.56-6.96   | 6.00-6.15<br>6.28-6.63<br>6.56-6.96<br>6.90-7.22<br>7.25-7.65<br>6.00-6.15<br>6.00-6.15  | 7   | 4  | 11                               | 30.3   |        |      |
|                          |   | 442-07220615-<br>442-07220663-<br>442-07220696-<br>442-07650615-<br>442-07650663-<br>442-07650696-<br>442-07650722- | 6.90-7.22<br>6.90-7.22<br>6.90-7.22<br>7.25-7.65<br>7.25-7.65<br>7.25-7.65<br>7.25-7.65   | 6.00-6.15<br>6.28-6.63<br>6.56-6.96<br>6.00-6.15<br>6.28-6.63<br>6.56-6.96<br>6.90-7.22  | 12<br>-400  | 4  | 15 1/2                           | 47.1   |        |      |
|                          |   | 8   | 442-00000800-<br>442-00000863-<br>442-00000911-<br>442-00000930-<br>442-00000945-<br>442-00000985-  | 8.00-8.16<br>8.40-8.63<br>8.54-9.11<br>9.05-9.30<br>9.05-9.45<br>9.46-9.85   | 8.00-8.16<br>8.40-8.63<br>8.54-9.11<br>9.05-9.30<br>9.05-9.45<br>9.46-9.85  | 7<br>-200  | 6                                | 11     | 39.0   |      |
|                          |   |   | 442-08630800-<br>442-09110800-<br>442-09450800-<br>442-09450863-<br>442-09450911-<br>442-09850800-<br>442-09850863-<br>442-09850911-<br>442-09850945- | 8.40-8.63<br>8.54-9.11<br>9.05-9.45<br>9.05-9.45<br>9.05-9.45<br>9.46-9.85<br>9.46-9.85<br>9.46-9.85<br>9.46-9.85  | 8.00-8.16<br>8.00-8.16<br>8.00-8.16<br>8.40-8.63<br>8.54-9.11<br>8.00-8.16<br>8.40-8.63<br>8.54-9.11<br>9.05-9.45   | 12<br>-400   | 6                                | 15 1/2 | 70.2   |      |
|                          |   |   | 10  | 442-00001000-400<br>442-00001075-400<br>442-00001160-400<br>442-00001188-400<br>442-00001220-400<br>442-10751000-400<br>442-11601000-400<br>442-11601075-400<br>442-11881000-400<br>442-11881075-400<br>442-11881160-400<br>442-12201000-400<br>442-12201075-400<br>442-12201160-400<br>442-12201188-400 | 10.00<br>10.50-10.75<br>11.10-11.60<br>11.65-11.88<br>11.90-12.20<br>10.50-10.75<br>11.10-11.60<br>11.10-11.60<br>11.65-11.88<br>11.65-11.88<br>11.65-11.88<br>11.90-12.20<br>11.90-12.20<br>11.90-12.20<br>11.90-12.20 | 10.00<br>10.00-10.75<br>11.10-11.60<br>11.65-11.88<br>11.90-12.20<br>10.00<br>10.00<br>10.50-10.75<br>10.00<br>10.50-10.75<br>10.00<br>10.50-10.75<br>10.00<br>10.50-10.75<br>11.10-11.60<br>11.65-11.88 | 12                               | 6      | 17 1/2 | 77.5 |

## Cast Straight and Transition, Continued

| NOMINAL<br>PIPE SIZE INCHES | CATALOG NUMBER<br>END CODE (SEE PAGE 14) | O.D.**<br>END 1 INCHES | O.D.**<br>END 2<br>INCHES | SLEEVE<br>LENGTH<br>INCHES | 5/8" BOLT<br>QUANTITY<br>REQUIRED | OVERALL BOLT<br>& LAYING LENGTH<br>INCHES | APPROXIMATE<br>SHIPPING<br>WEIGHT LBS. |
|-----------------------------|--|------------------------|---------------------------|----------------------------|-----------------------------------|---|--|
| 12                          | 442-00001200-400                         | 12.00                  | 12.00                     | 12                         | 8                                 | 15 1/2                                    | 81.1                                   |
|                             | 442-00001275-400                         | 12.50-12.75            | 12.50-12.75               |                            |                                   |   |  |
|                             | 442-00001350-400                         | 13.20-13.50            | 13.20-13.50               |                            |                                   |   |  |
|                             | 442-00001375-400                         | 13.51-13.75            | 13.51-13.75               |                            |                                   |   |  |
|                             | 442-00001420-400                         | 13.90-14.20            | 13.90-14.20               |                            |                                   |   |  |
|                             | 442-00001440-400                         | 14.21-14.40            | 14.21-14.40               |                            |                                   |   |  |
|                             | 442-12751200-400                         | 12.50-12.75            | 12.00                     |                            |                                   |   |  |
|                             | 442-13501200-400                         | 13.20-13.50            | 12.00                     |                            |                                   |   |  |
|                             | 442-13501275-400                         | 13.20-13.50            | 12.50-12.75               |                            |                                   |   |  |
|                             | 442-13751200-400                         | 13.51-13.75            | 12.00                     |                            |                                   |   |  |
|                             | 442-13751275-400                         | 13.51-13.75            | 12.50-12.75               |                            |                                   |   |  |
|                             | 442-13751350-400                         | 13.51-13.75            | 13.20-13.50               |                            |                                   |   |  |
|                             | 442-14201200-400                         | 13.90-14.20            | 12.00                     |                            |                                   |   |  |
|                             | 442-14201275-400                         | 13.90-14.20            | 12.50-12.75               |                            |                                   |   |  |
|                             | 442-14201350-400                         | 13.90-14.20            | 13.20-13.50               |                            |                                   |   |  |
|                             | 442-14201375-400                         | 13.90-14.20            | 13.51-13.75               |                            |                                   |   |  |
|                             | 442-14401200-400                         | 14.21-14.40            | 12.00                     |                            |                                   |   |  |
|                             | 442-14401275-400                         | 14.21-14.40            | 12.50-12.75               |                            |                                   |   |  |
| 442-14401350-400            | 14.21-14.40                              | 13.20-13.50            |                           |                            |                                   |   |  |
| 442-14401375-400            | 14.21-14.40                              | 13.51-13.75            |                           |                            |                                   |   |  |
| 442-14401420-400            | 14.21-14.40                              | 13.90-14.20            |                           |                            |                                   |   |  |
| 14                          | 442-00001550-400                         | 15.30-15.50            | 15.30-15.50               | 12                         | 8                                 | 15 1/2                                    | 105.0                                  |
|                             | 442-00001580-400                         | 15.55-15.80            | 15.55-15.80               |                            |                                   |   |  |
|                             | 442-00001622-400                         | 16.22-16.35            | 16.22-16.35               |                            |                                   |   |  |
|                             | 442-00001655-400                         | 16.41-16.55            | 16.41-16.55               |                            |                                   |   |  |
|                             | 442-00001690-400                         | 16.73-16.90            | 16.73-16.90               |                            |                                   |   |  |
|                             | 442-15801550-400                         | 15.55-15.80            | 15.30-15.50               |                            |                                   |   |  |
|                             | 442-16221550-400                         | 16.22-16.35            | 15.30-15.50               |                            |                                   |   |  |
|                             | 442-16221580-400                         | 16.22-16.35            | 15.55-15.80               |                            |                                   |   |  |
|                             | 442-16551550-400                         | 16.41-16.55            | 15.30-15.50               |                            |                                   |   |  |
|                             | 442-16551580-400                         | 16.41-16.55            | 15.55-15.80               |                            |                                   |   |  |
|                             | 442-16551622-400                         | 16.41-16.55            | 16.22-16.35               |                            |                                   |   |  |
|                             | 442-16901550-400                         | 16.73-16.90            | 15.30-15.50               |                            |                                   |   |  |
| 442-16901580-400            | 16.73-16.90                              | 15.55-15.80            |                           |                            |                                   |   |  |
| 442-16901622-400            | 16.73-16.90                              | 16.22-16.35            |                           |                            |                                   |   |  |
| 442-16901655-400            | 16.73-16.90                              | 16.41-16.55            |                           |                            |                                   |   |  |
| 16                          | 442-00001780-400                         | 17.40-17.80            | 17.40-17.80               | 12                         | 10                                | 15 1/2                                    | 126.3                                  |
|                             | 442-00001890-400                         | 18.46-18.90            | 18.46-18.90               |                            |                                   |   |  |
|                             | 442-00001920-400                         | 18.90-19.20            | 18.90-19.20               |                            |                                   |   |  |
|                             | 442-18901780-400                         | 18.46-18.90            | 17.40-17.80               |                            |                                   |   |  |
|                             | 442-19201780-400                         | 18.90-19.20            | 17.40-17.80               |                            |                                   |   |  |
|                             | 442-19201890-400                         | 18.90-19.20            | 18.46-18.90               |                            |                                   |   |  |





# Quantum Coupling

Patent 6,168210B1

# 461



**Description:** Wide Range Cast Couplings

**Application:** Joining plain end pipe of all outside diameters within the coupling range.

## Key Features:

- Great for reducing coupling inventory
- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Stab fit, making installation a breeze. No disassembly required
- Bolts and nuts are coated for superior corrosion resistance and better torque capabilities
- Up to 1.65" of range with a single gasket and flange, reducing the need for large coupling inventories
- One coupling per nominal pipe size takes the guesswork out of deciding which coupling size to choose

## Materials Specifications (subject to change):

SLEEVE: High Strength Ductile Iron ASTM A536

FLANGES: High Strength Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) NSF 61/372 approved

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

BOLTS: HSLA Steel per ANSI A21.11 (AWWA C111) with Flexi-Coat® Fusion-Bonded Epoxy Finish to prevent galling (Stainless Steel optional)

NUTS: Heavy hex HSLA Steel per ANSI A21.11 with fluoropolymer Finish to prevent galling

Temperature Range: -20 to +180

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 1½, 2, 2½, 3, 4, 6, 8, 10, 12



### **THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Quantum Coupling

Patent 6,168210B1

461

## Standard Coupling

| NOM. SIZE (IN.) | O.D. RANGE (IN.) | WITH EPOXY COATED ALLOY BOLTS & NUTS | WITH STAINLESS STEEL BOLTS & NUTS | SLEEVE LENGTH (IN.) | 5/8" BOLT QUANTITY | LAYING LENGTH (IN.) | WT. (LBS.) |
|-----------------|------------------|--------------------------------------|-----------------------------------|---------------------|--------------------|---------------------|------------|
|                 |                  | CATALOG NUMBER                       | CATALOG NUMBER                    |                     |                    |                     |            |
| 1 1/2           | 1.81 - 2.28      | 461-01810228-000                     | 461-01810228-031                  | 4                   | 2                  | 8.5                 | 8.2        |
| 2               | 2.34 - 2.85      | 461-02340285-000                     | 461-02340285-031                  | 4                   | 2                  | 8.5                 | 10         |
| 2 1/2           | 2.84 - 3.35      | 461-02840335-000                     | 461-02840335-031                  | 4                   | 2                  | 8.5                 | 10         |
| 3               | 3.46 - 4.21      | 461-03460421-000                     | 461-03460421-031                  | 5                   | 4                  | 9.5                 | 15         |
| 4               | 4.46 - 5.60      | 461-04460560-000                     | 461-04460560-031                  | 5.5                 | 4                  | 11.0                | 26         |
| 6               | 6.54 - 7.65      | 461-06540765-000                     | 461-06540765-031                  | 6                   | 4                  | 11.0                | 33         |
| 8               | 8.54 - 9.85      | 461-08540985-000                     | 461-08540985-031                  | 6                   | 4                  | 11.0                | 44         |
| 10              | 10.65 - 12.20    | 461-10651220-000                     | 461-10651220-031                  | 7.5                 | 8                  | 14.0                | 72         |
| 12              | 12.75 - 14.40    | 461-12751440-000                     | 461-12751440-031                  | 7.5                 | 8                  | 14.0                | 89         |

## Metric Coupling

| NOM. SIZE |      | O.D. RANGE    |           |
|-----------|------|---------------|-----------|
| (IN)      | (MM) | (IN)          | (MM)      |
| 1 1/2     | 40   | 1.81 - 2.28   | 46 - 58   |
| 2         | 50   | 2.34 - 2.85   | 59 - 72   |
| 2 1/2     | 65   | 2.84 - 3.35   | 72 - 85   |
| 3         | 80   | 3.46 - 4.21   | 88 - 107  |
| 4         | 100  | 4.46 - 5.60   | 113 - 142 |
| 6         | 150  | 6.54 - 7.65   | 166 - 194 |
| 8         | 200  | 8.54 - 9.85   | 217 - 250 |
| 10        | 250  | 10.65 - 12.20 | 271 - 310 |
| 12        | 300  | 12.75 - 14.40 | 324 - 366 |

## Long Sleeve Coupling

| NOM. SIZE (IN.) | O.D. RANGE (IN.) | WITH EPOXY COATED ALLOY BOLTS & NUTS | WITH STAINLESS STEEL BOLTS & NUTS | SLEEVE LENGTH (IN.) | 5/8" BOLT QUANTITY | LAYING LENGTH (IN.) | WT. (LBS.) |
|-----------------|------------------|--------------------------------------|-----------------------------------|---------------------|--------------------|---------------------|------------|
|                 |                  | CATALOG NUMBER                       | CATALOG NUMBER                    |                     |                    |                     |            |
| 4               | 4.46 - 5.60      | 462-04460560-000                     | 462-04460560-031                  | 12                  | 4                  | 17.5                | 31.4       |
| 6               | 6.54 - 7.65      | 462-06540765-000                     | 462-06540765-031                  | 12                  | 4                  | 17.5                | 42.3       |
| 8               | 8.54 - 9.85      | 462-08540985-000                     | 462-08540985-031                  | 12                  | 4                  | 17.5                | 55.3       |
| 10              | 10.65 - 12.20    | 462-10651220-000                     | 462-10651220-031                  | 12                  | 8                  | 17.5                | 73.0       |
| 12              | 12.75 - 14.40    | 462-12751440-000                     | 462-12751440-031                  | 12                  | 8                  | 17.5                | 87.0       |



# Quantum Coupling

## 12" Long Sleeve

PATENT NO. 6,168210B1

# 462



**Description:** Wide range, long sleeve cast couplings.

**Application:** Joining plain end pipe of all outside diameters within the coupling range.

### Key Features:

- Great for reducing coupling inventory
- Heavy cast Ductile Iron parts for long life
- Meets applicable AWWA C219 Standards
- Stab fit, making installation a breeze. No disassembly required
- Bolts and nuts are coated for superior corrosion resistance and better torque capabilities
- Up to 1.65" of range with a single gasket and flange, reducing the need for large coupling inventories
- One coupling per nominal pipe size takes the guesswork out of deciding which coupling size to choose

### Materials Specifications (subject to change)

SLEEVE: High Strength Ductile Iron ASTM A536

FLANGES: High Strength Ductile Iron ASTM A536

GASKET: Nitrile (Buna N) NSF®/ANSI 61/372 approved

FINISH: Fusion-Bonded Flexi-Coat® Epoxy Finish, per AWWA C213

BOLTS: High strength, low alloy Steel per ANSI A21.11 (AWWA C111) with Flexi-Coat® Epoxy Finish

***Stainless Steel optional.***

NUTS: Heavy hex HSLA Steel per ANSI A21.11 with Fluoropolymer Finish to prevent galling

**Pipe Applications:** Ductile Iron, Steel, Asbestos Cement and PVC.

**Sizes (in inches):** 4, 6, 8, 10, 12

**Pressure Ratings:** 250 PSI



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



# Quantum Coupling

## 12" Long Sleeve

PATENT NO. 6,168210B1

462

### Standard and Metric Coupling

| NOM. SIZE<br>(INCHES) | NOM. SIZE<br>(MM) | OD RANGE<br>(INCHES) | OD RANGE<br>(MM) | WITH EPOXY COATED<br>ALLOY BOLTS & NUTS | WITH STAINLESS STEEL<br>BOLTS & NUTS | SLEEVE<br>LENGTH<br>(INCH) | 5/8" BOLT<br>QTY | LAYING<br>LENGTH<br>(INCH) | WT.<br>(LBS.) |
|-----------------------|-------------------|----------------------|------------------|---|--------------------------------------|----------------------------|------------------|----------------------------|---------------|
|                       |                   |                      |                  | CATALOG NUMBER                          | CATALOG NUMBER                       |                            |                  |                            |               |
| 4                     | 100               | 4.46 - 5.60          | 113 - 142        | 462-04460560-000                        | 462-04460560-031                     | 12                         | 4                | 17                         | 31.4          |
| 6                     | 150               | 6.54 - 7.65          | 166 - 194        | 462-06540765-000                        | 462-06540765-031                     | 12                         | 4                | 17                         | 42.3          |
| 8                     | 200               | 8.54 - 9.85          | 217 - 250        | 462-08540985-000                        | 462-08540985-031                     | 12                         | 4                | 17                         | 55.3          |
| 10                    | 250               | 10.65 - 12.20        | 271 - 310        | 462-10651220-000                        | 462-10651220-031                     | 12                         | 8                | 17                         | 73.0          |
| 12                    | 300               | 12.75 - 14.40        | 324 - 366        | 462-12751440-000                        | 462-12751440-031                     | 12                         | 8                | 17                         | 87.0          |



# Steel Pipe End Cap

# 481



**Description:** Steel end caps are easy to remove, reinstall and block. Perfect for line testing and dependable for pipe-end sealing.

**Application:** Capping pipe ends.

## Key Features:

- Easy to install
- No special pipe end preparation required
- Meets applicable AWWA C219 Standards
- Can be custom made to fit unusual applications
- Available in a wide variety of pipe O.D. sizes and sleeve lengths
- Offset outlet makes it convenient to blow off or drain the pipe line
- Pressure rating depends on many factors. **Check with the factory for more details**
- Outlet is 2" NPT Standard, but a variety of other sizes are available to fit this application

## Materials Specifications (subject to change)

**SLEEVE:** ASTM A53, ASTM A513 or Carbon Steel having a minimum yield of 30,000 PSI

**END PLATE:** Mild Steel with a two inch I.P. threaded outlet. **Other outlet sizes available upon request**

**FOLLOWERS:** Ductile Iron ASTM A536 or AISI C 1020 Steel

**GASKETS:** Nitrile (Buna N) compounded to produce superior storage and performance characteristics, while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and other chemical

Temperature Range: -20 to +180

**BOLTS & NUTS:** High-strength, low alloy Steel with heavy, semi-finished hexagon nuts

**Optional: Stainless Steel**

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Cast Iron, PVC, Steel and PVC

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20. **NOTE:** Larger sizes available upon request.



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

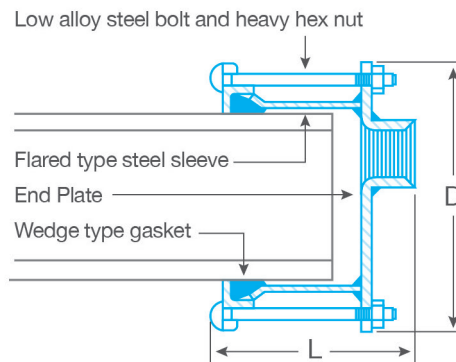
481



# Steel Pipe End Cap

| NOM. PIPE SIZE IN. | PIPE O.D. INCHES | CATALOG NUMBER   | OVERALL DIAMETER INCHES (D) | OVERALL LENGTH INCHES (L) | APPROX. SHPPING WT. LBS. |
|--------------------|------------------|------------------|-----------------------------|---------------------------|--------------------------|
| 2                  | 2.50             | 481-02500114-003 | 6.20                        | 7.94                      | 10                       |
| 3                  | 3.50             | 481-03500114-003 | 7.09                        | 7.94                      | 11                       |
|                    | 3.74             | 481-03740114-003 | 7.30                        | 7.94                      | 11                       |
|                    | 3.80             | 481-03800114-003 | 7.06                        | 8.19                      | 13                       |
|                    | 3.88             | 481-03880114-003 | 7.06                        | 8.19                      | 12 1/2                   |
|                    | 3.96             | 481-03960114-003 | 7.53                        | 8.19                      | 12 3/4                   |
| 4                  | 4.64             | 481-04640114-003 | 8.13                        | 8.19                      | 17 1/2                   |
| 6                  | 6.90             | 481-06900114-003 | 10.56                       | 8.19                      | 28                       |
| 8                  | 9.05             | 481-09050114-003 | 13.44                       | 8.19                      | 39                       |
| 10                 | 11.10            | 481-11100114-003 | 15.13                       | 8.19                      | 45 1/2                   |
|                    | 11.40            | 481-11400114-003 | 15.13                       | 8.19                      | 53                       |
|                    | 11.66            | 481-11660114-003 | 16.50                       | 8.19                      | 53 1/2                   |
| 12                 | 13.20            | 481-13200114-003 | 17.47                       | 8.31                      | 53 1/2                   |
|                    | 13.50            | 481-13500114-003 | 17.47                       | 8.31                      | 58 3/4                   |
|                    | 13.92            | 481-13920114-003 | 18.31                       | 8.31                      | 73                       |
| 14                 | 15.30            | 481-15300114-003 | 19.75                       | 8.31                      | 89                       |
|                    | 15.65            | 481-15650114-003 | 20.1                        | 8.31                      | 92                       |
| 16                 | 17.4             | 481-17400114-003 | 21.84                       | 8.31                      | 92 1/4                   |
|                    | 17.8             | 481-17800114-003 | 22.25                       | 8.31                      | 92 1/2                   |
| 18                 | 19.5             | 481-19500114-003 | 24                          | 8.31                      | 122                      |
|                    | 19.92            | 481-19920114-003 | 24.4                        | 8.31                      | 125                      |
| 20                 | 21.6             | 481-21600114-003 | 26.3                        | 8.31                      | 136                      |
|                    | 22.06            | 481-22060114-003 | 26.5                        | 8.31                      | 138                      |

Other sizes available upon request. Pipe end caps must be securely blocked or anchored to prevent them from moving off of the pipe.





# Cast Line Cap

# 482

**Description:** Steel end cap for remove and reinstall and block. Perfect for line testing and dependable for pipe-end sealing.

**Application:** Capping pipe ends.

## Key Features:

- No special pipe end preparation required
- Meets applicable AWWA C219 Standards
- Can be custom made to fit unusual application
- Available in a wide variety of pipe O.D. sizes
- Offset outlet makes it convenient to blow out or drain the pipe line
- Pressure rating depends on many factors. Check with the factory for more details
- Outlet is 2" NPT Standard

## Materials Specifications (subject to change)

**SLEEVE:** Ductile Iron ASTM A-536. Ends have smooth inside taper for uniform gasket seating

**GASKETS:** Nitrile (Buna N) Certified to NSF®/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbons and many other chemicals

**Temperature Range:** -20 to 180

**FOLLOWER FLANGES:** Ductile Iron ASTM A536. Designed for high strength/weight ratio

**BOLTS & NUTS:** High-strength, low alloy Steel with heavy, semi-finished hexagon nuts. **Optional:** ***Stainless Steel and carbon Steel ASTM A307 electrogalvanized with di-chromate seal***

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI

**Pipe Applications:** Cast Iron, PVC, Steel

**Sizes (in inches):** 2, 2½, 3, 4, 6, 8, 10, 12



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

482



# Cast Line Cap

| NOMINAL PIPE SIZE INCHES | CATALOG NUMBER END CODE | RANGE †† INCHES | OVERALL BOLT & LAYING LENGTH INCHES | 5/8" BOLT QUANTITY REQUIRED | SLEEVE LENGTH INCHES | APPROXIMATE SHIPPING WEIGHT - LBS. |
|--------------------------|-------------------------|-----------------|-------------------------------------|-----------------------------|----------------------|------------------------------------|
| 2                        | 482-00026306-900        | 2.34-2.63       | 8 1/2                               | 2                           | 4                    | 9                                  |
| 2 1/2                    | 482-00028806-900        | 2.65-2.88       | 8 1/2                               | 2                           | 4                    | 10                                 |
| 3                        | 482-00031306-900        | 2.85-3.13       | 8 1/2                               | 4                           | 4                    | 15                                 |
|                          | 482-00035006-900        | 3.44-3.62       | 8 1/2                               | 4                           | 4                    | 15                                 |
|                          | 482-00039606-900        | 3.80-3.96       | 8 1/2                               | 4                           | 4                    | 15                                 |
|                          | 482-00041406-900        | 3.97-4.14       | 8 1/2                               | 4                           | 4                    | 15                                 |
| 4                        | 482-00045006-900        | 4.22-4.50       | 8 1/2                               | 4                           | 5                    | 18                                 |
|                          | 482-00048606-900        | 4.46-4.86       | 8 1/2                               | 4                           | 5                    | 18                                 |
|                          | 482-00051006-900        | 4.80-5.10       | 8 1/2                               | 4                           | 5                    | 18                                 |
|                          | 482-00054506-900        | 5.11-5.45       | 8 1/2                               | 4                           | 5                    | 18                                 |
| 6                        | 482-00066306-900        | 6.28-6.63       | 8 1/2                               | 4                           | 5                    | 30                                 |
|                          | 482-00069606-900        | 6.56-6.96       | 8 1/2                               | 4                           | 5                    | 30                                 |
|                          | 482-00072206-900        | 6.90-7.22       | 8 1/2                               | 4                           | 5                    | 30                                 |
|                          | 482-00076506-900        | 7.25-7.65       | 8 1/2                               | 4                           | 5                    | 30                                 |
| 8                        | 482-00086306-900        | 8.40-8.63       | 8 1/2                               | 6                           | 5                    | 39                                 |
|                          | 482-00091106-900        | 8.54-9.11       | 8 1/2                               | 6                           | 5                    | 39                                 |
|                          | 482-00094506-900        | 9.05-9.45       | 8 1/2                               | 6                           | 5                    | 39                                 |
|                          | 482-00098506-900        | 9.46-9.85       | 8 1/2                               | 6                           | 5                    | 39                                 |
| 10                       | 482-00100006-900        | 10.00           | 9 1/2                               | 6                           | 6                    | 57                                 |
|                          | 482-00107506-900        | 10.50-10.75     | 9 1/2                               | 6                           | 6                    | 57                                 |
|                          | 482-00116006-900        | 11.10-11.60     | 9 1/2                               | 6                           | 6                    | 57                                 |
|                          | 482-00118806-900        | 11.65-11.88     | 9 1/2                               | 6                           | 6                    | 57                                 |
|                          | 482-00122006-900        | 11.90-12.20     | 9 1/2                               | 6                           | 6                    | 57                                 |
| 12                       | 482-00120006-900        | 12.00           | 9 1/2                               | 8                           | 6                    | 75                                 |
|                          | 482-00127506-900        | 12.50-12.75     | 9 1/2                               | 8                           | 6                    | 75                                 |
|                          | 482-00135006-900        | 13.20-13.50     | 9 1/2                               | 8                           | 6                    | 75                                 |
|                          | 482-00137506-900        | 13.51-13.75     | 9 1/2                               | 8                           | 6                    | 75                                 |
|                          | 482-00142006-900        | 13.90-14.20     | 9 1/2                               | 8                           | 6                    | 75                                 |
|                          | 482-00144006-900        | 14.21-14.40     | 9 1/2                               | 8                           | 6                    | 75                                 |

Pipe end caps must be securely blocked or anchored to prevent them from moving off of the pipe.





# Compression Coupling

## 525

**Description:** A Ductile or malleable iron coupling with threaded ends that seal to the pipe when turned.

**Application:** Joining plain end pipe of the same diameter.

### Key Features:

- Stab fit for easier installation
- Galvanized finish for additional corrosion resistance
- Ductile or malleable iron metal parts for strength and corrosion resistance
- May be used in most water, wastewater and industrial applications
- Wrench flats on the nuts and sleeve help with holding the coupling during tightening
- The retainer cup holds the gasket in place and concentrates gasket compression where it is needed most
- The compression coupling may be used in conjunction with Smith-Blair adapter gaskets to join Copper pipe
- Protected gasket extends the life of the gasket and provides electrical continuity between the pipe and the coupling
- Deflection of 2° per end allows for pipe movement and installation on pipe that is not perfectly aligned

### Materials Specifications (subject to change)

SLEEVE: Ductile Iron or malleable iron

GASKET: Nitrile (Buna N) - compounded to resist oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: -20°F to 180°F

COMPRESSION NUT: Ductile Iron or malleable iron

FINISH: Galvanized

**NOTE: Product not recommended for natural gas service.**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** PVC, Copper (with adapter gasket), Steel

**Sizes (in inches):** ½, ¾, 1, 1¼, 1½, 2



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.** Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



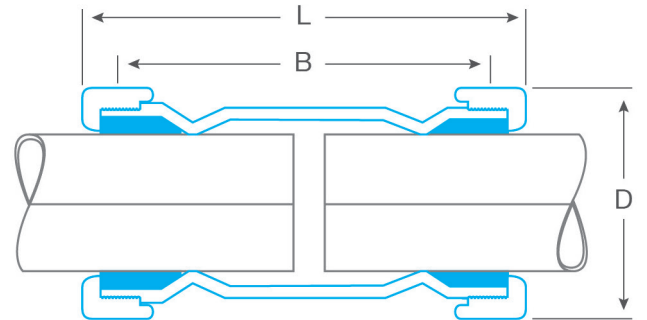
# Compression Coupling

525

| U.S.                  |                 |              |               | CATALOG NUMBER   | QTY. PER CARTON | METRIC            |              |             |              |
|-----------------------|-----------------|--------------|---------------|------------------|-----------------|-------------------|--------------|-------------|--------------|
| NOM. PIPE SIZE INCHES | PIPE O.D. RANGE | WT. EA. LBS. | CTN. WT. LBS. |                  |                 | NOM. PIPE SIZE MM | PIPE O.D. MM | WT. EA. KG. | CTN. WT. KG. |
| 1/2                   | 0.840           | 1.0          | 24            | 525-00008400-003 | 24              | 15                | 21.24        | 0.45        | 10.90        |
| 3/4                   | 1.050           | 1.3          | 32            | 525-00010500-003 | 24              | 20                | 26.67        | 0.59        | 14.53        |
| 1                     | 1.320           | 1.5          | 24            | 525-00013200-003 | 16              | 25                | 33.40        | 0.68        | 10.90        |
| 1 1/4                 | 1.660           | 1.8          | 22            | 525-00016600-003 | 12              | 32                | 42.16        | 0.82        | 9.99         |
| 1 1/2                 | 1.900           | 2.7          | 33            | 525-00019000-003 | 12              | 40                | 48.26        | 1.23        | 14.98        |
| 2                     | 2.375           | 3.5          | 42            | 525-00023800-003 | 12              | 50                | 60.33        | 1.59        | 19.07        |

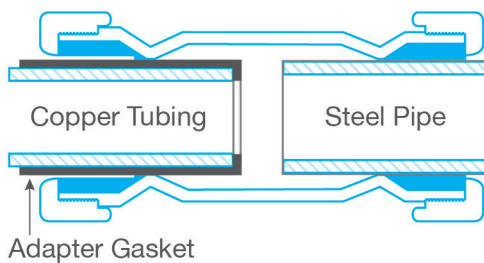
## Dimensional Chart

| NOM. PIPE SIZE INCHES | PIPE OD INCHES | DIMENSION INCHES |      |      |
|-----------------------|----------------|------------------|------|------|
|                       |                | B                | D    | L    |
| 1/2                   | 0.840          | 3.35             | 1.68 | 4.13 |
| 3/4                   | 1.050          | 3.62             | 1.94 | 4.33 |
| 1                     | 1.315          | 4.00             | 2.21 | 4.53 |
| 1 1/4                 | 1.660          | 4.00             | 2.61 | 4.72 |
| 1 1/2                 | 1.900          | 4.00             | 2.94 | 4.92 |
| 2                     | 2.375          | 4.44             | 3.56 | 5.31 |



## Adapter Gaskets

| U.S.                  |                        |                           | CATALOG NUMBER   | METRIC            |                    |                       |
|-----------------------|------------------------|---------------------------|------------------|-------------------|--------------------|-----------------------|
| NOM. PIPE SIZE INCHES | STEEL PIPE O.D. INCHES | COPPER TUBING O.D. INCHES |                  | NOM. PIPE SIZE MM | STEEL PIPE O.D. MM | COPPER TUBING O.D. MM |
| 1/2                   | 0.84                   | 0.63                      | 000-00038420-069 | 15                | 21.34              | 16.00                 |
| 3/4                   | 1.05                   | 0.88                      | 000-00038421-069 | 20                | 26.67              | 22.35                 |
| 1                     | 1.32                   | 1.13                      | 000-00038422-069 | 25                | 33.40              | 28.70                 |
| 1 1/4                 | 1.66                   | 1.38                      | 000-00038423-069 | 32                | 42.16              | 35.05                 |
| 1 1/2                 | 1.90                   | 1.63                      | 000-00038424-069 | 40                | 48.26              | 41.40                 |
| 2                     | 2.38                   | 2.13                      | 000-00038425-069 | 50                | 60.33              | 54.10                 |





# Maxi-Grip®

## For Ductile Iron Pipe and PVC Pipe

EZ-W

### Description:

A simple to use, seal and restraint coupling with "push on" gaskets designed to restrain a pipe joint while ensuring tight sealing.

### Applications:

Connections for IPS to Steel pipe in 1"-12"; and Ductile Iron to IPS PE, PVC or Steel pipe. Minimum SDR 21. IPS-IPS-4-8"; IPS-DIPS-4-8"; DIPS-DIPS-4-8"

### Key Features:

- Able to seal and grip pipe independently
- Design was adapted for water from tried-and-true gas product design
- Reduces need for transition fittings, welding, fusion, blocking and shop fabrication
- Is Flanged Coupling Adapter and Line Cap capable

### Materials Specifications (subject to change)

SLEEVE: Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Steel, hot rolled – AISI C-1008 to 1010-ASTM-569 or Ductile Iron per ASTM A 536

GASKETS: SBR or Nitrile (Buna N). Resistance to Carbon Dioxide, Water, U.V., Ozone Water

GRIPPING BAND: IPS and DI: Steel-AISI C-1010 ERW-ASTM A 513

PRESSURE RING: IPS and DI: Hot Rolled-AISI C-1010-ASTM A 569

BOLTS & NUTS: High strength, low alloy Steel, with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Pipe Applications:** Restrains rigid pipe to polyethylene and PVC pipe

**Sizes:** 1"-12" IPS

**Pressure Ratings:** 200 PSI for PE, 235 PSI for PVC, 300 PSI for Ductile Iron and Steel

**NOTE:** A stiffener is required for HDPE pipes, call Smith-Blair engineering department for any questions.



# Maxi-Grip®

For Ductile Iron Pipe and PVC Pipe

## EZ-W Straight

| PIPE            |            | CATALOG NUMBER  | M. RING            | BOLTS |          | WT. EA. LBS. |
|-----------------|------------|-----------------|--------------------|-------|----------|--------------|
| NOM. SIZE (IN.) | O.D. (IN.) |                 | THICKNESS & LENGTH | NO.   | SIZE     |              |
| 2               | 2.38       | EZWS00023802003 | .156 x 7           | 3     | 5/8 x 12 | 14           |
| 3               | 3.50       | EZWS00035002003 | .156 x 7           | 4     | 5/8 x 12 | 19           |
| 3               | 3.80       | EZWS00038002003 | .190 x 7           | 4     | 5/8 x 12 | 23           |
| 4               | 4.50       | EZWS00045002003 | .190 x 7           | 4     | 5/8 x 12 | 25           |
| 4               | 4.80       | EZWS00048002003 | .190 x 7           | 4     | 5/8 x 12 | 26           |
| 6               | 6.63       | EZWS00066302003 | .250 x 7           | 6     | 5/8 x 12 | 36           |
| 6               | 6.90       | EZWS00069002003 | .250 x 7           | 6     | 5/8 x 12 | 43           |
| 8               | 8.63       | EZWS00086302003 | .250 x 7           | 8     | 5/8 x 12 | 61           |
| 8               | 9.05       | EZWS00090502003 | .250 x 7           | 8     | 5/8 x 12 | 68           |
| 12              | 12.75      | EZWS00127503003 | .250 x 10          | 12    | 5/8 x 15 | 120          |
| 12              | 13.20      | EZWS00132003003 | .250 x 10          | 12    | 5/8 x 15 | 121          |

## EZ-W Reducing

| PIPE               |               | CATALOG NUMBER  | M. RING            | BOLTS |          | WT. EA. LBS. |
|--------------------|---------------|-----------------|--------------------|-------|----------|--------------|
| NOM. SIZE (INCHES) | O.D. (INCHES) |                 | THICKNESS & LENGTH | NO.   | SIZE     |              |
| 3 to 2             | 3.50 x 2.38   | EZWR03500238203 | .203 x 7           | 4     | 5/8 x 12 | 20           |
| 3 to 3             | 3.80 x 3.50   | EZWR03800350203 | .190 x 7           | 4     | 5/8 x 12 | 22           |
| 4 to 4             | 4.80 x 4.50   | EZWR04800450203 | .190 x 7           | 4     | 5/8 x 12 | 26           |
| 6 to 4             | 6.63 x 4.50   | EZWR06630450203 | .250 x 7           | 6     | 5/8 x 12 | 34           |
| 6 to 4             | 6.90 x 4.80   | EZWR06900480203 | .250 x 7           | 6     | 5/8 x 12 | 41           |
| 6 to 6             | 6.90 x 6.63   | EZWR06900663203 | .250 x 7           | 6     | 5/8 x 12 | 44           |
| 6 OS to 6          | 7.10 x 6.90   | EZWR07100690203 | .250 x 7           | 6     | 5/8 x 12 | 43           |
| 8 to 6             | 8.63 x 6.63   | EZWR08630663203 | .250 x 7           | 8     | 5/8 x 12 | 62           |
| 8 to 6             | 9.05 x 6.90   | EZWR09050690203 | .250 x 7           | 8     | 5/8 x 12 | 71           |
| 8 to 8             | 9.05 x 8.63   | EZWR09050863203 | .250 x 7           | 8     | 5/8 x 12 | 65           |
| 8 OS to 8          | 9.30 x 9.05   | EZWR09300905203 | .250 x 7           | 8     | 5/8 x 12 | 68           |
| 12 to 12           | 13.20 x 12.75 | EZWR13201275203 | .250 x 10          | 12    | 5/8 x 15 | 121          |



# Maxi-Grip<sup>®</sup>

## Line Cap

# EZ-W

### Description:

Self-restraining pipe end cap.

### Key Features:

- Able to seal and grip pipe independently
- Design was adapted for water from tried-and-true gas product design
- Reduces need for transition fittings, welding, fusion, blockingshop fabrication
- Flanged Coupling Adapter and Line Cap capable

### Materials Specifications (subject to change)

SLEEVE: Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWERS: Steel, hot rolled – AISI C-1008 to 1010-ASTM-569 or Ductile Iron per ASTM A 536

GASKETS: SBR or Nitrile (Buna N). Resistance to Carbon Dioxide, Water, U.V., Ozone Water

GRIPPING BAND: IPS and DI: Steel-AISI C-1010 ERW-ASTM A 513

PRESSURE RING: IPS and DI: Hot Rolled-AISI C-1010-ASTM A 569

BOLTS & NUTS: High strength, low alloy Steel, with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

FINISH: Flexi-Coat<sup>®</sup>, Fusion-Bonded epoxy per AWWA C213

**Pipe Applications:** Steel, Polyethylene, PVC, Ductile Iron

**Sizes:** 4"-12"

**Pressure Ratings:** 300 PSI for Steel and Polyethylene; 235 PSI for PVC, and 300 PSI for Ductile Iron.

**NOTE:** A stiffener is required for HDPE and PVC pipes, call Smith-Blair engineering department for any questions.



EZ-W

# Maxi-Grip<sup>®</sup>

## Line Cap

| PIPE            |            | CATALOG NUMBER  | M. RING            | BOLTS |          | WT. EA. LBS. |
|-----------------|------------|-----------------|--------------------|-------|----------|--------------|
| NOM. SIZE (IN.) | O.D. (IN.) |                 | THICKNESS & LENGTH | NO.   | SIZE     |              |
| 2               | 2.38       | EZWC02380108003 | .156 x 5           | 3     | 5/8 x 8  | 14           |
| 3               | 3.50       | EZWC03500108003 | .156 x 5           | 4     | 5/8 x 8  | 16           |
| 3               | 3.80       | EZWC03800108003 | .190 x 5           | 4     | 5/8 x 8  | 19           |
| 4               | 4.50       | EZWC04500108003 | .190 x 5           | 4     | 5/8 x 8  | 20           |
| 4               | 4.80       | EZWC04800114003 | .190 x 5           | 4     | 5/8 x 8  | 21           |
| 6               | 6.63       | EZWC06630114003 | .250 x 5           | 6     | 5/8 x 8  | 31           |
| 6               | 6.90       | EZWC06900114003 | .250 x 5           | 6     | 5/8 x 8  | 37           |
| 6 OS            | 7.10       | EZWC07100114003 | .250 x 5           | 6     | 5/8 x 8  | 37           |
| 8               | 8.63       | EZWC08630114003 | .250 x 5           | 8     | 5/8 x 8  | 58           |
| 8               | 9.05       | EZWC09050114003 | .250 x 5           | 8     | 5/8 x 8  | 63           |
| 8 OS            | 9.30       | EZWC09300114003 | .250 x 5           | 8     | 5/8 x 8  | 63           |
| 12              | 12.75      | EZWC12750214003 | .250 x 7           | 12    | 5/8 x 11 | 124          |
| 12              | 13.20      | EZWC13200214003 | .250 x 7           | 12    | 5/8 x 11 | 127          |



# Expansion Joints

## What Are Expansion Joints?

An expansion joint is an assembly designed to safely absorb heat induced axial expansion and contraction of various piping system components, to absorb vibration, or to allow movement due to ground settling or earthquakes. Often used in bridge crossings.



*Smith-Blair*  
a xylem brand



# Expansion Joint

## Single End

611

**Description:** A slip type joint that allows for thermal expansion or contraction in pipelines.

**Application:** Absorbing changes in pipe length due to concentrated pipe movement in a given area of pipe.

### Key Features:

- Meets applicable AWWA C221 Standards
- Compact in design and can be customized to handle many applications
- Available in a variety of end types: Plain ends beveled for welding, flanged and other
- Accommodates a large amount of axial pipe movement, relieving stress buildup in the pipeline
- Hard Chrome-Plated slip pipe helps:
  - Ensure free movement
  - Reduces friction and wear on the packing rings
  - Resists scratching and scoring of the slip pipe surface
- Optional Limit Rods offer three important functions:
  - Limits travel of slip pipe, preventing it from pulling out of the body when used with two or more expansion joints
  - Is used to indicate the position of the slip pipe within the body to know where it is in the expansion/contraction cycle
- Generous Packing Provides:
  - Great sealing between the body and the slip pipe
  - Increased life of the packing before replacement is necessary
  - Designed to allow replacement of packing without taking the expansion joint out of service

### Materials Specifications (subject to change)

**BODY:** Carbon Steel AISI C1015-20 or ASTM A283 GR. C

**SLIP PIPE:** Carbon Steel ASTM A53. ASTM A283 or AISI C1015-20. Hard chromed plated on a machined surface or optional Stainless Steel

**GASKET:** Alternate square rings of lubricant impregnated with fibrous packing and Nitrile (Buna N) rubber, compounded to resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemicals

**Temperature Range:** -20°F to 180°F

**LIMIT RODS:** High strength low alloy Steel with heavy, semi-finished hexagon nut

**BODY STUDS/BOLTS & NUTS:** High strength low alloy Steel with heavy, semi-finished hexagon nut

**Optional: Stainless Steel hardware for corrosive applications to allow re-torque of packing material**

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Size (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24. **NOTE:** Larger sizes available upon request.





611

# Expansion Joint

## Single End

Without Slip Pipe // Without Limit Rods // Open (cold) Length = 26" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT. EACH LBS. |
|--------------------------|----------------------|------------------|---------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |               |
| 3                        | 3.50                 | 611-03501010-000 | 50            |
| 4                        | 4.50                 | 611-04501010-000 | 65            |
| 6                        | 6.63                 | 611-06631010-000 | 90            |
| 8                        | 8.63                 | 611-08631010-000 | 125           |
| 10                       | 10.75                | 611-10751010-000 | 165           |
| 12                       | 12.75                | 611-12751010-000 | 195           |
| 14                       | 14.00                | 611-14001010-000 | 220           |
| 16                       | 16.00                | 611-16001010-000 | 250           |
| 18                       | 18.00                | 611-18001010-000 | 280           |
| 20                       | 20.00                | 611-20001010-000 | 310           |
| 22                       | 22.00                | 611-22001010-000 | 340           |
| 24                       | 24.00                | 611-24001010-000 | 370           |

When expansion joints are furnished without slip pipes, the customer is responsible for providing a smooth surfaced, properly sized slip pipe and assumes all responsibility for proper operation of the expansion joint. The customer furnished slip pipe must have a prepared end at least 24 inches long that is round, smooth and no greater than +.30" or -.10" from nominal size.

With Slip Pipe // Without Limit Rods // Open (cold) Length = 38" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT. EACH LBS. |
|--------------------------|----------------------|------------------|---------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |               |
| 3                        | 3.50                 | 611-03502010-000 | 75            |
| 4                        | 4.50                 | 611-04502010-000 | 90            |
| 6                        | 6.63                 | 611-06632010-000 | 125           |
| 8                        | 8.63                 | 611-08632010-000 | 200           |
| 10                       | 10.75                | 611-10752010-000 | 270           |
| 12                       | 12.75                | 611-12752010-000 | 300           |
| 14                       | 14.00                | 611-14002010-000 | 335           |
| 16                       | 16.00                | 611-16002010-000 | 385           |
| 18                       | 18.00                | 611-18002010-000 | 475           |
| 20                       | 20.00                | 611-20002010-000 | 520           |
| 22                       | 22.00                | 611-22002010-000 | 560           |
| 24                       | 24.00                | 611-24002010-000 | 625           |

With Slip Pipe // Without Limit Rods // Open  
(cold) Length = 39" // Flanged End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WEIGHT EACH LBS. |
|--------------------------|----------------------|------------------|------------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |                  |
| 3                        | 3.50                 | 611-03504010-000 | 90               |
| 4                        | 4.50                 | 611-04504010-000 | 115              |
| 6                        | 6.63                 | 611-06634010-000 | 165              |
| 8                        | 8.63                 | 611-08634010-000 | 260              |
| 10                       | 10.75                | 611-10754010-000 | 355              |
| 12                       | 12.75                | 611-12754010-000 | 425              |
| 14                       | 14.00                | 611-14004010-000 | 515              |
| 16                       | 16.00                | 611-16004010-000 | 580              |
| 18                       | 18.00                | 611-18004010-000 | 735              |
| 20                       | 20.00                | 611-20004010-000 | 850              |
| 22                       | 22.00                | 611-22004010-000 | 930              |
| 24                       | 24.00                | 611-24004010-000 | 1065             |

With Slip Pipe // With Limit Rods // Open  
(cold) Length = 40.5" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER                       | WEIGHT LBS. |
|--------------------------|----------------------|--------------------------------------|-------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                                      |             |
| 3                        | 3.50                 | 611-03503010-000                     | 80          |
| 4                        | 4.50                 | 611-04503010-000                     | 100         |
| 6                        | 6.63                 | 611-06633010-000                     | 150         |
| 8                        | 8.63                 | 611-08633010-000                     | 200         |
| 10                       | 10.75                | 611-10753010-000                     | 265         |
| 12                       | 12.75                | 611-12753010-000                     | 330         |
| 14                       | 14.00                | 611-14003010-000                     | 380         |
| 16                       | 16.00                | 611-16003010-000                     | 430         |
| 18                       | 18.00                | 611-18003010-000                     | 480         |
| 20                       | 20.00                | 611-20003010-000                     | 540         |
| 24                       | 22.00<br>24.00       | 611-22003010-000<br>611-24003010-000 | 595<br>650  |

With Slip Pipe // With Limit Rods //  
Open (cold) Length = 50.5" // Flanged End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WEIGHT LBS. |
|--------------------------|----------------------|------------------|-------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |             |
| 3                        | 3.50                 | 611-03505010-000 | 95          |
| 4                        | 4.50                 | 611-04505010-000 | 125         |
| 6                        | 6.63                 | 611-06635010-000 | 185         |
| 8                        | 8.63                 | 611-08635010-000 | 260         |
| 10                       | 10.75                | 611-10755010-000 | 350         |
| 12                       | 12.75                | 611-12755010-000 | 460         |
| 14                       | 14.00                | 611-14005010-000 | 560         |
| 16                       | 16.00                | 611-16005010-000 | 685         |
| 18                       | 18.00                | 611-18005010-000 | 740         |
| 20                       | 20.00                | 611-20005010-000 | 870         |
| 22                       | 22.00                | 611-22005010-000 | 965         |
| 24                       | 24.00                | 611-24005010-000 | 1090        |



# Expansion Joint

## Double End

# 612

**Description:** A fitting with slip type joints with a slip pipe at each end to accommodate axial pipe movement.

**Application:** Absorbing changes in pipe length due to concentrated pipe movement in a given area of pipe

**NOTE:** *This fitting must always be anchored to prevent the total pipe movement from accumulating in one end.*

### Key Features:

- Meets applicable AWWA C221 Standards
- Compact in design and can be customized to handle many applications
- Available in a variety of end types: Plain ends beveled for welding and flange
- Accommodates a large amount of axial pipe movement, relieving stress buildup in the pipeline
- Hard Chrome-Plated Slip Pipe helps:
  - Ensure free movement
  - Reduce friction and wear on the packing rings
  - Resist scratching and scoring of the slip pipe surface
- Optional Limit Rods offer three important functions:
  - Limits travel of slip pipe, preventing it from pulling out of the body
  - When using two or more expansion joints, they activate the adjoining sleeve when the other has reached its full limit
  - Is used to indicate the position of the slip pipe within the body to know where it is in the expansion/contraction cycle
- Generous Packing Provides:
  - Great sealing between the body and the slip pipe
  - Increased life of the packing before replacement is necessary
  - The possibility of considerable tightening and adjustments in the future
  - Designed to allow replacement of packing without taking the expansion joint out of service

### Materials Specifications (subject to change)

BODY: Carbon Steel AISI C1015-20 or ASTM A283 GR. C

SLIP PIPE: Carbon Steel ASTM A53. ASTM A283 or AISI C1015-20. Hard chromed plated on a machined surface

GASKET: Alternate square rings of lubricant impregnated with fibrous packing and Nitrile (Buna N) rubber, compounded to resist oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and other chemicals

Temperature Range: -20°F to 180°F. For other temperature ranges, alternate packing materials can be offered

RODS: High strength low alloy Steel with heavy, semi-finished hexagon nut

BODY STUDS/BOLTS & NUTS: High strength low alloy Steel with heavy, semi-finished hexagon nut **Optional:** *Stainless Steel hardware for corrosive applications to allow re-torque of packing material*

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Cast Iron

**Size (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.



612

# Expansion Joint

## Double End

Without Slip Pipe // Without Limit Rods //  
Open (cold) Length = 36" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT EACH LBS. |
|--------------------------|----------------------|------------------|--------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |              |
| 3                        | 3.50                 | 612-03501010-000 | 60           |
| 4                        | 4.50                 | 612-04501010-000 | 75           |
| 6                        | 6.63                 | 612-06631010-000 | 100          |
| 8                        | 8.63                 | 612-08631010-000 | 145          |
| 10                       | 10.75                | 612-10751010-000 | 180          |
| 12                       | 12.75                | 612-12751010-000 | 205          |
| 14                       | 14.00                | 612-14001010-000 | 235          |
| 16                       | 16.00                | 612-16001010-000 | 265          |
| 18                       | 18.00                | 612-18001010-000 | 305          |
| 20                       | 20.00                | 612-20001010-000 | 335          |
| 22                       | 22.00                | 612-22001010-000 | 370          |
| 24                       | 24.00                | 612-24001010-000 | 400          |

When expansion joints are furnished without slip pipes, the customer is responsible for providing a smooth surfaced, properly sized slip pipe and assumes all responsibility for proper operation of the expansion joint. The customer furnished slip pipe must have a prepared end at least 24 inches long that is round, smooth and no greater than +.30" or -.10" from nominal size.

Without Slip Pipe // Without Limit Rods //  
Open (cold) Length = 36" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT EACH LBS. |
|--------------------------|----------------------|------------------|--------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |              |
| 3                        | 3.50                 | 612-03503010-000 | 100          |
| 4                        | 4.50                 | 612-04503010-000 | 130          |
| 6                        | 6.63                 | 612-06633010-000 | 190          |
| 8                        | 8.63                 | 612-08633010-000 | 270          |
| 10                       | 10.75                | 612-10753010-000 | 100          |
| 12                       | 12.75                | 612-12753010-000 | 130          |
| 14                       | 14.00                | 612-14003010-000 | 190          |
| 16                       | 16.00                | 612-16003010-000 | 270          |
| 18                       | 18.00                | 612-18003010-000 | 610          |
| 20                       | 20.00                | 612-20003010-000 | 700          |
| 22                       | 22.00                | 612-22003010-000 | 770          |
| 24                       | 24.00                | 612-24003010-000 | 840          |

With Slip Pipe // Without Limit Rods //  
Open (cold) Length = 48" // Weld End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT. EACH LBS. |
|--------------------------|----------------------|------------------|---------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |               |
| 3                        | 3.50                 | 612-03502010-000 | 85            |
| 4                        | 4.50                 | 612-04502010-000 | 120           |
| 6                        | 6.63                 | 612-06632010-000 | 160           |
| 8                        | 8.63                 | 612-08632010-000 | 230           |
| 10                       | 10.75                | 612-10752010-000 | 290           |
| 12                       | 12.75                | 612-12752010-000 | 405           |
| 14                       | 14.00                | 612-14002010-000 | 475           |
| 16                       | 16.00                | 612-16002010-000 | 530           |
| 18                       | 18.00                | 612-18002010-000 | 575           |
| 20                       | 20.00                | 612-20002010-000 | 625           |
| 22                       | 22.00                | 612-22002010-000 | 670           |
| 24                       | 24.00                | 612-24002010-000 | 740           |

With Slip Pipe // Without Limit Rods // Open  
(cold) Length = 56" // Flanged End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT. EACH LBS. |
|--------------------------|----------------------|------------------|---------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |               |
| 3                        | 3.50                 | 612-03504010-000 | 100           |
| 4                        | 4.50                 | 612-04504010-000 | 145           |
| 6                        | 6.63                 | 612-06634010-000 | 200           |
| 8                        | 8.63                 | 612-08634010-000 | 290           |
| 10                       | 10.75                | 612-10754010-000 | 375           |
| 12                       | 12.75                | 612-12754010-000 | 535           |
| 14                       | 14.00                | 612-14004010-000 | 585           |
| 16                       | 16.00                | 612-16004010-000 | 725           |
| 18                       | 18.00                | 612-18004010-000 | 835           |
| 20                       | 20.00                | 612-20004010-000 | 955           |
| 22                       | 22.00                | 612-22004010-000 | 1040          |
| 24                       | 24.00                | 612-24004010-000 | 1180          |

With Slip Pipe // With Limit Rods // Open  
(cold) Length = 71" // Flanged End

| STEEL PIPE SIZE          |                      | CATALOG NUMBER   | WT. EACH LBS. |
|--------------------------|----------------------|------------------|---------------|
| NOMINAL PIPE SIZE INCHES | PIPE O.D. INCHES (A) |                  |               |
| 3                        | 3.50                 | 612-03505010-000 | 115           |
| 4                        | 4.50                 | 612-04505010-000 | 155           |
| 6                        | 6.63                 | 612-06635010-000 | 230           |
| 8                        | 8.63                 | 612-08635010-000 | 330           |
| 10                       | 10.75                | 612-10755010-000 | 435           |
| 12                       | 12.75                | 612-12755010-000 | 555           |
| 14                       | 14.00                | 612-14005010-000 | 665           |
| 16                       | 16.00                | 612-16005010-000 | 745           |
| 18                       | 18.00                | 612-18005010-000 | 870           |
| 20                       | 20.00                | 612-20005010-000 | 1030          |
| 22                       | 22.00                | 612-22005010-000 | 1140          |
| 24                       | 24.00                | 612-24005010-000 | 1280          |



# Tapping Sleeves

## What Are Tapping Sleeves?

Fittings that can be clamped onto an existing main line to facilitate connecting a branch line.

Tapping can be executed while the pipe or vessel is energized (under pressure), called a hot tap, or while de-energized (no pressure in pipe), often referred to as a dry tap.



*Smith-Blair*  
a xylem brand



# Tapping Sleeve

## Carbon Steel

Available in flanged and MJ outlet versions

# 622

**Description:** Tapping sleeve.

**Application:** For 4" pipe and larger: reducing and size-on-size flanged outlets. Available with 3/4"-6" threaded outlets.

### Key Features:

- Easy to install
- Has range to reduce inventory
- Meets AWWA C223 Standards
- Epoxy Finish meets AWWA C213 Standards
- Virtually 360° support of the pipe
- Roll-resistant gasket will not bind
- Gasket seal increases with line pressure
- No special tools required to install the sleeve
- Flanged outlets are recessed to accept tapping valves
- Flexi-Coat® Fusion-Bonded Epoxy Finish is standard for superior corrosion resistance
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe (not available in standard 4" x 4")

### Materials Specifications (subject to change)

**BODY:** Carbon Steel ASTM A283 Grade C. **Type 304 Stainless Steel Optional**

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for tapping valve per MSS-SP 60.

**Optional: Other types of flanges, threaded outlets; MJ outlets**

**GASKET:** Nitrile (Buna N) NSF-61/372 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

**Temperature Range:** up to +180°F

**BOLTS & NUTS:** High strength low alloy Steel with heavy semi-finished hexagon nuts to STM A-307 (ANSI A21.11) standards. **Optional Type 304 Stainless Steel bolts and nuts are coated to prevent galling**

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC

**Sizes (in inches):** See attached charts for dimensional data



**THIS PRODUCT DOES NOT RESTRAIN PIPE MOVEMENT.**

Proper anchoring is required to prevent pipe pullout. Failure to anchor or improper anchoring can result in dangerous pipe content escape, property damage, serious injury, or death. Read the product installation instructions prior to installing this product.

622



# Tapping Sleeve

Carbon Steel

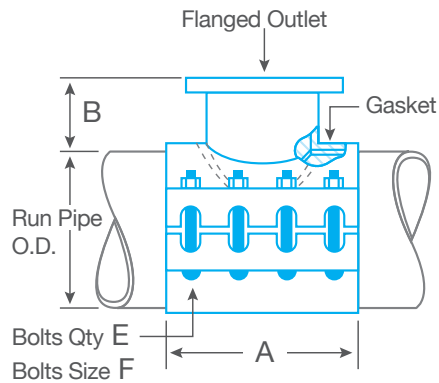
Available in flanged and MJ outlet versions

## Dimensional Data

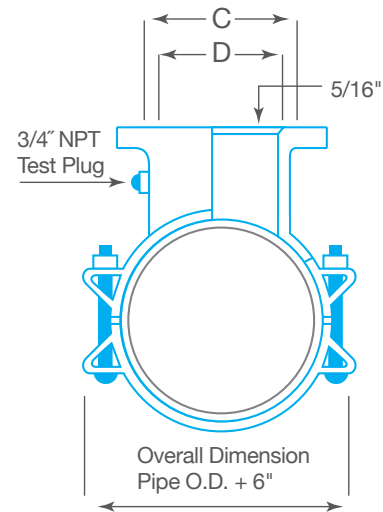
| OUTLET SIZE | NOMINAL BODY SIZE | BODY THICKNESS (IN)     | A (IN) | B (IN) | C (IN)  | D (IN)  | E  | F (IN) |
|-------------|-------------------|-------------------------|--------|--------|---------|---------|----|--------|
| 4           | 4                 | 1/4" Top x 3/16" Bottom | 9      | 5      | 5 1/16  | 4 1/32  | 6  | 5/8    |
|             | 6                 | 3/8                     | 12     | 5      | 5 1/16  | 4 19/32 | 8  | 5/8    |
|             | 8 - 30            | 3/8                     | 12     | 5      | 5 1/16  | 4 19/32 | 6  | 3/4    |
| 6           | 6                 | 3/8                     | 12     | 5      | 7 1/16  | 6 1/18  | 8  | 5/8    |
|             | 8 - 30            | 3/8                     | 12     | 5      | 7 1/16  | 6 1/2   | 6  | 3/4    |
| 8           | 8                 | 3/8                     | 16     | 5      | 9 1/16  | 8 1/8   | 8  | 3/4    |
|             | 10 - 30           | 3/8                     | 16     | 5      | 9 1/16  | 8 1/2   | 8  | 3/4    |
| 10          | 10 - 30           | 3/8                     | 20     | 5      | 11 3/32 | 10 1/4  | 10 | 3/4    |
| 12          | 14 - 24           | 3/8                     | 20     | 5      | 13 3/32 | 12 1/4  | 10 | 3/4    |
|             | 30                | 3/8                     | 24     | 5      | 13 3/32 | 12 1/4  | 12 | 3/4    |

Larger sizes and outlets available upon request. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

## Side View



## End View





| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE INCHES  | FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER | FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER | WEIGHT EACH POUNDS |
|---------------------------------------|------------------|---|---|--------------------|
| 4 x 4*                                | 4.50             | 622-04500400-203                                  | 622-04500400-231  | 34                 |
| 4 x 4*                                | 4.80             | 622-04800400-203                                  | 622-04800400-231  | 34                 |
| 4-5 x 6                               | 5.00-5.22        | 622-05100400-203                                  | 622-05100400-231  | 34                 |
| 6 x 4                                 | 6.57-6.73        | 622-06630400-003                                  | 622-06630400-031  | 71                 |
| 6 x 6*                                |                  | 622-06630600-203                                  | 622-06630600-231  | 76                 |
| 6 x 4                                 | 6.90-7.20        | 622-06900400-003                                  | 622-06900400-031  | 71                 |
| 6 x 6*                                |                  | 622-06900600-203                                  | 622-06900600-231  | 76                 |
| 6 x 4                                 | 7.07-7.40        | 622-07200400-003                                  | 622-07200400-031  | 71                 |
| 6 x 6*                                |                  | 622-07200600-203                                  | 622-07200600-231  | 76                 |
| 6 x 4                                 | 7.40-7.73        | 622-07450400-003                                  | 622-07450400-031  | 71                 |
| 8 x 4                                 | 7.80-8.13        | 622-08000400-003                                  | 622-08000400-031  | 78                 |
| 8 x 6                                 |                  | 622-08000600-003                                  | 622-08000600-031  | 87                 |
| 8 x 4                                 | 8.36-8.75        | 622-08630400-003                                  | 622-08630400-031  | 78                 |
| 8 x 6                                 |                  | 622-08630600-003                                  | 622-08630600-031  | 87                 |
| 8 x 8*                                |                  | 622-08630800-203                                  | 622-08630800-231  | 117                |
| 8 x 8*                                | 8.73-9.12        | 622-08800800-203                                  | 622-08800800-231  | 78                 |
| 8 x 4                                 | 9.05-9.40        | 622-09050400-003                                  | 622-09050400-031  | 78                 |
| 8 x 6                                 |                  | 622-09050600-003                                  | 622-09050600-031  | 87                 |
| 8 x 8*                                |                  | 622-09050800-203                                  | 622-09050800-231  | 117                |
| 8 x 4                                 | 9.27-9.69        | 622-09400400-003                                  | 622-09400400-031  | 78                 |
| 8 x 6                                 |                  | 622-09400600-003                                  | 622-09400600-031  | 87                 |
| 8 x 8*                                |                  | 622-09400800-203                                  | 622-09400800-231  | 117                |
| 8-10 x 4                              | 9.68-10.10       | 622-10000400-003                                  | 622-10000400-031  | 82                 |
| 8-10 x 6                              |                  | 622-10000600-003                                  | 622-10000600-031  | 94                 |
| 8-10 x 8*                             |                  | 622-10000800-203                                  | 622-10000800-231  | 125                |
| 10 x 4                                | 10.45-10.88      | 622-10750400-003                                  | 622-10750400-031  | 82                 |
| 10 x 6                                |                  | 622-10750600-003                                  | 622-10750600-031  | 94                 |
| 10 x 8                                |                  | 622-10750800-003                                  | 622-10750800-031  | 125                |
| 10 x 10*                              |                  | 622-10751000-203                                  | 622-10751000-231  | 138                |
| 10 x 4                                | 11.03-11.47      | 622-11100400-003                                  | 622-11100400-031  | 82                 |
| 10 x 6                                |                  | 622-11100600-003                                  | 622-11100600-031  | 94                 |
| 10 x 8                                |                  | 622-11100800-003                                  | 622-11100800-031  | 125                |
| 10 x 10*                              |                  | 622-11101000-203                                  | 622-11101000-231  | 138                |
| 10 x 4                                | 11.36-11.80      | 622-11400400-003                                  | 622-11400400-031  | 82                 |
| 10 x 6                                |                  | 622-11400600-003                                  | 622-11400600-031  | 94                 |
| 10 x 8                                |                  | 622-11400800-003                                  | 622-11400800-031  | 125                |
| 10 x 10*                              |                  | 622-11401000-203                                  | 622-11401000-231  | 138                |
| 10-12 x 4                             | 11.76-12.20      | 622-12000400-003                                  | 622-12000400-031  | 97                 |
| 10-12 x 6                             |                  | 622-12000600-003                                  | 622-12000600-031  | 103                |
| 10-12 x 8                             |                  | 622-12000800-003                                  | 622-12000800-031  | 135                |
| 10-12 x 10*                           |                  | 622-12001000-203                                  | 622-12001000-231  | 170                |
| 12 x 4                                | 12.42-12.88      | 622-12750400-003                                  | 622-12750400-031  | 97                 |
| 12 x 6                                |                  | 622-12750600-003                                  | 622-12750600-031  | 103                |
| 12 x 8                                |                  | 622-12750800-003                                  | 622-12750800-031  | 135                |
| 12 x 10                               |                  | 622-12751000-003                                  | 622-12751000-031  | 170                |
| 12 x 12*                              |                  | 622-12751200-203                                  | 622-12751200-231  | 201                |
| 12 x 4                                |                  | 13.13-13.60                                       | 622-13200400-003  | 622-13200400-031   |
| 12 x 6                                | 622-13200600-003 |   | 622-13200600-031  | 103                |
| 12 x 8                                | 622-13200800-003 |   | 622-13200800-031  | 135                |
| 12 x 10                               | 622-13201000-003 |   | 622-13201000-031  | 170                |
| 12 x 12*                              | 622-13201200-203 |   | 622-13201200-231  | 201                |

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE INCHES | FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER | FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER | WEIGHT EACH POUNDS |
|---------------------------------------|-----------------|---|---|--------------------|
| 12 x 4                                | 13.60-14.09     | 622-13820400-003                                  | 622-13820400-031  | 97                 |
| 12 x 6                                |                 | 622-13820600-003                                  | 622-13820600-031  | 103                |
| 12 x 8                                |                 | 622-13820800-003                                  | 622-13820800-031  | 135                |
| 12 x 10                               |                 | 622-13821000-003                                  | 622-13821000-031  | 170                |
| 12 x 12*                              |                 | 622-13821200-203                                  | 622-13821200-231  | 201                |
| 12 x 4                                | 14.10-14.58     | 622-14250400-003                                  | 622-14250400-031  | 103                |
| 12 x 6                                |                 | 622-14250600-003                                  | 622-14250600-031  | 111                |
| 12 x 8                                |                 | 622-14250800-003                                  | 622-14250800-031  | 145                |
| 12 x 10                               |                 | 622-14251000-003                                  | 622-14251000-031  | 204                |
| 12 x 12*                              |                 | 622-14251200-203                                  | 622-14251200-231  | 229                |
| 12 x 4                                | 14.59-15.08     | 622-14750400-003                                  | 622-14750400-031  | 108                |
| 12 x 6                                |                 | 622-14750600-003                                  | 622-14750600-031  | 111                |
| 12 x 8                                |                 | 622-14750800-003                                  | 622-14750800-031  | 148                |
| 12 x 10                               |                 | 622-14751000-003                                  | 622-14751000-031  | 204                |
| 12 x 12*                              |                 | 622-14751200-003                                  | 622-14751200-031  | 229                |
| 14 x 4                                | 15.23-15.72     | 622-15300400-003                                  | 622-15300400-031  | 108                |
| 14 x 6                                |                 | 622-15300600-003                                  | 622-15300600-031  | 111                |
| 14 x 8                                |                 | 622-15300800-003                                  | 622-15300800-031  | 148                |
| 14 x 10                               |                 | 622-15301000-003                                  | 622-15301000-031  | 204                |
| 14 x 12                               |                 | 622-15301200-003                                  | 622-15301200-031  | 229                |
| 14-16 x 4                             | 15.73-16.22     | 622-16000400-003                                  | 622-16000400-031  | 108                |
| 14-16 x 6                             |                 | 622-16000600-003                                  | 622-16000600-031  | 111                |
| 14-16 x 8                             |                 | 622-16000800-003                                  | 622-16000800-031  | 148                |
| 14-16 x 10                            |                 | 622-16001000-003                                  | 622-16001000-031  | 204                |
| 14-16 x 12                            |                 | 622-16001200-003                                  | 622-16001200-031  | 229                |
| 14-16 x 4                             | 16.30-16.73     | 622-16470400-003                                  | 622-16470400-031  | 108                |
| 14-16 x 6                             |                 | 622-16470600-003                                  | 622-16470600-031  | 111                |
| 14-16 x 8                             |                 | 622-16470800-003                                  | 622-16470800-031  | 148                |
| 14-16 x 10                            |                 | 622-16471000-003                                  | 622-16471000-031  | 204                |
| 14-16 x 12                            |                 | 622-16471200-003                                  | 622-16471200-031  | 229                |
| 14-16 x 4                             | 16.74-17.26     | 622-16840400-003                                  | 622-16840400-031  | 108                |
| 14-16 x 6                             |                 | 622-16840600-003                                  | 622-16840600-031  | 111                |
| 14-16 x 8                             |                 | 622-16840800-003                                  | 622-16840800-031  | 148                |
| 14-16 x 10                            |                 | 622-16841000-003                                  | 622-16841000-031  | 204                |
| 14-16 x 12                            |                 | 622-16841200-003                                  | 622-16841200-031  | 229                |
| 16 x 4                                | 17.33-17.87     | 622-17400400-003                                  | 622-17400400-031  | 117                |
| 16 x 6                                |                 | 622-17400600-003                                  | 622-17400600-031  | 122                |
| 16 x 8                                |                 | 622-17400800-003                                  | 622-17400800-031  | 162                |
| 16 x 10                               |                 | 622-17401000-003                                  | 622-17401000-031  | 216                |
| 16 x 12                               |                 | 622-17401200-003                                  | 622-17401200-031  | 245                |
| 16 x 4                                | 17.88-18.43     | 622-18000400-003                                  | 622-18000400-031  | 117                |
| 16 x 6                                |                 | 622-18000600-003                                  | 622-18000600-031  | 122                |
| 16 x 8                                |                 | 622-18000800-003                                  | 622-18000800-031  | 162                |
| 16 x 10                               |                 | 622-18001000-003                                  | 622-18001000-031  | 216                |
| 16 x 12                               |                 | 622-18001200-003                                  | 622-18001200-031  | 245                |
| 16 x 4                                | 18.46-19.03     | 622-18780400-003                                  | 622-18780400-031  | 117                |
| 16 x 6                                |                 | 622-18780600-003                                  | 622-18780600-031  | 122                |
| 16 x 8                                |                 | 622-18780800-003                                  | 622-18780800-031  | 162                |
| 16 x 10                               |                 | 622-18781000-003                                  | 622-18781000-031  | 216                |
| 16 x 12                               |                 | 622-18781200-003                                  | 622-18781200-031  | 245                |

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE INCHES | FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER | FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER | WEIGHT EACH POUNDS |
|---------------------------------------|-----------------|---|---|--------------------|
| 18 x 4                                | 18.87-19.45     | 622-19200400-003                                  | 622-19200400-031  | 117                |
| 18 x 6                                |                 | 622-19200600-003                                  | 622-19200600-031  | 122                |
| 18 x 8                                |                 | 622-19200800-003                                  | 622-19200800-031  | 162                |
| 18 x 10                               |                 | 622-19201000-003                                  | 622-19201000-031  | 216                |
| 18 x 12                               |                 | 622-19201200-003                                  | 622-19201200-031  | 245                |
| 18 x 4                                | 19.41-20.01     | 622-19500400-003                                  | 622-19500400-031  | 117                |
| 18 x 6                                |                 | 622-19500600-003                                  | 622-19500600-031  | 122                |
| 18 x 8                                |                 | 622-19500800-003                                  | 622-19500800-031  | 162                |
| 18 x 10                               |                 | 622-19501000-003                                  | 622-19501000-031  | 216                |
| 18 x 12                               |                 | 622-19501200-003                                  | 622-19501200-031  | 245                |
| 18-20 x 4                             | 19.88-20.48     | 622-20000400-003                                  | 622-20000400-031  | 122                |
| 18-20 x 6                             |                 | 622-20000600-003                                  | 622-20000600-031  | 130                |
| 18-20 x 8                             |                 | 622-20000800-003                                  | 622-20000800-031  | 180                |
| 18-20 x 10                            |                 | 622-20001000-003                                  | 622-20001000-031  | 232                |
| 18-20 x 12                            |                 | 622-20001200-003                                  | 622-20001200-031  | 284                |
| 20 x 4                                | 20.29-20.92     | 622-20640400-003                                  | 622-20640400-031  | 122                |
| 20 x 6                                |                 | 622-20640600-003                                  | 622-20640600-031  | 130                |
| 20 x 8                                |                 | 622-20640800-003                                  | 622-20640800-031  | 180                |
| 20 x 10                               |                 | 622-20641000-003                                  | 622-20641000-031  | 232                |
| 20 x 12                               |                 | 622-20641200-003                                  | 622-20641200-031  | 284                |
| 20 x 4                                | 20.93-21.57     | 622-21320400-003                                  | 622-21320400-031  | 122                |
| 20 x 6                                |                 | 622-21320600-003                                  | 622-21320600-031  | 130                |
| 20 x 8                                |                 | 622-21320800-003                                  | 622-21320800-031  | 180                |
| 20 x 10                               |                 | 622-21321000-003                                  | 622-21321000-031  | 232                |
| 20 x 12                               |                 | 622-21321200-003                                  | 622-21321200-031  | 284                |
| 20 x 4                                | 21.51-22.15     | 622-21600400-003                                  | 622-21600400-031  | 122                |
| 20 x 6                                |                 | 622-21600600-003                                  | 622-21600600-031  | 130                |
| 20 x 8                                |                 | 622-21600800-003                                  | 622-21600800-031  | 180                |
| 20 x 10                               |                 | 622-21601000-003                                  | 622-21601000-031  | 232                |
| 20 x 12                               |                 | 622-21601200-003                                  | 622-21601200-031  | 284                |
| 20 x 4                                | 22.16-22.81     | 622-22680400-003                                  | 622-22680400-031  | 122                |
| 20 x 6                                |                 | 622-22680600-003                                  | 622-22680600-031  | 130                |
| 20 x 8                                |                 | 622-22680800-003                                  | 622-22680800-031  | 180                |
| 20 x 10                               |                 | 622-22681000-003                                  | 622-22681000-031  | 232                |
| 20 x 12                               |                 | 622-22681200-003                                  | 622-22681200-031  | 284                |
| 20 x 4                                | 22.78-23.45     | 622-22940400-003                                  | 622-22940400-031  | 133                |
| 20 x 6                                |                 | 622-22940600-003                                  | 622-22940600-031  | 144                |
| 20 x 8                                |                 | 622-22940800-003                                  | 622-22940800-031  | 197                |
| 20 x 10                               |                 | 622-22941000-003                                  | 622-22941000-031  | 258                |
| 20 x 12                               |                 | 622-22941200-003                                  | 622-22941200-031  | 284                |
| 20 x 4                                | 23.46-24.16     | 622-24000400-003                                  | 622-24000400-031  | 133                |
| 20 x 6                                |                 | 622-24000600-003                                  | 622-24000600-031  | 144                |
| 20 x 8                                |                 | 622-24000800-003                                  | 622-24000800-031  | 197                |
| 20 x 10                               |                 | 622-24001000-003                                  | 622-24001000-031  | 258                |
| 20 x 12                               |                 | 622-24001200-003                                  | 622-24001200-031  | 284                |

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ.  
Example: 622-127504MJ-003.

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE INCHES | FLEXI-COAT® EPOXY WITH ALLOY BOLTS CATALOG NUMBER | FLEXI-COAT® EPOXY WITH STAINLESS STEEL BOLTS CATALOG NUMBER | WEIGHT EACH POUNDS |
|---------------------------------------|-----------------|---|---|--------------------|
| 24 x 4                                | 24.15-24.85     | 622-24500400-003                                  | 622-24500400-031  | 133                |
| 24 x 6                                |                 | 622-24500600-003                                  | 622-24500600-031  | 144                |
| 24 x 8                                |                 | 622-24500800-003                                  | 622-24500800-031  | 197                |
| 24 x 10                               |                 | 622-24501000-003                                  | 622-24501000-031  | 258                |
| 24 x 12                               |                 | 622-24501200-003                                  | 622-24501200-031  | 284                |
| 24 x 4                                | 24.82-25.52     | 622-25020400-003                                  | 622-25020400-031  | 133                |
| 24 x 6                                |                 | 622-25020600-003                                  | 622-25020600-031  | 144                |
| 24 x 8                                |                 | 622-25020800-003                                  | 622-25020800-031  | 197                |
| 24 x 10                               |                 | 622-25021000-003                                  | 622-25021000-031  | 258                |
| 24 x 12                               |                 | 622-25021200-003                                  | 622-25021200-031  | 284                |
| 24 x 4                                | 25.71-26.41     | 622-25800400-003                                  | 622-25800400-031  | 149                |
| 24 x 6                                |                 | 622-25800600-003                                  | 622-25800600-031  | 157                |
| 24 x 8                                |                 | 622-25800800-003                                  | 622-25800800-031  | 219                |
| 24 x 10                               |                 | 622-25801000-003                                  | 622-25801000-031  | 286                |
| 24 x 12                               |                 | 622-25801200-003                                  | 622-25801200-031  | 304                |
| 24 x 4                                | 26.55-27.25     | 622-27120400-003                                  | 622-27120400-031  | 149                |
| 24 x 6                                |                 | 622-27120600-003                                  | 622-27120600-031  | 157                |
| 24 x 8                                |                 | 622-27120800-003                                  | 622-27120800-031  | 219                |
| 24 x 10                               |                 | 622-27121000-003                                  | 622-27121000-031  | 286                |
| 24 x 12                               |                 | 622-27121200-003                                  | 622-27121200-031  | 304                |
| 24 x 4                                | 27.26-27.96     | 622-27460400-003                                  | 622-27460400-031  | 149                |
| 24 x 6                                |                 | 622-27460600-003                                  | 622-27460600-031  | 157                |
| 24 x 8                                |                 | 622-27460800-003                                  | 622-27460800-031  | 219                |
| 24 x 10                               |                 | 622-27461000-003                                  | 622-27461000-031  | 286                |
| 24 x 12                               |                 | 622-27461200-003                                  | 622-27461200-031  | 304                |
| 24 x 4                                | 28.14-28.84     | 622-28340400-003                                  | 622-28340400-031  | 149                |
| 24 x 6                                |                 | 622-28340600-003                                  | 622-28340600-031  | 157                |
| 24 x 8                                |                 | 622-28340800-003                                  | 622-28340800-031  | 219                |
| 24 x 10                               |                 | 622-28341000-003                                  | 622-28341000-031  | 286                |
| 24 x 12                               |                 | 622-28341200-003                                  | 622-28341200-031  | 304                |
| 30 x 4                                | 29.78-30.48     | 622-30000400-003                                  | 622-30000400-031  | 156                |
| 30 x 6                                |                 | 622-30000600-003                                  | 622-30000600-031  | 160                |
| 30 x 8                                |                 | 622-30000800-003                                  | 622-30000800-031  | 219                |
| 30 x 10                               |                 | 622-30001000-003                                  | 622-30001000-031  | 292                |
| 30 x 12                               |                 | 622-30001200-003                                  | 622-30001200-031  | 315                |
| 30 x 4                                | 30.48-31.18     | 622-30750400-003                                  | 622-30750400-031  | 156                |
| 30 x 6                                |                 | 622-30750600-003                                  | 622-30750600-031  | 160                |
| 30 x 8                                |                 | 622-30750800-003                                  | 622-30750800-031  | 219                |
| 30 x 10                               |                 | 622-30751000-003                                  | 622-30751000-031  | 292                |
| 30 x 12                               |                 | 622-30751200-003                                  | 622-30751200-031  | 315                |
| 30 x 4                                | 31.52-32.22     | 622-32000400-003                                  | 622-32000400-031  | 156                |
| 30 x 6                                |                 | 622-32000600-003                                  | 622-32000600-031  | 160                |
| 30 x 8                                |                 | 622-32000800-003                                  | 622-32000800-031  | 219                |
| 30 x 10                               |                 | 622-32001000-003                                  | 622-32001000-031  | 292                |
| 30 x 12                               |                 | 622-32001200-003                                  | 622-32001200-031  | 315                |

\*Size on size taps require a 1/2" undersized shell cutter. Larger size on size and smaller sized tapping sleeve are available upon request. Also available in Stainless Steel. For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 622-127504MJ-003.



# Tapping Sleeve

## Mechanical Joint Tapping Sleeve

Fabricated

# 623



**Description:** Tapping sleeve Carbon Steel Mechanical Joint

**Application:** For reducing and size-on-size flanged outlets 4" and up

### Key Features:

- Meets AWWA C223 Standards
- No special tools required to install the sleeve
- Seals 360° around the pipe in case the pipe breaks
- Flanged outlets are recessed to accept tapping valve
- Flexi-Coat® epoxy finish is standard for superior corrosion resistance
- Lighter and easier to install than comparable Cast Ductile Iron sleeves
- ¾" test outlet to allow hydrostatic pressure test before tapping the pipe
- Delivery is generally quicker because the tapping sleeve is not a casting
- Body can be built to accommodate any size pipe diameter, unlike cast sleeves

### Materials Specifications (subject to change)

FLANGE: Carbon Steel. AWWA C207 Class D ANSI drilling

TEST PLUG: ¾" NPT with standard square head

OUTLET: ASTM A283 Grade C Carbon Steel

BODY: ASTM A283 Grade C Carbon Steel

BOLTS & NUTS: High strength, low alloy per AWWA C111 (ANSI A21.11) *Optional 304 Stainless Steel*

LUGS: ASTM A36 Carbon Steel

COATING: Flexi-Coat® Fusion-Bonded Epoxy Finish, per AWWA C213

GASKETS: Nitrile (Buna N) Concave Wedge Gasket compounded to resist oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals

Temperature Range: up to +180

GLAND: AISI C 1020 Steel or Ductile Iron ASTM A536 depending on size

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** *Please contact Smith-Blair for styles, sizes and pricing.*



# Tapping Sleeve

## Reinforced Concrete Pipe

# 625

**Description:** Tapping sleeve, Carbon Steel.

**Application:** For reducing size-on-size flanged outlets 4" and up on Concrete Cylinder pipe. Mechanical joint outlets are available.

### Key Features:

- Designed specifically for lined and coated pre-stressed and non pre-stressed concrete cylinder pipe
- No welding required
- Stripping of the concrete finish is eliminated except in the area of the outlet
- The body of the sleeve is mounted on the pipe before the reinforcing wires are removed from the Steel Cylinder and the outlet neck inserted after the reinforcing wires are removed
- The sleeves' concave wedge gasket seals efficiently
- A series of studs compresses the adjustable outlet against the Steel cylinder

### Materials Specifications (subject to change)

BODY: ASTM A283 Grade C Carbon Steel

FLANGES: AWWA C207 Class D, ANSI 150# drilling

GASKET: Nitrile (Buna N) NSF-61 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals. Temperatures up to 180°F

STRAPS: Carbon Steel ASTM A36. **Type 304 Stainless Steel Optional**

BOLTS & NUTS: High strength, low alloy Steel with heavy semi-finished hexagon nuts to AWWA C111 (ANSI A21. 11) standards. **Optional Type 304 Stainless Steel bolts and nuts are coated**

SEAL PLATE: Carbon Steel ASTM 283 Grade C C/A36 ASTM A36

GROUT PIPES: Carbon Steel ASTM A53 Grade B

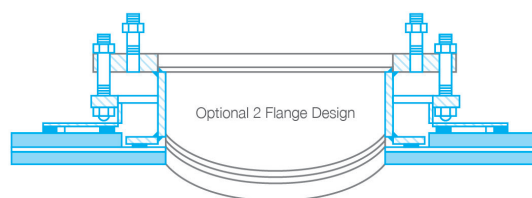
GROUT SEAL: One inch Square Foam Rubber

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Reinforced Concrete Pipe

**Sizes (in inches):** *Please contact Smith-Blair for styles, sizes and pricing.*





# Fabricated Weld-On Outlet

## Four Types Available

# 626



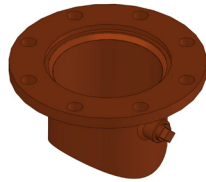
**Description:** Custom weld on outlets that can be made of either Carbon Steel or Stainless Steel and can be welded on to Steel to allow for Steel pipe taps.

**Application:** Economical way to tap Steel pipe.

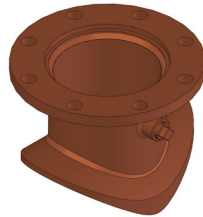
**Materials Specifications (subject to change):** Based on customer need, Smith-Blair can fabricate to materials and size specifications in carbon or Stainless Steel.

**Sizes:** 3" Nominal and up

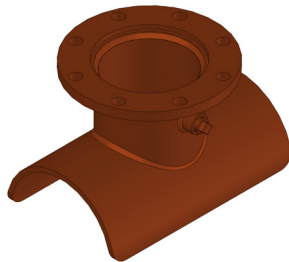
### Style Options:



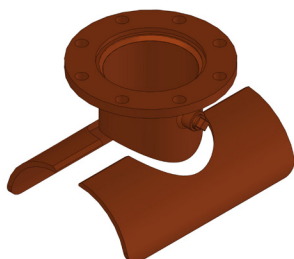
Type 1 — Flange and Neck Only



Type 2 — Flange, Neck and Weld Plate



Type 3 — Top Half Tapping Sleeves



Type 4 — Split Body, Three piece Tapping Sleeve



# Fabricated Weld-On Outlet

Two Types Available

# 627

**Description:** Custom weld on outlets that can be made of either Carbon Steel or Stainless Steel and can be welded on to Steel to allow for Steel pipe taps.

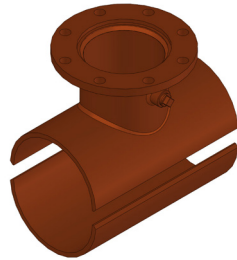
**Application:** Economical way to tap Steel pipe.

**Materials Specifications (subject to change)**

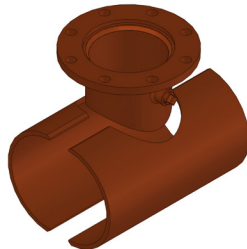
Based on customer need, Smith-Blair can fabricate to materials and size specifications

**Sizes:** 3" Nominal and up

**Style Options:**



Type 1 — Full Body, Two-Piece Tapping Sleeve



Type 2 — Full Body, Three-Piece Tapping Sleeve





# Carbon Flange Tapping Sleeve

Stainless Steel Body and Neck

## 662



**Description:** Stainless Steel tapping sleeve, with Carbon Steel flange

**Application:** For tapping pipe with reducing and size-on-size flanged outlets

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for Tapping Valve per MSS-SP 60

Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel. **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N) NSF® 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemical

Temperature Range: up to +180°F

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are coated to prevent galling

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** *Please contact Smith-Blair for styles, sizes and pricing.*



# Tapping Sleeve

## All Stainless Steel

# 663



**Description:** All Stainless Steel tapping sleeve

**Application:** For tapping pipes with 4" thru 12" outlets.

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C228 Class SD, ANSI 150# drilling. Recessed for Tapping Valve Per MSS-SP 60. 18-8 type 304 Stainless Steel flange on 663. **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N) NSF/ANSI 61/372 certified to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids and many chemicals. Temperatures up to 180°F

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts & washers. Nuts and studs are coated to prevent galling

**Working Pressure:** Up to 200 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC

**Sizes (in inches):** *See attached charts for dimensional data.*

662-663

# Tapping Sleeve

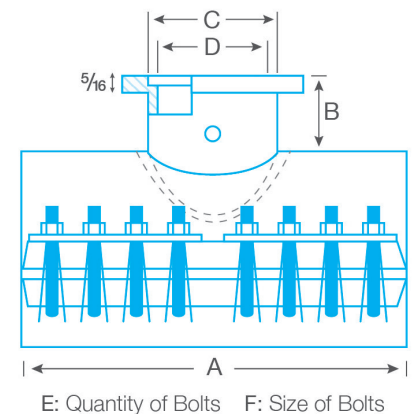
Carbon Steel Flange and Stainless Steel

## Tapping Sleeve Specification

| OUTLET SIZE | NOMINAL BODY SIZE | A (IN.) | B (IN.) | C (IN.) | D (IN.) | E  | F (IN.) |
|-------------|-------------------|---------|---------|---------|---------|----|---------|
| 4           | 4                 | 15      | 5       | 5 1/16  | 4 1/4   | 8  | 5/8     |
|             | 6-18              | 15      | 5       | 5 1/16  | 4 1/4   | 8  | 5/8     |
|             | 20-24             | 20      | 5       | 5 1/16  | 4 1/4   | 15 | 5/8     |
| 6           | 6                 | 15      | 5       | 7 1/16  | 6 5/16  | 8  | 5/8     |
|             | 8-18              | 15      | 5       | 7 1/16  | 6 5/16  | 8  | 5/8     |
|             | 20-24             | 20      | 5       | 7 1/16  | 6 5/16  | 15 | 5/8     |
| 8           | 8                 | 20      | 5       | 9 1/16  | 8 3/8   | 10 | 5/8     |
|             | 10-18             | 20      | 5       | 9 1/16  | 8 3/4   | 10 | 5/8     |
|             | 20-24             | 25      | 5       | 9 1/16  | 8 3/4   | 24 | 5/8     |
| 10          | 10                | 25      | 5       | 11 3/32 | 10 1/4  | 16 | 5/8     |
|             | 12-18             | 25      | 5       | 11 3/32 | 10 3/4  | 16 | 5/8     |
|             | 20-24             | 25      | 5       | 11 3/32 | 10 3/4  | 24 | 5/8     |
| 12          | 12                | 25      | 5       | 13 3/32 | 12 1/4  | 16 | 5/8     |
|             | 14-18             | 25      | 5       | 13 3/32 | 12 3/4  | 16 | 5/8     |
|             | 20-24             | 25      | 5       | 13 3/32 | 12 3/4  | 24 | 5/8     |

Optional 316 Stainless Steel. For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE (INCHES) | 662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE | 663 STAINLESS STEEL FLANGE           | APPROX WEIGHT EACH LBS. |
|---------------------------------------|-------------------|--|--------------------------------------|-------------------------|
|                                       |                   | CATALOG NUMBER                                   | CATALOG NUMBER                       |                         |
| 4 X 4                                 | 4.46-4.86         | 662-04800400-200                                 | 663-04800400-200                     | 32                      |
| 4 X 4                                 | 4.80-5.10         | 662-05000400-200                                 | 663-05000400-200                     | 34                      |
| 4 X 4                                 | 4.95-5.35         | 662-05100400-200                                 | 663-05100400-200                     | 40                      |
| 6 X 4<br>6 X 6                        | 6.59-6.99         | 662-06630400-000<br>662-06630600-200             | 663-06630400-000<br>663-06630600-200 | 38<br>42                |
| 6 X 4<br>6 X 6                        | 6.84-7.30         | 662-06900400-000<br>662-06900600-200             | 663-06900400-000<br>663-06900600-200 | 38<br>42                |
| 6 X 4<br>6 X 6                        | 7.10-7.50         | 662-07200400-000<br>662-07200600-200             | 663-07200400-000<br>663-07200600-200 | 38<br>42                |
| 6 X 4<br>6 X 6                        | 7.40-7.80         | 662-07450400-000<br>662-07450600-200             | 663-07450400-000<br>663-07450600-200 | 38<br>42                |
| 8 X 4<br>8 X 6                        | 7.90-8.30         | 662-08000400-000<br>662-08000600-000             | 663-08000400-000<br>663-08000600-000 | 43<br>63                |
| 8 X 4                                 | 8.62-9.06         | 662-08630400-000                                 | 663-08630400-000                     | 43                      |
| 8 X 6                                 |                   | 662-08630600-000                                 | 663-08630600-000                     | 47                      |
| 8 X 8                                 |                   | 662-08630800-200                                 | 663-08630800-200                     | 63                      |
| 8 X 4                                 | 8.99-9.45         | 662-09050400-000                                 | 663-09050400-000                     | 43                      |
| 8 X 6                                 |                   | 662-09050600-000                                 | 663-09050600-000                     | 47                      |
| 8 X 8                                 |                   | 662-09050800-200                                 | 663-09050800-200                     | 63                      |
| 8 X 4                                 | 9.20-9.60         | 662-09450400-000                                 | 663-09450400-000                     | 43                      |
| 8 X 6                                 |                   | 662-09450600-000                                 | 663-09450600-000                     | 47                      |
| 8 X 8                                 |                   | 662-09450800-200                                 | 663-09450800-200                     | 63                      |



For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE (INCHES) | 662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE | 663 STAINLESS STEEL FLANGE | APPROX WEIGHT EACH LBS. |
|---------------------------------------|-------------------|--|----------------------------|-------------------------|
|                                       |                   | CATALOG NUMBER                                   | CATALOG NUMBER             |                         |
| 8 X 4                                 | 9.60-10.00        | 662-09650400-000                                 | 663-09650400-000           | 43                      |
| 8 X 6                                 |                   | 662-09650600-000                                 | 663-09650600-000           | 47                      |
| 8 X 8                                 |                   | 662-09650800-200                                 | 663-09650800-200           | 63                      |
| 10 X 4                                | 9.90-10.30        | 662-10000400-000                                 | 663-10000400-000           | 47                      |
| 10 X 6                                |                   | 662-10000600-000                                 | 663-10000600-000           | 51                      |
| 10 X 8                                |                   | 662-10000800-000                                 | 663-10000800-000           | 70                      |
| 10 X 4                                | 10.73-11.13       | 662-10750400-000                                 | 663-10750400-000           | 47                      |
| 10 X 6                                |                   | 662-10750600-000                                 | 663-10750600-000           | 51                      |
| 10 X 8                                |                   | 662-10750800-000                                 | 663-10750800-000           | 70                      |
| 10 X 10                               |                   | 662-10751000-200                                 | 663-10751000-200           | 75                      |
| 10 X 4                                | 11.05-11.45       | 662-11100400-000                                 | 663-11100400-000           | 47                      |
| 10 X 6                                |                   | 662-11100600-000                                 | 663-11100600-000           | 51                      |
| 10 X 8                                |                   | 662-11100800-000                                 | 663-11100800-000           | 70                      |
| 10 X 10                               |                   | 662-11101000-200                                 | 663-11101000-200           | 75                      |
| 10 X 4                                | 11.70-12.10       | 662-11750400-000                                 | 663-11750400-000           | 47                      |
| 10 X 6                                |                   | 662-11750600-000                                 | 663-11750600-000           | 51                      |
| 10 X 8                                |                   | 662-11750800-000                                 | 663-11750800-000           | 70                      |
| 10 X 10                               |                   | 662-11751000-200                                 | 663-11751000-200           | 75                      |
| 10 X 4                                | 12.00-12.40       | 662-12000400-000                                 | 663-12000400-000           | 47                      |
| 10 X 6                                |                   | 662-12000600-000                                 | 663-12000600-000           | 51                      |
| 10 X 8                                |                   | 662-12000800-000                                 | 663-12000800-000           | 70                      |
| 10 X 10                               |                   | 662-12001000-200                                 | 663-12001000-200           | 75                      |
| 12 x 4                                | 12.50-12.90       | 662-12750400-000                                 | 663-12750400-000           | 51                      |
| 12 x 6                                |                   | 662-12750600-000                                 | 663-12750600-000           | 55                      |
| 12 x 8                                |                   | 662-12750800-000                                 | 663-12750800-000           | 75                      |
| 12 x 10                               |                   | 662-12751000-000                                 | 663-12751000-000           | 80                      |
| 12 x 12                               |                   | 662-12751200-200                                 | 663-12751200-200           | 110                     |
| 12 x 4                                | 13.16-13.56       | 662-13200400-000                                 | 663-13200400-000           | 51                      |
| 12 x 6                                |                   | 662-13200600-000                                 | 663-13200600-000           | 55                      |
| 12 x 8                                |                   | 662-13200800-000                                 | 663-13200800-000           | 75                      |
| 12 x 10                               |                   | 662-13201000-000                                 | 663-13201000-000           | 80                      |
| 12 x 12                               |                   | 662-13201200-200                                 | 663-13201200-200           | 110                     |
| 12 x 4                                | 13.60-14.09       | 662-13820400-000                                 | 663-13820400-000           | 51                      |
| 12 x 6                                |                   | 662-13820600-000                                 | 663-13820600-000           | 55                      |
| 12 x 8                                |                   | 662-13820800-000                                 | 663-13820800-000           | 75                      |
| 12 x 10                               |                   | 662-13821000-000                                 | 663-13821000-000           | 80                      |
| 12 x 12                               |                   | 662-13821200-200                                 | 663-13821200-200           | 110                     |
| 12 x 4                                | 14.10-14.58       | 662-14250400-000                                 | 663-14250400-000           | 51                      |
| 12 x 6                                |                   | 662-14250600-000                                 | 663-14250600-000           | 55                      |
| 12 x 8                                |                   | 662-14250800-000                                 | 663-14250800-000           | 75                      |
| 12 x 10                               |                   | 662-14251000-000                                 | 663-14251000-000           | 80                      |
| 12 x 12                               |                   | 662-14251200-200                                 | 663-14251200-200           | 110                     |
| 14 x 4                                | 15.30-15.80       | 662-15300400-000                                 | 663-15300400-000           | 72                      |
| 14 x 6                                |                   | 662-15300600-000                                 | 663-15300600-000           | 76                      |
| 14 x 8                                |                   | 662-15300800-000                                 | 663-15300800-000           | 95                      |
| 14 x 10                               |                   | 662-15301000-000                                 | 663-15301000-000           | 102                     |
| 14 x 12                               |                   | 662-15301200-000                                 | 663-15301200-000           | 135                     |

For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000

| NOMINAL SIZE OF PIPE X FLANGED OUTLET | OD RANGE (INCHES) | 662 FLEXI-COAT® EPOXY COATED CARBON STEEL FLANGE | 663 STAINLESS STEEL FLANGE | APPROX WEIGHT EACH LBS. |
|---------------------------------------|-------------------|--|----------------------------|-------------------------|
|                                       |                   | CATALOG NUMBER                                   | CATALOG NUMBER             |                         |
| 14 x 4                                | 15.80-16.30       | 662-16000400-000                                 | 663-16000400-000           | 72                      |
| 14 x 6                                |                   | 662-16000600-000                                 | 663-16000600-000           | 76                      |
| 14 x 8                                |                   | 662-16000800-000                                 | 663-16000800-000           | 95                      |
| 14 x 10                               |                   | 662-16001000-000                                 | 663-16001000-000           | 102                     |
| 14 x 12                               |                   | 662-16001200-000                                 | 663-16001200-000           | 135                     |
| 14 x 4                                | 16.40-16.80       | 662-16400400-000                                 | 663-16400400-000           | 72                      |
| 14 x 6                                |                   | 662-16400600-000                                 | 663-16400600-000           | 76                      |
| 14 x 8                                |                   | 662-16400800-000                                 | 663-16400800-000           | 95                      |
| 14 x 10                               |                   | 662-16401000-000                                 | 663-16401000-000           | 102                     |
| 14 x 12                               |                   | 662-16401200-000                                 | 663-16401200-000           | 135                     |
| 16 x 4                                | 17.40-17.80       | 662-17400400-000                                 | 663-17400400-000           | 77                      |
| 16 x 6                                |                   | 662-17400600-000                                 | 663-17400600-000           | 82                      |
| 16 x 8                                |                   | 662-17400800-000                                 | 663-17400800-000           | 103                     |
| 16 x 10                               |                   | 662-17401000-000                                 | 663-17401000-000           | 108                     |
| 16 x 12                               |                   | 662-17401200-000                                 | 663-17401200-000           | 145                     |
| 16-18 x 4                             | 18.60-19.20       | 662-18700400-000                                 | 663-18700400-000           | 77                      |
| 16-18 x 6                             |                   | 662-18700600-000                                 | 663-18700600-000           | 82                      |
| 16-18 x 8                             |                   | 662-18700800-000                                 | 663-18700800-000           | 103                     |
| 16-18 x 10                            |                   | 662-18701000-000                                 | 663-18701000-000           | 108                     |
| 16-18 x 12                            |                   | 662-18701200-000                                 | 663-18701200-000           | 145                     |
| 18-20 x 4                             | 19.50-20.10       | 662-19500400-000                                 | 663-19500400-000           | 78                      |
| 18-20 x 6                             |                   | 662-19500600-000                                 | 663-19500600-000           | 82                      |
| 18-20 x 8                             |                   | 662-19500800-000                                 | 663-19500800-000           | 105                     |
| 18-20 x 10                            |                   | 662-19501000-000                                 | 663-19501000-000           | 111                     |
| 18-20 x 12                            |                   | 662-19501200-000                                 | 663-19501200-000           | 147                     |
| 18-20 x 4                             | 20.90-21.59       | 662-20900400-000                                 | 663-20900400-000           | 78                      |
| 18-20 x 6                             |                   | 662-20900600-000                                 | 663-20900600-000           | 82                      |
| 18-20 x 8                             |                   | 662-20900800-000                                 | 663-20900800-000           | 105                     |
| 18-20 x 10                            |                   | 662-20901000-000                                 | 663-20901000-000           | 111                     |
| 18-20 x 12                            |                   | 662-20901200-000                                 | 663-20901200-000           | 147                     |
| 20 x 4                                | 21.60-22.40       | 662-21600400-000                                 | 663-21600400-000           | 88                      |
| 20 x 6                                |                   | 662-21600600-000                                 | 663-21600600-000           | 94                      |
| 20 x 8                                |                   | 662-21600800-000                                 | 663-21600800-000           | 118                     |
| 20 x 10                               |                   | 662-21601000-000                                 | 663-21601000-000           | 124                     |
| 20 x 12                               |                   | 662-21601200-000                                 | 663-21601200-000           | 160                     |
| 20-24 x 4                             | 23.50-24.20       | 662-23500400-000                                 | 663-23500400-000           | 95                      |
| 20-24 x 6                             |                   | 662-23500600-000                                 | 663-23500600-000           | 100                     |
| 20-24 x 8                             |                   | 662-23500800-000                                 | 663-23500800-000           | 122                     |
| 20-24 x 10                            |                   | 662-23501000-000                                 | 663-23501000-000           | 130                     |
| 20-24 x 12                            |                   | 662-23501200-000                                 | 663-23501200-000           | 169                     |
| 24 x 4                                | 25.80-26.60       | 662-25800400-000                                 | 663-25800400-000           | 95                      |
| 24 x 6                                |                   | 662-25800600-000                                 | 663-25800600-000           | 100                     |
| 24 x 8                                |                   | 662-25800800-000                                 | 663-25800800-000           | 122                     |
| 24 x 10                               |                   | 662-25801000-000                                 | 663-25801000-000           | 130                     |
| 24 x 12                               |                   | 662-25801200-000                                 | 663-25801200-000           | 170                     |
| 24 x 4                                | 28.30-29.00       | 662-28300400-000                                 | 663-28300400-000           | 103                     |
| 24 x 6                                |                   | 662-28300600-000                                 | 663-28300600-000           | 109                     |
| 24 x 8                                |                   | 662-28300800-000                                 | 663-28300800-000           | 133                     |
| 24 x 10                               |                   | 662-28301000-000                                 | 663-28301000-000           | 141                     |
| 24 x 12                               |                   | 662-28301200-000                                 | 663-28301200-000           | 185                     |

For MJ Outlets, replace the last two 00s in the middle eight digits with MJ. Example: 662-127504MJ-000



# Tapping Sleeve

## Stainless Steel body, Carbon Steel Flange

# 664



**Description:** Stainless Steel tapping sleeve with epoxy-coated Carbon Steel flange and removable bolts.

**Application:** For tapping reducing and size-on-size flanged outlet

### Key Features:

- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

### Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C207 Class D, ANSI 150# drilling. Recessed for Tapping Valve per MSS-SP 60.

Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel

#### **Optional: Other types of Flanges, threaded outlets, MJ Outlets**

**GASKET:** Nitrile (Buna-N) NSF-61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemicals

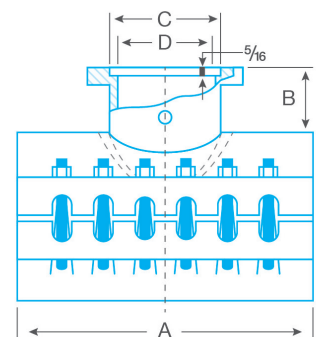
Temperature Range: up to +180

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, bolts & washers. Nuts and studs are coated to prevent galling

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** Call Smith-Blair for more information on styles, sizes and pricing.



E: Quantity of Bolts F: Size of Bolts



# Tapping Sleeve

All Stainless Steel with Removable Bolts

# 665

**Description:** All Stainless Steel tapping sleeve with removable bolts.

**Application:** For tapping reducing and size-on-size flanged outlets

## Key Features:

- Certified to NSF/ANSI 61/372
- Easy to install
- Range helps reduce inventory
- Meets applicable AWWA C223 Standards
- Molded-in ring in the gasket to ensure effective sealing
- Nylon washers to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Fully chemically passivated for maximum corrosion protection
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Body drawn out to accept the outlet neck adding to the overall strength of the area under the most stress

## Materials Specifications (subject to change)

**BODY:** Full circumference band. 18-8 type 304 Stainless Steel

**FLANGES:** AWWA C228 Class SD, ANSI 150# drilling. Recessed for Tapping Valve Per MSS-SP 60. 18-8 type 304 Stainless Steel flange on 663. **Optional: Other types of Flanges, threaded outlets, MJ Outlets.**

**GASKET:** Nitrile (Buna-N) NSF® 61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and many chemicals

**Temperature Range:** up to +180

**BOLTS, NUTS & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, bolts & washers. Nuts and studs are coated to prevent galling

**Working Pressure:** Up to 175 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** *Call Smith-Blair for more information about sizes and pricing.*



664-665

# Tapping Sleeve

## Carbon Flange and Stainless Steel

### Tapping Sleeve Specification

| OUTLET SIZE | NOMINAL BODY SIZE | A (IN) | B (IN) | C (IN)  | D (IN) | E (IN) | F (IN) |
|-------------|-------------------|--------|--------|---------|--------|--------|--------|
| 4           | 4                 | 15     | 5      | 5 1/16  | 4 1/4  | 8      | 5/8    |
|             | 6-18              | 15     | 5      | 5 1/16  | 4 1/4  | 8      | 5/8    |
|             | 20-24             | 20     | 5      | 5 1/16  | 4 1/4  | 8      | 5/8    |
| 6           | 6                 | 15     | 5      | 7 1/16  | 6 5/16 | 8      | 5/8    |
|             | 8-18              | 15     | 5      | 7 1/16  | 6 5/16 | 8      | 5/8    |
|             | 20-24             | 20     | 5      | 7 1/16  | 6 5/16 | 10     | 5/8    |
| 8           | 8                 | 20     | 5      | 9 1/16  | 8 5/16 | 10     | 5/8    |
|             | 10-18             | 20     | 5      | 9 1/16  | 8 5/16 | 10     | 5/8    |
|             | 20-24             | 25     | 5      | 9 1/16  | 8 5/16 | 14     | 5/8    |
| 10          | 10                | 25     | 5      | 11 3/32 | 10 1/4 | 14     | 5/8    |
|             | 20-24             | 25     | 5      | 11 3/32 | 10 3/8 | 14     | 5/8    |
| 12          | 12                | 25     | 5      | 13 3/32 | 12 1/4 | 14     | 5/8    |
|             | 14-24             | 25     | 5      | 13 3/32 | 10 3/8 | 14     | 5/8    |

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.

| NOMINAL SIZE OF PIPE<br>X FLANGED OUTLET | OD RANGE (INCHES) | 664<br>FLEXI-COAT® EPOXY COATED<br>CARBON STEEL FLANGE | 665<br>STAINLESS STEEL FLANGE | APPROX. WEIGHT<br>EACH POUNDS |
|--|-------------------|--|-------------------------------|-------------------------------|
|  |                   | CATALOG NUMBER   | CATALOG NUMBER                |                               |
| 4 x 4                                    | 4.50-4.80         | 664-04800400-200                                       | 665-04800400-200              | 34                            |
| 4 x 4                                    | 4.80-5.10         | 664-05000400-200                                       | 665-05000400-200              | 42                            |
| 6 x 4<br>6 x 6                           | 6.59-6.99         | 664-06630400-000                                       | 665-06630400-000              | 55                            |
| 6 x 6                                    |                   | 664-06630600-200                                       | 665-06630600-200              | 61                            |
| 6 x 4                                    | 6.84-7.30         | 664-06900400-000                                       | 665-06900400-000              | 55                            |
| 6 x 6                                    |                   | 664-06900600-200                                       | 665-06900600-200              | 61                            |
| 6 x 4                                    | 7.10-7.50         | 664-07200400-000                                       | 665-07200400-000              | 55                            |
| 6 x 6                                    |                   | 664-07200600-200                                       | 665-07200600-200              | 61                            |
| 6 x 4                                    | 7.40-7.80         | 664-07450400-000                                       | 665-07450400-000              | 55                            |
| 6 x 6                                    |                   | 664-07450600-200                                       | 665-07450600-200              | 61                            |
| 8 x 4                                    | 7.90-8.30         | 664-08000400-000                                       | 665-08000400-000              | 64                            |
| 8 x 6                                    |                   | 664-08000600-000                                       | 665-08000600-000              | 72                            |
| 8 x 4                                    | 8.62-9.06         | 664-08630400-000                                       | 665-08630400-000              | 64                            |
| 8 x 6                                    |                   | 664-08630600-000                                       | 665-08630600-000              | 72                            |
| 8 x 8                                    |                   | 664-08630800-200                                       | 665-08630800-200              | 93                            |
| 8 x 4                                    | 8.99-9.45         | 664-09050400-000                                       | 665-09050400-000              | 64                            |
| 8 x 6                                    |                   | 664-09050600-000                                       | 665-09050600-000              | 72                            |
| 8 x 8                                    |                   | 664-09050800-200                                       | 665-09050800-200              | 93                            |
| 8 x 4                                    | 9.20-9.60         | 664-09450400-000                                       | 665-09450400-000              | 64                            |
| 8 x 6                                    |                   | 664-09450600-000                                       | 665-09450600-000              | 72                            |
| 8 x 8                                    |                   | 664-09450800-200                                       | 665-09450800-200              | 93                            |
| 8 x 4                                    | 9.60-10.00        | 664-09650400-000                                       | 665-09650400-000              | 64                            |
| 8 x 6                                    |                   | 664-09650600-000                                       | 665-09650600-000              | 72                            |
| 8 x 8                                    |                   | 664-09650800-200                                       | 665-09650800-200              | 93                            |

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.



| NOMINAL SIZE OF PIPE<br>X FLANGED OUTLET | OD RANGE (INCHES) | 664<br>FLEXI-COAT® EPOXY COATED<br>CARBON STEEL FLANGE | 665<br>STAINLESS STEEL FLANGE | APPROX. WEIGHT<br>EACH POUNDS |
|--|-------------------|--|-------------------------------|-------------------------------|
|  |                   | CATALOG NUMBER   | CATALOG NUMBER                |                               |
| 10 x 4                                   | 9.90-10.30        | 664-10000400-000                                       | 665-10000400-000              | 61                            |
| 10 x 6                                   |                   | 664-10000600-000                                       | 665-10000600-000              | 65                            |
| 10 x 8                                   |                   | 664-10000800-000                                       | 665-10000800-000              | 88                            |
| 10 x 4                                   | 10.73-11.13       | 664-10750400-000                                       | 665-10750400-000              | 61                            |
| 10 x 6                                   |                   | 664-10750600-000                                       | 665-10750600-000              | 65                            |
| 10 x 8                                   |                   | 664-10750800-000                                       | 665-10750800-000              | 88                            |
| 10 x 10                                  |                   | 664-10751000-200                                       | 665-10751000-200              | 95                            |
| 10 x 4                                   | 11.05-11.45       | 664-11100400-000                                       | 665-11100400-000              | 61                            |
| 10 x 6                                   |                   | 664-11100600-000                                       | 665-11100600-000              | 65                            |
| 10 x 8                                   |                   | 664-11100800-000                                       | 665-11100800-000              | 88                            |
| 10 x 10                                  |                   | 664-11101000-200                                       | 665-11101000-200              | 95                            |
| 10 x 4                                   | 11.70-12.10       | 664-11750400-000                                       | 665-11750400-000              | 61                            |
| 10 x 6                                   |                   | 664-11750600-000                                       | 665-11750600-000              | 65                            |
| 10 x 8                                   |                   | 664-11750800-000                                       | 665-11750800-000              | 88                            |
| 10 x 10                                  |                   | 664-11751000-200                                       | 665-11751000-200              | 95                            |
| 10 x 4                                   | 12.00-12.40       | 664-12000400-000                                       | 665-12000400-000              | 61                            |
| 10 x 6                                   |                   | 664-12000600-000                                       | 665-12000600-000              | 65                            |
| 10 x 8                                   |                   | 664-12000800-000                                       | 665-12000800-000              | 88                            |
| 10 x 10                                  |                   | 664-12001000-200                                       | 665-12001000-200              | 95                            |
| 12 x 4                                   | 12.50-12.90       | 664-12750400-000                                       | 665-12750400-000              | 65                            |
| 12 x 6                                   |                   | 664-12750600-000                                       | 665-12750600-000              | 69                            |
| 12 x 8                                   |                   | 664-12750800-000                                       | 665-12750800-000              | 95                            |
| 12 x 10                                  |                   | 664-12751000-000                                       | 665-12751000-000              | 101                           |
| 12 x 12                                  |                   | 664-12751200-200                                       | 665-12751200-200              | 138                           |
| 12 x 4                                   | 13.16-13.56       | 664-13200400-000                                       | 665-13200400-000              | 65                            |
| 12 x 6                                   |                   | 664-13200600-000                                       | 665-13200600-000              | 69                            |
| 12 x 8                                   |                   | 664-13200800-000                                       | 665-13200800-000              | 95                            |
| 12 x 10                                  |                   | 664-13201000-000                                       | 665-13201000-000              | 101                           |
| 12 x 12                                  |                   | 664-13201200-200                                       | 665-13201200-200              | 138                           |
| 12 x 4                                   | 13.60-14.09       | 664-13820400-000                                       | 665-13820400-000              | 63                            |
| 12 x 6                                   |                   | 664-13820600-000                                       | 665-13820600-000              | 67                            |
| 12 x 8                                   |                   | 664-13820800-000                                       | 665-13820800-000              | 90                            |
| 12 x 10                                  |                   | 664-13821000-000                                       | 665-13821000-000              | 113                           |
| 12 x 12                                  |                   | 664-13821200-200                                       | 665-13821200-200              | 128                           |
| 12 x 4                                   | 14.10-14.58       | 664-14250400-000                                       | 665-14250400-000              | 64                            |
| 12 x 6                                   |                   | 664-14250600-000                                       | 665-14250600-000              | 68                            |
| 12 x 8                                   |                   | 664-14250800-000                                       | 665-14250800-000              | 91                            |
| 12 x 10                                  |                   | 664-14251000-000                                       | 665-14251000-000              | 115                           |
| 12 x 12                                  |                   | 664-14251200-200                                       | 665-14251200-200              | 130                           |
| 14 x 4                                   | 15.30-15.80       | 664-15300400-000                                       | 665-15300400-000              | 63                            |
| 14 x 6                                   |                   | 664-15300600-000                                       | 665-15300600-000              | 67                            |
| 14 x 8                                   |                   | 664-15300800-000                                       | 665-15300800-000              | 90                            |
| 14 x 10                                  |                   | 664-15301000-000                                       | 665-15301000-000              | 113                           |
| 14 x 12                                  |                   | 664-15301200-000                                       | 665-15301200-000              | 128                           |
| 14 x 4                                   | 15.80-16.30       | 664-16000400-000                                       | 665-16000400-000              | 64                            |
| 14 x 6                                   |                   | 664-16000600-000                                       | 665-16000600-000              | 68                            |
| 14 x 8                                   |                   | 664-16000800-000                                       | 665-16000800-000              | 91                            |
| 14 x 10                                  |                   | 664-16001000-000                                       | 665-16001000-000              | 115                           |
| 14 x 12                                  |                   | 664-16001200-000                                       | 665-16001200-000              | 130                           |

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.

| NOMINAL SIZE OF PIPE<br>X FLANGED OUTLET | OD RANGE (INCHES) | 664<br>FLEXI-COAT® EPOXY COATED<br>CARBON STEEL FLANGE | 665<br>STAINLESS STEEL FLANGE | APPROX. WEIGHT<br>EACH POUNDS |
|--|-------------------|--|-------------------------------|-------------------------------|
|  |                   | CATALOG NUMBER   | CATALOG NUMBER                |                               |
| 14 x 4                                   | 16.40-16.80       | 664-16400400-000                                       | 665-16400400-000              | 70                            |
| 14 x 6                                   |                   | 664-16400600-000                                       | 665-16400600-000              | 73                            |
| 14 x 8                                   |                   | 664-16400800-000                                       | 665-16400800-000              | 98                            |
| 14 x 10                                  |                   | 664-16401000-000                                       | 665-16401000-000              | 123                           |
| 14 x 12                                  |                   | 664-16401200-000                                       | 665-16401200-000              | 132                           |
| 16 x 4                                   | 17.40-17.80       | 664-17400400-000                                       | 665-17400400-000              | 68                            |
| 16 x 6                                   |                   | 664-17400600-000                                       | 665-17400600-000              | 71                            |
| 16 x 8                                   |                   | 664-17400800-000                                       | 665-17400800-000              | 95                            |
| 16 x 10                                  |                   | 664-17401000-000                                       | 665-17401000-000              | 120                           |
| 16 x 12                                  |                   | 664-17401200-000                                       | 665-17401200-000              | 135                           |
| 16-18 x 4                                | 18.60-19.20       | 664-18700400-000                                       | 665-18700400-000              | 70                            |
| 16-18 x 6                                |                   | 664-18700600-000                                       | 665-18700600-000              | 73                            |
| 16-18 x 8                                |                   | 664-18700800-000                                       | 665-18700800-000              | 98                            |
| 16-18 x 10                               |                   | 664-18701000-000                                       | 665-18701000-000              | 123                           |
| 16-18 x 12                               |                   | 664-18701200-000                                       | 665-18701200-000              | 138                           |
| 18-20 x 4                                | 19.50-20.10       | 664-19500400-000                                       | 665-19500400-000              | 93                            |
| 18-20 x 6                                |                   | 664-19500600-000                                       | 665-19500600-000              | 96                            |
| 18-20 x 8                                |                   | 664-19500800-000                                       | 665-19500800-000              | 125                           |
| 18-20 x 10                               |                   | 664-19501000-000                                       | 665-19501000-000              | 134                           |
| 18-20 x 12                               |                   | 664-19501200-000                                       | 665-19501200-000              | 148                           |
| 18-20 x 4                                | 20.90-21.59       | 664-20900400-000                                       | 665-20900400-000              | 94                            |
| 18-20 x 6                                |                   | 664-20900600-000                                       | 665-20900600-000              | 98                            |
| 18-20 x 8                                |                   | 664-20900800-000                                       | 665-20900800-000              | 127                           |
| 18-20 x 10                               |                   | 664-20901000-000                                       | 665-20901000-000              | 136                           |
| 18-20 x 12                               |                   | 664-20901200-000                                       | 665-20901200-000              | 150                           |
| 20 x 4                                   | 21.60-22.40       | 664-21600400-000                                       | 665-21600400-000              | 94                            |
| 20 x 6                                   |                   | 664-21600600-000                                       | 665-21600600-000              | 98                            |
| 20 x 8                                   |                   | 664-21600800-000                                       | 665-21600800-000              | 127                           |
| 20 x 10                                  |                   | 664-21601000-000                                       | 665-21601000-000              | 136                           |
| 20 x 12                                  |                   | 664-21601200-000                                       | 665-21601200-000              | 150                           |
| 20-24 x 4                                | 23.50-24.20       | 664-23500400-000                                       | 665-23500400-000              | 99                            |
| 20-24 x 6                                |                   | 664-23500600-000                                       | 665-23500600-000              | 102                           |
| 20-24 x 8                                |                   | 664-23500800-000                                       | 665-23500800-000              | 133                           |
| 20-24 x 10                               |                   | 664-23501000-000                                       | 665-23501000-000              | 142                           |
| 20-24 x 12                               |                   | 664-23501200-000                                       | 665-23501200-000              | 156                           |
| 24 x 4                                   | 25.80-26.60       | 664-25800400-000                                       | 665-25800400-000              | 105                           |
| 24 x 6                                   |                   | 664-25800600-000                                       | 665-25800600-000              | 108                           |
| 24 x 8                                   |                   | 664-25800800-000                                       | 665-25800800-000              | 140                           |
| 24 x 10                                  |                   | 664-25801000-000                                       | 665-25801000-000              | 149                           |
| 24 x 12                                  |                   | 664-25801200-000                                       | 665-25801200-000              | 164                           |
| 24 x 4                                   | 28.30-29.00       | 664-28300400-000                                       | 665-28300400-000              | 111                           |
| 24 x 6                                   |                   | 664-28300600-000                                       | 665-28300600-000              | 114                           |
| 24 x 8                                   |                   | 664-28300800-000                                       | 665-28300800-000              | 148                           |
| 24 x 10                                  |                   | 664-28301000-000                                       | 665-28301000-000              | 157                           |
| 24 x 12                                  |                   | 664-28301200-000                                       | 665-28301200-000              | 171                           |

For MJ outlets, replace the last two 00s in the middle eight digits with MJ. Example: 664-127504MJ-000.



# Tapping Sleeve

MJ Outlet available on any style tapping sleeve

## MJ

**Description:** MJ outlet is available on any style of tapping sleeve.

**Application:** Taps utilizing standard MJ valve.

**Key Features:**

- The MJ Outlet allows the user to tap pipe, utilizing a standard MJ x MJ valve in lieu of a specialty tapping valve
- This outlet allows the user to combine valve inventory to a single valve, reduce installation time and save money
- The heavy mechanical joint flange is fixed in place to make installation easier, while reducing the chance of injuries during the tapping operation

**Materials Specifications (subject to change)**

FLANGES: Drilling per ANSI/AWWA C111/A21.11. Fusion-Bonded, Flexi-Coat® epoxy coated Carbon Steel on 622/662/664. 18-8 type 304 Stainless Steel flange on 663 665

**Working Pressure:** Up to fitting design

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC

**Sizes (in inches):** *Call Smith-Blair for more information on sizes and pricing.*



# Tapping Sleeves with Line Stop Outlets

## 680



**Description:** For Line Stopping and plugging

**Application:** To temporarily shut off flow in a live pipeline

**Materials Specifications (subject to change)**

**COVER PLATE:** Various materials available

**COVER STUDS:** Various materials available with heavy hex nuts and flat washer

**GASKET:** Nitrile (Buna N) NSF 61 listed, compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**TEST PORT:** 3/4"

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish on Carbon Steel parts

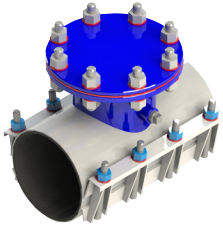
**Working Pressure:** See type and size of tapping sleeve for details

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4 inches and up

**Outlet Sizes:** 4"-12"

| MODEL | BODY STYLE         |
|-------|--------------------|
| 682   | 662                |
| 683   | 663                |
| 684   | 664                |
| 685   | 665                |
| 687   | 622 all gasket     |
| 688   | 622                |
| 689   | 624 with line stop |



# Line Stop Sleeve

## Stainless Steel Body, Carbon Steel Outlet

# 682

**Description:** Stainless Steel Line Stop Sleeve, with Carbon Steel outlet

**Application:** To temporarily shut off flow in a live pipeline

### Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

**BODY:** Full Circumference band. 18-8 Type 304 Stainless Steel

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**OUTLET:** Carbon Steel Flange per ANSI B16.5 Raised Face, Class 150 drilling. Carbon Steel neck per ASTM A53B.

**COVER PLATE:** ASTM A36/A283 GrC Dust Cover

**COVER GASKET:** 1/8" Full Face Red Rubber

**BODY GASKET:** Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

**TEMPERATURE RANGE:** up to +180°F

**COMPLETION PLUG O-RING:** Nitrile (Buna-N)

**BODY STUDS, NUTS, & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

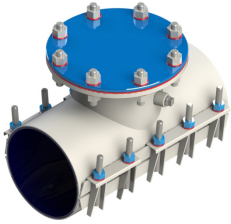
**COVER STUDS, NUTS & WASHERS:** ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

Stainless Steel Body, Stainless Steel Outlet

## 683

**Description:** Stainless Steel Line Stop Sleeve, with Stainless Steel outlet

**Application:** To temporarily shut off flow in a live pipeline

**Key Features:**

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

**BODY:** Full Circumference band. 18-8 type 304 Stainless Steel

**COMPLETION PLUG:** Ductile Iron per ASTM A536

**OUTLET:** Stainless Steel Flange per ANSI B16.5 Raised Face, Class 150 drilling. Stainless Steel neck per A53B.

**COVER PLATE:** ASTM A36/A283 GrC Dust Cover

**COVER GASKET:** 1/8" Full Face Red Rubber

**BODY GASKET:** Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

**TEMPERATURE RANGE:** up to +180°F

**COMPLETION PLUG O-RING:** Nitrile (Buna-N)

**BODY STUDS, NUTS, & WASHERS:** 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

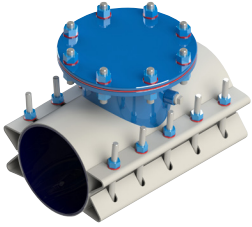
**COVER STUDS, NUTS & WASHERS:** ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

Stainless Steel Body, Carbon Steel Outlet

# 684

**Description:** Stainless Steel Line Stop Sleeve, with Stainless Steel outlet and removable bolts

**Application:** To temporarily shut off flow in a live pipeline

## Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Removable V-lug bolts on the body
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

## Materials Specifications (subject to change)

BODY: Full Circumference band. 18-8 type 304 Stainless Steel

COMPLETION PLUG: Ductile Iron per ASTM A536

FLANGES: Carbon Steel per ANSI B16.5 Raised Face, Class 150 drilling.

COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

BODY GASKET: Nitrile (Buna-N) NSF®/ANSI 61/372 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS, NUTS, & WASHERS: 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

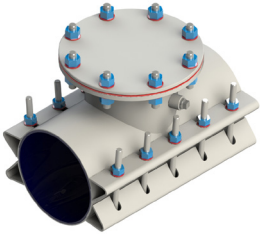
COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet



# Line Stop Sleeve

## Stainless Steel Body, Neck and Flange

# 685

**Description:** All Stainless Steel Line Stop Sleeve, with Stainless Steel outlet and removable bolts

**Application:** To temporarily shut off flow in a live pipeline

### Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Nylon washers are provided to improve bolt torque capability
- Removable V-lug bolts on the body
- Heavy gauge, all-Stainless Steel body for rugged performance
- Stainless Steel fully chemically passivated for maximum corrosion protection
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- 360° seal provides maximum support and reinforcement around the pipe in case of pipe break
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

### Materials Specifications (subject to change)

BODY: Full Circumference band. 18-8 type 304 Stainless Steel

COMPLETION PLUG: Ductile Iron per ASTM A536

OUTLET: 304 Stainless Steel per ANSI B16.5 Raised Face, Class 150 drilling. Stainless Steel neck per ASTM A53B

COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

BODY GASKET: Nitrile (Buna-N) NSF®/ANSI 61 compounded to resist water, oil, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS, NUTS, & WASHERS: 18-8 Type 304 Stainless Steel heavy hex nuts, stud bolts, and washers. Nuts and studs are coated to prevent galling

COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

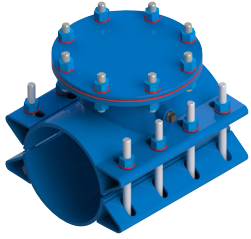
Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-20" Nominal Pipe size with 4"-12" Line Stop Outlet





# Line Stop Sleeve

Carbon Steel Body with Carbon Steel Outlet with Threaded Completion Plug

# 687

**Description:** All Carbon Steel Line Stop Sleeve with Threaded Completion Plug

**Application:** To temporarily shut off flow in a live pipeline

## Key Features:

- Easy to install
- Fitting Range helps reduce inventory
- Virtually 360° support of the pipe
- Roll-resistant gasket will not bind
- Gasket seal increases with line pressure
- No special tools required to install the sleeve
- Flanged Outlets are recessed per MSS-SP60 to accept tapping valves
- Carbon Steel and Ductile Iron components are Flexi-Coat® Fusion-Bonded epoxy coated
- 3/4" test outlet to allow hydrostatic pressure test before tapping the pipe
- Flange recessed for Tapping Valve per MSS-SP 60
- Industry Standard Threaded Completion Plug Mount
  - 3 pins on 5.25" bolt circle 6-12" plugs
  - Slotted Mount 4" plug

## Materials Specifications (subject to change)

BODY: Carbon Steel ASTM A283 Grade C

COMPLETION PLUG: Ductile Iron per ASTM A536

OUTLET: Carbon Steel per ANSI B16.5 Raised Face, Class 150 drilling. Carbon Steel neck per ASTM A53B COVER PLATE: ASTM A36/A283 GrC Dust Cover

COVER GASKET: 1/8" Full Face Red Rubber

OUTLET GASKET: Nitrile (Buna-N) NSF®/ANSI 61/372 listed. Concave wedge gasket, compounded to resist water, oil, acids, alkalis, most (aliphatic) hydrocarbon fluids, and other chemicals

TEMPERATURE RANGE: up to +180°F

COMPLETION PLUG O-RING GASKET: Nitrile (Buna-N)

BODY BOLTS & NUTS: High strength low alloy Steel with heavy semi-finished hexagon nuts to ASTM A-307 (ANSI A21.11) standards

COVER STUDS, NUTS & WASHERS: ASTM A193 B7 studs with heavy hex nuts and washers.

Cover Plate and Cover Hardware available in Stainless Steel options

**Working Pressure:** 150 PSI

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, PVC and other. *For other pipe materials, please contact Smith-Blair Engineering.*

**Sizes (in inches):** 4"-24" Nominal Pipe size with 4"-12" Line Stop Outlet



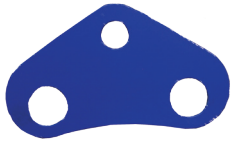
# Flanged Coupling Adapters

## What Are Flanged Coupling Adapters?

The Flanged Coupling Adapter combines a flexible coupling with a flange to create a compact, flexible fitting to connect plain-end pipe to flange fittings. The device is meant to bring two flanged pipe ends together in flush, sealed manner .



*Smith-Blair*  
a xylem brand



# Restraint Plates

## 907



**Description:** Smith-Blair restraint plates are used to adapt a flange x flange connection using triangular extension plates and tie rods

**Application:** Used to restrain flange x flange piping connection

### Key Features:

- Triangular metal plates, connected behind the flanges using the existing flange bolting hardware. These plates are then connected using tie rods.

### Materials Specifications (subject to change)

Fusion bonded epoxy coated A36 carbon steel standard. 304 stainless steel and 316 stainless steel are optional

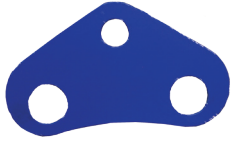
### Working Pressure:

Pressure rating is determined by the quantity and size of the restraining plates and restraining rods.

***See Smith-Blair catalog for recommended rod size and plate quantities for standard pressure ratings***

**Pipe Applications:** Any flange x flange connected pipe material

**Sizes:** Any size and style of bolted flange



# Restraint Plates

907

## Flange Drilling – 125, 150, Class "D" and Class "E"

| FLANGE SIZE INCHES | RECOMMENDED TIE-ROD QUANTITY<br>MAXIMUM PRESSURE |     |     |     |     | "T" = LUG THICKNESS INCHES | TIE-ROD SIZE INCHES | "D" = LUG DIAMETER INCHES (SEE NOTE 1) | CATALOG NUMBER EACH LUG | CATALOG END CODE |      |
|--------------------|--|-----|-----|-----|-----|----------------------------|---------------------|--|-------------------------|------------------|------|
|                    | 50   | 100 | 150 | 200 | 250 |                            |                     |  |                         | EPOXY COATED     | BARE |
| 4                  | 2  | 2   | 2   | 2   | 2   | 0.50                       | 0.63                | 6.19                                   | 907-04000001            | 000              | -001 |
| 6                  | 2  | 2   | 2   | 2   | 2   | 0.50                       | 0.63                | 8.00                                   | 907-06000001            | 000              | -001 |
| 8                  | 2  | 2   | 2   | 2   | 2   | 0.50                       | 0.63                | 10.25                                  | 907-08000001            | 000              | -001 |
| 10                 | 2  | 2   | 2   | 3   | 3   | 0.63                       | 0.63                | 12.50                                  | 907-10000101            | 000              | -001 |
| 12                 | 2  | 2   | 3   | 3   | 4   | 0.63                       | 0.63                | 15.25                                  | 907-12000101            | 000              | -001 |
| 14                 | 2  | 2   | 3   | 3   | 4   | 0.75                       | 0.75                | 16.75                                  | 907-14000202            | 000              | -001 |
| 16                 | 2  | 2   | 2   | 2   | 3   | 0.75                       | 1.00                | 19.25                                  | 907-16000204            | 000              | -001 |
| 18                 | 2  | 2   | 2   | 3   | 4   | 1.00                       | 1.00                | 20.62                                  | 907-18000404            | 000              | -001 |
| 20                 | 2  | 2   | 3   | 3   | 4   | 1.00                       | 1.00                | 22.88                                  | 907-20000404            | 000              | -001 |
| 24                 | 2  | 2   | 2   | 3   | 4   | 1.00                       | 1.25                | 27.12                                  | 907-24000406            | 000              | -001 |
| 30                 | 2  | 2   | 3   | 4   | 6   | 1.25                       | 1.25                | 33.62                                  | 907-30000606            | 000              | -001 |
| 36                 | 2  | 3   | 5   | 6   | 8   | 1.25                       | 1.25                | 40.00                                  | 907-36000606            | 000              | -001 |
| 42                 | 2  | 4   | 6   | 8   | 10  | 1.25                       | 1.25                | 46.75                                  | 907-42000606            | 000              | -001 |
| 48                 | 2  | 4   | 6   | 8   | 9   | 1.50                       | 1.50                | 53.25                                  | 907-48000808            | 000              | -001 |

Standard Material ASTM A36 or ASTM A283 Grade C. Other materials, coatings, thicknesses and rod size

Note 1: CAUTION: Check lug diameter for clearance over the flange hub. Some threaded flanges have large diameter hubs which may cause interference. Combinations available upon request.

Note 2: It is recommended that the tie rods be symmetrically spaced around the flange bolt circle.

Note 3: Check with Smith-Blair for applications using 907's with 912 FCA's.

## Tie Rod and Nut Sets Alloy Steel All Thread Set = 1 Rod and 4 Nuts

| SIZE UNC | CATALOG NUMBER   |                  |                  |                  |                  |                  |
|----------|------------------|------------------|------------------|------------------|------------------|------------------|
|          | 18"              | 24"              | 30"              | 36"              | 42"              | 48"              |
| 5/8      | 101-00090040-404 | 101-00090874-404 | 101-00090684-404 | 101-00090541-404 | 101-00090855-404 | 101-00090856-404 |
| 3/4      | 101-00090720-404 | 101-00090857-404 | 101-00090858-404 | 101-00090859-404 | 101-00090860-404 | 101-00090861-404 |
| 1        | 101-00090739-404 | 101-00090480-404 | 101-00090862-404 | 101-00090852-404 | 101-00090863-404 | 101-00090864-404 |
| 1 1/4    | 101-00090865-404 | 101-00090866-404 | 101-00090867-404 | 101-00090828-404 | 101-00090868-404 | 101-00090869-404 |
| 1 1/2    | 101-00090870-404 | 101-00090721-404 | 101-00090871-404 | 101-00090872-404 | 101-00090873-404 | 101-00090407-404 |



# Flanged Coupling Adapter

## Ductile Iron (OMNI compatible gasket)

# 912

**Description:** Cast flanged coupling adapter

**Application:** For joining plain end pipe to flanged valves and fitting

### Key Features:

- Heavy cast Ductile Iron parts for long life
- Shipped complete, including flange bolt
- Meets applicable AWWA C219 Standards
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- Provides a quick means of removing and reinstalling a flanged fitting already in line
- Compatible with Omni Coupling System gaskets to give your inventory more flexibility
- Most applications are stab fit making installation easy . No disassembly required for other application types
- One body per nominal pipe size takes the guess work out of deciding which body to choose. Just add the correct color flanges and Omni gasket
- Follower flanges are color coded by general pipe type. Blue for ductile O.D., red for iron pipe size O.D. and gray for Asbestos Cement O.D.
- Coupling end helps relieve stress, absorbs vibration and accepts deflection in the piping system
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connections

### Materials Specifications (subject to change)

**BODY:** Ductile Iron ASTM A536, bolt circle, bolt size and spacing conform to ANSI 1b. flange drilling

**FOLLOWER:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic hydrocarbon fluids and other chemicals

Temperature Range: -20°F to 180°F. **NOTE: Consult manufacturer for specific applications or other service temperatures.**

**O-RING:** Nitrile

**BOLTS & NUTS:** Carbon Steel ASTM A307 electrogalvanized with di-chromate seal.

#### **Optional 304 Stainless Steel**

**TEE BOLTS:** Ductile Iron

**CROSS BOLTS:** Ductile Iron

**STUDS:** ASTM A193 Grade B7 electrogalvanized with dichromate seal. **Optional 304 Stainless Steel**

**FINISH:** Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI.

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12



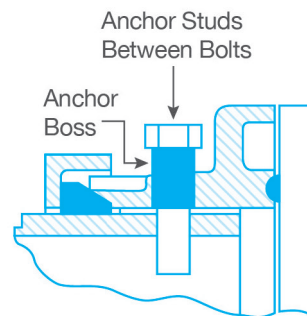
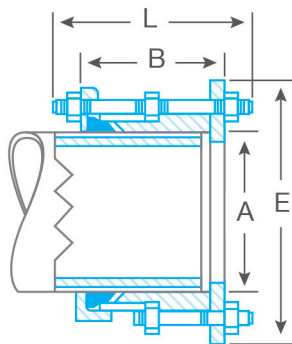
912

# Flanged Coupling Adapter

Ductile Iron (OMNI compatible gasket)

Uses Cross Bolts and T-Bolts

| NOM<br>SIZE INCHES | O.D.<br>RANGE<br>INCHES | CATALOG NUMBER   | WEIGHT<br>EACH LBS. | OPTIONAL ANCHOR STUDS |      | DIMENSIONS/INCHES |       |        |        |
|--------------------|-------------------------|------------------|---------------------|-----------------------|------|-------------------|-------|--------|--------|
|                    |                         |                  |                     | QTY                   | *PSI | A                 | B     | E      | L      |
| 3                  | 2.85-3.13               | 912-91031303-000 | 17                  | N/A                   | N/A  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                    | 3.44-3.62               | 912-91035003-000 | 17                  | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                    | 3.80-3.96               | 912-91039603-000 | 17                  | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                    | 3.97-4.14               | 912-91041403-000 | 17                  | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
| 4                  | 4.00-4.15               | 912-91041504-000 | 22                  | N/A                   | N/A  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                    | 4.22-4.50               | 912-91045004-000 | 22                  | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                    | 4.46-4.86               | 912-91048604-000 | 22                  | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                    | 4.80-5.10               | 912-91051004-000 | 22                  | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
| 6                  | 6.00-6.15               | 912-91061506-000 | 29                  | 2                     | 125  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                    | 6.28-6.63               | 912-91066306-000 | 29                  | N/A                   | N/A  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                    | 6.56-6.96               | 912-91069606-000 | 29                  | 2                     | 175  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                    | 6.90-7.20               | 912-91072006-000 | 29                  | 2                     | 175  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
| 8                  | 8.00                    | 912-91080008-000 | 40                  | N/A                   | N/A  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                    | 8.40-8.63               | 912-91086308-000 | 40                  | 2                     | 100  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                    | 8.54-9.11               | 912-91091108-000 | 40                  | 2                     | 100  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                    | 9.05-9.40               | 912-91094008-000 | 40                  | 2                     | 175  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
| 10                 | 10.00                   | 912-91100010-000 | 60                  | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                    | 10.50-10.75             | 912-91107510-000 | 60                  | 4                     | 100  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                    | 11.10-11.60             | 912-91116010-000 | 60                  | 4                     | 120  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                    | 11.65-11.88             | 912-91118810-000 | 60                  | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                    | 11.90-11.95             | 912-91119510-000 | 60                  | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
| 12                 | 12.00                   | 912-91120012-000 | 80                  | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |
|                    | 12.50-12.75             | 912-91127512-000 | 80                  | 6                     | 100  | 14                | 4     | 18 3/4 | 6 3/8  |
|                    | 13.20-13.50             | 912-91135012-000 | 80                  | 6                     | 100  | 14                | 4     | 18 3/4 | 6 3/8  |
|                    | 13.50-13.75             | 912-91137512-000 | 80                  | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |
|                    | 13.90-14.20             | 912-91142012-000 | 80                  | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |



Anchor studs will be installed at the factory on customer request only.

### Uses Studs Instead of Cross Bolts

| NOM SIZE INCHES | O.D. RANGE INCHES | CATALOG NUMBER   | WEIGHT EACH LBS. | OPTIONAL ANCHOR STUDS |      | DIMENSIONS/INCHES |       |        |        |
|-----------------|-------------------|------------------|------------------|-----------------------|------|-------------------|-------|--------|--------|
|                 |                   |                  |                  | QTY.                  | *PSI | A                 | B     | E      | L      |
| 3               | 2.85-3.13         | 912-90031303-000 | 17               | N/A                   | N/A  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                 | 3.44-3.62         | 912-90035003-000 | 17               | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                 | 3.80-3.96         | 912-90039603-000 | 17               | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
|                 | 3.97-4.14         | 912-90041403-000 | 17               | 2                     | 175  | 3 7/8             | 3     | 7 3/4  | 4 9/16 |
| 4               | 4.00-4.15         | 912-90041504-000 | 22               | N/A                   | N/A  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                 | 4.22-4.50         | 912-90045004-000 | 22               | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                 | 4.46-4.86         | 912-90048604-000 | 22               | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
|                 | 4.80-5.10         | 912-90051004-000 | 22               | 2                     | 175  | 5 1/4             | 3     | 9 1/32 | 4 7/8  |
| 6               | 6.00-6.15         | 912-90061506-000 | 29               | N/A                   | N/A  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                 | 6.28-6.63         | 912-90066306-000 | 29               | 2                     | 125  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                 | 6.56-6.96         | 912-90069606-000 | 29               | N/A                   | 175  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
|                 | 6.90-7.20         | 912-90072006-000 | 29               | 2                     | 175  | 7 1/4             | 3 1/2 | 10 7/8 | 5 3/4  |
| 8               | 8.00              | 912-90080008-000 | 40               | N/A                   | N/A  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                 | 8.40-8.63         | 912-90086308-000 | 40               | 2                     | 100  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                 | 8.54-9.11         | 912-90091108-000 | 40               | 2                     | 100  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
|                 | 9.05-9.40         | 912-90094008-000 | 40               | 2                     | 175  | 9 13/32           | 3 1/2 | 13 3/8 | 5 7/8  |
| 10              | 10.00             | 912-90100010-000 | 60               | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                 | 10.50-10.75       | 912-90107510-000 | 60               | 4                     | 100  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                 | 11.10-11.60       | 912-90116010-000 | 60               | 4                     | 120  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                 | 11.65-11.88       | 912-90118810-000 | 60               | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
|                 | 11.90-11.95       | 912-90119510-000 | 60               | N/A                   | N/A  | 11 5/8            | 4     | 15 7/8 | 6 3/8  |
| 12              | 12.00             | 912-90120012-000 | 80               | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |
|                 | 12.50-12.75       | 912-90127512-000 | 80               | 6                     | 100  | 14                | 4     | 18 3/4 | 6 3/8  |
|                 | 13.20-13.50       | 912-90135012-000 | 80               | 6                     | 100  | 14                | 4     | 18 3/4 | 6 3/8  |
|                 | 13.50-13.75       | 912-90137512-000 | 80               | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |
|                 | 13.90-14.20       | 912-90142012-000 | 80               | N/A                   | N/A  | 14                | 4     | 18 3/4 | 6 3/8  |

### OMNI Nuts

| NOMINAL SIZE INCHES | SIZE INCHES | +NUT ELECTRO-GALVANIZED | +NUT STAINLESS STEEL | +NUT LOW ALLOY |
|---------------------|-------------|-------------------------|----------------------|----------------|
| 3" - 4"             | 5/8         | 100025-001              | 100025-202           | 100025-005     |
| 6" - 8"             | 3/4         | 100032-001              | 100032-202           | 100032-005     |
| 10" - 12"           | 7/8         | 100072-001              | 100072-202           | 100072-005     |

OMNI Parts

| NOMINAL SIZE INCHES | O.D. RANGE INCHES | FOLLOWER FLANGE PART NUMBER | BODY PART NUMBER | "O" RING FLANGE GASKET NUMBER | BOLT OR STUD PART NUMBER* | CPLG. GASKET PART NUMBER | CROSS BOLT PART NUMBER | TEE BOLT PART NUMBER     |
|---------------------|-------------------|-----------------------------|------------------|-------------------------------|---------------------------|--------------------------|------------------------|--------------------------|
| 3                   | 2.85-3.13         | 22137-045                   | 60265-045        | 30019-069                     | (4) 90532<br>5/8 x 7      | 34610-069                | (4) 90809<br>5/8 x 7   | -                        |
|                     | 3.44-3.62         | 22137-045                   | 60265-045        | 30019-069                     |                           | 33829-069                |                        |                          |
|                     | 3.80-3.96         | 22138-045                   | 60265-045        | 30019-069                     |                           | 33830-069                |                        |                          |
|                     | 3.97-4.14         | 22138-045                   | 60265-045        | 30019-069                     |                           | 33831-069                |                        |                          |
| 4                   | 3.96-4.15         | 22139-045                   | 60266-045        | 30023-069                     | (4) 90364                 | 33809-069                | (4) 90809<br>5/8 x 7   | (4) 90812<br>5/8 x 3     |
|                     | 4.22-4.50         | 22139-045                   | 60266-045        | 30023-069                     | 5/8 x 3                   | 33810-069                |                        |                          |
|                     | 4.46-4.86         | 22575-045                   | 60266-045        | 30023-069                     | (4) 90532                 | 34578-069                |                        |                          |
|                     | 4.80-5.10         | 22140-045                   | 60266-045        | 30023-069                     | 5/8 x 7                   | 33811-069                |                        |                          |
| 6                   | 6.00-6.15         | 22141-045                   | 60267-045        | 30024-069                     | (4) 90536                 | 33801-069                | (4) 90810<br>3/4 x 8   | (4) 90813<br>3/4 x 3 1/4 |
|                     | 6.28-6.63         | 22141-045                   | 60267-045        | 30024-069                     | 3/4 x 3 1/4               | 33802-069                |                        |                          |
|                     | 6.56-6.96         | 22576-045                   | 60267-045        | 30024-069                     | (4) 90533                 | 34579-069                |                        |                          |
|                     | 6.90-7.20         | 22142-045                   | 60267-045        | 30024-069                     | 3/4 x 8                   | 33803-069                |                        |                          |
| 8                   | 8.00-8.16         | 22144-045                   | 60268-045        | 30025-069                     | (4) 90536                 | 33805-069                | (4) 90810<br>3/4 x 8   | (4) 90813<br>3/4 x 3 1/4 |
|                     | 8.40-8.63         | 22144-045                   | 60268-045        | 30025-069                     | 3/4 x 3 1/4               | 33806-069                |                        |                          |
|                     | 8.54-9.11         | 22577-045                   | 60268-045        | 30025-069                     | (4) 90533                 | 34580-069                |                        |                          |
|                     | 9.05-9.40         | 22145-045                   | 60268-045        | 30025-069                     | 3/4 x 8                   | 33846-069                |                        |                          |
| 10                  | 10.00             | 22147-045                   | 60269-045        | 30026-069                     | (6) 90537                 | 33860-069                | (6) 90811<br>7/8 x 9   | (6) 90814<br>7/8 x 3 3/4 |
|                     | 10.50-10.75       | 22147-045                   | 60269-045        | 30026-069                     | 7/8 x 3 3/4               | 33813-069                |                        |                          |
|                     | 11.10-11.60       | 22148-045                   | 60269-045        | 30026-069                     |                           | 33814-069                |                        |                          |
|                     | 11.65-11.88       | 22149-045                   | 60269-045        | 30026-069                     | (6) 90534                 | 33815-069                |                        |                          |
|                     | 11.90-11.95       | 22149-045                   | 60269-045        | 30026-069                     | 7/8 x 9                   | 33816-069                |                        |                          |
| 12                  | 12.00             | 22150-045                   | 60270-045        | 30027-069                     | (6) 90537                 | 33859-069                | (6) 90811<br>7/8 x 9   | (6) 90814<br>7/8 x 3 3/4 |
|                     | 12.50-12.75       | 22150-045                   | 60270-045        | 30027-069                     | 7/8 x 3 3/4               | 33817-069                |                        |                          |
|                     | 13.20-13.50       | 22151-045                   | 60270-045        | 30027-069                     |                           | 33820-069                |                        |                          |
|                     | 13.51-13.75       | 22151-045                   | 60270-045        | 30027-069                     | (6) 60534                 | 33821-069                |                        |                          |
|                     | 13.90-14.20       | 22152-045                   | 60270-045        | 30027-069                     | 7/8 x 9                   | 33818-069                |                        |                          |





# Flanged Coupling Adapter

## Steel

# 913



**Description:** Fabricated Steel flanged coupling adapter

**Application:** For joining plain end pipe to flanged valves and fitting

### Key Features:

- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your needs
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

**BODY:** Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI **FLANGE:** 3" thru 5" **Sizes:** ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling **FOLLOWER:** 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020 **GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and many other chemicals

**Temperature Range:** -20 to +180

**BOLTS & NUTS:** High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

**FINISH:** Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and design

**Pipe Applications:** Steel, Cast Iron, Ductile Iron, Abestos Cement, PVC

**Sizes (in inches):** 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24. **NOTE:** Larger sizes available upon request.



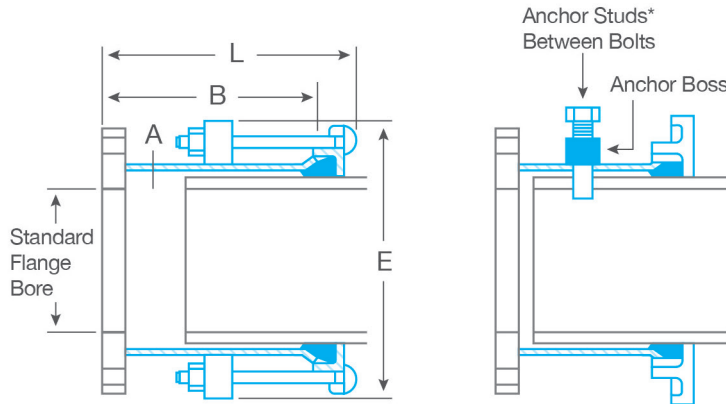
# Flanged Coupling Adapter

Steel

913

| NOM SIZE INCHES | OD RANGE INCHES | NOM FLANGE SIZE INCHES | CATALOG NUMBER   | WEIGHT EACH LBS. | OPTIONAL |      | DIMENSIONS/INCHES |          |        |        |
|-----------------|-----------------|------------------------|------------------|------------------|----------|------|-------------------|----------|--------|--------|
|                 |                 |                        |                  |                  | QTY.     | *PSI | A                 | B        | E      | L      |
| 3               | 3.44-3.56       | 3                      | 913-03500300-003 | 18               | 2        | 275  | 0.203             | 7 11/16  | 8 1/2  | 9      |
| 4               | 3.94-4.06       | 4                      | 913-04000400-003 | 24               | 2        | 275  | .203              | 7 11/16  | 9      | 9      |
|                 | 4.44-4.56       | 4                      | 913-04500400-003 | 24               | 2        | 275  | .203              | 7 11/16  | 9      | 9      |
|                 | 4.74-4.86       | 4                      | 913-04800400-003 | 24               | 2        | 275  | 1/4               | 7 11/16  | 9 3/4  | 9      |
| 5               | 5.49-5.62       | 5                      | 913-05560500-003 | 27               | 2        | 250  | 1/4               | 10 11/16 | 10 1/4 | 12     |
| 6               | 5.94-6.06       | 6                      | 913-06000600-003 | 36               | 2        | 210  | 1/4               | 10 11/16 | 11 5/8 | 12     |
|                 | 6.57-6.69       | 6                      | 913-06630600-003 | 38               | 2        | 175  | 1/4               | 10 11/16 | 11 5/8 | 12     |
|                 | 6.84-6.96       | 6                      | 913-06900600-003 | 37               | 2        | 175  | 1/4               | 10 11/16 | 11 5/8 | 12     |
| 8               | 7.94-8.06       | 8                      | 913-08000800-003 | 49               | 4        | 240  | 1/4               | 10 11/16 | 13 5/8 | 12     |
|                 | 8.57-8.70       | 8                      | 913-08630800-003 | 49               | 4        | 206  | 1/4               | 10 11/16 | 13 5/8 | 12     |
|                 | 8.99-9.10       | 8                      | 913-09050800-003 | 52               | 4        | 187  | 1/4               | 10 11/16 | 14     | 12     |
| 10              | 9.94-10.06      | 10                     | 913-10001000-003 | 60               | 4        | 175  | 1/4               | 10 11/16 | 14 3/4 | 12     |
|                 | 10.69-10.81     | 10                     | 913-10751000-003 | 61               | 4        | 175  | 1/4**             | 10 11/16 | 15 1/2 | 12     |
|                 | 11.00-11.25     | 10                     | 913-11101000-003 | 62               | 4        | 175  | 1/4**             | 10 11/16 | 16     | 12     |
| 12              | 11.94-12.06     | 12                     | 913-12001200-003 | 74               | 4        | 175  | 1/4**             | 10 13/16 | 16 3/4 | 12 1/8 |
|                 | 12.63-12.84     | 12                     | 913-12751200-003 | 78               | 4        | 175  | 1/4**             | 10 13/16 | 17 1/2 | 12 1/8 |
|                 | 13.08-13.29     | 12                     | 913-13201200-003 | 82               | 4        | 172  | 1/4**             | 10 13/16 | 18 1/8 | 12 1/4 |
| 14              | 13.88-14.09     | 14                     | 913-14001400-003 | 112              |          |      |                   | 10 15/16 | 18 7/8 | 12 1/4 |
|                 | 15.18-15.39     | 14                     | 913-15301400-003 | 116              |          |      |                   | 10 15/16 | 20 1/8 | 12 1/4 |
|                 | 15.51-15.74     | 14                     | 913-15651400-003 | 120              |          |      |                   | 10 15/16 | 20 1/2 | 12 1/4 |
| 16              | 15.88-16.09     | 16                     | 913-16001600-003 | 130              |          |      |                   | 11       | 20 7/8 | 12 3/8 |
|                 | 17.28-17.49     | 16                     | 913-17401600-003 | 135              |          |      |                   | 11       | 22 1/4 | 12 3/8 |
|                 | 17.68-17.89     | 16                     | 913-17801600-003 | 139              |          |      |                   | 11       | 22 5/8 | 12 3/8 |
| 18              | 17.88-18.09     | 18                     | 913-18001800-003 | 140              |          |      |                   | 11 1/16  | 22 7/8 | 12 1/2 |
|                 | 19.38-19.59     | 18                     | 913-19501800-003 | 146              |          |      |                   | 11 1/16  | 24 3/8 | 12 1/2 |
|                 | 19.80-20.01     | 18                     | 913-19921800-003 | 152              |          |      |                   | 11 1/16  | 24 7/8 | 12 1/2 |
| 20              | 19.88-20.09     | 20                     | 913-20002000-003 | 160              |          |      |                   | 11 1/8   | 24 7/8 | 12 1/2 |
|                 | 21.48-21.69     | 20                     | 913-21602000-003 | 155              |          |      |                   | 11 1/8   | 26 1/2 | 12 5/8 |
|                 | 21.94-22.15     | 20                     | 913-22062000-003 | 154              |          |      |                   | 11 1/8   | 27     | 12 5/8 |
| 24              | 23.88-24.09     | 24                     | 913-24002400-003 | 197              |          |      |                   | 11 1/4   | 28 7/8 | 12 3/4 |
|                 | 25.68-25.89     | 24                     | 913-25802400-003 | 204              |          |      |                   | 11 1/4   | 30 5/8 | 12 3/4 |
|                 | 26.20-26.41     | 24                     | 913-26322400-003 | 207              |          |      |                   | 11 1/4   | 31 1/8 | 12 1/4 |

NOTE: For higher pressures or sizes larger than 12", contact Smith-Blair, Inc.



\*Pipe must be drilled in order to use anchor studs.



# Flanged Coupling Adapter

## Reducing

# 914

**Description:** Fabricated Steel, reducing flanged coupling adapter

### Application:

Reducing style flanged coupling adapter for joining plain-end pipe to flanged valves and fittings

### Key Features:

- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your need
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

**BODY:** Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

**FLANGE:** 3" thru 5" sizes: ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling

**FOLLOWER:** 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbon fluids and many other chemicals

**Temperature Range:** -20 to +180

**BOLTS & NUTS:** High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

**FINISH:** Flexi-Coat® Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 150 PSI, according to size and design.

**Pipe Applications:** All types of pipe. *Contact Smith-Blair Engineering for any questions.*

**Sizes (in inches):** See attached charts for dimensional data



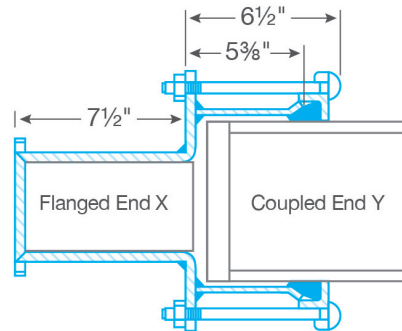


# Flanged Coupling Adapter

## Reducing

914

| COUPLING END ONLY "Y" |              |                  | FLANGED END ONLY "X" |              |                  |
|-----------------------|--------------|------------------|----------------------|--------------|------------------|
| O.D. RANGE INCHES     | CATALOG CODE | WEIGHT EACH LBS. | FLANGE SIZE INCHES   | CATALOG CODE | WEIGHT EACH LBS. |
| 3.44-3.56             | 914-0350     | 16               | 3                    | 3            | 12               |
| 3.90-4.06             | 914-0396     | 16               | 4                    | 4            | 17               |
| 4.44-4.56             | 914-0450     | 17               | 5                    | 5            | 21               |
| 4.74-4.86             | 914-0480     | 18               | 6                    | 6            | 18               |
| 4.94-5.06             | 914-0500     | 23               | 8                    | 8            | 26               |
| 5.04-5.16             | 914-0510     | 23               | 10                   | 10           | 27               |
| 5.49-5.62             | 914-0556     | 23               | 12                   | 12           | 40               |
| 5.94-6.06             | 914-0600     | 29               | 14                   | 14           | 53               |
| 6.57-6.69             | 914-0663     | 29               | 16                   | 16           | 63               |
| 6.84-6.96             | 914-0690     | 29               | 18                   | 18           | 65               |
| 7.04-7.17             | 914-0710     | 29               | 20                   | 20           | 78               |
| 7.94-8.06             | 914-0800     | 30               | 22                   | 22           | 84               |
| 8.57-8.70             | 914-0863     | 37               | 24                   | 24           | 100              |
| 8.99-9.10             | 914-0905     | 38               |                      |              |                  |
| 9.24-9.36             | 914-0930     | 39               |                      |              |                  |
| 9.94-10.06            | 914-1000     | 43               |                      |              |                  |
| 10.69-10.81           | 914-1075     | 46               |                      |              |                  |
| 11.04-11.16           | 914-1110     | 49               |                      |              |                  |
| 11.34-11.46           | 914-1140     | 50               |                      |              |                  |
| 11.94-12.06           | 914-1200     | 52               |                      |              |                  |
| 12.63-12.84           | 914-1275     | 56               |                      |              |                  |
| 13.08-13.29           | 914-1320     | 57               |                      |              |                  |
| 13.38-13.59           | 914-1350     | ?                |                      |              |                  |
| 13.88-14.09           | 914-1400     | 70               |                      |              |                  |
| 15.18-15.39           | 914-1530     | 78               |                      |              |                  |
| 15.53-15.74           | 914-1565     | 80               |                      |              |                  |
| 15.88-16.09           | 914-1600     | 82               |                      |              |                  |
| 17.28-17.49           | 914-1740     | 91               |                      |              |                  |
| 17.68-17.89           | 914-1780     | 93               |                      |              |                  |
| 17.88-18.09           | 914-1800     | 93               |                      |              |                  |
| 19.38-19.59           | 914-1950     | 105              |                      |              |                  |
| 19.80-20.01           | 914-1992     | 108              |                      |              |                  |
| 19.88-20.09           | 914-2000     | 108              |                      |              |                  |
| 21.48-21.69           | 914-2160     | 119              |                      |              |                  |
| 21.88-22.09           | 914-2200     | 121              |                      |              |                  |
| 21.94-22.15           | 914-2206     | 121              |                      |              |                  |
| 23.88-24.09           | 914-2400     | 143              |                      |              |                  |
| 25.68-25.89           | 914-2580     | 155              |                      |              |                  |
| 26.20-26.41           | 914-2632     | 159              |                      |              |                  |
| 29.88-30.09           | 914-3000     | 190              |                      |              |                  |
| 31.88-32.09           | 914-3200     | 207              |                      |              |                  |



### How to Order

Example: You require a flanged coupling adapter to connect 12" Steel pipe to an 8" flanged fitting

1. Determine the Code Number

- The 12"-12.75" O.D. pipe would fit the O.D. range 12.63-12.84.

- The code number for the O.D. range is 914-1275.

- The 8" flanged end has the code number 08

- Combine the two code numbers and add 003 to the end (-003 represents our standard Flexi-Coat finish, alloy bolts and nuts and NSF Buna N gasket).

- Final catalog number is: 914-127500-08

2. Determine shipping weight

914-1275 = 56 lbs.

08 = 26 lbs.

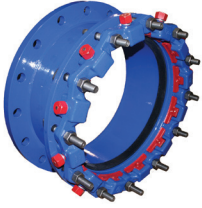
Total Weight = 82 lbs.

- Large sizes and sizes to fit O.D. ranges not listed are available upon request.

- Reductions of more than three nominal pipe sizes require special pricing.

Bolts, nuts and gasket for flange end not supplied.

Suitable anchorage must be provided when excessive pipe movement could occur.



# Flange-Lock Mechanical Joint Coupling

## Adapter with Cam-Lock Joint Restraint

# 920

**Description:** Mechanical joint coupling with Cam-Lock Joint Restraint.

**Application:** For connecting plain end D.I. to plain-end PVC

### Key Features:

- Mechanical restraint shall be an integral part of the follower gland utilizing multiple single tooth wedges
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Breakaway nut torque per wedge is 40 to 60 ft. lbs.
- Coupling is rated the working pressure of the pipe to a 2:1 safety factor
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. Flat face

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

GLAND: 65-45-12 Ductile Iron (ASTM A536)

WEDGES: Single tooth, Ductile Iron, heat treated for Ductile Iron pipe applications

BOLTS: 60-40-18 Ductile Iron (ASTM A536)

BREAKAWAY NUTS: Carbon Steel or Cast Iron

FINISH: Gland is Flexi-Coat® Fusion-Bonded Epoxy, per AWWA C213; Wedges & Bolts are E-coated Epoxy

### Kit Specifications

GASKET: SBR Standard Mechanical Joint. AWWA C111 and ANSI A21. 11 SBR or Multi-Seal Gasket

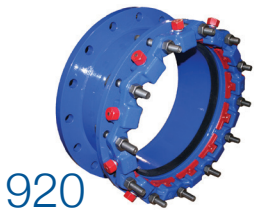
T-BOLTS: High Strength, low alloy per AWWA C111; **Optional: 304 Stainless Steel, fluoropolymer coated**

**Pipe Applications:** Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36

**Working Pressure:** Through 30" 150 PSI; 36" 125 PSI, both at 1.5:1 Safety Factor

**Deflection** Assembled joints into each follower gland through 12" shall allow for 5 degree deflection, 3 degrees 14" through 24", 1.5 degrees 18"-24", 1 degree 30"-48".



920

# Flange-Lock Mechanical Joint Coupling

## Adapter with Cam-Lock Joint Restraint

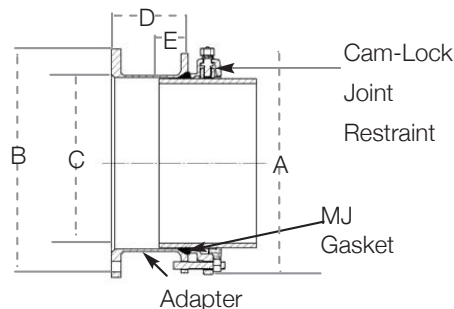
### Restraint FCA for PVC Pipe

| NOM. PIPE SIZE (IN.) | O.D. RANGE (IN.) | NOM. FLANGE RANGE (IN.) | CATALOG NUMBER   | WEIGHT EACH (LBS) | DIMENSIONS/INCHES |       |      |      |      | MAX. JOINT DEFLECTION |
|----------------------|------------------|-------------------------|------------------|-------------------|-------------------|-------|------|------|------|-----------------------|
|                      |                  |                         |                  |                   | A1                | B     | C    | D    | E2   |                       |
| 3                    | 3.50             | 3                       | 920-03500300-000 | 26                | 9.82              | 7.50  | 4.62 | 7.88 | 3.00 | 5°                    |
| 4                    | 4.50-4.80        | 4                       | 920-04800400-100 | 35                | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5°                    |
| 4                    | 4.50             | 4                       | 920-04500400-000 | 35                | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5°                    |
| 4                    | 4.80             | 4                       | 920-04800400-000 | 35                | 10.67             | 9.00  | 5.00 | 7.88 | 3.00 | 5°                    |
| 6                    | 6.63-6.90        | 6                       | 920-06900600-100 | 49                | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5°                    |
| 6                    | 6.63             | 6                       | 920-06630600-000 | 49                | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5°                    |
| 6                    | 6.90             | 6                       | 920-06900600-000 | 49                | 11.19             | 11.00 | 7.03 | 7.88 | 3.00 | 5°                    |
| 8                    | 8.63-9.05        | 8                       | 920-09050800-100 | 62                | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5°                    |
| 8                    | 8.63             | 8                       | 920-08630800-000 | 62                | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5°                    |
| 8                    | 9.05             | 8                       | 920-09050800-000 | 62                | 13.29             | 13.50 | 9.25 | 7.88 | 3.00 | 5°                    |

- 1 Overall with twist-off nuts removed
  - 2 Minimum pipe insertion from flange fac
  - 3 Maximum deflection achieved at minimum pipe insertion
- Other sizes and sleeve lengths (D) available.

### Restraint FCA for Ductile Iron O.D. PVC Pipe

| NOM. PIPE SIZE (IN.) | O.D. RANGE (IN.) | NOM. FLANGE RANGE (IN.) | CATALOG NUMBER   | WEIGHT EACH (LBS) | DIMENSIONS/INCHES |       |       |       |      | MAX. JOINT DEFLECTION DEGREE |
|----------------------|------------------|-------------------------|------------------|-------------------|-------------------|-------|-------|-------|------|------------------------------|
|                      |                  |                         |                  |                   | A                 | B     | C     | D     | E    |                              |
| 10                   | 10.25-11.10      | 10                      | 920-11101000-100 | 86                | 13.29             | 13.50 | 9.25  | 7.88  | 3.00 | 5°                           |
| 10                   | 10.75            | 10                      | 920-10751000-000 | 86                | 16.97             | 16.00 | 11.25 | 7.88  | 3.00 | 5°                           |
| 10                   | 11.10            | 10                      | 920-11101000-000 | 86                | 16.97             | 16.00 | 11.25 | 7.88  | 3.00 | 5°                           |
| 12                   | 12.75-13.20      | 12                      | 920-13201200-100 | 113               | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5°                           |
| 12                   | 12.75            | 12                      | 920-12751200-000 | 113               | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5°                           |
| 12                   | 13.20            | 12                      | 920-13201200-000 | 113               | 19.07             | 19.00 | 13.38 | 7.88  | 3.00 | 5°                           |
| 14                   | 15.30            | 14                      | 920-15301400-000 | 136               | 21.18             | 21.00 | 15.50 | 7.88  | 3.00 | 2°                           |
| 16                   | 17.40            | 16                      | 920-17401600-000 | 165               | 23.28             | 23.50 | 17.59 | 7.88  | 3.00 | 2°                           |
| 18                   | 19.50            | 18                      | 920-19501800-000 | 178               | 25.98             | 25.00 | 19.69 | 7.88  | 3.00 | 1.5°                         |
| 20                   | 21.60            | 20                      | 920-21602000-000 | 209               | 28.08             | 27.50 | 21.78 | 7.88  | 3.00 | 1.5°                         |
| 24                   | 25.80            | 24                      | 920-25802400-000 | 268               | 32.28             | 32.00 | 26.00 | 7.88  | 3.00 | 1°                           |
| 30                   | 32.00            | 30                      | 920-32003000-000 | 566               | 39.42             | 38.75 | 32.20 | 11.13 | 3.00 | 1°                           |
| 36                   | 38.30            | 36                      | 920-38303600-000 | 752               | 46.29             | 46.00 | 38.50 | 11.13 | 3.00 | 1°                           |





Double-acting bolt version not shown

# Top Bolt® FCA

## With Double Acting Bolt Technology

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

# 921



Double-acting bolts close in two directions at once, lowering installation times.

**Description:** A fabricated Steel flanged coupling adapter that can seal a wide range of pipe ODs in a nominal size.

**Application:** Connects a wide variety of plain-end pipe to flanged fittings, meters, valves and other flanged equipment

### Key Features:

- Removable/replaceable channeled inner gaskets which makes the 921 the only FCA in which you can remove the inner gasket without changing the part
- Bi-directional gaskets can be inserted either way; less chance for mistakes
- Corrugated armor design to reduce friction between gaskets and armor for better seating and to prevent finish gouging
- Lightweight construction for easier handling; quicker job installations
- Two-piece flange design (coupling end) that can be disassembled on job site for gasket replacement, if required
- Stab-Fit which makes pipe fitting easier and quicker
- Proprietary Flexi-Coat® Fusion-Bonded coating on body and hardware to reduce friction and help prevent corrosion points

### Materials Specifications (subject to change)

SLEEVE: Carbon Steel

FLANGE: 3"-12" AWWA C207 Class D ANSI 150 lb. drilling. 2" size is standard meter coupling flange

RING: Carbon Steel

GASKET: Nitrile (Buna N) certified to NSF/ANSI 61/372

BOLTS: 304 Stainless Steel with Flexi-Coat® Fusion bonded Epoxy Finish

NUTS: Heavy hex head, 304 Stainless Steel, fluoropolymer coating

FINISH: Flexi-Coat®, Smith-Blair's proprietary Fusion-Bonded epoxy finish, 12-15 mils thick

**Pipe Applications:** Ductile Iron, Steel, PVC, Copper, Asbestos Cement, HDPE (with pipe stiffeners)

**Sizes (in inches):** 2, 3, 4, 6, 8, 10, 12

**Pressure Ratings:** 175 PSI

921



Double-acting bolt version not shown

# Top Bolt® FCA

## With Double Acting Bolt Technology

PATENT NO. 8,528,945 / 8,776,351 / 8,789,832

### Standard

| NOMINAL SIZE (IN.) | CATALOG NUMBER   | OVERALL RANGE (IN.) | LOWER RANGE (IN.) | UPPER RANGE (IN.) | WIDTH (IN.) | HEIGHT (IN.) | FLANGE DIAMETER (IN.) | LAYING LENGTH (IN.) | MIN. PIPE INSERTION (IN.) | WEIGHT BOXED (LBS.) |
|--------------------|------------------|---------------------|-------------------|-------------------|-------------|--------------|-----------------------|---------------------|---------------------------|---------------------|
| 2                  | 921-02950200-031 | 2.13 - 2.95         | 2.13 - 2.60       | 2.50 - 2.95       | 5.38        | 7.25         | 6.00                  | 6.81                | 2.88                      | 8                   |
| 3                  | 921-04200300-031 | 3.10-4.20           | 3.10-3.56         | 3.70-4.20         | 6.88        | 8.38         | 7.50                  | 5.38                | 3.38                      | 12                  |
| 4                  | 921-05600400-031 | 4.46-5.60           | 4.46-5.05         | 5.00-5.60         | 8.75        | 10.00        | 9.00                  | 5.50                | 3.50                      | 17                  |
| 6                  | 921-07600600-031 | 6.56-7.60           | 6.56-7.05         | 7.00-7.60         | 10.88       | 12.13        | 11.00                 | 6.56                | 3.50                      | 23                  |
| 8                  | 921-09850800-031 | 8.54-9.85           | 8.54-9.15         | 9.15-9.85         | 13.13       | 14.38        | 13.50                 | 6.56                | 3.50                      | 30                  |
| 10                 | 921-11831000-031 | 10.64-11.83         | 10.64-11.18       | 11.13-11.83       | 15.50       | 16.50        | 16.00                 | 6.56                | 3.50                      | 37                  |
| 12                 | 921-13671200-031 | 12.62-13.67         | 12.62-13.06       | 13.10-13.67       | 17.63       | 18.75        | 19.00                 | 6.69                | 3.50                      | 50                  |

\*Working Pressure: 175 PSI

### Metric

| NOM. SIZE (MM) | CATALOG NUMBER   | OVERALL RANGE (MM) | LOWER RANGE (MM)  |                      | UPPER RANGE (MM)  |                      | WIDTH (MM) | HEIGHT (MM) | SLEEVE LENGTH (MM) | LAYING LENGTH (MM) | MAX GAP (MM) | WT (KG) |
|----------------|------------------|--------------------|-------------------|----------------------|-------------------|----------------------|------------|-------------|--------------------|--------------------|--------------|---------|
| 50             | 921-02130295-031 | 54 - 75            | 54 - 66           |                      | 64 - 75           |                      | 137        | 184         | 102                | 191                | 25           | 4       |
| 80             | 921-03100420-031 | 79 - 107           | 79 - 90           |                      | 94 - 107          |                      | 175        | 213         | 152                | 241                | 51           | 5       |
| 100            | 921-04460560-031 | 113 - 142          | 113 - 128         |                      | 127 - 142         |                      | 222        | 254         | 152                | 248                | 51           | 9       |
| 150            | 921-06560760-031 | 167 - 193          | 167 - 179         |                      | 178 - 193         |                      | 276        | 308         | 203                | 298                | 102          | 12      |
| 200            | 921-08540985-031 | 217 - 250          | 217 - 232         |                      | 232 - 250         |                      | 334        | 365         | 203                | 298                | 102          | 15      |
| 250            | 921-10641183-031 | 270 - 300          | 270 - 284         |                      | 283 - 300         |                      | 394        | 419         | 203                | 298                | 102          | 17      |
| 250 X 250 OS   | 921-10641220-031 | 270 - 310          | 250:<br>270 - 284 | 250 OS:<br>281 - 294 | 250:<br>283 - 300 | 250 OS:<br>294 - 310 | 410        | 438         | 203                | 298                | 102          | 19      |
| 300            | 921-12621367-031 | 321 - 347          | 321 - 332         |                      | 333 - 347         |                      | 448        | 476         | 203                | 298                | 102          | 21      |
| 300 X 300 OS   | 921-12621440-031 | 300 - 366          | 300:<br>321 - 332 | 300 OS:<br>334 - 350 | 300:<br>333 - 347 | 300 OS:<br>349 - 366 | 470        | 492         | 203                | 298                | 102          | 22      |





# Flange-Lock<sup>®</sup> Mechanical Joint Coupling

FCA Body Only

## 923

**Description:** Flanged x MJ coupling adapter body.

**Application:** Combines with standard mechanical joint restraint, MJ gaskets, and t-bolts to produce a flanged coupling adapter with restraint.

### Key Features:

- Adapter body allows pipe to completely pass through for easier installation. **The pass through feature is not available with raised-faced flanges**
- Use with the Multi-Seal Gasket for more flexibility in nominal sizes 4"-12"
- Coupling is rated to a 150 PSI working pressure with a 2:1 safety factor
- Longer sleeves available

### Materials Specifications (subject to change)

SLEEVE: ASTM A36 A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FLANGE: \*AWWA C207 Class D, ANSI 150 lb. drilling. Flat face

FINISH: Flexi-Coat<sup>®</sup>, Fusion-Bonded epoxy

**Pipe Applications:** PVC, Steel, and Ductile iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48. (36" PVC: 125 PSI)

**Working Pressure:** 4-24" at PVC pressure rating of up to 250 PSI.; 30" 150 PSI ; 36" 125 PSI.

**Deflection** Assembled joints into each follower gland through 12" shall allow for 5 degree deflection, degrees 14" through 24", 1.5 degrees 18"-24", 1 degree 30"-48".

**NOTE:** \*300 lb. flanges available for 300 PSI applications. For other flanges, contact Smith-Blair for specific details and pricing. The pass-through feature may not be available with some flanges. 300 PSI rating is limited to series 911 on Ductile Iron pipe only though 16". All 18"-48" 911 on Ductile Iron pipe applications will be limited to 250 PSI. All 911 on Steel pipe 3"-12" and all 920 on PVC applications through 24" will be limited to 250 PSI, 150 PSI on 30" and 125 PSI on 36".

923



# Flange-Lock<sup>®</sup> Mechanical Joint Coupling

FCA Body Only

| NOM. PIPE SIZE (IN.) | O.D. RANGE (IN.) | NOM. FLANGE RANGE (IN.) | CATALOG NUMBER   | WEIGHT EACH (LBS) | DIMENSIONS/INCHES |       |       |      |
|----------------------|------------------|-------------------------|------------------|-------------------|-------------------|-------|-------|------|
|                      |                  |                         |                  |                   | NEED TITLE        | C     | D     | E2   |
| 14                   | 15.30            | 14                      | 923-00001400-000 | 80                | 21.00             | 15.50 | 7.88  | 3.00 |
| 16                   | 17.40            | 16                      | 923-00001600-000 | 97                | 23.50             | 17.59 | 7.88  | 3.00 |
| 18                   | 19.50            | 18                      | 923-00001800-000 | 104               | 25.00             | 19.69 | 7.88  | 3.00 |
| 20                   | 21.60            | 20                      | 923-00002000-000 | 122               | 27.50             | 21.78 | 7.88  | 3.00 |
| 24                   | 25.80            | 24                      | 923-00002400-000 | 157               | 32.00             | 26.00 | 7.88  | 3.00 |
| 30                   | 32.00            | 30                      | 923-00003000-000 | 275               | 38.75             | 32.20 | 11.33 | 3.00 |
| 36                   | 38.30            | 36                      | 923-00003600-000 | 383               | 46.00             | 38.50 | 11.33 | 3.00 |
| 42                   | 44.50            | 42                      | 923-00004200-000 | 506               | 53.00             | 44.70 | 11.33 | 3.00 |
| 48                   | 50.80            | 48                      | 923-00004800-000 | 593               | 59.50             | 51.00 | 11.33 | 3.00 |

1 Overall with twist-off nuts removed

2 Minimum pipe insertion from flange face

3 Maximum deflection achieved at minimum pipe insertion

Other sizes and sleeve lengths (D) available.



# Flexible Meter Coupling

## 926



**Description:** Meter coupling

**Application:** For joining plain-end pipe to oval flanged water meters and joining plain-end pipe to flange valves and fittings

**Key Features:**

- Simple, quick installation of 1½" and 2" flanged meter
- Meter coupling eliminates pipe threading and need of precise cutting or alignment of pipe

**Materials Specifications (subject to change)**

FLANGED BODY AND FOLLOWER: Ductile Iron ASTM A536

GASKET: Nitrile (Buna N)

O-RING: Nitrile (Buna N)

BOLTS & NUTS: High strength low alloy bolts.

FINISH: Flexi-Coat® Fusion-Bonded Epoxy Coat Finish per AWWA C213

**Working Pressure:** Up to 150 PSI.

**Pipe Applications:** PVC, Copper, Steel

**Sizes (in inches):** 1½, 2

926



# Flexible Meter Coupling

| FLANGED<br>METER<br>OUTLET SIZE<br>INCHES | SERVICE SIZE (INCHES) |                     | CATALOG NUMBER | WEIGHT<br>EACH<br>LBS. | LENGTH<br>FLANGE | OD<br>FLANGE | BODY<br>THICKNESS | LENGTH | BOLTS |         |
|---|-----------------------|---------------------|----------------|------------------------|------------------|--------------|-------------------|--------|-------|---------|
|   | NOM. SIZE<br>(INCHES) | PIPE<br>O.D. INCHES |                |                        |                  |              |                   |        | QTY.  | SIZE    |
| 1 1/2                                     | 1 1/2 I.P.            | 1.90                | 926-000190-000 | 5                      | 3 1/2            | 3 3/4        | 7/16              | 1 3/4  | 2     | 5/8 x 5 |
| 2   | 2 CO P.T. or<br>Steel | 2.13                | 926-000213-000 | 6                      | 3 1/2            | 4 1/4        | 7/16              | 1 3/4  | 2     | 5/8 x 5 |
| 2   | 2 I.P.<br>2 C.I.      | 2.37-<br>2.50       | 926-000250-000 | 6                      | 3 1/2            | 4 1/4        | 7/16              | 1 3/4  | 2     | 5/8 x 5 |



# Insulating Flanged Coupling Adapter Ductile Iron

# 932

**Description:** Insulating flanged coupling adapter

**Application:** Insulates steel and cast iron pipe from flanged fittings 3" through 12" sizes

## Key Features:

- Combines our special Grade 60 boot-style insulating gasket with our 912 cast flanged coupling adapter
- Heavy cast Ductile Iron parts for long life
- Shipped complete, including flange bolt
- Meets applicable AWWA C219 Standards
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- Provides a quick means of removing and reinstalling a flanged fitting already in line
- Compatible with Omni Coupling System gaskets to give your inventory more flexibility
- Most applications are stab fit making installation easy. No disassembly required for other application types
- One body per nominal pipe size takes the guesswork out of deciding which body to choose. Just add the correct color flanges and Omni gasket
- Follower flanges are color coded by general pipe type. Blue for ductile O.D. red for iron pipe size O.D. and gray for Asbestos Cement O.D.
- Coupling end helps relieve stress, absorbs vibration and accepts deflection in the piping system
- No need for field fabrications. FC 's work with plain-end pipe to make the flanged connection

## Materials Specifications (subject to change)

**BODY:** Ductile Iron ASTM A536, bolt circle, bolt size and spacing conform to ANSI lb. flange drilling

**FOLLOWER:** Ductile Iron ASTM A536

**GASKET:** Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and other chemicals

**Temperature Range:** -20°F to 180°F. *NOTE: Consult manufacturer for specific applications or other service temperatures.*

**O-RING:** Nitrile

**BOLTS & NUTS:** Carbon Steel ASTM A307 electro-galvanized with di-chromate seal.

### **Optional 304 Stainless Steel**

**TEE BOLTS:** Ductile Iron

**CROSS BOLTS:** Ductile Iron

**STUDS:** ATSM A193 Grade B7 electrogalvanized with di-chromate seal. **Optional 304 Stainless Steel**

**FINISH:** Flexi-Coat®, Fusion-Bonded Epoxy Finish

**Working Pressure:** Up to 250 PSI.

**Pipe Applications:** Steel, Cast Iron, Asbestos Cement, Ductile Iron, PVC

**Sizes (in inches):** 3, 4, 6, 8, 10, 12

*\*Warning: This pipe does not restrain against axial pipe movement.*





# Insulating Flanged Coupling Adapter Steel

## 933

**Description:** Steel insulating flanged coupling adapte

**Application:** Insulates steel and cast iron pipe from flanged fittings 3" and larger

### Key Features:

- Combines a special Grade 60 boot style insulating gasket with our 913 steel flanged coupling adapter
- Meets applicable AWWA C219 Standards
- Pressure rated at 150 PSI +/- working pressure according to design
- Available in straight (913) or reducing (914) styles to fit your need
- Provides a quick means of removing and reinstalling flanged fitting already in line
- Optional anchor studs provide joint restraint capability to secure the plain pipe end
- No need for field fabrications. FC 's work with plain-end pipe to make the flanged connection
- Coupling end helps relieve stress, absorb vibration and accept deflection in the piping system

### Materials Specifications (subject to change)

BODY: Steel ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI FLANGE: 3" thru 5" Sizes: ANSI 150 lb. flat face. 6" and above: AWWA C207 Class D ANSI 150 lb. drilling FOLLOWER: 3" thru 12" sizes—Ductile Iron ASTM A536. 14" and above: heavy rolled Steel AISI C1020 GASKET: Nitrile (Buna N) Certified to NSF/ANSI 61/372. Compounded to p oduce superior storage and performance characteristics while resisting water, acids, alkalies, most (aliphatic) hydrocarbon fluids and many other chemicals

Temperature Range: -20 to +180

BOLTS & NUTS: High strength low alloy Steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSI-A21.11) standards

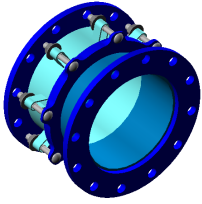
FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI, depending on size and design

**Pipe Applications:** Steel, Cast Iron, Ductile Iron, Abestos Cement, PVC

**Sizes (in inches):** 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24. *NOTE: Larger sizes available upon request.*

*\*Warning: Pipe does not restrain against axial pipe movement*



# Dismantling Joint

## Non-Restrained

# 971

**Description:** Dismantling Joint which is non-restrained.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes and adjusts to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flange gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N)

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

TIE RODS: ASTM A 193 GR B7

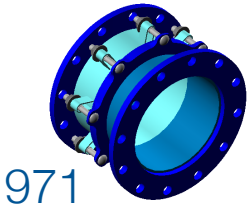
FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213.

**Working Pressure:** Up to 150 PSI.

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72





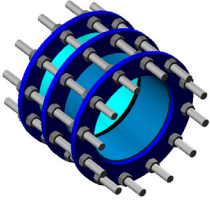
# Dismantling Joint

Non-Restrained

971

| NOMINAL SIZE<br>INCHES | ALLOY BOLTS AND NUTS | 304 STAINLESS STEEL<br>BOLTS AND NUTS | WEIGHT EACH LBS. |
|------------------------|----------------------|---------------------------------------|------------------|
|                        | CATALOG NUMBER       | CATALOG NUMBER                        |                  |
| 3                      | 971-03000300-003     | 971-03000300-031                      | 28               |
| 4                      | 971-04000400-003     | 971-04000400-031                      | 30               |
| 6                      | 971-06000600-003     | 971-06000600-031                      | 48               |
| 8                      | 971-08000800-003     | 971-08000800-031                      | 64               |
| 10                     | 971-10001000-003     | 971-10001000-031                      | 79               |
| 12                     | 971-12001200-003     | 971-12000200-031                      | 116              |
| 14                     | 971-14001400-003     | 971-14001400-031                      | 158              |
| 16                     | 971-16001600-003     | 971-16001600-031                      | 202              |
| 18                     | 971-18001800-003     | 971-18001800-031                      | 221              |
| 20                     | 971-20002000-003     | 971-20002000-031                      | 263              |
| 24                     | 971-24002400-003     | 971-24002400-031                      | 340              |
| 30                     | 971-30003000-003     | 971-30003000-031                      | 510              |
| 36                     | 971-36003600-003     | 971-36003600-031                      | 740              |
| 42                     | 971-42004200-003     | 971-42004200-031                      | 970              |
| 48                     | 971-48004802-003     | 971-48004802-031                      | 1,215            |
| 54                     | 971-54005402-003     | 971-54005402-031                      | 1,660            |
| 60                     | 971-60006002-003     | 971-60006002-031                      | 2,225            |
| 66                     | 971-66006602-003     | 971-66006602-031                      | 2,800            |
| 72                     | 971-72007202-003     | 971-72007202-031                      | 3,230            |





# Dismantling Joint

## Heavy Duty Restrained

# 972

**Description:** Dismantling Joint which with heavy duty joint restraint.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes and adjusts to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flanged gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N)

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

TIE RODS: ASTM A193 GR B7

FINISH: Flexi-Coat®, Fusion-Bonded Epoxy Finish

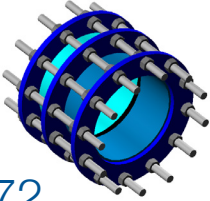
**Working Pressure:** Up to 150 PSI. Other pressures available upon request.

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72.



972



# Dismantling Joint

## Heavy Duty Restrained

| NOMINAL<br>SIZE<br>INCHES | ALLOY BOLTS NUTS AND TIE<br>RODS | 304 STAINLESS STEEL<br>BOLTS, NUTS AND TIE RODS | NO. OF<br>TIE RODS | DIA. X LENGTH OF TIE<br>RODS INCHES | WEIGHT EACH LBS. |
|---------------------------|----------------------------------|---|--------------------|-------------------------------------|------------------|
|                           | CATALOG NUMBER                   |   |                    |                                     |                  |
| 4                         | 972-04500400-003                 | 972-04500400-031                                | 8                  | 5/8 x 14                            | 55               |
| 6                         | 972-06630600-003                 | 972-06630600-031                                | 8                  | 3/4 x 16                            | 84               |
| 8                         | 972-08630800-003                 | 972-08630800-031                                | 8                  | 3/4 x 16                            | 105              |
| 10                        | 972-10751000-003                 | 972-10751000-031                                | 12                 | 7/8 x 18                            | 117              |
| 12                        | 972-12751200-003                 | 972-12751200-031                                | 12                 | 7/8 x 18                            | 158              |
| 14                        | 972-14001400-003                 | 972-14001400-031                                | 12                 | 1 x 24                              | 235              |
| 16                        | 972-16001600-003                 | 972-16001600-031                                | 16                 | 1 x 24                              | 302              |
| 18                        | 972-18001800-003                 | 972-18001800-031                                | 16                 | 1 1/8 x 20                          | 352              |
| 20                        | 972-20002000-003                 | 972-20002000-031                                | 20                 | 1 1/8 x 20                          | 426              |
| 24                        | 972-24002400-003                 | 972-24002400-031                                | 20                 | 1 1/4 x 25                          | 531              |
| 30                        | 972-30003000-003                 | 972-30003000-031                                | 28                 | 1 1/4 x 25                          | 771              |
| 36                        | 972-36003600-003                 | 972-36003600-031                                | 32                 | 1 1/2 x 24                          | 1,156            |
| 42                        | 972-42004200-003                 | 972-42004200-031                                | 36                 | 1 1/2 x 26                          | 1,521            |
| 48                        | 972-48004802-003                 | 972-48004802-031                                | 44                 | 1 1/2 x 26                          | 1,886            |
| 54                        | 972-54005402-003                 | 972-54005402-031                                | 44                 | 1 3/4 x 33                          | 2,936            |
| 60                        | 972-60006002-003                 | 972-60006002-031                                | 52                 | 1 3/4 x 33                          | 3,733            |
| 66                        | 972-66006602-003                 | 972-66006602-031                                | 52                 | 1 3/4 x 33                          | 4,168            |
| 72                        | 972-72007202-003                 | 972-72007202-031                                | 60                 | 1 3/4 x 33                          | 5,780            |



# Dismantling Joint

## Restrained

# 975

**Description:** Dismantling Joint which with heavy duty joint restraint.

**Application:** For valve, pump, meter and other flanged fitting installation

### Key Features:

- Meets Applicable AWWA C219 Standards
- No special tools required
- Made to order, usually in only a few days
- A wide variety of types and sizes available
- Telescopes to adjust to varying dimensions
- Allows some deflection for misaligned assemblies
- Product makes it easy to install a flanged product in a new or existing setting
- Easy to install flanged gaskets with this fitting
- Joints are restrained when tie rods are used to secure the flanged fittings, making other joint restraints unnecessary
- Ideal to use with flanged fittings like butterfly valves and pumps

### Materials Specifications (subject to change)

FLANGED ADAPTER BODY: ASTM A53, ASTM A283 Gr. C or Carbon Steel having a minimum yield of 30,000 PSI

FOLLOWER FLANGE: Ductile Iron per ASTM A536, Steel section per ASTM A576GR1020HR, or Carbon Steel having a minimum yield of 30,000 PSI

GASKET: Nitrile (Buna-N) is standard. Certified to NSF/ANSI 61/372

FLANGE: Per AWWA C207

SPIGOT: ASTM A53, ASTM A512 or Carbon Steel having a minimum yield of 30,000 PSI

STUDS: ASTM A325 or A307

TIE RODS: ASTM A 193 GR B7

FINISH: Flexi-Coat®, Fusion-Bonded epoxy per AWWA C213

**Working Pressure:** Up to 150 PSI

**Pipe Applications:** Steel, Ductile Iron, Cast Iron

**Sizes (in inches):** 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72.





# Dismantling Joint

Restrained

975

| NOMINAL SIZE INCHES | NUMBER OF TIE RODS | DIA. X LENGTH OF TIE RODS INCHES | ALLOY BOLTS AND NUTS AND TIE RODS | 304 STAINLESS STEEL BOLTS AND NUTS AND TIE RODS | WEIGHT EACH LBS. |
|---------------------|--------------------|----------------------------------|-----------------------------------|---|------------------|
|                     |                    |                                  | CATALOG NUMBER                    | CATALOG NUMBER                                  |                  |
| 4                   | 2                  | 5/8 x 14                         | 975-04000400-003                  | 975-04000400-031                                | 35               |
| 6                   | 2                  | 3/4 x 16                         | 975-06000600-003                  | 975-06000600-031                                | 53               |
| 8                   | 2                  | 3/4 x 16                         | 975-08000800-003                  | 975-08000800-031                                | 70               |
| 10                  | 4                  | 7/8 x 18                         | 975-10001000-003                  | 975-10001000-031                                | 100              |
| 12                  | 4                  | 7/8 x 18                         | 975-12001200-003                  | 975-12001200-031                                | 135              |
| 14                  | 4                  | 1 x 24                           | 975-14001400-003                  | 975-14001400-031                                | 195              |
| 16                  | 4                  | 1 x 24                           | 975-16001600-003                  | 975-16001600-031                                | 240              |
| 18                  | 4                  | 1 1/8 x 20                       | 975-18001800-003                  | 975-18001800-031                                | 250              |
| 20                  | 4                  | 1 1/8 x 20                       | 975-20002000-003                  | 975-20002000-031                                | 295              |
| 24                  | 4                  | 1 1/4 x 25                       | 975-24002400-003                  | 975-24002400-031                                | 375              |
| 30                  | 7                  | 1 1/4 x 25                       | 975-30003000-003                  | 975-30003000-031                                | 570              |
| 36                  | 8                  | 1 1/2 x 24                       | 975-36003600-003                  | 975-36003600-031                                | 890              |
| 42                  | 9                  | 1 1/2 x 26                       | 975-42004200-003                  | 975-42004200-031                                | 1,140            |
| 48                  | 11                 | 1 1/2 x 26                       | 975-48004802-003                  | 975-48004802-031                                | 1,420            |
| 54                  | 11                 | 1 3/4 x 33                       | 975-54005402-003                  | 975-54005402-031                                | 1,980            |
| 60                  | 13                 | 1 3/4 x 33                       | 975-60006002-003                  | 975-60006002-031                                | 2,600            |
| 66                  | 13                 | 1 3/4 x 30                       | 975-66006602-003                  | 975-66006602-031                                | 3,175            |
| 72                  | 15                 | 1 3/4 x 42                       | 975-72007202-003                  | 975-72007202-031                                | 3,675            |



# Restrained Flanged Coupling Adapter

## EZ-W FCA



**Description:** Restrained flanged coupling adapter for water and industrial service

**Application:** Ideal for connecting and restraining most types of flanged fittings to IPS and DIP HDPE, PVC, or Steel pipe. An appropriate sized stiffener is required

### Key Features:

- Available in IPS and DIPS 4"-8"
- Special laying lengths available
- Stab fit means no disassembly of the coupling is required to install

### Materials Specifications (subject to change)

**BODY:** Steel ASTM 513 or Carbon Steel having a minimum yield of 30,000 PSI

**FLANGE:** AWWA C207 Class D (Other Flange types available upon request)

**FOLLOWER:** Steel: Hot Rolled – AISI C-1008 to 1010 – ASTM A-569

**GASKETS:** SBR Resistance to Carbon Dioxide, Water, U.V., Ozone Water

**GRIPPING BAND:** Heat Treated Steel-AISI ERW-ASTM A513

**PRESSURE RING:** Hot Rolled - AISI C-1010-ASTM A569

**BOLTS & NUTS:** High strength low alloy steel with heavy semi-finished hexagon nuts to AWWA C-111 (ANSIA21.11) standards

**FINISH:** Flexi-Coat®, fusion bonded epoxy per AWWA C213

**Working Pressure:** 175 PSI, higher pressure flanges available upon request based on pipe type

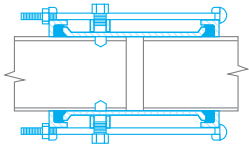
**Pipe Applications:** IPS, DIPS, HDPE, PVC, Steel

**Sizes (in inches):** 4-8

*Contact Smith-Blair for availability of FCAs of different pressure ratings and hardware options*

| NOM. PIPE SIZE (IN.) | PIPE O.D. | CATALOG NUMBER     | M. RING THICKNESS & LENGTH | NO. BOLTS | SIZE BOLTS | CPLG. WEIGHT |
|----------------------|-----------|--------------------|----------------------------|-----------|------------|--------------|
| 4                    | 4.50      | EZW-F-045004020-03 | .188 x 7                   | 4         | 5/8 x 6    | 40           |
| 4                    | 4.80      | EZW-F-048004020-03 | .188 x 7                   | 4         | 5/8 x 6    | 43           |
| 6                    | 6.63      | EZW-F-066306020-03 | .250 x 7                   | 6         | 5/8 x 6    | 63           |
| 6                    | 6.90      | EZW-F-069006020-03 | .250 x 7                   | 6         | 5/8 x 6    | 68           |
| 8                    | 8.63      | EZW-F-086308020-03 | .250 x 7                   | 8         | 5/8 x 6    | 89           |
| 8                    | 9.05      | EZW-F-090508020-03 | .250 x 7                   | 8         | 5/8 x 6    | 97           |

Working Pressure: 175 PSI, higher pressure flanges available upon request based on pipe type Contact Smith-Blair for availability of FCAs of different pressure ratings and hardware options



# Anchor Studs

**Description:** Smith-Blair Anchor Stud Couplings are designed as an alternative coupling method to harness assemblies for applications where moderate longitudinal stresses are encountered.

**Application:** The leak-resistant studs are threaded through couplings into pipe for a secure lock.

**NOTE:** *Anchor Studs do not replace the need for fixed pipe support*

**Key Features:** Please consult the Smith-Blair Engineering Department for specific anchor stud coupling recommendations to fit your specification materials and application .

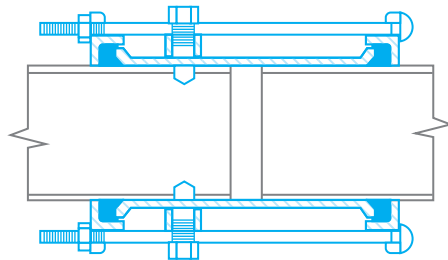
**Materials Specifications (subject to change)** Can vary.

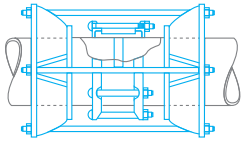
**Working Pressure:** Based on application

**Pipe Applications:** Steel, Ductile Iron

**Sizes (in inches):** Most

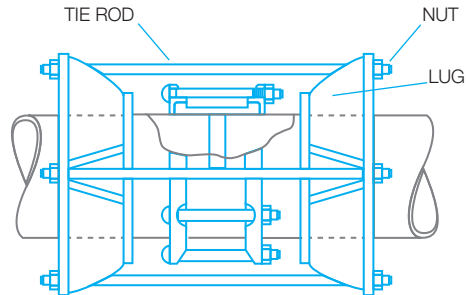
**Contact Smith-Blair engineering for specific anchor stud recommendations for your specific application**





# Harness Assembly

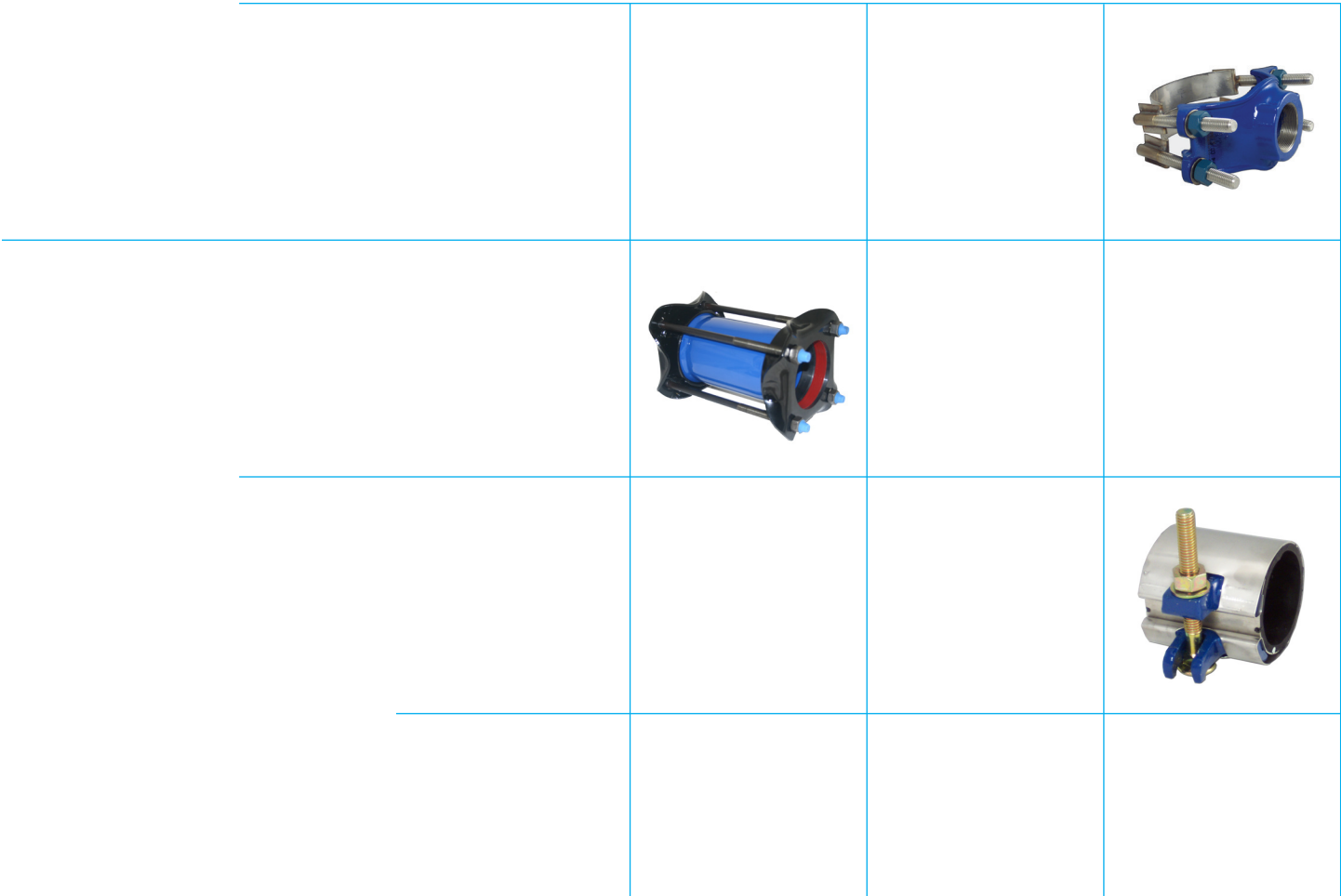
## Typical Harness Assembly



Harness assemblies should be used where calculations show the forces resulting from a lateral connection, change in direction of the pipeline, unstable soil, thermal expansion/contraction or other service conditions that can cause the pipe to move out of the coupling.

The angular deflection of the coupling may be restricted by the use of harness assemblies or anchor studs.

Harness should follow AWWA-M11 manual as a guide. *Consult Smith-Blair engineers for more information.*



Products For

# High Density Polyethylene Pipe












(Water Applications)



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High Density Polyethylene Pipe, Table One

| COUPLING PRODUCT   | PRODUCT TYPE (CATALOG BROCHURE)                        | APPLICATION  | PIPE DR  | FOR NOMINAL PIPE SIZES | WORKING PRESSURE**            |
|--|--|--|----------|------------------------|-------------------------------|
| <br>411***†       | Steel coupling (CC 411)                                | Joining plain-end pipe with same outside diameter    | 7.3-32.5 | 2-36                   | 150 PSI + according to design |
| <br>413***†       | Steel transition coupling (CC 411)                     | Joining pipe of different outside diameters          | 7.3-32.5 | 2-36                   | 150 PSI + according to design |
| <br>415***†       | Steel reducing coupling (CC 411)                       | Joining pipe of different outside diameters          | 7.3-32.5 | 2-36                   | 150 PSI                       |
| <br>441***†       | Cast coupling (OMNI)                                   | Joining pipe of same or different outside diameters  | 7.3-32.5 | 2-16                   | 250 PSI                       |
| <br>442***†       | Cast coupling (OMNI)                                   | Joining pipe of same or different outside diameters  | 7.3-32.5 | 4-16                   | 250 PSI                       |
| <br>461***†      | Quantum coupling (CC-460)                              | Joining pipe of same or different outside diameters  | 7.3-32.5 | 2-12                   | 250 PSI                       |
| <br>462***†     | Quantum coupling (CC-460)                              | Joining pipe of same or different outside diameters  | 7.3-32.5 | 4-12                   | 250 PSI                       |
| <br>611         | Steel expansion joint coupling, flanged end (CC-611)   | Absorbing concentrated pipe movement                 | 7.3-32.5 | 2-36                   | 150 PSI + according to design |
| <br>612         | Steel double-end expansion joint, flanged end (CC-611) | Absorbing concentrated pipe movement                 | 7.3-32.5 | 2-36                   | 150 PSI + according to design |
| <br>EZ-W FCA*** | Restrained flanged coupling adapter (CC-EZWFCFA)       | Joining plain-end pipe to flanged valves and fitting | 7.3-32.5 | 2-12                   | 150 PSI + according to design |
| <br>913***†     | Steel flanged coupling adapter (CC-900)                | Joining plain-end pipe to flanged valves and fitting | 7.3-32.5 | 2-36                   | 150 PSI + according to design |

\*\*\* All coupling and pipe joining products require properly sized pipe stiffeners.

† These products do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\* Actual working pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific applications

\* These products should not be used on CI size HDPE pipe.

High Density Polyethylene pipe (HDPE) is different from other types of pipe. Smith-Blair products will provide satisfactory performance when applied as recommended, but the following characteristics must be considered when selecting clamp and coupling products for use on HDPE pipe:

- Thermal expansion and contraction are greater, while yield strength and rigidity are lower.
- HDPE has a tendency to cold-flow over time when subjected to a constant load
- The surface finish of HDPE pipe has a low frictional coefficient and the pipe ends toe-in after being cut.

High Density Polyethylene Pipe, Table One, continued

| COUPLING PRODUCT | PRODUCT TYPE (CATALOG BROCHURE)                                     | APPLICATION  | PIPE DR  | FOR NOMINAL PIPE SIZES                  | WORKING PRESSURE**            |
|------------------|---|--|----------|---|-------------------------------|
| 914***†          | Steel reducing flanged coupling adapter (CC-900)                    | Joining plain-end pipe to flanged valves and fitting | 7.3-32.5 | 2-36                                    | 150 PSI + according to design |
| EZ***            | Maxi-Grip EZ seal and restraint coupling Pipe IPS to IPS IPS to CI* | Joining plain-end pipe                               | 7.3-21   | 1 1/4-12 IPS<br>2-8 CI<br>Reducing only | 150 PSI                       |
| C                | Pipe Stiffeners<br>I.D. of pipe required.                           | Pipe stiffener                                       | All      | All                                     | N/A                           |

\*\*\* All coupling and pipe joining products require properly sized pipe stiffeners.

† These products do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\* Actual working pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific applications

\* These products should not be used on CI size HDPE pipe.









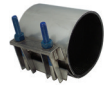

High Density Polyethylene pipe (HDPE) is different from other types of pipe. Smith-Blair products will provide satisfactory performance when applied as recommended, but the following characteristics must be considered when selecting clamp and coupling products for use on HDPE pipe:

- Thermal expansion and contraction are greater, while yield strength and rigidity are lower.
- HDPE has a tendency to cold-flow over time when subjected to a constant load
- The surface finish of HDPE pipe has a low frictional coefficient and the pipe ends toe-in after being cut.

High Density Polyethylene Pipe, Table Two

| TAPPING PRODUCT | PRODUCT TYPE   | APPLICATION                             | PIPE DR | FOR NOMINAL PIPE SIZES**** | WORKING PRESSURE*** |
|-----------------|--|---|---------|----------------------------|---------------------|
| 371             | All stainless steel single bolt service saddle with stainless steel spring washers                                     | Service Tap Outlet Sizes 1/2 thru 2     | 7.3-17  | 4-12                       | Up to 150 PSI       |
| 372             | All stainless steel double bolt service saddle with stainless steel spring washers                                     |   |         |                            |                     |
| 397             | Ductile iron body with Flexi-Coat™ epoxy coating and stainless steel straps with stainless steel spring washers        | Service Tap Outlet Sizes 3/4 thru 2 1/2 | 7.3-17  | 4-12                       | Up to 150 PSI       |
| 317             | Double strap saddle with Flexi-Coat™ epoxy coating and wide stainless steel straps with stainless steel spring washers | Service Tap Outlet Sizes 5/8 thru 2 1/2 | 7.3-17  | 4-16                       | Up to 150 PSI       |

High Density Polyethylene Pipe, Table Three

| REPAIR PRODUCT   | PRODUCT TYPE   | APPLICATION**                                | PIPE DR          | FOR PIPE SIZES****   | WORKING PRESSURE*** |
|--|--|--|------------------|----------------------|---------------------|
| <br>226     | Full Circle clamp with stainless steel spring washers  | Splits and holes in pipe                     | 7.3-11<br>7.3-17 | 2-3.50<br>4.00-14.00 | Up to 255 PSI       |
| <br>227     | Super Range Full Circle clamp coupling with stainless steel spring washers   | Splits and holes in pipe                     | 7.3-11           | 4-14                 | Up to 175 PSI       |
| <br>238     | Tapped Full Circle clamp coupling with stainless steel spring washers  | Leaks at service outlet                      | 7.3-17           | 3-12                 | Up to 255 PSI       |
| <br>239     | Super Range Full Circle clamp coupling with stainless steel spring washers   | Leaks at service outlet                      | 7.3-11           | 4-14                 | Up to 175 PSI       |
| <br>244/247 | Full Circle Redi Clamp, stainless steel lugs, stainless steel washers (244)<br>Full Circle Redi Clamp, stainless steel lugs, stainless steel washers (247) | Pin hole leaks and punctures in pipe         | 7.3-17           | 1/2-2                | Up to 150 PSI       |
| <br>245/248 | Redi Clamp, stainless steel lugs, stainless steel washers (245)<br>Redi Clamp, stainless steel lugs, stainless steel washers (248)                         | Pin hole leaks, punctures and splits in pipe | 7.3-21           | 2-12                 | Up to 150 PSI       |
| <br>256   | Cast stainless steel, Full Circle clamp coupling with stainless steel spring washers   | Corrosive environments                       | 7.3-17           | 2-12                 | Up to 255 PSI       |
| <br>257   | Super range cast stainless steel, Full Circle clamp coupling with stainless steel spring washers   |  |                  | 4-14                 | Up to 175 PSI       |
| <br>261   | All stainless steel, Full Circle clamp coupling with stainless steel spring washers  | Splits and holes in pipe                     | 7.3-11           | 2-12                 | Up to 150 PSI       |
| <br>262   | Super range all stainless steel, Full Circle clamp coupling with stainless steel spring washers  |  |                  | 3-12                 |                     |
| <br>264   | All stainless steel tapped, Full Circle clamp coupling with stainless steel spring washers   | Leaks at service outlet                      | 7.3-17           | 3-12                 | Up to 155 PSI       |
| <br>265   | All stainless steel super range tapped, Full Circle clamp coupling with stainless steel spring washers   |  |                  | 4-12                 |                     |

\*Bodies formed to fit exact pipe O.D. All clamping and Repair Products require Spring Washers.

\*\*Full Circle Clamp coupling may be used to join pipe only when stiffeners are used in the pipe ends. These products do not restrain axial movement. Suitable anchorage must be provided where pipe movement could cause the pipe to move out of the coupling.

\*\*\*Actual Working Pressure will vary depending on pipe wall thickness. Consult Smith-Blair for specific application

\*\*\*\*Not for use on Copper tube size (CTS) polyethylene.

# Informational Documents



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# Warranty, Freight & Returns

**Standard Limited Warranty:** Smith-Blair warrants its products to be free of defects in materials and workmanship for a period of one (1 year from the date of shipment by Smith-Blair (the "Warranty Period". Dated proof of purchase, such as a bill of sale, is required to establish warranty eligibility. If a product fails to perform due to a defect in materials or workmanship during the Warranty Period, Smith-Blair, will repair or, at Smith-Blair's option, replace the product with the same or comparable item. In the event that the product cannot be repaired and a suitable replacement item is not available, Smith-Blair will refund the original purchase price shown on the proof of purchase. In all cases, the customer is responsible for returning the allegedly defective product to the factory or warehouse designated by Smith-Blair.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL SMITH-BLAIR, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**Freight Policy:** Freight will be prepaid and allowed on all orders of \$3,000 net or more. For orders less than \$3,000 net, shipping and handling will be charged to the customer. Add-ons must also be \$3,000 net or more for freight allowance. Shipping and handling will be added to shipments expedited at the customer's request. This policy is subject to change, based on market conditions.

**Service Charge:** All net orders below \$100 are subject to a \$20 service charge.

**Return Policy:** All non-catalog items are considered "non-returnable". For other catalog items to be considered, return requests must be submitted in writing and approved by Smith-Blair prior to returning material. Return evaluation for any catalog item will be based upon age of material (no older than one (1 year from shipment date, on-hand inventory and demand for those items at the time of request. Upon approval, a Return Material Authorization (RMA will be issued with applicable charges and terms and conditions of return. Approved items may be returned within a period of thirty (30 days after the issuance of an RMA. For proper credits to be applied, a copy of the RMA must accompany material.

- A. Material must be of current design.
- B. Material must be in 100% resalable condition or additional rework charges will apply. If total restocking and/or reworking charges exceed 50% of the product's initial price, the material should not be returned, as no credit will be allowed. Any material received requiring work exceeding 50% of the initial material value will be returned at the sender's expense or scrapped by Smith-Blair with no credit issued.
- C. Products that are engineered fabrications or special orders may not be returned.
- D. Returned material should be packaged securely. Multiple items should be packed in an organized manner. Be sure to include a copy of the RMA as the packing list. Material received which is not returned in this manner will be returned at the sender's expense.
- E. Shipments authorized to be returned COLLECT, but are returned PREPAID, should include a copy of the freight bill in order for credit to be issued. If Smith-Blair is to pay for a return, it will be charged to the account noted on the RMA. On material returned due to customer error, any original pre-paid and allowed outbound freight charge will be debited.
- F. Smith-Blair reserves the right to decline any return material where it is not covered by warranty.



# Sales Terms & Conditions

1. The terms and conditions as hereinafter written shall supersede the terms and conditions of the customer's order or any other terms and conditions in any other customer documentation. Further, no understanding, agreement, terms, condition or trade custom or business practice at variance herewith shall be binding on the parties. THESE TERMS AND CONDITIONS TRUMP ANY OTHERS AND ARE THE SOLE AND EXCLUSIVE TERMS REGARDING THE PURCHASE AND SALE OF ANY SMITH-BLAIR PRODUCTS.

2. Prices prevailing at time of shipment will apply, except as otherwise provided by a prior written quotation, which constitutes a firm offer.

3. Title and Risk of Loss for damage to the goods passes to the customer upon delivery to the carrier regardless of who pays the shipping cost.

4. Smith-Blair, Inc. warrants its products to be free of defects in materials and workmanship for a period of one (1) year from the date of shipment by Smith-Blair, Inc. (the "Warranty Period"). Dated proof of purchase, such as a bill of sale, is required to establish warranty eligibility. If a product fails to perform due to a defect in materials or workmanship during the Warranty Period, Smith-Blair, Inc. will repair or, at Smith-Blair, Inc.'s option, replace the product with the same or comparable item. In the event that the product cannot be repaired and a suitable replacement item is not available, Smith-Blair, Inc. will refund the original purchase price shown on the proof of purchase. In all cases, the customer is responsible for returning the allegedly defective product to the factory or warehouse designated by Smith-Blair, Inc. THIS LIMITED WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, OR THOSE ARISING FROM A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. THE REMEDIES PROVIDED IN THIS LIMITED WARRANTY STATEMENT ARE THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL SMITH-BLAIR, INC. BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, AND WHETHER ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

4A. Smith-Blair's liability with respect to any Smith-Blair products is limited as follows. (A) Smith-Blair's liability in any and all causes of action arising under, out of or in relation to any Smith-Blair products shall be limited to the price paid by the customer for the relevant product(s). This is so whether the relevant cause(s) of action are in tort, contract, under statute or otherwise. Further, Smith-Blair is not liable for any indirect or consequential damages. The foregoing damage limitations are fundamental inducements to Smith-Blair selling its products at the prices it does. They apply unconditionally and in all respects.

5. The consequences, direct or indirect, of labor troubles, fires, accidents, floods, hostilities, shortage of transportation, failure, suspension or curtailment of production due to shortage of supply of raw materials, or other economic factors, government acts or requirements and any and all like different causes beyond the control of the parties hereto excuse performance by either party to the extent by which performance is prevented thereby. Smith-Blair may, during any period of shortage due to any of said causes, prorate its supply of such goods among all its buyers in such manner as may be deemed equitable in the sole judgment of Smith-Blair.

6. RETURNS: All non-catalog items are considered "non-returnable". For other catalog items to be considered, return requests must be submitted in writing and approved by Smith-Blair prior to returning material. Return evaluation for any catalog item will be based upon age of material (no older than one (1) year) from shipment date, on-hand inventory and demand for those items at the time of request. Upon approval, a Return Material Authorization (RMA) will be issued with applicable charges and terms and conditions of return. Approved items may be returned within a period of thirty (30) days after the issuance of an RMA. For proper credits to be applied, a copy of the RMA must accompany material.

A. Material must be of current design.

B. Material must be in 100% resalable condition or additional rework charges will apply. If total restocking and/or reworking charges exceed 50% of the product's initial price, the material should not be returned, as no credit will be allowed. Any material received requiring work exceeding 50% of the initial material value will be returned at the sender's expense or scrapped by Smith-Blair with no credit issued.

C. Products that are engineered fabrications or special orders may not be returned.

D. Returned material should be packaged securely. Multiple items should be packed in an organized manner. Be sure to include a copy of the RMA as the packing list. Material received which is not returned in this manner will be returned at the sender's expense.

E. Shipments authorized to be returned COLLECT, but are returned PREPAID, should include a copy of the freight bill in order for credit to be issued. If Smith-Blair is to pay for a return, it will be charged to the account noted on the RMA. On material returned due to customer error, any original pre-paid and allowed outbound freight charge will be debited.

F. Smith-Blair reserves the right to decline any return material where it is not covered by warranty.

7. FREIGHT: Freight will be prepaid and allowed on all orders of \$3,000 net or more. For orders less than \$3,000 net, shipping and handling will be charged to the customer. Add-ons must also be \$3,000 net or more for freight allowance. Shipping and handling will be added to shipments expedited at the customer's request. This policy is subject to change, based on market conditions.

8. SERVICE CHARGE: All net orders below \$100 are subject to a \$20 service charge.

9. CANCELLATION CHARGES: May be applied to an order for the amount of work performed at the time of cancellation.

10. Smith-Blair reserves the right to furnish substitutes for materials which cannot be reasonably obtained because of any restrictions, voluntarily or compulsorily established by, or in connection with, any governmental authority.

11. United States law prohibits disposition of these products to certain countries unless otherwise authorized by the United States government. Contact the Office of Foreign Asset Controls of the U.S. Department of the Treasury at [www.treas.gov/offices/enforcement/ofac](http://www.treas.gov/offices/enforcement/ofac) or 202-622-2000 for more information



# Corrosion & Product Selection Notice

Metal products are subject to corrosion, particularly when used outdoors and/or underground. A large number of factors and location conditions affect the rate at which corrosion occurs.

To determine the life expectancy of your product when used with your pipeline's content, soil and environment, it is best to consult a corrosion expert in your area. To determine the suitability of your selected product also consult a system designer in your area.

Failure to determine the suitability of your product for your particular application, soil and environment, can result in premature product failure. Smith-Blair can provide additional information about your product's materials specifications at your request.

Contact the Smith-Blair Engineering Department at: 800-643-5183.