Model SSH-F Frame-Mounted Unit

TYPICAL ENGINEERING SPECIFICATIONS

BUILT IN THE USA
ENGINEERED, ASSEMBLED & TESTED

I. SCOPE

The contractor shall provide _____ (quantity) horizontal frame mounted, end suction centrifugal pump unit/s, Model SSH-F as manufactured by Goulds Water Technology or equal.

All pump units shall be of one manufacturer and provided complete including bedplate, coupling, coupling guard and electric motor.

II. CONDITIONS OF SERVICE

A. Equipment item number			
B. Flange Inside Diameter			
Suction (inches) RF			
Discharge (inches) RF			
C. Design Service Condition			
Capacity (GPM)			
Total Head (feet)			
Efficiency (%)			
D. Minimum Total Head at Shutoff (feet)			
E. Maximum Impeller Diameter (inches)			
F. Operating Speed (RPM)			
G. Maximum Motor HP			

III. PUMP CONSTRUCTION

Each pump shall be designed for clockwise rotation viewed from driven end and include the following design features.

A. PUMP END COMPONENTS

A.1. Casing

The pump casing shall be concentric volute type, back pull-out design with ANSI class 150 flanged suction and discharge connections and shall be constructed of AISI TYPE 316L stainless steel material.

The pump discharge nozzle shall be center line oriented to allow simplified system design and installation.

The complete pump unit shall be supported by the power frame.

Pump casing drain shall be provided with stainless steel plugs.

A.2. Wear Ring

A replaceable labyrinth type suction wear ring of AISI TYPE 316L stainless steel shall be provided and held securely by means of an interference fit in the casing suction.

A.3. Impeller

The pump impeller shall be of enclosed design, constructed of AISI TYPE 316L stainless steel material, and key driven. A stainless steel bolt and washer shall provide positive attachment of the impeller to the shaft.

A.4. Seal Housing

The seal housing shall be constructed of AISI TYPE 316L stainless steel material and shall hold the stationary seat of the mechanical shaft seal. The seal housing shall be clamped in place over a machined fit on the power frame adapter by the pump casing to maintain component alignment and is "O-ring" sealed to insure against leakage.

A.5. Mechanical Seal

The pump shaft seal shall be a John Crane Type 21 mechanical seal, or equal, constructed of the following materials:

Seal Type	Stationary Face	Rotating Face	Elastomers	Metal Components
Standard	Silicon Carbide	Carbon	Viton	18-8 SS
Option				

A.6. Shaft Sleeve

The pump shaft sleeve shall be constructed of AISI TYPE 316L stainless steel and shall be of the hook type design. Locked in place by the impeller without necessity of other mechanical locking devices. The sleeve design must allow the shaft to remain dry during pump operation.

A.7. Power Frame Adapter

The rigid frame adapter of ASTM A48 CL20 cast iron construction shall support the pump liquid end and maintain pump to power frame alignment. A bottom port shall be provided to allow condensation or seal leakage to drain and not be retained within the adapter.

B. PUMP POWER FRAME ASSEMBLY

The pump shall be supported by means of a foot mounted, cast iron ASTM A48 CL20, or equal, power frame which carries all thrust and radial loads imposed by the pump with a minimum B-10 life of 50,000 hours. At an operating speed of 1750 RPM.

Components of the power frame shall meet the following specifications:

B.1. Bearings

Ball type, grease lubricated thrust and radial bearings. The outboard bearing shall carry all pump thrust load, and shall be locked in place on the pump shaft by means of a bearing locknut and locking washer.

B.2. Pump Shaft

The pump shaft shall be keyed to impeller hub.

B.3. Bearing Assembly and Shaft Seals

Both inboard and outboard ball bearings shall be protected from entry of pumpage, washdown water or grit by means of Buna-N lip seals. In addition the inboard bearing end shall be further protected from contaminants by means of a Buna-N rubber deflector ring.

B.4. Bearing Cover

The shaft and bearing assembly shall be locked in position by an outboard bearing cover constructed of ASTM A48 CL20 cast iron or equal.

IV. BEDPLATE

A rigid, channel type steel bedplate shall be provided to maintain support and alignment of the complete pump and motor assembly.

Bedplate shall be suitable for anchor bolt mounting and include provision for grouting.

V. DRIVE COUPLING

The spacer type coupling allowing utilization of back pullout maintenance feature shall be provided for pump to motor connection.

The coupling shall be key driven T.B. Woods type "SC" or equal.

VI. COUPLING GUARD

All rotating components of the drive assembly shall be protected by means of a formed metal coupling guard, designed to OSHA specifications.

VII. ELECTRIC MOTOR

The motor shall be non-overloading NEMA standard design T-Frame, suitable for horizontal mounting and flexible connection to the pump as described above. The motor rating shall be:

_____ HP, _____ RPM, _____phase, _____ Hz, _____volts, _____enclosure

1.15 Service Factor, High Efficiency.

VIII. TESTING

Production performance testing will be conducted by the manufacturer on each pump unit. Head at shut off and a minimum of 2 operating points will be measured at design speed to verify performance.

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