

# Flygt Top



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# 1 Introduction and Safety

## 1.1 Introduction

### Purpose of the manual

The purpose of this manual is to provide the necessary information for working with the unit. Read this manual carefully before starting work.

### Read and keep the manual

Save this manual for future reference, and keep it readily available at the location of the unit.

### Intended use



#### WARNING:

Operating, installing, or maintaining the unit in any way that is not covered in this manual could cause death, serious personal injury, or damage to the equipment and the surroundings. This includes any modification to the equipment or use of parts not provided by Xylem. If there is a question regarding the intended use of the equipment, please contact a Xylem representative before proceeding.

### Other manuals

See also the safety requirements and information in the original manufacturer's manuals for any other equipment furnished separately for use in this system.




## 1.2 Safety terminology and symbols

### About safety messages

It is extremely important that you read, understand, and follow the safety messages and regulations carefully before handling the product. They are published to help prevent these hazards:



- Personal accidents and health problems
- Damage to the product and its surroundings
- Product malfunction

### Hazard levels

Hazard level	Indication
 <b>DANGER:</b>	A hazardous situation which, if not avoided, will result in death or serious injury
 <b>WARNING:</b>	A hazardous situation which, if not avoided, could result in death or serious injury
 <b>CAUTION:</b>	A hazardous situation which, if not avoided, could result in minor or moderate injury
<b>NOTICE:</b>	Notices are used when there is a risk of equipment damage or decreased performance, but not personal injury.

### Special symbols

Some hazard categories have specific symbols, as shown in the following table.

Electrical hazard	Magnetic fields hazard
 <p data-bbox="581 174 768 205"><b>Electrical Hazard:</b></p>	 <p data-bbox="1125 174 1242 205"><b>CAUTION:</b></p>

## 1.3 User safety

All regulations, codes, and health and safety directives must be observed.

### The site

- Observe lockout and tagout procedures before starting work on the product, such as transportation, installation, maintenance, or service.
- Pay attention to the risks presented by gas and vapors in the work area.
- Always be aware of the area surrounding the equipment, and any hazards posed by the site or nearby equipment.

### Qualified personnel

This product must be installed, operated, and maintained by qualified personnel only.

### Protective equipment and safety devices

- Use personal protective equipment as needed. Examples of personal protective equipment include, but are not limited to, hard hats, safety goggles, protective gloves and shoes, and breathing equipment.
- Make sure that all safety features on the product are functioning and in use at all times when the unit is being operated.

## 1.4 Special hazards

### 1.4.1 Confined spaces



#### **DANGER: Inhalation Hazard**

The chamber or tank where the equipment is installed should be treated as a confined space. Always follow the applicable safety laws, regulations and guidelines for confined spaces.

Never work alone in a confined space. Before entering the space, check that the following requirements are complied with:

- The atmosphere contains sufficient oxygen
- The atmosphere contains no explosive or toxic gases
- If there is a risk of insufficient oxygen or toxic or hazardous gases, then use an airline respirator or self-contained breathing apparatus.
- All energy sources are locked out and tagged out
- Adequate ventilation is in place
- There is a clear path of retreat
- Monitoring is in place for hazards which can develop after entering the confined space
- The applicable safety laws, regulations, and guidelines for confined spaces are understood and followed.

### 1.4.2 Biological hazards

The product is designed for use in liquids that can be hazardous to your health. Observe these rules when you work with the product:

- Make sure that all personnel who may come into contact with biological hazards are vaccinated against diseases to which they may be exposed.
- Observe strict personal cleanliness.

**WARNING: Biological Hazard**

Infection risk. Rinse the unit thoroughly with clean water before working on it.

### 1.4.3 Wash the skin and eyes

Follow these procedures for chemicals or hazardous fluids that have come into contact with your eyes or your skin:

Condition	Action
Chemicals or hazardous fluids in eyes	<ol style="list-style-type: none"> <li>1. Hold your eyelids apart forcibly with your fingers.</li> <li>2. Rinse the eyes with eyewash or running water for at least 15 minutes.</li> <li>3. Seek medical attention.</li> </ol>
Chemicals or hazardous fluids on skin	<ol style="list-style-type: none"> <li>1. Remove contaminated clothing.</li> <li>2. Wash the skin with soap and water for at least 1 minute.</li> <li>3. Seek medical attention, if necessary.</li> </ol>

## 1.5 Protecting the environment

### Emissions and waste disposal

Observe the local regulations and codes regarding:

- Reporting of emissions to the appropriate authorities
- Sorting, recycling and disposal of solid or liquid waste
- Clean-up of spills

### Exceptional sites

**CAUTION: Radiation Hazard**

Do NOT send the product to Xylem if it has been exposed to nuclear radiation, unless Xylem has been informed and appropriate actions have been agreed upon.

## 1.6 Spare parts

**CAUTION:**

Only use the manufacturer's original spare parts to replace any worn or faulty components. The use of unsuitable spare parts may cause malfunctions, damage, and injuries as well as void the warranty.

## 1.7 Warranty

For information about warranty, see the sales contract.

# 2 Transportation and Storage

## 2.1 Precautions



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**DANGER: Electrical Hazard**

Before starting work on the unit, make sure that the unit and the control panel are isolated from the power supply and cannot be energized. This applies to the control circuit as well.



**CAUTION:**

The operator must be aware of safety precautions to prevent physical injury.

---

**Tip risk if pallet straps are removed**

If the straps securing the unit to its pallet have been removed, then the unit must be secured from tipping or falling.

---



**CAUTION: Crush Hazard**

Make sure that the unit cannot roll or fall over and injure people or damage property.

---

## 2.2 Position and fastening

The unit is delivered in a horizontal or vertical position, depending on the size and length.

## 2.3 Examine the delivery

### 2.3.1 Examine the package

1. Examine the package for damaged or missing items upon delivery.
2. Record any damaged or missing items on the receipt and freight bill.
3. If anything is out of order, then file a claim with the shipping company.  
If the product has been picked up at a distributor, make a claim directly to the distributor.

### 2.3.2 Examine the unit

1. Remove packing materials from the product.  
Dispose of all packing materials in accordance with local regulations.
2. To determine whether any parts have been damaged or are missing, examine the product.
3. If applicable, unfasten the product by removing any screws, bolts, or straps.  
Use care around nails and straps.
4. If there is any issue, then contact a sales representative.



## 2.4 Transportation guidelines

### 2.4.1 Lifting



Always inspect the lifting equipment and tackle before starting any work.

---

#### **WARNING: Crush Hazard**

Always lift the unit by its designated lifting points.

Use suitable lifting equipment and ensure that the product is properly harnessed.

Wear personal protective equipment.

Stay clear of cables and suspended loads.

---

#### **NOTICE:**

Never lift the unit by its cables or hose.

---

#### Lifting equipment

Lifting equipment is always required when handling the unit. It must fulfill the following requirements:

- The minimum height (contact your local sales and service representative for information) between the lifting hook and the floor must be sufficient to lift the unit.
- The lifting equipment must be able to hoist the unit straight up and down, preferably without the need for resetting the lifting hook.
- The lifting equipment must be securely anchored and in good condition.
- The lifting equipment must support weight of the entire assembly and must only be used by authorized personnel.
- Two sets of lifting equipment must be used to lift the unit for repair work.
- The lifting equipment must not be oversized.




---

#### **CAUTION: Crush Hazard**

Improperly-dimensioned lifting equipment can lead to injury. A site-specific risk analysis must be done.

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#### Separate handling of pump and unit

The unit and the pump are delivered separately. Never install a pump prior to lifting the unit.

#### Empty the unit before lifting

The unit must be emptied of liquid before lifting.

## 2.5 Lift the unit

1. Unload the unit from the truck and put it carefully on a rigid, horizontal surface.



Figure 1: Horizontal position

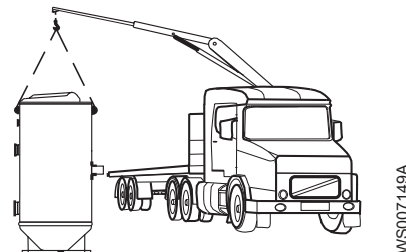


Figure 2: Vertical position

2. Remove the strapping around the horizontal tank.  
Make sure that it cannot roll over.
3. Lift the unit to an upright position:
  - a) Attach a sling.

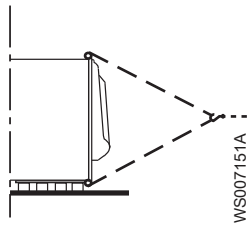


Figure 3: Lifting eyes for sling

- b) Lift the unit straight up.

The unit may jolt or sway near the end of the lifting operation.



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**WARNING: Crush Hazard**

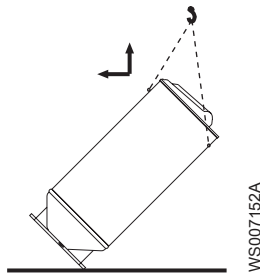
Always lift the unit by its designated lifting points.

Use suitable lifting equipment and ensure that the product is properly harnessed.

Wear personal protective equipment.

Stay clear of cables and suspended loads.

---



## 2.6 Long-term storage

If the unit is stored for some time before installation, then make sure that it is placed in a horizontal position or supported securely in a vertical position.

# 3 Product Description

## 3.1 Products included

This document includes the following products:

- Top 50, 9050.010
- Top 65, 9065.010
- Top 80, 9080.010
- Top 100S, 9100.010
- Top 150S, 9150.010
- Top 150L, 9150.020

## 3.2 Design

The pump station unit is delivered complete with prefabricated inlet and outlet pipe connections and a connection for an overflow pipe, if ordered. The pump is delivered separately.

The unique design of the sump and the integrated pump discharge connections is hydraulically optimized to improve the flow over the sump floor during pumping. This increases turbulence and causes settled solids to become suspended again, maximizing removal from the sump.

The pump is installed with twin guide bars with an automatic connection to the permanently installed discharge connection at the bottom of the sump.

The unit is anchored also in subsoil water tables.

### 3.2.1 Parts

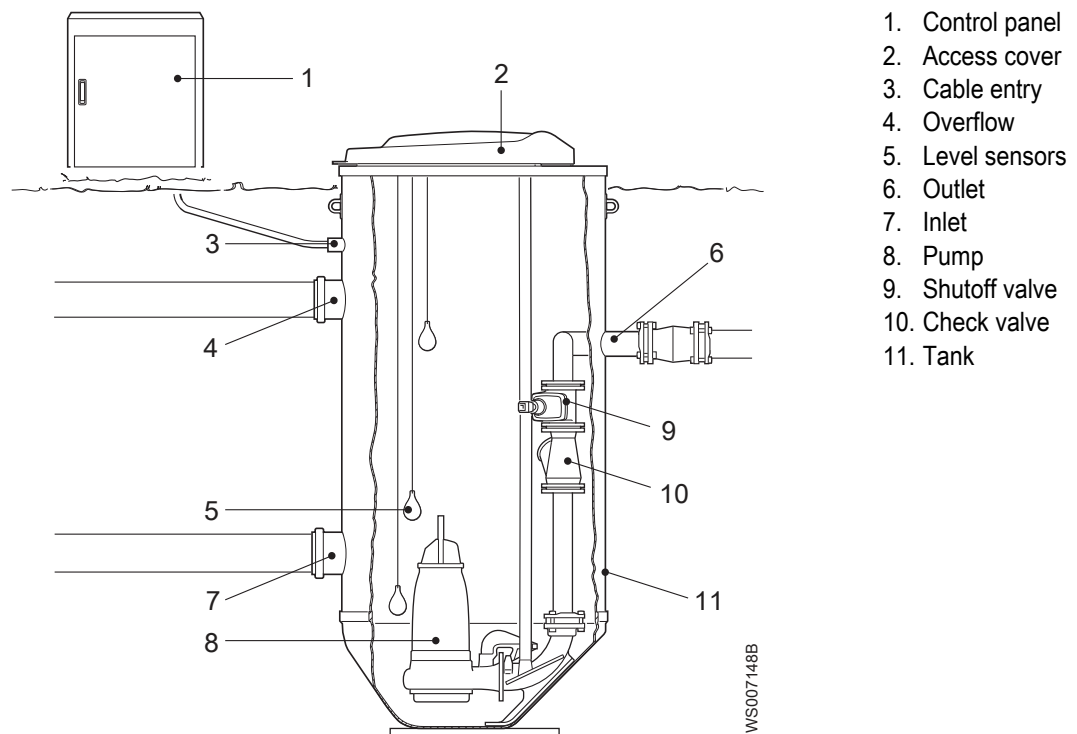


Figure 4: Installation example

### 3.2.2 Intended use

The unit is intended for pumping of raw or clean water, or wastewater.

### 3.2.3 Application limits

For pump limitations, read the Installation, Operation, and Maintenance manual for the pump.

The unit must be installed underground, outside of the building.

Data	Description
Media (liquid) temperature	Maximum 40°C (104°F)
pH of the pumped media	5.5–9
Unit depth	Maximum 6 m (20 ft)
Other	For other applications, contact the local sales and service representative for information.

If installed according to this instruction, then the unit functions in a subsoil water table up to the ground level.

### 3.2.4 Dimensions

#### Drawings

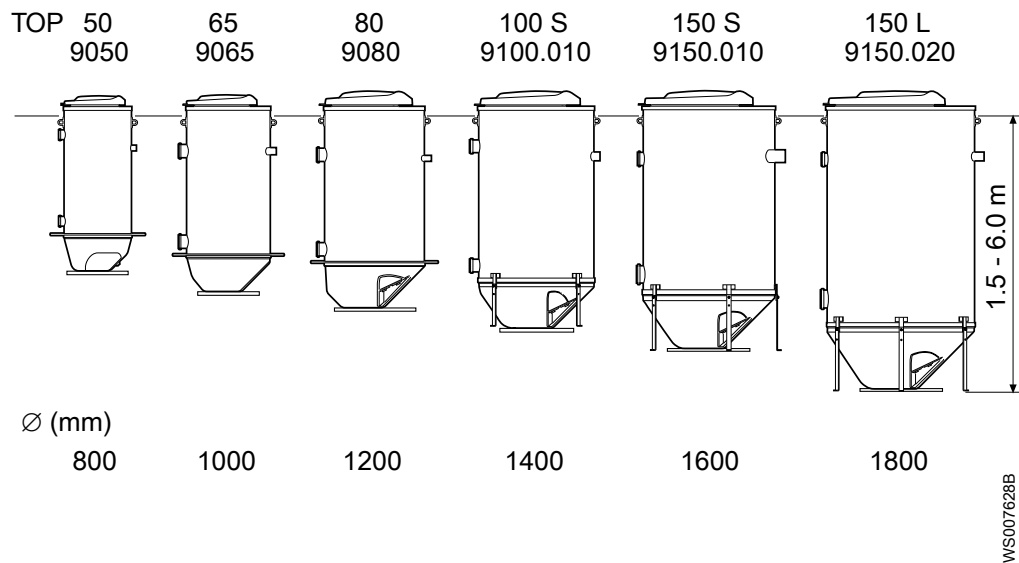


Figure 5: Dimensional drawing. Diameter unit: mm. Length unit: m.

### 3.2.5 Weight

Approximate total weight, excluding the pump:

Table 1: Approximate total weights, excluding the pump

Model	Weight, kg (lb)		
	2 m	4 m	6 m
Top 50	170 (375)	270 (595)	360 (794)
Top 65	320 (705)	470 (1036)	550 (1212)
Top 80	420 (926)	600 (1323)	820 (1808)
Top 100S	520 (1146)	700 (1543)	910 (2006)
Top 150S	760 (1676)	990 (2183)	1260 (2778)
Top 150L	830 (1830)	1080 (2381)	1360 (2998)

### 3.2.6 Materials

The unit is made of glass-fiber reinforced polymer, GRP.

## Polymer resin

The thermosetting resin that is used is unsaturated polyester and phenyl acrylate (vinyl ester) resins of commercial grade.

## Glass fiber reinforcement

The reinforcing material is glass fiber of a grade that complies with the technical requirements of the application. It can be chopped or continuous roving strands, chopped strand mat or woven roving.

Table 2: Glass fiber material standards

Material	Standard
Roving of glass fiber	ISO 2797
Chopped strand mat	ISO 2559
Woven roving	ISO 2113

## Pipes

The unit is available with pipings in stainless steel.

The guide rails are stainless steel.

### 3.2.7 External loads

A unit with a GRP access cover must be installed so that traffic is kept at least 1 m (3.3 ft) from the tank edge.

## 3.3 Pump versions

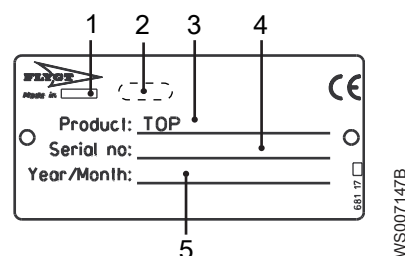
Depending on the type of unit, different pumps can be used.

For more information, please contact your local sales and service representative.

## 3.4 Monitoring equipment

Several pump protection and monitoring functions are available as options depending on the version of equipment. For more information, please contact your local sales and service representative.

## 3.5 The data plate



1. Country of origin
2. Manufacturer
3. Size
4. Sales company prefix + product code + consecutive number
5. Production year and month

# 4 Installation

## 4.1 Precautions

Before starting work, make sure that the safety instructions in the chapter *Introduction and Safety* on page 3 have been read and understood.




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### **DANGER: Inhalation Hazard**

The chamber or tank where the equipment is installed should be treated as a confined space. Always follow the applicable safety laws, regulations and guidelines for confined spaces.

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### **WARNING: Electrical Hazard**

Risk of electrical shock or burn. A certified electrician must supervise all electrical work. Comply with all local codes and regulations.

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### **WARNING: Fall Hazard**

Check that suitable barriers for the work area are in place.

---

### **Tip risk if pallet straps are removed**

If the straps securing the unit to its pallet have been removed, then the unit must be secured from tipping or falling.

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### **CAUTION: Crush Hazard**

Make sure that the unit cannot roll or fall over and injure people or damage property.

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### **Sewage station tank ventilation**

Vent the tank of a sewage station in accordance with local plumbing codes.

#### 4.1.1 Underground utilities

Before starting excavation work, determine whether any utility installations such as sewer, telephone, fuel, electric, or water lines, may be encountered. Utility companies and owners must be contacted to locate utility installations.

When the excavation operations approach the estimated location of the underground installation, the exact location must be determined by safe and acceptable means.

While the excavation is open, any underground installation must be protected, supported or removed as necessary to safeguard employees.

#### 4.1.2 Excavations

Before entering trenches, pits or other excavations, the following conditions must be met:

- The applicable safety laws, regulations, and guidelines for excavations are understood and followed.
- Be aware that site conditions can change rapidly, for example due to heavy rain, rapid thaw, vibrations or other factors.
- Do not work in an excavation or trench unless it is properly protected against collapse. Examples of protection systems are shown in the following figures.

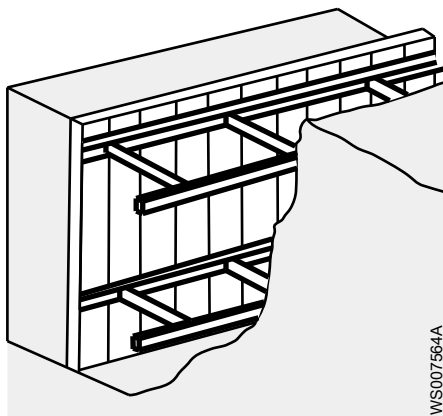


Figure 6: Bracing and shoring

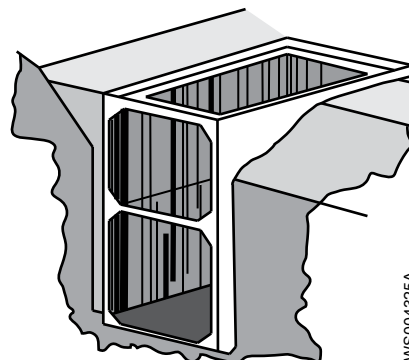


Figure 7: Shield box

- Regularly check the walls of an excavation or trench for cracks, bulges and spalling. Check the shoring for signs of distress, especially after a rainstorm.
- Do not work in an excavation that is filled or partially filled with water. Remove personnel from the excavation during a rainstorm, and inspect the excavation carefully before re-entry.
- Do not store excavated material and equipment along the edge of the trench or excavation. Do not drive or park vehicles along the edge of an excavation.

#### 4.1.3 Inspect the work area before permit-required hot work



##### **WARNING: Explosion/Fire Hazard**

Before starting any permit-required hot work such as welding, gas cutting, grinding, or using electrical handtools, do the following: 1. Check the explosion risk. 2. Provide sufficient ventilation.

## 4.2 Installing the unit

- The contractor is responsible for ensuring that the installation follows the local regulations and EN 976-2:1997.
- The unit must be installed underground, outside of the building.
- Dimensions in installation figures must be regarded as minimum dimensions.

### 4.2.1 Prepare the site

- Check that the following requirements are complied with:
  - The excavation method of the pit must be adapted to the current soil conditions. Considerations include slope stability and possible water drainage.
  - Complicated soil conditions must be investigated by a geotechnical engineer.
- If the unit is installed in filled material of stony material, silt and clay, or in organic soil, attach a separating layer of geotextile to the pit walls and bottom before backfilling and compaction.

The geotextile prevents any material transportation from the backfill material into the soil.

- Refer to EN 976-2:1987 for demands on the quality of geotextile and installation method.
- Excavate in accordance with the minimum values.

Table 3: Approximate minimum diameter of excavation

Top version	Ø (mm)
50	1500
65	1900
80	2300
100S	2700

Top version	Ø (mm)
150S	2900
150L	3200

### 4.2.2 Prepare the pit base

- Check that the pit bottom is even before preparing the base.
- Check that the base is flat, evenly compacted, and horizontally leveled before installing the unit.
- Prepare a pit base as per the applicable requirement.

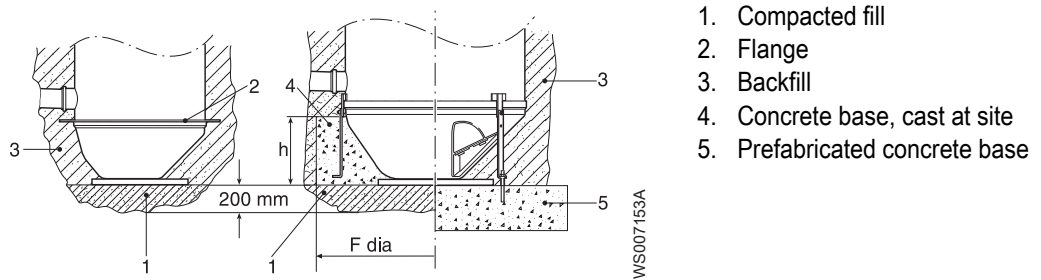


Figure 8: Pit base design

Top version	Pit base requirement
50-65-80	Compacted sand
100-150	Prefabricated concrete base or concrete footing case at site. See <a href="#">Anchorage</a> on page 14.

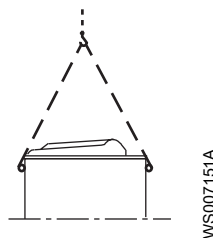
### 4.2.3 Install the unit

1. Before installing the unit, visually check that the tank and the internal pipework are undamaged.
2. Lift the unit on to the pit base in a vertical position and align it.

**NOTICE:**

Never lift the unit with a pump inside it.

Use both lifting eyes when lifting the unit.



3. Check that the unit is in level.

### 4.2.4 Anchorage

TOP 50-65-80 units are equipped with a horizontal flange at the bottom. The weight of backfill material on the flange prevents the unit from floating up.

For TOP 100-150 units, the anchoring bars that are fixed to the unit must either be bolted to a prefabricated concrete base or secured by a concrete footing cast at site.

Requirements for concrete footing:

- The minimum concrete quality is ENV 206, C30/37.
- To make sure sufficient anchorage, use concrete footing dimensions according to the table.



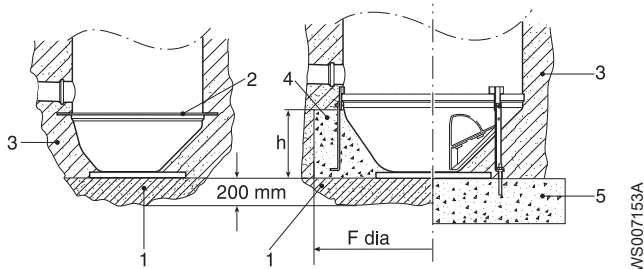


Table 4: Required dimensions for concrete footing

TOP version	Minimum diameter F, mm	Approximated concrete volume, m <sup>3</sup>	Height h: Minimum - Maximum, mm
100 S	2100	1.2 -1.6	450-550
150 S	2300	1.5-2.0	450-550
150 L	2600	2.0-2.5	450-550

Filling the unit with water up to a height of minimum 1500 mm (4.9 ft) gives sufficient counterweight during casting.

#### 4.2.5 Connect the external piping

Observe local regulations for frost penetration depth.

The unit is delivered complete with prefabricated inlet and discharge pipe connections as well as connection for over-flow pipe, if ordered.

#### 4.2.6 Make the electrical connections

Before making the electrical connections, read the Installation, Operation, and Maintenance manual for the control panel carefully.

1. Check that the following requirements are complied with:
  - The fuse in the power supply system must agree with the maximum permissible fuse rating.
  - The main voltage and frequency must agree with the specifications on the pump data plate.
  - When connecting inside the unit, remember that the environment is damp. Make sure that suitable electrical protection is chosen accordingly.
  - Do not allow the ends of the cable to be submerged in water. The water can be sucked into the cable by capillary action.
  - Appropriate support grips must be used for the cables inside the unit.
2. Install the level sensors.  
See [Installing the level sensors](#) on page 15.
3. Install the control panel.  
See [Install the control panel](#) on page 16.

#### 4.2.7 Installing the level sensors

---

##### NOTICE:

It is essential to ensure the proper functioning of level regulators in the unit.

---

##### Install the ENM-10

Make sure that there are two ENM-10 level sensors available for start and alarm.

Before installing the level sensor, read the level sensor manual carefully.

1. Hang the level sensors on the cable holder inside the tank.

Use applicable support grips.

2. Adjust the height of the level sensors according to the installation drawing.

---

**NOTICE:**

It is essential to ensure the proper functioning of level regulators in the unit.

---

#### 4.2.8 Install the control panel

1. Run the cables through the cable entry to the start and control panel.  
The pump motor cable must be long enough to enable removal of the pump from the unit.
2. Connect the leads.  
See the wiring diagram supplied with the control panel.
3. Install and connect the main supply cable to the control panel.  
See the wiring diagram supplied with the control panel.

#### 4.2.9 Equipotential bonding

The unit is prepared for protective equipotential bonding.

- Connect the upper guide bar holder and the protective grid or grids, if mounted, with a separate earth wire.
- Connect the earth wire from the cabinet to the upper guide bar holder.

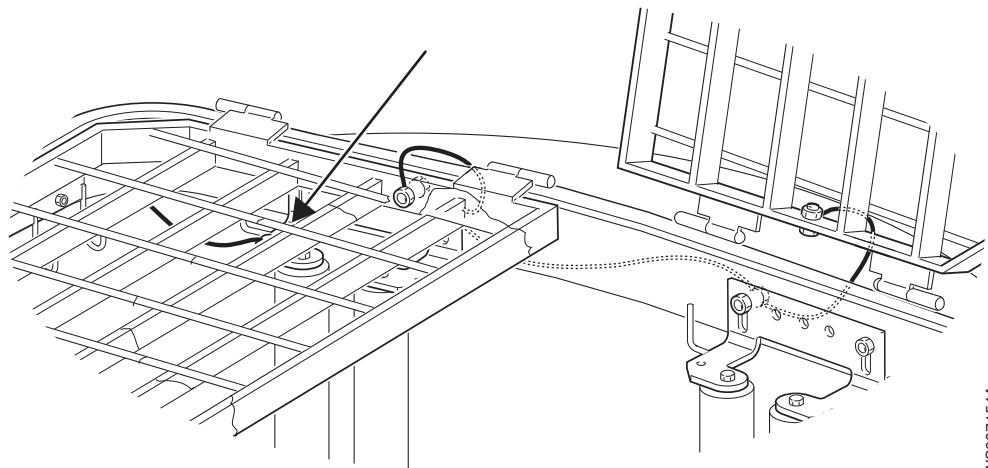


Figure 9: Upper guide bar holder with earth connection

#### 4.2.10 Backfill

Compaction of the backfill must be thoroughly done to make sure that the surrounding material provides support to the structure of the unit.

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**NOTICE:**

Do not allow soil or gravel to get inside the unit.

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Counteractive loads are achieved by dead load of the concrete footing and vertical earth pressure on the concrete footing.

1. Check that the following requirements are fulfilled:
  - The unit must be level after backfilling.
  - Backfilling must be correctly made around inlet pipes, outlet pipes, and the unit bottom.
  - The pipe work and the electrical connections must be protected and supported during backfilling so that no load is applied to them by the compaction operation.
  - The backfill must not contain any contamination, such as snow or ice of significant importance.

Table 5: Physical properties of backfill material

Physical property	Requirement
Grain size, diameter	0.06–20 mm (0.002–0.79 in)
Organic content	< 2% by weight
Content of grains sized <0.06 mm (0.002 in)	<15% by weight
Uniformity coefficient, $CU = d_{60}/d_{10}$	5–10
Water content, w	3–8%

2. Execute filling and compaction layer by layer around the unit, up the unit wall and up the pit wall.

Minimum thickness of backfill around the unit	0.7 m (2.3 ft)
Layer thickness	0.15 m (6 in)

Table 6: Minimum thickness of backfill around the unit

Top version	Thickness (mm)
50	300
65	400
80	500
100S, 150S	650
150L	700

Equipment	Weight (kg)	Layer thickness (mm)	Number of passes for each layer
Vibrating rammer	70	300	4
Vibrating plate compactor	50	200	3

- Start the compaction on the first layer by driving a light, vibrating machine around the unit.  
Cover the whole surface.
- When the first pass is completed, then start the second pass.
- When all the passes for a layer are completed, then fill the next layer.
- Repeat the compaction procedure until all layers have been compacted.

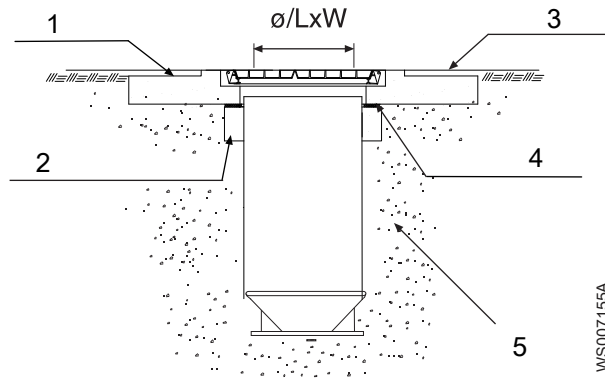
#### 4.2.11 Installing the access cover in vehicular traffic areas

In vehicular traffic areas, a concrete slab with access cover and frame must be used. The design of the concrete slab and the purchase of the access cover with frame are the responsibilities of the local consultant or contractor. The design of the concrete slab depends on the type of load it will be exposed to.

Examples:

- Pedestrians, cyclists: 5 kN
- Private cars: 15 kN
- Light traffic: 80 kN
- Heavy traffic: 400 kN

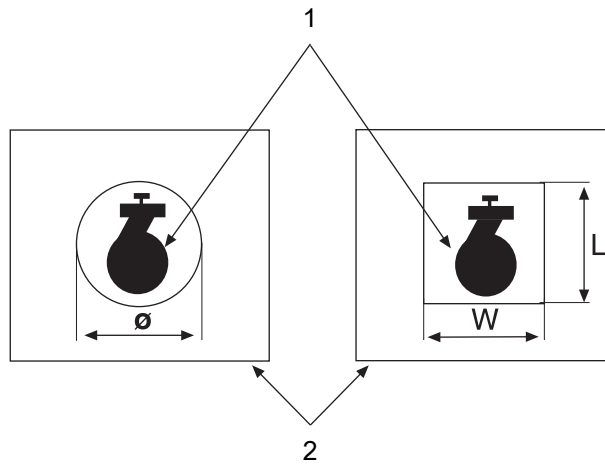
**Concrete slab design**



- 1. Concrete slab
- 2. Concrete ring stiffener
- 3. Ground level
- 4. Flexible sealing
- 5. Backfill

WS007155A

**Recommended minimum dimensions**



- 1. Pump
- 2. Slab

WS007156A

Pump type	Circular $\varnothing$ mm	Rectangular (L x W) mm
<ul style="list-style-type: none"> <li>• C/D 3057</li> <li>• C/D/M 3068</li> <li>• C/D/N 3085 HT, MT</li> <li>• M 3085, 3102, 3127</li> </ul>	600	600 x 350
<ul style="list-style-type: none"> <li>• C 3085 LT</li> <li>• C/D/N 3102 HT, MT, LT</li> <li>• C/D/N 3127 HT, MT, SH</li> <li>• C/D/N 3140 HT, MT</li> <li>• C/D/N 3152 HT, MT</li> <li>• N 3153 HT, MT</li> <li>• N 3171 HT, MT</li> </ul>	850	850 x 550

**4.3 Install the pump**

Before installing and using the pump, read the pump manual carefully.

Make sure that the impeller rotates in the correct direction before installing a 3-phase pump.

**NOTICE:**

Do not allow soil or gravel to get inside the unit.

1. Lower the pump along the guide bars.

On reaching the bottom position, the pump automatically connects to the pre-assembled discharge connection.

The pump can be hoisted up along the guide bars for inspection without undoing any connection.

2. Fasten the lifting chain on the hook on the access frame.

3. Fasten the motor cables on the cable holder.

Use appropriate support grips for the cables.

# 5 Operation

## 5.1 Precautions

Before taking the unit into operation, check the following:

- All recommended safety devices are installed.
- The cable and cable entry have not been damaged.
- All debris and waste material has been removed.

---

### NOTICE:

Never operate the pump with the discharge line blocked, or the discharge valve closed.

---



### WARNING: Crush Hazard

Risk of automatic restart.

---

### Precautions when opening the cover

Follow these precautions when opening the cover:

- Do not stand directly over the cover to open it. Stand to the side. Wait at least five minutes after opening, to let any fumes disperse, before approaching the hole.
- Never work alone.

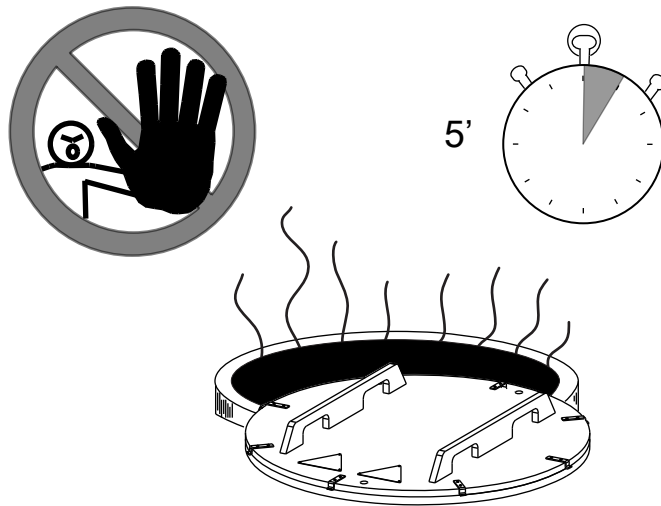


Figure 10: Waiting five minutes after opening, to let fumes disperse

## 5.2 Before commissioning

- Check that all electrical connections have been made. See [Make the electrical connections](#) on page 15.
- Make sure that there is no debris in the unit.
- Check that the equipment inside the unit is properly fastened after the transport and installation.
- Make sure that the cables are not sharply bent or pinched.
- Check that the guide bars are placed vertically.

Use a level or plumb line.

## 5.3 Start the pump

Follow the instructions in the Installation, Operation, and Maintenance manual for the pump and the control panel.

1. Open the shutoff valve.
2. Switch on the main power supply.
3. Check that the unit is emptied from water:
  - a) Fill the tank with water up to the start level.
  - b) Check that the pump stops within 4 minutes.
  - c) Repeat five times to make sure that the level sensors are working properly.
4. Check that the pump and pipe assembly are fixed and watertight.
5. Pull the high-level alarm level sensor, hold it in a horizontal position and verify that the pump starts.

The alarm is activated if everything is right.
6. Always close and lock the access cover before leaving the unit.

# 6 Maintenance

## 6.1 Precautions

Before starting work, make sure that the safety instructions in the chapter *Introduction and Safety* on page 3 have been read and understood.



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**DANGER: Inhalation Hazard**

Before entering the work area, make sure that the atmosphere contains sufficient oxygen and no toxic gases.

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**DANGER: Explosion/Fire Hazard**

Special rules apply to installations in explosive or flammable atmospheres. Do not install the product or any auxiliary equipment in an explosive zone unless it is rated explosion-proof or intrinsically-safe. If the product is rated explosion-proof or intrinsically-safe, then see the specific explosion-proof information in the safety chapter before taking any further actions.

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**DANGER: Electrical Hazard**

Before starting work on the unit, make sure that the unit and the control panel are isolated from the power supply and cannot be energized. This applies to the control circuit as well.

**WARNING: Biological Hazard**

Infection risk. Rinse the unit thoroughly with clean water before working on it.

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**WARNING: Fall Hazard**

Check that suitable barriers for the work area are in place.

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**CAUTION: Crush Hazard**

Make sure that the unit cannot roll or fall over and injure people or damage property.

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**CAUTION: Thermal Hazard**

The surfaces or parts of the unit may become hot during operation. Allow surfaces to cool before starting work, or wear heat-protective clothing.

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### Pump manual

The safety information in the Installation, Operation and Maintenance manual for the pump must be followed at all times.

### Ground continuity verification

A ground (earth) continuity test must always be performed after service.

### Precautions when opening the cover

Follow these precautions when opening the cover:



- Do not stand directly over the cover to open it. Stand to the side. Wait at least five minutes after opening, to let any fumes disperse, before approaching the hole.
- Never work alone.

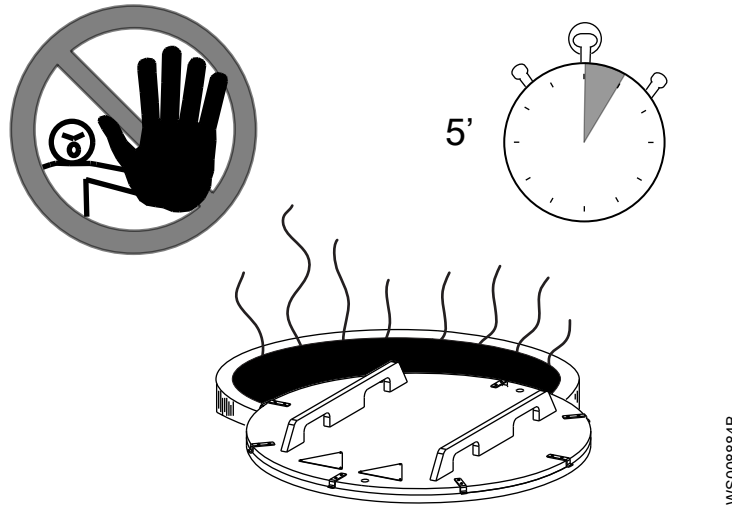


Figure 11: Waiting five minutes after opening, to let fumes disperse

### 6.1.1 Inspect the work area before permit-required hot work



#### **WARNING: Explosion/Fire Hazard**

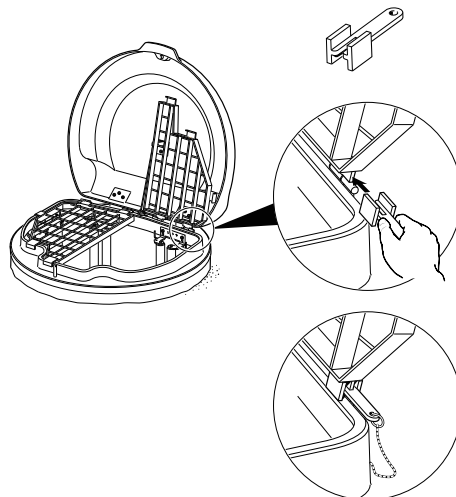
Before starting any permit-required hot work such as welding, gas cutting, grinding, or using electrical handtools, do the following: 1. Check the explosion risk. 2. Provide sufficient ventilation.

## 6.2 Maintenance guidelines

- A yearly inspection and cleaning of level regulators is recommended.
- Make sure that the inside of the tank, valves, and pipes are kept as clean as possible.
- Always close and lock the access cover before leaving the unit.

## 6.3 Preventive maintenance

1. Open the access cover.



2. Visually check that the system has no leakage.
3. Remove the pump from the tank.

4. Clean the level regulators by removing any sediments deposited.
5. Wash the inlet pump housing with generous amounts of water.
6. Check the condition of the impeller.
7. Flush the wall tanks, pipes and accessories that have been in contact with the pumped media with generous amounts of water.
8. Install the pump.

# 7 Declaration of Conformity

## 7.1 Declaration of Conformity


Xylem Water Solutions Global Services AB Emmaboda hereby certifies that Flygt Top 50, 65, 80, 100S, 150S 150L pump station with an incorporated Xylem pump has been manufactured in accordance with the COUNCIL'S DIRECTIVE concerning convergence of the legislation of Member States with regard to Machinery 2006/42/EC, EMC 2014/30/EU, Low Voltage 2014/35/EU. Marked with serial number.

The product has been manufactured in accordance with the following harmonized standards and technical specifications:

- EN ISO 12100:2010, EN 809+A1:2009
- Applicable parts of EN 60335-2-41, EN 60204, EN 60034
- Applicable parts of EN 61000-6-1:2007, EN 61000-6-2:2005, EN 61000-6-3:2007, EN 61000-6-4:2007

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Signature 	Function <b>Authorised person to compile the technical file and empowered to draw up the declaration on behalf of the manufacturer.</b>	Date <b>2020-03-01</b>

# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)**



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Visit our Web site for the latest version of this document and more information

The original instruction is in English. All non-English instructions are translations of the original instruction.

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