

# MULTILIFT

M, MD, MLD, MOG, MDG

Installation and operating instructions





# MULTILIFT

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## English (GB) Installation and operating instructions

### Original installation and operating instructions

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## 1. General information



Read this document before you install the product. Installation and operation must comply with local regulations and accepted codes of good practice.

### 1.1 Hazard statements

The symbols and hazard statements below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



#### **DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.



#### **WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.



#### **CAUTION**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

The hazard statements are structured in the following way:



#### **SIGNAL WORD**

##### **Description of the hazard**

Consequence of ignoring the warning

- Action to avoid the hazard.

## 1.2 Notes

The symbols and notes below may appear in Grundfos installation and operating instructions, safety instructions and service instructions.



Observe these instructions for explosion-proof products.



A blue or grey circle with a white graphical symbol indicates that an action must be taken.



A red or grey circle with a diagonal bar, possibly with a black graphical symbol, indicates that an action must not be taken or must be stopped.



If these instructions are not observed, it may result in malfunction or damage to the equipment.



Tips and advice that make the work easier.

## 2. Product introduction

### 2.1 Product description



TM082539

The MULTILIFT range offers pre-assembled complete lifting stations designed to collect and dispose of domestic wastewater into the sewer system. The lifting stations are supplied complete with collecting tanks, single- or three-phase submersible pump(s), level sensor, level controller and connection accessories.

The following variants are available:

| MULTILIFT | Collecting tank size | Pump(s)            | Non-return valve |
|-----------|----------------------|--------------------|------------------|
| M         | 93 l                 | 1                  | ✓                |
| MD        | 130 l                | 2                  | ✓                |
| MLD       | 270 l                | 2                  | ✓                |
| MOG       | 93 l                 | 1<br>grinder pump  | - <sup>1)</sup>  |
| MDG       | 93 l                 | 2<br>grinder pumps | - <sup>1)</sup>  |

<sup>1)</sup> Available as an accessory.

#### 2.1.1 Pump

The pump impellers are designed as free-flow vortex impellers ensuring almost unchanged performance throughout the entire life of the pump. The stator housing of the motor is made of cast iron with a 150 µm epoxy coating. The pump has a mechanical shaft seal.

Single-phase motors are protected by a thermal switch in the windings. MULTILIFT M, MD and MLD run via a capacitor inside the controller cabinet. MULTILIFT MOG and MDG run via starting and operating capacitors inside the controller cabinet.

Three-phase motors are protected by a thermal switch in the windings and an additional thermal circuit breaker in the controller cabinet to cut out the motor in case of overload.

If the phase sequence for three-phase pumps is wrong, the controller indicates fault and prevents the pump(s) from starting.

MULTILIFT MOG, MDG: The pump has a grinder which grinds solid particles into small pieces so that they can easily flow through pipes of a small diameter.



**MULTILIFT M, MD, MLD:** If the motor is overloaded, it stops automatically. When it has cooled to normal temperature, it restarts automatically.



**MULTILIFT MDG** lifting stations have two pumps, thus providing a standby pump in case of pump failure or additional pump performance if the inlet exceeds the performance of one pump.

Always install MULTILIFT MDG lifting stations if the wastewater flow must not be interrupted.

Performance curves are available in the data booklet, which you can download via the QR code or link below:



<http://net.grundfos.com/qr/i/98288126>

QR982881 26

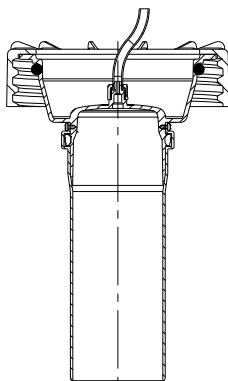
### 2.1.2 Level sensor

The piezoresistive pressure sensor placed in the controller is connected via a hose to a pressure tube in the tank. The screw cap where the hose is connected includes a connection for a DN 75 tube. This tube, the pressure tube, extends down into the tank. The rising liquid level compresses the air inside the pressure tube and hose, and the piezoresistive sensor transforms the changing pressure into an analog signal. The control box uses the analog signal to start and stop the pump and to indicate high-level alarm. The pressure tube is fixed underneath the screw cap and can be taken out for maintenance, service and cleaning the inside of the tube. An O-ring ensures tightness.

MULTILIFT M, MD, MLD: The hose is supplied in lengths of 4 or 10 m.

MULTILIFT MOG, MDG: The hose is supplied in a length of 10 m.

The hose must be connected to the controller.



TM084528

Screw cap with hose and DN 75 tube

### 2.1.3 Level controller

The level controller supplied with the lifting stations is either LC 231 or LC 241.

See the documentation for the level controller for further details.

Data booklet:



<http://net.grundfos.com/qr/i/98288126>

#### LC 231 installation and operating instructions

Single pump unit:



<http://net.grundfos.com/qr/i/99381576>

Dual pump unit:



<http://net.grundfos.com/qr/i/99480674>

#### LC 241 installation and operating instructions

Single pump unit:



<http://net.grundfos.com/qr/i/99381670>

Dual pump unit:



QR98288126

QR99381576

QR99480674

QR99381670

QR99480674

<http://net.grundfos.com/qri/99480978>

## Related information

### 6. Starting up the product

#### 7.1 Further settings

#### 10.1 Warning and alarm codes on the display of the level controller

#### 11.4 Technical data for level controller

### 2.1.4 Collecting tank

The gas-, odour- and pressure-tight collecting tank is made of wastewater resistant polyethylene (PE) and has all necessary ports for the connection of inlet pipes, outlet pipe, vent pipe and a manually operated diaphragm pump, which is available as an accessory.

#### MULTILIFT M, MD, MOG, MDG

The collecting tank has a turnable, eccentric disk in the back allowing adjustment of the inlet to any height between 180 and 315 mm above the floor. The most common heights are marked beside the inlet.

The MULTILIFT M collecting tank offers three horizontal inlets in the sides (2 × DN 100 and 1 × DN 50) and two vertical inlets at the top of the tank (1 × DN 150 and 1 × DN 50). The centres of the horizontal inlets are 180 mm (DN 50) and 250 mm (DN 150) above the floor.

The MULTILIFT MD collecting tank offers four horizontal inlets in the sides (2 × DN 100 and 2 × DN 50) and three vertical inlets at the top of the tank (2 × DN 150 and 1 × DN 50). The centres of the horizontal inlets are 120 mm (DN 50) and 250 mm (DN 150) above the floor.

The MULTILIFT MOG and MDG collecting tank offers four horizontal inlets in the sides (2 × DN 100 and 2 × DN 50) and two vertical inlets at the top of the tank (1 × DN 150 and 1 × DN 50). The centres of the horizontal inlets are 115 mm (DN 50) and 250 mm (DN 150) above the floor.

The side and back inlets 180 and 250 mm above the floor are for direct connection to wall-hung or floor-standing toilet according to EN 33 and EN 37. Further sanitary appliances can be connected to the other ports.

#### MULTILIFT MLD

The collecting tank offers one vertical inlet (DN 50) at the top of the tank and one vertical inlet (DN 150) in the stepped part of the tank.

## Tank volume

The tank volume and effective volume (volume between start and stop) for MULTILIFT lifting stations appear from the following table:

| Type of tank       | Inlet level [mm] | Total tank volume [l] | Effective tank volume [l] |
|--------------------|------------------|-----------------------|---------------------------|
| MULTILIFT M, MD    | 180              | 130                   | 49                        |
|                    | 250              |                       | 69                        |
|                    | 315              |                       | 86                        |
| MULTILIFT MLD      | 560              | 270                   | 190                       |
| MULTILIFT MOG, MDG | 180              | 93                    | 23                        |
|                    | 250              |                       | 37                        |
|                    | 315              |                       | 50                        |



Setting to the relevant start inlet level must be made during startup phase via the setup menu.

The first step after power supply connection is a startup phase with level setting.



To minimise sedimentation, the tank bottom is chamfered to lead the wastewater to the pump.

### 2.1.5 Motor cable

The motor cable is fitted to the motor via a cable entry. The enclosure class is IP68.

MULTILIFT M, MD, MLD: The length of the cable is either 4 or 10 m.

MULTILIFT MOG, MDG: The length of the cable is 10 m.

## 2.1.6 Shaft seal

### 2.1.6.1 Shaft seal, MULTILIFT M, MD, MLD

The pump has three shaft seals. The oil chambers in between are filled for life and therefore require no maintenance. For replacement in case of service, see service instructions.

### 2.1.6.2 Shaft seal, MULTILIFT MOG, MDG

The grinder pump incorporates two shaft seal variants which are both of the cartridge seal type.

Pumps up to and including 1.5 kW have a silicon carbide/silicon carbide (SiC/SiC) mechanical shaft seal as primary seal and a lip seal as secondary seal. In connection with service, the lip seal and mechanical shaft seal are supplied as one replaceable unit ready for fitting. The components can be replaced individually. See service instructions for the pump.

Pumps as from 2.6 kW have a double seal consisting of a SiC/SiC mechanical seal as primary seal and a carbon/aluminium oxide mechanical shaft seal as secondary seal. The components can be replaced individually. See service instructions for the pump.

### 2.1.7 Grinder system, MULTILIFT MOG, MDG

The grinder system consists of two parts, a stationary grinder ring and a rotating grinder head. See the figure below.

The grinder ring is secured to the pump housing by means of a bayonet socket and fixed in the correct position with a screw. The grinder head is secured to the shaft by means of the screw that keeps the impeller in position. To adjust or replace the grinder system, see service instructions for the pump.



Grinder system

TM053722

### 2.1.8 Non-return valve, MULTILIFT M, MD, MLD

The DN 80 non-return valve includes a drain screw to lift up the internal valve flap in order to drain the outlet pipe in case of maintenance or service. The valve is designed and tested according to EN 12050-4. See the figure below.



Loosen the locking nut before turning the drain screw.



TM051530

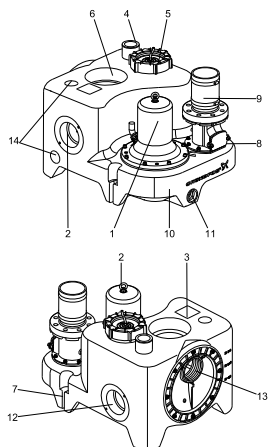
Non-return valve

## Related information

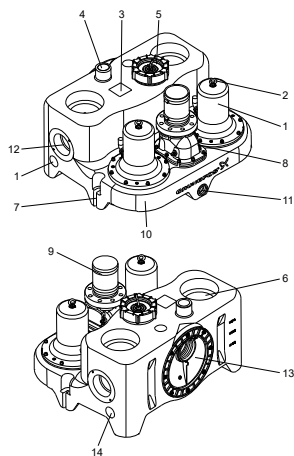
### [2.2 Construction](#)

## 2.2 Construction

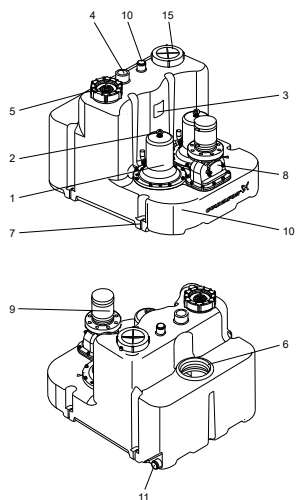
The following gives a description of the components:



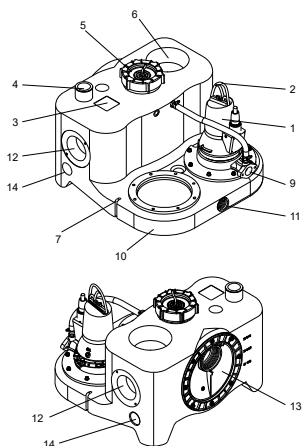
*MULTILIFT M, front and rear view*



*MULTILIFT MD, front and rear view*



*MULTILIFT MLD, front and rear view*



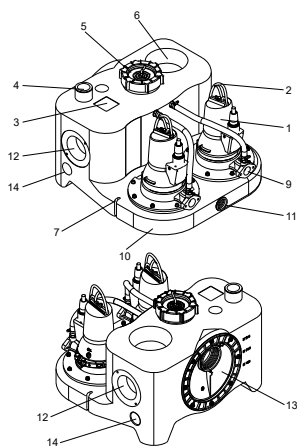
*MULTILIFT MOG, front and rear view*

TM051520

TM051521

TM051522

TM052125



TM052124

MULTILIFT MDG, front and rear view

| Pos. | Description                                                                                                                                                                |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | MULTILIFT M, MD, MLD: Pump<br>MULTILIFT MOG, MDG: Pump with grinder system and vortex impeller                                                                             |
| 2    | MULTILIFT M, MD, MLD: Lifting eye for pumps<br>MULTILIFT MOG, MDG: Lifting bracket                                                                                         |
| 3    | Nameplate                                                                                                                                                                  |
| 4    | Vent port, DN 70 (outer diameter, 75 mm), open                                                                                                                             |
| 5    | Screw cap for pressure tube and tank inspection opening                                                                                                                    |
| 6    | Vertical inlet, DN 150 (seal is accessory)                                                                                                                                 |
| 7    | Fixing point                                                                                                                                                               |
| 8    | Non-return valve with inspection cover and drain screw to lift up the valve flap. See fig. Non-return valve.                                                               |
| 9    | MULTILIFT M, MD, MLD: Outlet adapter flange, DN 80, to pipe $\varnothing 110$ with flexible connecting piece and two clamps.<br>MULTILIFT MOG, MDG: Oval flange for outlet |
| 10   | Collecting tank with carrying handle moulded into tank body                                                                                                                |
| 11   | Port, 1 1/2", for manually operated diaphragm pump                                                                                                                         |
| 12   | Horizontal inlet, DN 100 (seal is accessory)                                                                                                                               |
| 13   | Adjustable inlet disk, DN 100 (DN 150 optional as accessory)                                                                                                               |
| 14   | Side or top inlet, DN 50 (seal is accessory)                                                                                                                               |
| 15   | Separate inspection cover                                                                                                                                                  |

**Related information**[2.1.8 Non-return valve, MULTILIFT M, MD, MLD](#)

## 2.3 Intended use

MULTILIFT M is mainly designed for one-family houses. It may also be used in light commercial applications provided that other sanitary appliances are available in case of maintenance service or failure to MULTILIFT M.

MULTILIFT MD and MLD are designed for multi-family houses, offices, schools, hotels, restaurants, public areas and other commercial buildings and similar industrial applications.

MULTILIFT MOG is designed for one-family houses while MULTILIFT MDG is designed for multi-family houses, offices, schools, hotels, restaurants, public areas and other commercial buildings.

## 2.4 Pumped liquids

The Grundfos MULTILIFT M, MD, MLD, MOG and MDG lifting stations are designed for the collection and pumping of the following liquids:

- Domestic wastewater, including grey wastewater without faeces, black wastewater with faeces (discharge from water closets)
- Sludge-containing water.

The lifting stations are capable of pumping liquids containing fibres, textiles and faeces from below sewer level.

Do not pump rainwater with the MULTILIFT lifting stations for these two reasons:

- The motors of the lifting stations are not designed for continuous operation, which may be necessary in case of heavy rainfall.
- Rainwater must not be discharged into a lifting station inside a building according to EN 12056-4.

If in doubt, contact Grundfos.

Do not discharge the following substances/types of wastewater via a lifting station:

- Solid matter, tar, high content of sand, cement, ash, cardboard, debris, garbage.
- Wastewater from sanitary installations situated above the flood level (this must be drained away via a free flow drainage system according to EN 12056-1).
- Wastewater containing hazardous substances such as greasy wastewater from large-scale catering establishments.
- To drain greasy wastewater with MULTILIFT M, use a grease separator according to EN 1825-2 and a two-pump lifting station.

When connecting a backwash filter from a swimming pool to MULTILIFT M, check the inflow parameters. In case of doubt, contact Grundfos.



High temporary inflow can cause short-time high-level alarm. Alarm delay can be set in the controller menu.

- To drain greasy wastewater with MULTILIFT MD, MLD or MDG, use a grease separator according to EN 1825-2 between a canteen or commercial kitchen and the lifting station.



Abrasive particles, for example high content of sand, in the pumped liquid will reduce the life of the pump and especially the grinder system.

## 2.5 Identification

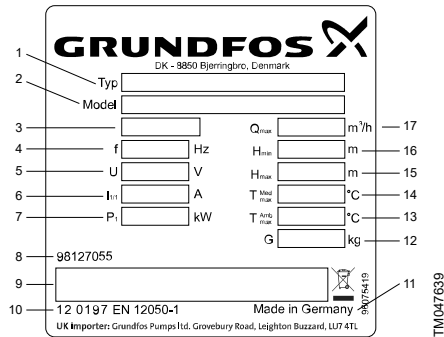
### 2.5.1 Type key

Example: MLD.22.3.4

| Code | Designation               | Explanation                   |
|------|---------------------------|-------------------------------|
| M    | MULTILIFT lifting station | Type range                    |
| [ ]  | Standard tank             | Tank size                     |
| L    | Large tank                |                               |
| [ ]  | One pump                  | Number of pumps               |
| D    | Two pumps                 |                               |
| OG   | One grinder pump          |                               |
| DG   | Two grinder pumps         |                               |
| 22   | Power [W]                 | Output power, $P_2$ / 100 [W] |
| 1    | Singe-phase motor         | Number of phases              |
| 3    | Three-phase motor         |                               |
| 2    | 2-pole motor              | Number of poles               |
| 4    | 4-pole motor              |                               |

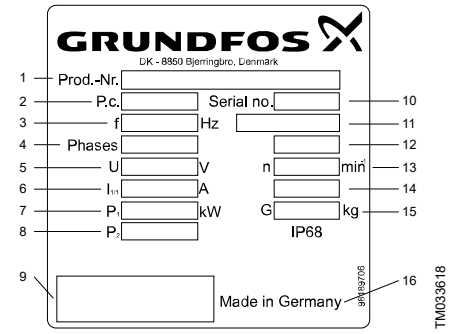
2.5.2 Nameplate, lifting station

The nameplate is located on the tank.



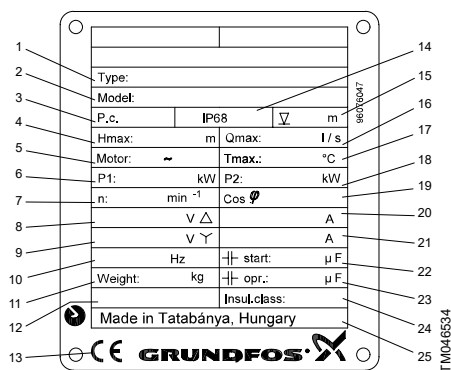
| Pos. | Description                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------|
| 1    | Type designation                                                                                                       |
| 2    | Model, product number, production site, production code, year and week, counter                                        |
| 3    | Operating mode                                                                                                         |
| 4    | Frequency                                                                                                              |
| 5    | Rated voltage                                                                                                          |
| 6    | Full-load current                                                                                                      |
| 7    | Motor input power, P1                                                                                                  |
| 8    | Reference number for the declaration of performance                                                                    |
| 9    | Approvals                                                                                                              |
| 10   | Year of first declaration of performance, notified body number and applied standard (Construction Products Regulation) |
| 11   | Production country                                                                                                     |
| 12   | Weight                                                                                                                 |
| 13   | Max. ambient temperature                                                                                               |
| 14   | Max. liquid temperature                                                                                                |
| 15   | Max. head                                                                                                              |
| 16   | Min. head                                                                                                              |
| 17   | Max. flow rate                                                                                                         |

2.5.3 Nameplate, motor, MULTILIFT M, MD, MLD



| Pos. | Description                     |
|------|---------------------------------|
| 1    | Product number, Model           |
| 2    | Production code (year and week) |
| 3    | Frequency                       |
| 4    | Number of phases                |
| 5    | Rated voltage                   |
| 6    | Full-load current               |
| 7    | Input power                     |
| 8    | Shaft power                     |
| 9    | Approvals                       |
| 10   | Serial number                   |
| 11   | Operating mode                  |
| 12   | Power factor                    |
| 13   | Rated speed                     |
| 14   | Insulation class                |
| 15   | Weight                          |
| 16   | Production country              |

## 2.5.4 Nameplate, motor, MULTILIFT MOG, MDG



| Pos. | Description         |
|------|---------------------|
| 22   | Starting capacitor  |
| 23   | Operating capacitor |
| 24   | Insulation class    |
| 25   | Production country  |

| Pos. | Description                                                                 |
|------|-----------------------------------------------------------------------------|
| 1    | Type designation                                                            |
| 2    | Product number                                                              |
| 3    | Production code (year and week)                                             |
| 4    | Max. head                                                                   |
| 5    | Number of phases                                                            |
| 6    | Rated input power                                                           |
| 7    | Rated speed                                                                 |
| 8    | Rated voltage, Δ                                                            |
| 9    | Rated voltage, Y                                                            |
| 10   | Frequency                                                                   |
| 11   | Weight without cable                                                        |
| 12   | Operating mode                                                              |
| 13   | CE marking                                                                  |
| 14   | Enclosure class according to IEC                                            |
| 15   | Max. installation depth (not filled out, see nameplate for lifting station) |
| 16   | Max. flow rate (not filled out, see nameplate for lifting station)          |
| 17   | Max. liquid temperature                                                     |
| 18   | Output power                                                                |
| 19   | Power factor                                                                |
| 20   | Rated current, Δ                                                            |
| 21   | Rated current, Y                                                            |

## 3. Receiving the product

### 3.1 Transportation



Do not stack the product.



#### **WARNING**

##### **Falling objects**

Death or serious personal injury

- Secure the product during transport to prevent it from tilting or falling down.



#### **CAUTION**

##### **Back injury**

Minor or moderate personal injury

- Use lifting equipment.



#### **CAUTION**

##### **Crushing of feet**

Minor or moderate personal injury

- Wear safety shoes when moving the product.



The motor lifting bracket is only intended for lifting the pump. Never lift or lower the lifting station by means of the lifting bracket.



Lift the lifting station by the collecting tank lifting brackets.

### 3.2 Inspecting the product

Before installing the product, do the following:

1. Check that the product is as ordered.
2. Check that no visible parts have been damaged.
3. If parts are damaged or missing, contact your local Grundfos sales company.

### 3.3 Scope of delivery

#### 3.3.1 MULTILIFT M, MD

Grundfos MULTILIFT M (one pump) and MD (two pumps) lifting stations are supplied complete with collecting tank, non-return valves, a sensor unit with cable and one or two pumps with cable, both connected to the level controller. The controller includes a power supply cable with plug.

An accessories bag containing the following items is also included:

- 1 × installation and operating instructions
- 1 × outlet adapter flange, DN 80, with connecting piece, DN 100 (outer diameter, 110 mm)
- 1 × flexible hose, DN 100, and two clamps to connect the outlet pipe
- 1 × flexible hose, DN 70, and two clamps to connect the vent pipe
- 2 × screw and expansion anchor for tank fixation
- 3 × screw and washer for fastening a pipe plug in the inlet disk, if required
- 1 × socket seal, DN 100
- 1 × socket seal, DN 50, for diaphragm pump connection or inlet, DN 50
- 1 × gasket kit, DN 80, 4 bolts M16, nuts and washers (galvanised).

#### 3.3.2 MULTILIFT MLD

Grundfos MULTILIFT MLD lifting stations are supplied complete with collecting tank, butterfly-non-return valves, a sensor unit with cable and two pumps with cable, both connected to the level controller. The controller includes a power supply cable with plug.

An accessories bag containing the following items is also included:

- 1 × installation and operating instructions
- 1 × outlet adapter flange, DN 80, with connecting piece, DN 100 (outer diameter, 110 mm)
- 1 × flexible hose, DN 100, and two clamps to connect the outlet pipe
- 1 × flexible hose, DN 70, and two clamps to connect the vent pipe
- 4 × screw and expansion anchor for tank fixation
- 1 × socket seal, DN 150
- 1 × flexible hose connection with two clamps, DN 50, for diaphragm pump connection or inlet, DN 50
- 1 × gasket kit, DN 80, 4 bolts M16, nuts and washers (galvanised).

### 3.3.3 MULTILIFT MOG, MDG

Grundfos MULTILIFT MOG (one pump) and MULTILIFT MDG (two pumps) lifting stations are supplied complete with collecting tank, a sensor unit with cable and one or two pumps with cable, connected to the level controller. The controller includes a power supply cable with plug.

An accessories bag containing the following items is also included:

- 1 × installation and operating instructions
- 1 × oval outlet flange, 1 1/4" (MOG) 2 × oval outlet flanges, 1 1/4" (MDG)
- 1 × flexible hose, DN 70, and two clamps to connect the vent pipe
- 2 × screw and expansion anchor for tank fixation
- 3 × screw and washer for fastening a pipe plug in the inlet disk, if required
- 1 × socket seal, DN 100
- 1 × socket seal, DN 50, for diaphragm pump connection or inlet, DN 50.

## 4. Mechanical installation

### WARNING

#### Explosive environment

Death or serious personal injury

- Do not install the product in hazardous environments.

### WARNING

#### Biological hazard

Death or serious personal injury

- In existing installations, install an isolating valve before the tank inlet if necessary.
- If no isolating valve is installed, wear protective clothing.

### CAUTION

#### Back injury

Minor or moderate personal injury

- Use lifting equipment.

### CAUTION

#### Biological hazard

Minor or moderate personal injury

- According to EN 12056-4, venting must take place above the roof.

### CAUTION

#### Fall hazard

Minor or moderate personal injury

- Do not step on the lifting station.



### CAUTION

#### Crushing of feet

Minor or moderate personal injury

- Wear safety shoes when moving the product.



Ensure that weight from the inlet, outlet and ventilation pipes does not rest on the tank. Long pipe sections and valves must be supported.



Do not stand on the lifting station.

When installing the MULTILIFT lifting station, ensure all local regulations covering venting and access to the stations are observed.

## 4.1 Installation requirements

The guidelines for correct mechanical installation of lifting stations are according to EN 12056-4.

- Install the lifting station in a properly lit and vented room with 60 cm free space around all parts to be serviced and operated.
- Provide a pump sump below the floor level. If a lifting station is installed in a basement with the risk of penetrating groundwater, we recommend (and in certain countries it is required) to install a drainage pump in a separate pump sump below floor level in order to drain the room. See fig. Installation sketch.



The collecting tank, pump and cables may be flooded (max. 2 m for 7 days).



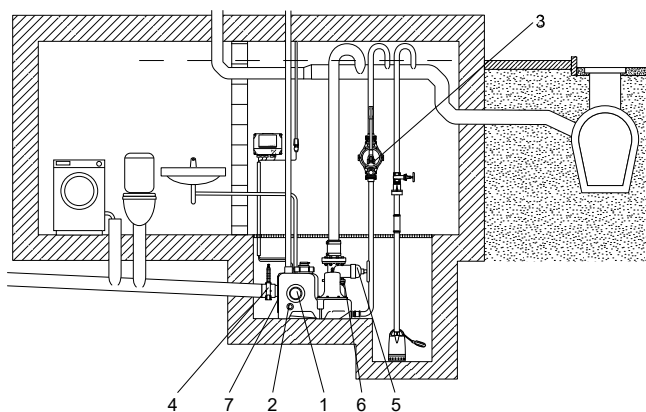
The controller must be installed in a dry and well-ventilated place.

- All pipe connections must be flexible to reduce resonance.
- Lifting stations must be secured against uplift and twist.
- All outlet pipes from lifting station, diaphragm pump and drainage pump must have a bend above the local backwater level. The highest point of the bend/reversed water seal must be above street level.
- For outlet pipes, DN 80 and upwards, install an isolating valve in the outlet pipe. Also provide an isolating valve in the inlet line.
- Surface water must not be discharged into the lifting station inside the building. It must have its own pumping station outside the building.
- Lifting stations must be provided with an approved non-return valve according to EN 12050-4.
- The volume of the outlet pipe above the non-return valve up to the backwater level must be smaller than the effective tank volume.
- In general, a lifting station for black wastewater must be vented above roof level. However, it is permitted to lead the ventilation, as a secondary ventilation, into the main building ventilation system. Special vent valves (accessory) must be placed outside the building.
- If the wastewater is discharged into a collecting line, this collecting line must have a filling ratio of at least  $h/d = 0.7$ . The collecting line must be at least one nominal diameter bigger after the outlet pipe connection.
- The controller must be placed in a flood-safe place and be equipped with an alarm.
- Use a diaphragm pump for simple, manual draining of the collecting tank in case of pump failure (not obligatory).

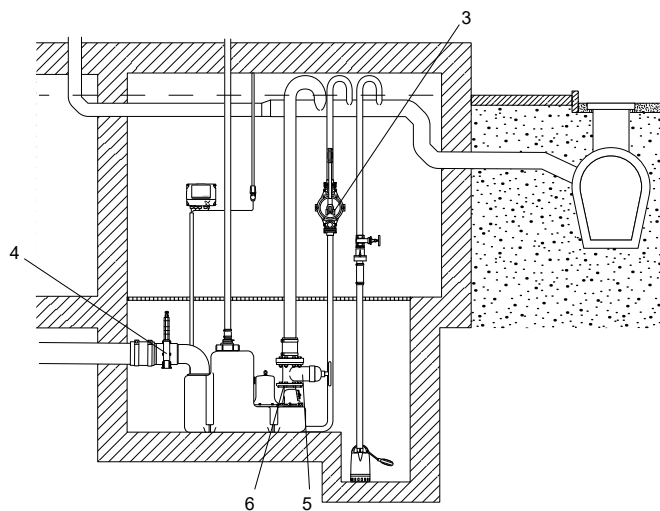
## Related information

### [4.2 Installation sketches](#)

## 4.2 Installation sketches



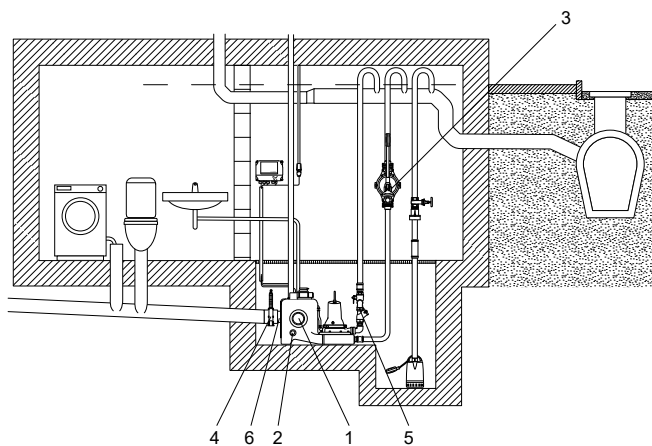
Installation sketch, MULTILIFT M and MD



Installation sketch, MULTILIFT MLD

TM051864

TM051865

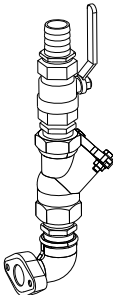
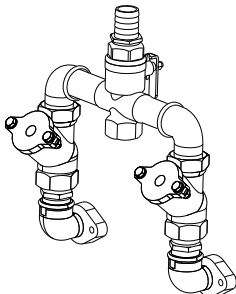


TM052143

Installation sketch, MULTILIFT MOG and MDG

| Pos. | Accessories                                                                | Product number                 |
|------|----------------------------------------------------------------------------|--------------------------------|
| 1    | Socket seal, DN 100                                                        | 97726942                       |
| 2    | Socket seal, DN 50                                                         | 98079669                       |
| 3    | Diaphragm pump, 1 1/2"                                                     | 96003721                       |
| 4    | PVC isolating valve, DN 100                                                | 96615831                       |
|      | Cast-iron isolating valve, DN 80                                           | M, MD, MLD: 96002011           |
| 5    | 1 1/2" complete pre-assembly outlet pipework (See detailed pipework below) | MOG: 98085356<br>MDG: 98085358 |
| 6    | Gasket kit, DN 80, with bolts, nuts and washers                            | 96001999                       |
| 7    | Inlet disk with socket seal, DN 150, for replacement                       | 98079681                       |

Detailed outlet pipework description for MULTILIFT MOG and MDG:

| Figure                                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>1 1/2" complete pre-assembled outlet pipework for MULTILIFT MOG:</p> <ul style="list-style-type: none"> <li>• 1 × flexible connecting piece with 2 clamps DN 40</li> <li>• 1 × hose nozzle Rp 1 1/2 / DN 40</li> <li>• 1 × isolating valve (ball) R 1 1/2</li> <li>• 2 × double nipple Rp 1 1/2</li> <li>• 1 × non-return valve (ball) R 1 1/2</li> <li>• 1 × bend 90° Rp 1 1/2 / R 1 1/2</li> </ul> <p><b>Note:</b> The oval flange with 1 1/4" inner thread is supplied with MULTILIFT MOG.</p>                                                                                                                                                        |
|  | <p>1 1/2" complete pre-assembled outlet pipework for MULTILIFT MDG:</p> <ul style="list-style-type: none"> <li>• 1 × flexible connecting piece with 2 clamps DN 32</li> <li>• 1 × hose nozzle Rp 1 1/2 / DN 40</li> <li>• 1 × isolating valve (ball) R 1 1/2</li> <li>• 1 × cross piece Rp 1 1/2</li> <li>• 1 × blind cover Rp 1 1/2</li> <li>• 2 × long nipple R 1 1/2</li> <li>• 2 × bend 90° Rp 1 1/2 / R 1 1/2</li> <li>• 2 × double nipple R 1 1/2</li> <li>• 2 × non-return valve (ball) R 1 1/2</li> <li>• 2 × bend 90° Rp 1 1/2 / R 1 1/4</li> </ul> <p><b>Note:</b> Two oval flanges with 1 1/4" inner thread are supplied with MULTILIFT MDG.</p> |

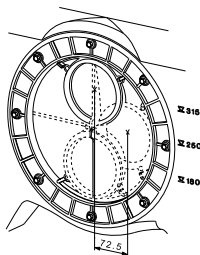
## Related information

### 4.1 Installation requirements

### 4.3 Connecting the inlet pipe, MULTILIFT M, MD, MOG, MDG

1. Prepare the adjustable inlet on the back of the collecting tank.

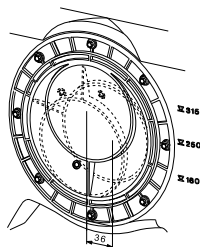
The turnable inlet disk has a DN 100 inlet and allows the inlet height to be adjusted to any height between 180 and 315 mm above floor level. The most common heights, 180, 250 and 315 mm, are marked beside the inlet. See the figure below. Before connecting the MULTILIFT lifting station, consider that when turning the DN 100 inlet disk to fit to the height of the inlet pipe, the lifting station and thereby the outlet will move sideways accordingly (max. 72.5 mm).



TM050351

DN 100 inlet disk

An inlet disk with a DN 150 inlet is available as an accessory and can be adjusted to any height between 207 and 279 mm above the floor to the middle of the inlet pipe. See the figure below. Be aware that, when turning the DN 150 inlet disk, to fit to the height of the inlet pipe, the lifting station and thereby the outlet will move sideways accordingly (max. 36 mm).

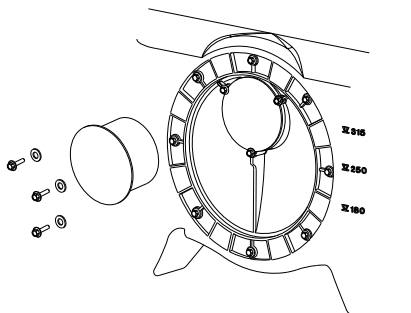


TM051669

Optional DN 150 inlet disk

The screws around the outer ring of the inlet disk are not fully tightened allowing the inlet disk to be turned. This will allow the inlet to be adjusted to the desired inlet height. When the desired inlet height has been set, tighten all screws. All screws must be tightened to max. 9 Nm. If the main inlet

is not to be used it can easily be plugged using a standard DN 100 pipe plug fastened with three screws and washers. See the figure below.

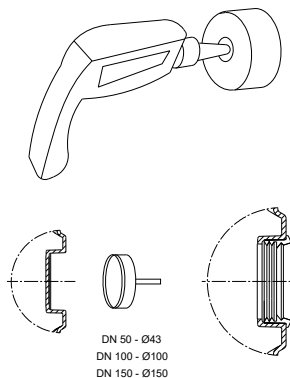


TM080074

#### Plugging the main inlet

2. Prepare optional inlets by cutting out the desired one.

Use cup drills  $\varnothing 150$  for DN 150,  $\varnothing 100$  for DN 100 and  $\varnothing 43$  for DN 50 inlets. The cutting line is recessed. To avoid sharp cutting edges, the holes must be deburred. The socket seals are provided with collars.

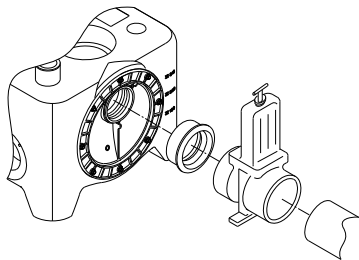


TM051242

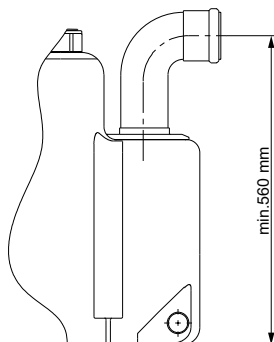
#### Cutting or drilling of optional connection holes

3. Connect the inlet pipe to the tank and install an isolating valve between the inlet pipe and the lifting station to avoid inflow during maintenance and service.

We recommend an easy-to-handle PVC isolating valve.



TM051503



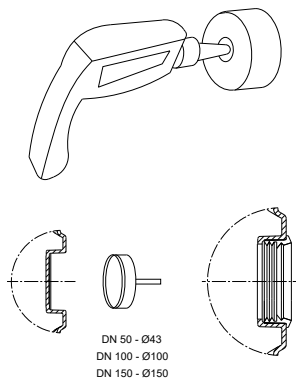
Minimum inlet level for MULTILIFT MLD

TM033613

#### 4.4 Connecting the inlet pipe, MULTILIFT MLD

1. Prepare the  $\varnothing 150$  inlet.

Use a cup drill  $\varnothing 150$  to drill out the hole along the recessed line. See the figure below.



TM051242

#### Cutting or drilling of optional connection holes

The tank minimum inlet level for MULTILIFT MLD is approximately 560 mm. See the figure below.

2. Prepare the additional  $\varnothing 50$  inlet.

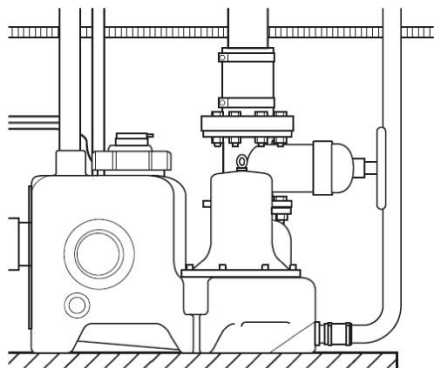
Cut along the stepped line of the  $\varnothing 50$  inlet port on top of the tank.

#### 4.5 Installing the outlet pipe, MULTILIFT M, MD, MLD

- Install an isolating valve between the non-return valve and the supplied flexible connection hose, DN 100 (internal diameter 110 mm).



A flexible connection can be ensured if a distance of approximately 3 cm is left between the pipe ends of the connecting piece and the outlet pipes.



*Isolating valve on top of the non-return valve*

#### 4.6 Installing the outlet pipe connections, MULTILIFT MOG, MDG

- Install a flexible connection between the pre-assembled outlet pipework and the outlet pipe.



A flexible connection can be ensured if a distance of approximately 1 cm is left between the pipe ends of the connecting piece and the outlet pipe.

#### 4.7 Installing further connections

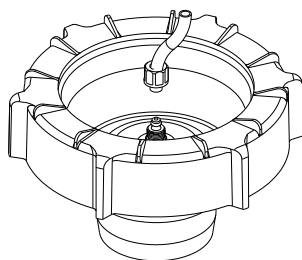
- Connect the vent pipe.

The DN 70 vent port on top of the tank is open.

1. Connect the vent pipe to the vent port via a flexible connecting piece.

The vent pipe must be led out above the roof into the open air in accordance with local regulations.

2. Connect the level sensor hose to the sensor tube of the lifting station.
3. Connect the level sensor hose to the bottom of the controller.



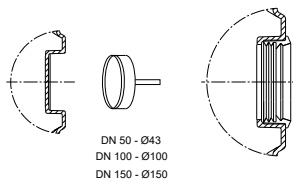
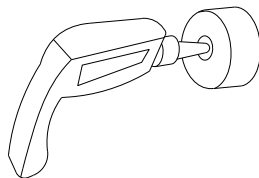
4. Check the use of vent valves (accessory) according to local regulations if venting above the roof is impossible.

A flexible connection can be ensured if a distance of approximately 3 cm is left between the vent pipe end and the vent port.

- Connect the diaphragm pump (optional).

  1. Prepare the connection for a diaphragm pump (optional).

Use cup drill, Ø43, for DN 50 connection socket. To avoid sharp cutting edges, the hole must be deburred.

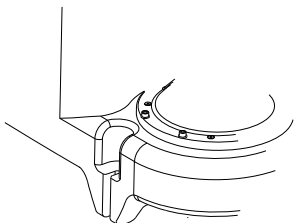


*Cutting or drilling of optional connection holes*

2. Fit the diaphragm pump on the outlet side.

To facilitate servicing of the diaphragm pump, we recommend fitting a 1 1/2" isolating valve to the tank port.

- Fix the tank to the floor.



*Fixing point for fixation of tank to the floor*

TM050334

## 5. Electrical connection

### WARNING

#### Electric shock

Death or serious personal injury



- Switch off the power supply before you start any work on the product. Make sure that the power supply cannot be switched on accidentally.
- Lock the main switch in off position, or unplug the power plug. Type and requirements are specified in EN 60204-1, 5.3.

### WARNING

#### Electric shock

Death or serious personal injury



- The protective earth (PE) of the power outlet must be connected to the protective earth of the product. The plug must have the same PE connection system as the power outlet.

### WARNING

#### Electric shock

Death or serious personal injury



- The installation must be fitted with a residual current device (RCD) with a tripping current less than 30 mA.

### WARNING

#### Electric shock

Death or serious personal injury



- The product must be connected to an external main switch with a minimum contact gap of 3 mm (0.12 inch) in all poles.

### WARNING

#### Electric shock

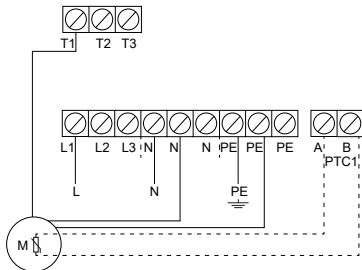
Death or serious personal injury



- Before opening the control cabinet, switch off the power supply.
- The operating voltage and frequency are marked on the controller nameplate. Make sure that the controller is suitable for the power supply on which it will be used.
- All cables/wires must be fitted through the cable entries and gaskets.
- The power outlet must be placed near the cabinet as the controller is supplied with a 1.5 m cable. (Controllers with a supply voltage of 3 × 230 V are not supplied with a cable.)
- If required according to local regulations, install an external main switch.

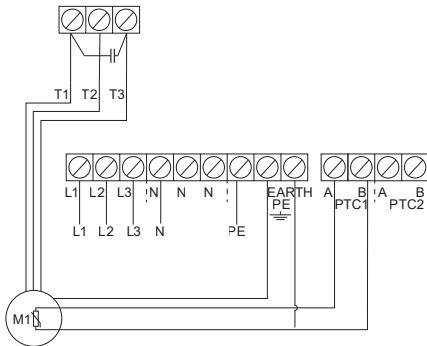
5.1 Wiring connections

5.1.1 Single-phase motor, LC 231



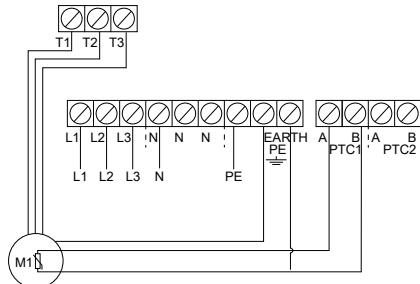
Single-phase connection for LC 231

5.1.2 Single-phase motor, LC 241

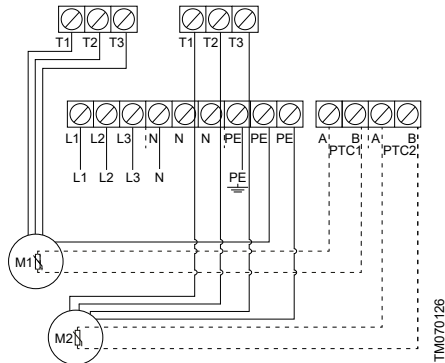


Single-phase connection for LC 241

5.1.3 Three-phase motor, LC 231 and LC 241



Three-phase connection for one pump.



Three-phase connection for two pumps

## 6. Starting up the product

### WARNING

#### Biological hazard

Death or serious personal injury



- Before starting any work on a pump used for pumping liquids which could be hazardous to health, clean and vent the pump and pit thoroughly according to local regulations.

### WARNING

#### Electric shock

Death or serious personal injury



- Switch off the power supply before you start any work on the product. Make sure that the power supply cannot be switched on accidentally.
- Lock the main switch in off position, or unplug the power plug. Type and requirements are specified in EN 60204-1, 5.3.

Before startup, the connection must have been carried out according to section Electrical connection.

Startup must be carried out by authorised persons.

Proceed as follows:

1. Check all connections.
2. Connect the plug to the power supply.
  - a. Set the level controller to automatic mode using the button on the operating panel or Grundfos GO.
  - b. Set the start level, if necessary.  
If the factory setting for the start level fits with the inlet level, continue with the next step.  
If the start level needs to be different, change it using Grundfos GO.
3. Open the isolating valves in the inlet and outlet pipes.
4. Activate a sanitary appliance connected to the inflow of the MULTILIFT lifting stations and monitor the increasing liquid level in the tank up to the start level. Check the starts and stops at least twice.



If the pump cable was disconnected from the controller, for instance to lead the cable through an empty cable conduit, the wires must be connected in accordance with the wiring diagrams. Check the rotation direction of the pump.

## Related information

[2.1.3 Level controller](#)

[7.2 Start level](#)

[7.3 Factory settings](#)

## 7. Setting the product

### 7.1 Further settings

If you wish to change some settings, see the installation and operating instructions for the level controller.

## Related information

[2.1.3 Level controller](#)

### 7.2 Start level

It is important to adjust the start level of the level controller according to the inlet pipe.

## Related information

[6. Starting up the product](#)

### 7.3 Factory settings

The level controller is preset from factory. See the table below for the preset values.

The values below are only valid for sensor tubes with a diameter of 75 mm. See the service instructions for values for sensor tubes with a diameter of 110 mm.

| MULTILIFT                    | M                                                                 | MD                                                                        | MLD                                                                       | MOG                                                               | MDG                                                                       |
|------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------|
| Sensor type                  | Analog input                                                      |                                                                           |                                                                           |                                                                   |                                                                           |
| Functions                    | Level                                                             |                                                                           |                                                                           |                                                                   |                                                                           |
| Unit                         | m                                                                 |                                                                           |                                                                           |                                                                   |                                                                           |
| Electrical signal            | 0.5 - 3.5 V                                                       |                                                                           |                                                                           |                                                                   |                                                                           |
| Dry-running level            | Disabled                                                          |                                                                           |                                                                           |                                                                   |                                                                           |
| Signal detection time        | 1 s                                                               |                                                                           |                                                                           |                                                                   |                                                                           |
| Stop delay                   | Enabled                                                           |                                                                           |                                                                           |                                                                   |                                                                           |
| Stop delay time              | 3 s                                                               | 5 s                                                                       | 7 s                                                                       | 10 s                                                              | 10 s                                                                      |
| Min. value                   | 0.13 m                                                            | 0.13 m                                                                    | 0.11 m                                                                    | 0.13 m                                                            | 0.13 m                                                                    |
| Max. value                   | 1.15 m                                                            | 1.15 m                                                                    | 1.13 m                                                                    | 1.15 m                                                            | 1.15 m                                                                    |
| Stop level                   | 0.16 m                                                            | 0.16 m                                                                    | 0.14 m                                                                    | 0.16 m                                                            | 0.16 m                                                                    |
| Start level P1 <sup>2)</sup> | 0.17 m                                                            | 0.17 m                                                                    | 0.44 m                                                                    | 0.17 m                                                            | 0.17 m                                                                    |
| Start level P2               | -                                                                 | The start level for P2 must be 0.05 m higher than the start level for P1. | The start level for P2 must be 0.05 m higher than the start level for P1. | -                                                                 | The start level for P2 must be 0.05 m higher than the start level for P1. |
| High level                   | The high level must be 0.05 m higher than the start level for P1. | The high level must be 0.05 m higher than the start level for P2.         | The high level must be 0.05 m higher than the start level for P2.         | The high level must be 0.05 m higher than the start level for P1. | The high level must be 0.05 m higher than the start level for P2.         |

2) The start levels for P1 must be 0.01 m lower than the centre of the inlet pipe to avoid backflow.

#### Related information

##### 6. Starting up the product

## 8. Servicing the product

### WARNING

#### Electric shock

Death or serious personal injury



- Switch off the power supply before you start any work on the product. Make sure that the power supply cannot be switched on accidentally.
- Lock the main switch in off position, or unplug the power plug. Type and requirements are specified in EN 60204-1, 5.3.

### WARNING

#### Biological hazard

Death or serious personal injury



- Before carrying out maintenance and service on lifting stations used for pumping liquids that might be hazardous to health, do as follows:
  - Flush the lifting station thoroughly with clean water and drain the outlet pipes.
  - Close the isolating valves.
  - Rinse the dismantled parts in water.
  - Wear personal protective equipment.
  - The work must be carried out in accordance with local regulations.

### WARNING

#### Biological hazard

Death or serious personal injury



- In existing installations, install an isolating valve before the tank inlet if necessary.
- If no isolating valve is installed, wear protective clothing.

### CAUTION

#### Hot surface

Minor or moderate personal injury



- Wear protective gloves.

### CAUTION

#### Back injury

Minor or moderate personal injury



- Use lifting equipment.

### CAUTION

#### Crushing of feet

Minor or moderate personal injury



- Wear safety shoes when moving the product.

The MULTILIFT lifting station requires a minimum of maintenance.

## 8.1 Maintenance intervals

According to EN 12056-4, the lifting station must be checked at the following intervals to ensure safe and reliable operation:

- every 12 months in single-family houses
- every 6 months in multifamily houses
- every 3 months in commercial and industrial applications.

The product may be installed in environments requiring shorter maintenance intervals.

## 8.2 Performing a maintenance check

During the maintenance check, local regulations must be observed.

The periodic checks of the lifting station must be carried out by authorised persons and must comprise electrical and mechanical maintenance.

Check the following points:

- **Inlet and outlet connections**

1. Check all connections to the lifting station for tightness and leakages.
2. Make sure that weight from the inlet, outlet and vent pipes does not rest on the tank.

Long pipe sections and valves must be supported.

- **Power consumption**

1. See nameplate.

- **Cable entry**

1. Make sure that the cable entry is watertight and that the cables are not bent sharply and/or pinched.

- **Pump parts**

1. Remove eight screws.
2. Dismantle the pump from the tank.
3. Check that the vent hole of the pump housing is clear.
4. When the pump is mounted again, we recommend replacing the O-ring between the pump and tank.
5. Make a test run with clean water.
6. In case of noise, vibration or abnormal running, contact Grundfos.

- **Ball bearings**

1. Check the shaft for noisy or heavy operation.
2. Replace defective ball bearings.

A general overhaul of the pump is usually required in case of defective ball bearings or poor motor function.

This work must be carried out by the manufacturer or an authorised service workshop.

- **Non-return and isolating valves**

1. Check non-return and isolating valves for correct function.
2. Clean, if necessary.

## 8.3 Mechanical maintenance

### 8.3.1 Performing mechanical maintenance

#### WARNING

##### Automatic startup

Minor or moderate personal injury

- Switch off the power supply before you start any work on the product.



- Check that all pipe connections are tight.
- Fix any leakages.
- Remove any deposits or sludge buildup in the tank.
- Check the tank for cracks and deformations.
- Remove any blockages on the inlet side of the lifting station.
- Check the pump according to the installation and operating instructions for the pump.

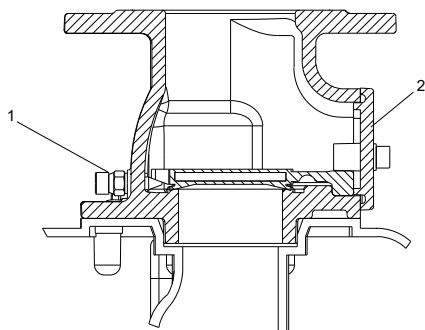
### 8.3.2 Cleaning the non-return valve

Proceed as follows

1. Close the isolating valves in the outlet pipe and in the inlet pipe (if fitted) or drain the outlet pipe by tightening the drain screw on the side of the non-return valve.



Loosen the locking nut before turning the drain screw.



TM082824

*Non-return valve*

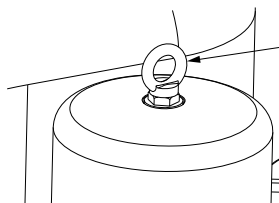
| Pos. | Description      |
|------|------------------|
| 1    | Drain screw      |
| 2    | Inspection cover |

2. Clean the non-return valve via its inspection cover.
3. Replace the gasket of the inspection cover when reassembling the non-return valve.

### 8.3.3 Motor, MULTILIFT M, MD, MLD

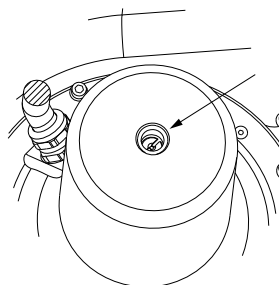
Check free rotation of the pump in the following way:

1. Turn off the power.
2. Unscrew the lifting eye on top of the motor.



*Lifting eye*

3. The top of the motor shaft is now visible.



*Top of the slotted motor shaft*

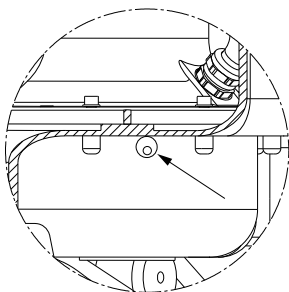
4. Check that rotor and impeller can be turned freely by turning the shaft with a large slotted screwdriver.



If the pump has been dismantled, remember to align the vent hole in the pump with the vent hole in the tank when remounting the pump to the tank. See the figures below.

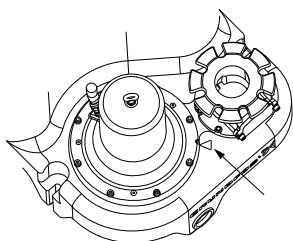
TM050338

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*Vent holes in the pump housing and collecting tank*



TM050330

*Alignment marks on the tank and the pump flange*

#### 8.3.4 Motor, MULTILIFT MOG, MDG

For maintenance and service of the pump, see the service instructions.

## 8.4 Performing electrical maintenance

### WARNING

#### Electric shock

Death or serious personal injury



- Switch off the power supply before you start any work on the product.
- Make sure that the power supply cannot be switched on accidentally.
- Lock the main switch in off position, or unplug the power plug. Type and requirements are specified in EN 60204-1, 5.3.

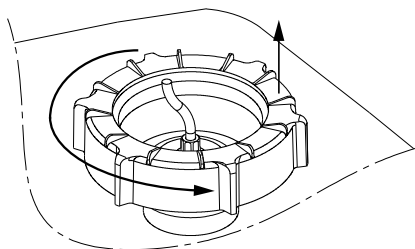
- Check the gasket of the cabinet front cover and of the cable entries.
- Check the cable connections.
- Check the controller functions.
- Check and clean the level sensor.
- If the controller is installed in a particularly moist environment in a basement, we recommend checking the terminals on the PCB in order to identify possible corrosion. In typical installations, the terminals will work for several years and do not require any inspection.



The above list is not complete. The controller may be installed in environments that require thorough and frequent maintenance.

### 8.4.1 Cleaning the level sensor

1. Switch off the power to the controller and the pump(s).
2. Loosen the screw cap by turning it counterclockwise. See the figure below.
3. Lift the sensor carefully out of the collecting tank. Do not lift it by means of the hose.
4. Check for possible deposits on or in the pressure tube.
5. Scrape off any deposits. If necessary, remove the hose from the controller and flush the tube and hose with clean water at low pressure. Make sure no water remains in the hose.
6. Refit the pressure tube by screwing the screw cap onto the tank. Reconnect the hose to the controller. Check the sensor by test running the lifting station.



Removing the level sensor

### Related information

*10.4 The pump(s) is/are starting/stopping too frequently even if there is no inflow*

### 8.5 Contaminated lifting station or components



#### **WARNING** **Biological hazard**

Death or serious personal injury

- Flush the lifting station thoroughly with clean water and drain the outlet pipes.

The product will be classified as contaminated if it has been used for a liquid which is injurious to health or toxic. If you request Grundfos to service the product, contact Grundfos with details about the pumped liquid before returning the product for service. Otherwise, Grundfos can refuse to accept the product for service. Clean the product in the best possible way before you return it. Costs of returning the product are to be paid by the customer. Any application for service must include details about the pumped liquid.

### 9. Taking the product out of operation



#### **CAUTION** **Hot surface**

Minor or moderate personal injury

- Wear protective gloves.

1. Close the inlet valves.
2. Empty the tank:
  - a. Run one pump manually.
  - b. Stop the pump.
  - c. Use a diaphragm pump to empty the tank below the pump inlet height.
3. Close the outlet valves.
4. Switch off the power to the pumps and the controller.

## 10. Fault finding

### WARNING

#### Electric shock

Death or serious personal injury



- Switch off the power supply before you start any work on the product. Make sure that the power supply cannot be switched on accidentally.
- Lock the main switch in off position, or unplug the power plug. Type and requirements are specified in EN 60204-1, 5.3.

### WARNING

#### Biological hazard

Death or serious personal injury



- Before carrying out maintenance and service on lifting stations used for pumping liquids that might be hazardous to health, do as follows:
- Flush the lifting station thoroughly with clean water and drain the outlet pipes.
- Close the isolating valves.
- Rinse the dismantled parts in water.
- Wear personal protective equipment.
- The work must be carried out in accordance with local regulations.

### CAUTION

#### Hot surface

Minor or moderate personal injury



- Wear protective gloves.

### CAUTION

#### Back injury

Minor or moderate personal injury



- Use lifting equipment.

### CAUTION

#### Crushing of feet

Minor or moderate personal injury



- Wear safety shoes when handling the product.

## 10.1 Warning and alarm codes on the display of the level controller

For information about causes and remedies for warning and alarm codes shown on the display on the level controller, see the installation and operating instructions for the level controller and Grundfos GO.

### Related information

[2.1.3 Level controller](#)

## 10.2 The pump(s) does/do not run

| Cause                                                                        | Remedy                                                                                                                                                                                         |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No power supply.<br>None of the indicator lights are on.                     | <ul style="list-style-type: none"> <li>Switch on the level controller or wait until the power cut is over. During the power cut, drain the collecting tank with the diaphragm pump.</li> </ul> |
| The ON-OFF-AUTO selector is in position OFF.                                 | <ul style="list-style-type: none"> <li>Press the ON-OFF-AUTO selector into position ON or AUTO.</li> </ul>                                                                                     |
| Control circuit fuses are blown.                                             | <ul style="list-style-type: none"> <li>Check and eliminate the cause.</li> <li>Replace the control circuit fuses.</li> </ul>                                                                   |
| The motor or supply cable is defective or the connections have become loose. | <ul style="list-style-type: none"> <li>Check motor and supply cables.</li> <li>Replace the cable or retighten connections, if necessary.</li> </ul>                                            |

## 10.3 The sensor signal is out of range

All pumps are started, and the high level alarm is on.

| Cause                                                                | Remedy                                                                                                                                                                                                      |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Not all outlet valves are open.                                      | <ul style="list-style-type: none"> <li>Open all outlet isolating valves.</li> </ul>                                                                                                                         |
| There is a blockage in the tank or pump.                             | <ul style="list-style-type: none"> <li>Remove the blockage.</li> </ul>                                                                                                                                      |
| The pump is not vented correctly. The pump cannot build up pressure. | <ul style="list-style-type: none"> <li>Check that the vent hose is correctly fitted between the vent flange and the tank.</li> <li>Remove any blockage from the vent hole at the outlet port.</li> </ul>    |
| The lifting station is undersized.                                   | <ul style="list-style-type: none"> <li>Recalculate the inflow parameters and compare the result with the tank volume and pump performance.</li> <li>If you need a new product, contact Grundfos.</li> </ul> |

## 10.4 The pump(s) is/are starting/stopping too frequently even if there is no inflow

| Cause                                                  | Remedy                                                                                                                                            |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| The level sensor fails. The sensor gives wrong signal. | <ul style="list-style-type: none"> <li>Check for air leakages between the level controller and the sensor tube on the collecting tank.</li> </ul> |

### Related information

[8.4.1 Cleaning the level sensor](#)

## 10.5 One pump starts sometimes without visible reason

| Cause                                   | Remedy                                                                                                                                          |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Test run 24 hours after last operation. | <ul style="list-style-type: none"> <li>No action necessary. It is a safety function that prevents the shaft sealing from seizing up.</li> </ul> |

## 11. Technical data

### 11.1 Lifting station

|                      |                                                                                                                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight               | Depending on variant.<br>See nameplates.                                                                                                                                      |
| Temperature range    | 0-40 °C<br>For short periods up to 60 °C (max. 5 minutes per hour)                                                                                                            |
| Flood conditions     | Max. 2 m for 7 days                                                                                                                                                           |
| Sound pressure level | MULTILIFT M, MD, MLD:<br>< 70 dB(A) according to EN 12050-1 and the Machinery Directive<br>MULTILIFT MOG, MDG: < 76 dB(A) according to EN 12050-1 and the Machinery Directive |

### 11.2 Collecting tank

|           |                   |
|-----------|-------------------|
| Material: | PE (polyethylene) |
|-----------|-------------------|

### 11.3 Pump

| Component    | Material                              |
|--------------|---------------------------------------|
| Pump housing | Cast iron with a 150 µm epoxy coating |
| Impeller     | PPE+PS                                |
| Pump shaft   | Stainless steel, DIN W.-Nr. 1.4301    |
| Motor cable  | Polychloroprene                       |
| O-rings      | NBR rubber                            |

#### Motor

|                        |                        |
|------------------------|------------------------|
| Mains frequency        | 50 Hz                  |
| Insulation class       | F (155 °C)             |
| Impeller type          | Vortex                 |
| Enclosure class        | IP68                   |
| pH range               | 4-10                   |
| Starts per hour        | Max. 60                |
| Max. density of liquid | 1100 kg/m <sup>3</sup> |

### 11.4 Technical data for level controller

For information about technical data for the level controller and the controller cabinet, see the installation and operating instructions for the level controller.

#### Related information

[2.1.3 Level controller](#)

## 11.5 MULTILIFT M

| MULTILIFT M | Duty             | Voltage [V] | Power P1/P2 [kW] | Max. flow rate [l/s] | $I_{1/1} / I_{start}$ [A] | rpm [min <sup>-1</sup> ] | Number of poles | Plug type        |
|-------------|------------------|-------------|------------------|----------------------|---------------------------|--------------------------|-----------------|------------------|
| M.12.1.4    | S3 -50 %, 1 min. | 1 × 230 V   | 1.9 / 1.4        | 13.9                 | 9 / 39                    | 1430                     | 4               | E/F, I           |
| M.12.3.4    |                  | 3 × 400 V   | 1.8 / 1.5        |                      | 3.7 / 19                  |                          |                 | -                |
| M.15.1.4    |                  | 1 × 230 V   | 2.3 / 1.7        | 15.3                 | 10.1 / 39                 | 1410                     | 4               | CEE 3P+N+E, 16 A |
| M.15.3.4    |                  | 3 × 400 V   | 2.3 / 1.8        |                      | 4 / 19                    |                          |                 | -                |
| M.22.3.4    | S3 -50 %, 1 min. | 3 × 230 V   | 2.8 / 2.3        | 16.7                 | 10.2 / 51.5               | 1430                     | 4               | CEE 3P+E 16 A    |
| M.22.3.4    |                  | 3 × 400 V   |                  |                      | 5.5 / 29.7                |                          |                 | CEE 3P+N+E, 16 A |
| M.24.3.2    |                  | 3 × 230 V   | 3.1 / 2.6        | 14.4                 | 9.7 / 88.7                | 2920                     | 2               | CEE 3P+E 16 A    |
| M.24.3.2    |                  | 3 × 400 V   |                  |                      | 5.5 / 39                  |                          |                 | CEE 3P+N+E, 16 A |
| M.32.3.2    |                  | 3 × 230 V   | 4.0 / 3.4        | 16.7                 | 13 / 88.7                 | 2920                     | 2               | CEE 3P+E 16 A    |
| M.32.3.2    |                  | 3 × 400 V   |                  |                      | 6.7 / 39                  |                          |                 | CEE 3P+N+E, 16 A |
| M.38.3.2    | S3 -40 %, 1 min. | 3 × 230 V   | 4.6 / 3.9        | 16.7                 | 13 / 88.7                 | 2880                     | 2               | CEE 3P+E 16 A    |
| M.38.3.2    |                  | 3 × 400 V   |                  |                      | 7.5 / 39                  |                          |                 | CEE 3P+N+E, 16 A |

## 11.6 MULTILIFT MD, MLD

| MULTILIFT MD<br>MULTILIFT MLD | Duty                | Voltage<br>[V] | Power<br>P1/P2<br>[kW] | Max. flow<br>rate<br>[l/s] | I <sub>1/1</sub> /<br>I <sub>start</sub><br>[A] | rpm<br>[min <sup>-1</sup> ] | Number<br>of poles | Plug type           |
|-------------------------------|---------------------|----------------|------------------------|----------------------------|-------------------------------------------------|-----------------------------|--------------------|---------------------|
| MD/MLD.12.1.4                 | S3 -50 %,<br>1 min. | 1 × 230<br>V   | 1.9 / 1.4              | 13.9                       | 9 / 39                                          | 1430                        | 4                  | E/F, I<br>-         |
| MD/MLD.12.3.4                 |                     | 3 × 400<br>V   | 1.8 / 1.5              |                            | 3.7 / 19                                        |                             |                    | CEE 3P+N+E, 16<br>A |
| MD/MLD.15.1.4                 |                     | 1 × 230<br>V   | 2.3 / 1.7              | 15.3                       | 10.1 / 39                                       | 1410                        | 4                  | E/F, I<br>-         |
| MD/MLD.15.3.4                 |                     | 3 × 400<br>V   | 2.3 / 1.8              |                            | 4 / 19                                          |                             |                    | CEE 3P+N+E, 16<br>A |
| MD/MLD.22.3.4                 | S3 -50 %,<br>1 min. | 3 × 230<br>V   | 2.8 / 2.3              | 16.7                       | 10.2 /<br>51.5                                  | 1430                        | 4                  | CEE 3P+E 16 A       |
| MD/MLD.22.3.4                 |                     | 3 × 400<br>V   |                        |                            | 5.5 / 29.7                                      |                             |                    | CEE 3P+N+E, 16<br>A |
| MD/MLD.24.3.2                 |                     | 3 × 230<br>V   | 3.1 / 2.6              | 14.4                       | 9.7 / 88.7                                      | 2920                        | 2                  | CEE 3P+E 16 A       |
| MD/MLD.24.3.2                 |                     | 3 × 400<br>V   |                        |                            | 5.5 / 39                                        |                             |                    | CEE 3P+N+E, 16<br>A |
| MD/MLD.32.3.2                 |                     | 3 × 230<br>V   | 4.0 / 3.4              | 16.7                       | 88.7                                            | 2920                        | 2                  | CEE 3P+E 16 A       |
| MD/MLD.32.3.2                 |                     | 3 × 400<br>V   |                        |                            | 6.7 / 39                                        |                             |                    | CEE 3P+N+E, 16<br>A |
| MD/MLD.38.3.2                 |                     | 3 × 230<br>V   | 4.6 / 3.9              | 16.7                       | 13 / 88.7                                       | 2880                        | 2                  | CEE 3P+E 16 A       |
| MD/MLD.38.3.2                 |                     | 3 × 400<br>V   |                        |                            | 7.5 / 39                                        |                             |                    | CEE 3P+N+E, 16<br>A |

## 11.7 MULTILIFT MOG, MDG

| MULTILIFT                 | Duty             | Voltage<br>[V] | Power<br>P1/P2<br>[kW] | Max. flow<br>rate<br>[l/s] | I <sub>1/1</sub> / I <sub>start</sub><br>[A] | rpm<br>[min <sup>-1</sup> ] | Number<br>of poles | Plug type           |
|---------------------------|------------------|----------------|------------------------|----------------------------|----------------------------------------------|-----------------------------|--------------------|---------------------|
| MULTILIFT MOG (one pump)  |                  |                |                        |                            |                                              |                             |                    |                     |
| MOG.09.1.2                | S3-35,<br>1 min. | 1 × 230 V      | 1.4 / 0.9              | 4.4                        | 6.3 / 38                                     | 2890                        | 2                  | E/F, I<br>-         |
| MOG.09.3.2                |                  | 3 × 400 V      |                        |                            | 2.6 / 21                                     | 2860                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.12.1.2                |                  | 1 × 230 V      | 1.8 / 1.2              | 5.0                        | 8.2 / 38                                     | 2820                        | 2                  | E/F, I<br>-         |
| MOG.12.3.2                |                  | 3 × 400 V      |                        |                            | 3.1 / 21                                     | 2750                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.15.3.2                |                  | 3 × 230 V      | 2.3 / 1.5              | 5.2                        | 6.6 / 36                                     | 2700                        | 2                  | CEE 3P+E, 16 A      |
| MOG.15.3.2                |                  | 3 × 400 V      |                        |                            | 3.8 / 21                                     | 2700                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.26.3.2                |                  | 3 × 230 V      | 3.7 / 2.6              | 5.2                        | 9.2 / 57                                     | 2870                        | 2                  | CEE 3P+E, 16 A      |
| MOG.26.3.2                |                  | 3 × 400 V      |                        |                            | 5.3 / 33                                     | 2870                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.31.3.2                | S3-30,<br>1 min. | 3 × 230 V      | 3.9 / 3.1              | 5.1                        | 10.9 / 74                                    | 2900                        | 2                  | CEE 3P+E, 16 A      |
| MOG.31.3.2                |                  | 3 × 400 V      |                        |                            | 6.3 / 43                                     | 2900                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.40.3.2                |                  | 3 × 230 V      | 5.2 / 4.0              | 4.7                        | 14.2 / 74                                    | 2830                        | 2                  | CEE 3P+E, 16 A      |
| MOG.40.3.2                |                  | 3 × 400 V      |                        |                            | 8.2 / 43                                     | 2830                        |                    | CEE 3P+N+E,<br>16 A |
| MULTILIFT MDG (two pumps) |                  |                |                        |                            |                                              |                             |                    |                     |
| MDG.09.3.2                | S3-35,<br>1 min. | 3 × 400 V      | 1.4 / 0.9              | 4.4                        | 2.6 / 21                                     | 2860                        | 2                  | CEE 3P+N+E          |
| MDG.12.3.2                |                  | 3 × 400 V      | 1.8 / 1.2              | 5.0                        | 3.1 / 21                                     | 2750                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.15.3.2                |                  | 3 × 230 V      | 2.3 / 1.5              | 5.2                        | 6.6 / 36                                     | 2700                        | 2                  | CEE 3P+E, 16 A      |
| MOG.15.3.2                |                  | 3 × 400 V      |                        |                            | 3.8 / 21                                     | 2700                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.26.3.2                |                  | 3 × 230 V      | 3.7 / 2.6              | 5.2                        | 9.2 / 57                                     | 2870                        | 2                  | CEE 3P+E, 32 A      |
| MOG.26.3.2                |                  | 3 × 400 V      |                        |                            | 5.3 / 33                                     | 2870                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.31.3.2                |                  | 3 × 230 V      | 3.9 / 3.1              | 5.1                        | 10.9 / 74                                    | 2900                        | 2                  | CEE 3P+E, 32 A      |
| MOG.31.3.2                |                  | 3 × 400 V      |                        |                            | 6.3 / 43                                     | 2900                        |                    | CEE 3P+N+E,<br>16 A |
| MOG.40.3.2                | S3-30,<br>1 min. | 3 × 230 V      | 5.2 / 4.0              | 4.7                        | 14.2 / 74                                    | 2830                        | 2                  | CEE 3P+E, 32 A      |
| MOG.40.3.2                |                  | 3 × 400 V      |                        |                            | 8.2 / 43                                     | 2830                        |                    | CEE 3P+N+E,<br>32 A |

## 12. Disposing of the product

This product or parts of it must be disposed of in an environmentally sound way.

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.



The crossed-out wheellie bin symbol on a product means that it must be disposed of separately from household waste. When a product marked with this symbol reaches its end of life, take it to a collection point designated by the local waste disposal authorities. The separate collection and recycling of such products will help protect the environment and human health.

See also end-of-life information at [www.grundfos.com/product-recycling](http://www.grundfos.com/product-recycling).

## 13. Document quality feedback

To provide feedback about this document, scan the QR code using your phone's camera or a QR code app.



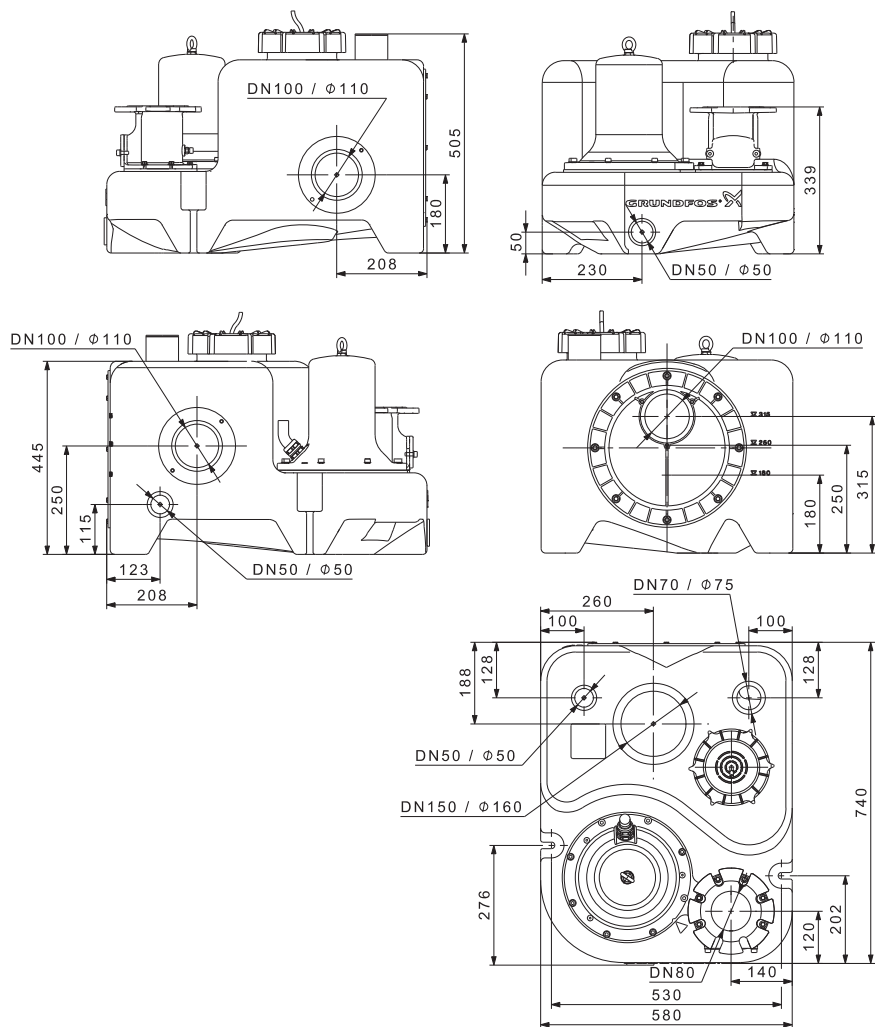
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## Appendix A

### A.1. Appendix

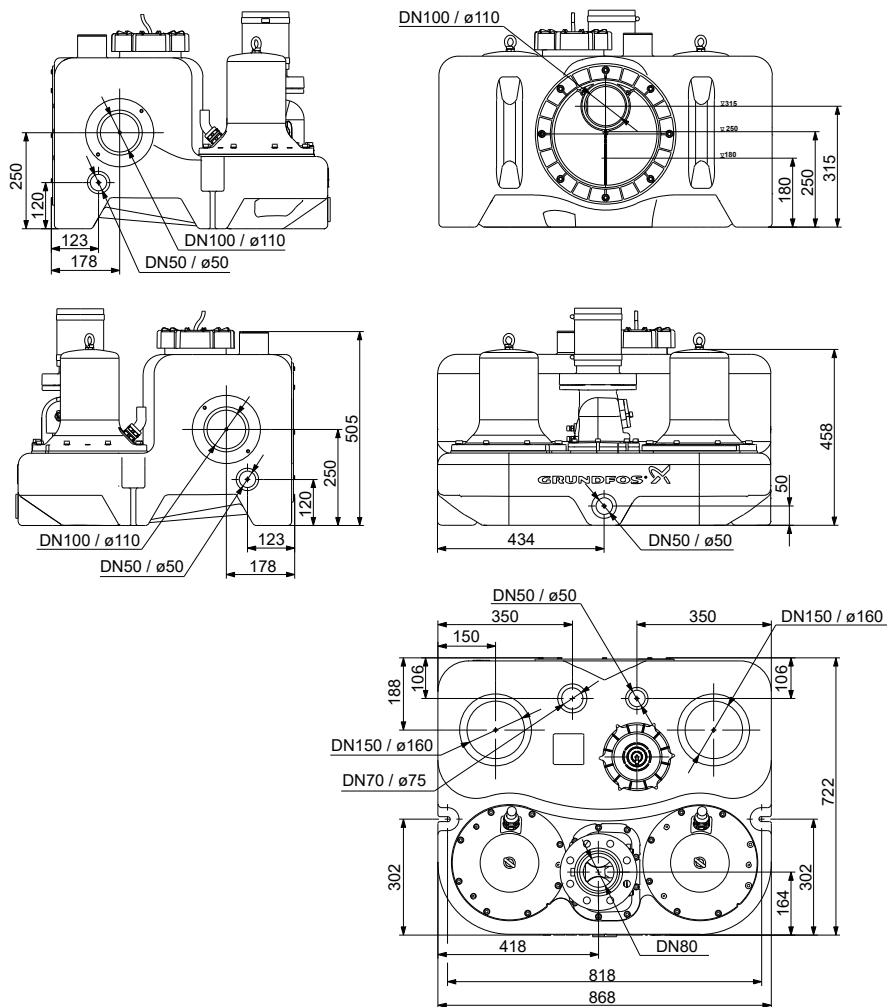
Fig. A - Dimensional sketches - MULTILIFT M



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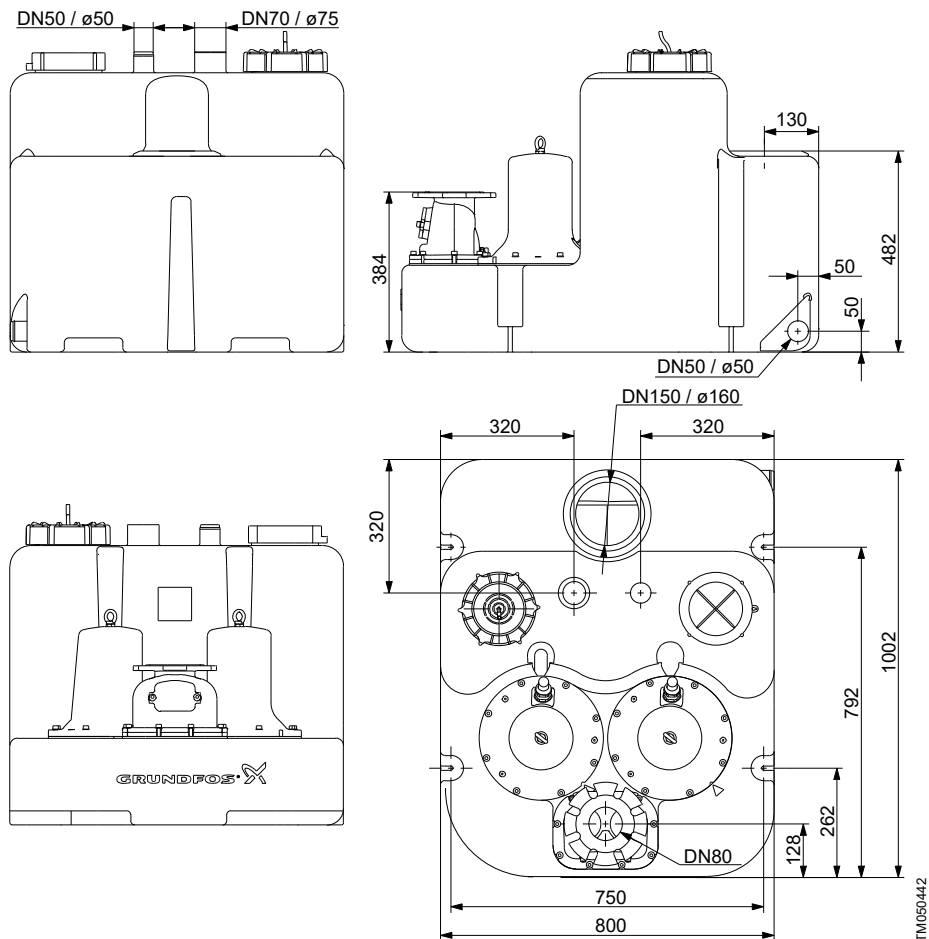
## A.2. Appendix

Fig. A - Dimensional sketches - MULTILIFT MD



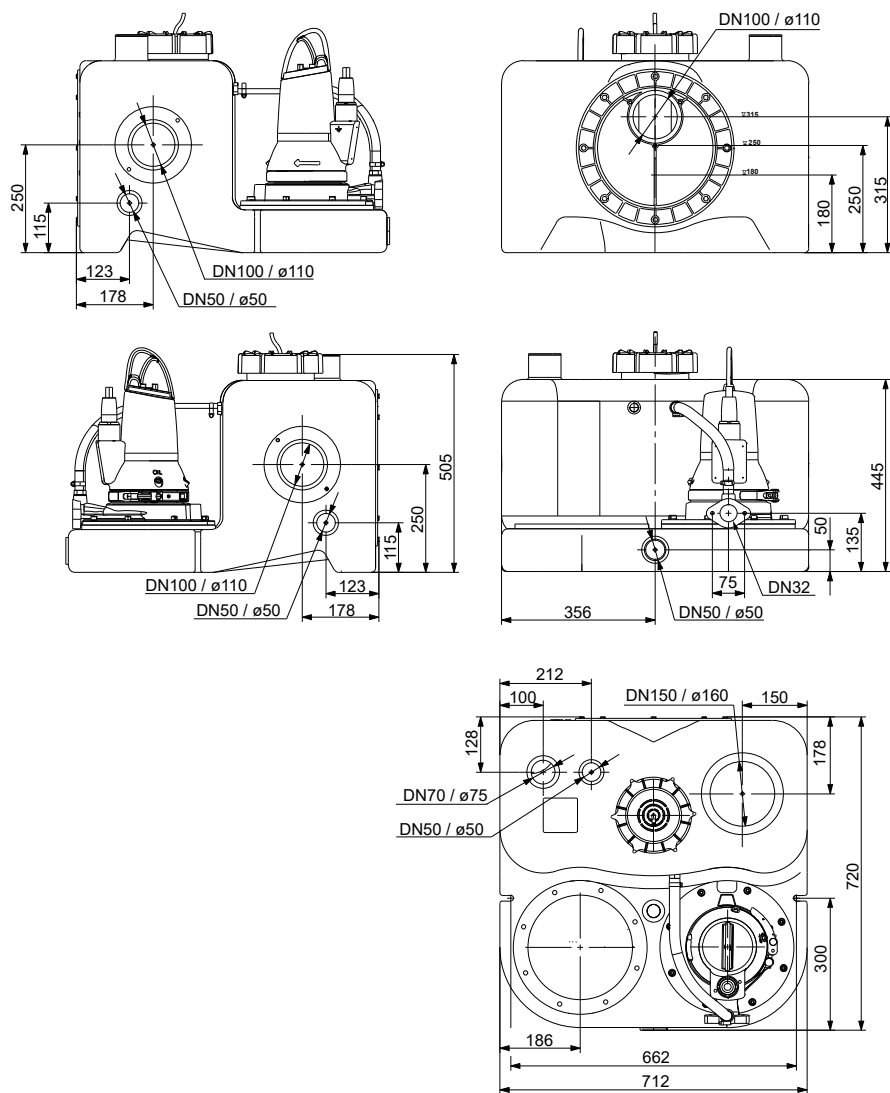
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Fig. B - Dimensional sketches - MULTILIFT MLD



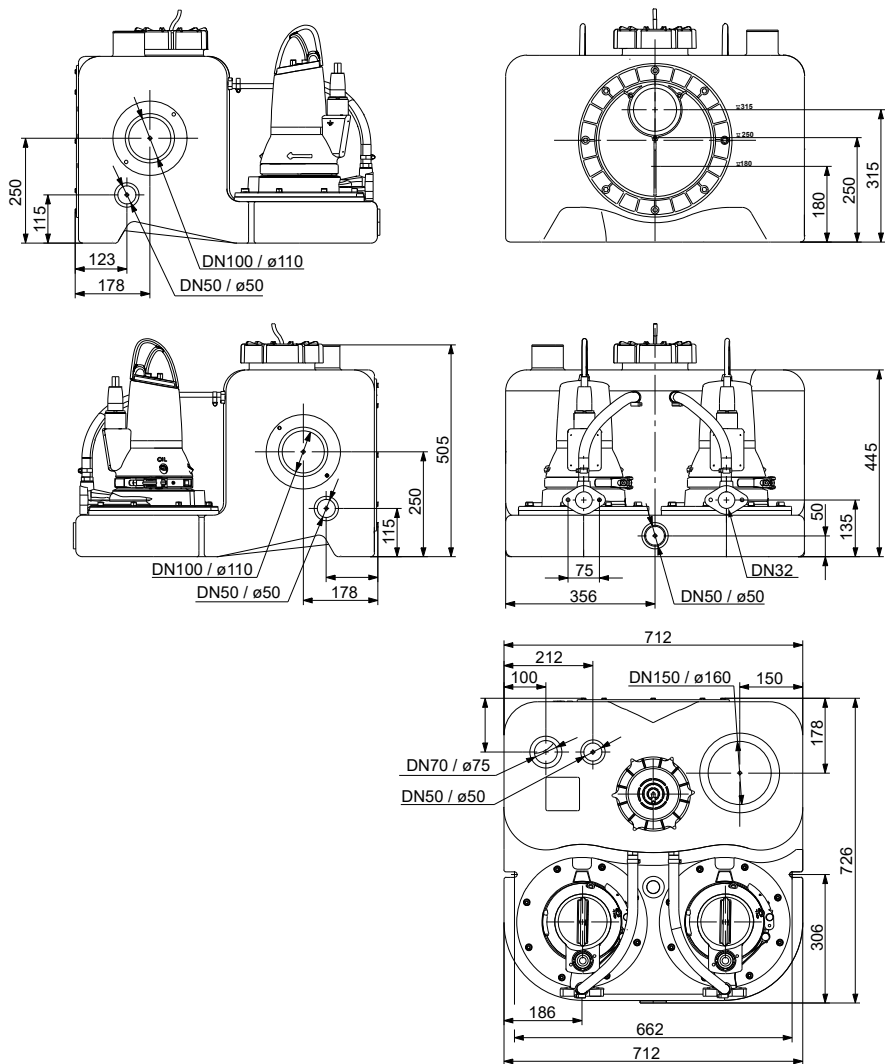
### A.3. Appendix

Fig. A - Dimensional sketch - MULTILIFT MOG



TM050672

Fig. B - Dimensional sketch - MULTILIFT MDG



TM050443

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