

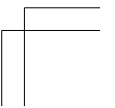
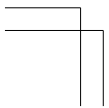
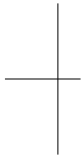
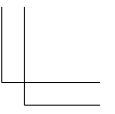
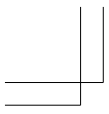
# UNILIFT APG

Installation and operating instructions



**UNILIFT APG**  
Installation and operating instructions  
(all available languages)  
<http://net.grundfos.com/qr/i/92662011>

**GRUNDFOS** 



# UNILIFT APG

---

## English (GB)

Installation and operating instructions .....	4
Appendix A .....	22

## English (GB) Installation and operating instructions

### Original installation and operating instructions

#### Table of contents

<b>1. General information</b>	<b>4</b>
1.1 Hazard statements	4
1.2 Notes	5
<b>2. Product introduction</b>	<b>5</b>
2.1 Product description	6
2.2 Intended use	6
2.3 Pumped liquids	6
2.4 Identification	6
<b>3. Receiving the product</b>	<b>7</b>
<b>4. Installation requirements</b>	<b>7</b>
4.1 Location	7
<b>5. Mechanical installation</b>	<b>8</b>
5.1 Foundation	8
5.2 Lifting the product	8
5.3 Positioning of the product	8
5.4 Installation on auto coupling	9
5.5 Free-standing installation	10
5.6 Adjustment of the float switch cable length	10
<b>6. Electrical connection</b>	<b>11</b>
6.1 Checking the direction of rotation	12
<b>7. Starting up the product</b>	<b>13</b>
<b>8. Servicing the product</b>	<b>13</b>
8.1 Maintaining the product	14
8.2 Oil	14
8.3 Construction	14
8.4 Service kits	15
8.5 Maintenance schedule	16
8.6 Adjusting the impeller clearance	16
8.7 Replacing the grinder system	16
8.8 Changing the oil	17
8.9 Contaminated pumps	18
<b>9. Fault finding</b>	<b>19</b>
9.1 The motor does not start	19
9.2 The motor protection or thermal relay trips after a short time of operation	19
9.3 The pump runs constantly or gives too little water	20
9.4 The pump runs but gives no water	20
<b>10. Technical data</b>	<b>21</b>
10.1 Storage temperature	21
10.2 Operating conditions	21
10.3 Sound pressure level	21

### 11. Disposing of the product . . . . . 21

#### 1. General information

This appliance shall not be used by children.

Children shall not play with the appliance.

Cleaning and user maintenance shall not be carried out by children.



Appliances can be used by persons with reduced physical, sensory, or mental capabilities, as well as persons with a lack of experience and knowledge. This requires that they are given supervision or instruction concerning the use of the appliance in a safe way and that they understand the hazards involved.



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.



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.

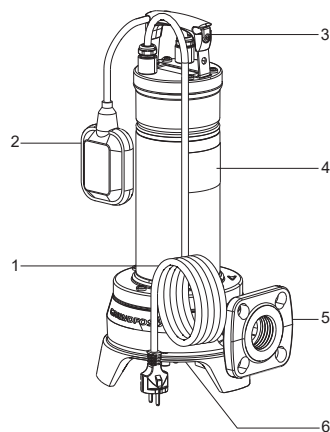


If these instructions are not observed, it may result in malfunction or damage to the equipment.



Tips and advice that make the work easier.

## 2. Product introduction



TN0081492

UNILIFT APG

Pos.	Description
1	Power cable
2	Float switch
3	Handle with cable clamps
4	Nameplate
5	Outlet
6	Inlet

## 2.1 Product description

The Grundfos UNILIFT APG pump is designed for pumping wastewater. The compact design makes the pump suitable for both temporary and permanent installation. The pump can be installed on an auto-coupling system or stand freely on the bottom of the pit.

## 2.2 Intended use

The Grundfos UNILIFT APG pump is a single-stage submersible pump designed for pumping wastewater. APG pumps are designed with a grinder system that grinds solid particles into small pieces so that they can be led away through pipes of a relatively small diameter. The pumps are used in pressurised systems, for example, in hilly areas.

## 2.3 Pumped liquids

The pump is capable of pumping water containing a limited quantity of spherical particles.

The pump is not suitable for the following liquids:

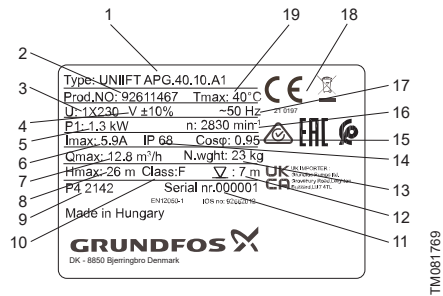
- Liquids containing long fibres
- inflammable liquids (oil, petrol, etc.)
- aggressive liquids.

## Related information

### 10.1 Storage temperature

## 2.4 Identification

### 2.4.1 Nameplate, UNILIFT APG



Nameplate, UNILIFT APG

Pos.	Description
1	Product type
2	Product number
3	Supply voltage
4	Voltage tolerance
5	Power consumption
6	Max. current
7	Max. flow rate
8	Max. head
9	Factory code and production code (year and week)
10	Insulation class
11	Serial number
12	Max. installation depth [m]
13	Net weight [kg]
14	Enclosure class
15	Cosinus phi
16	Speed of rotation
17	Frequency
18	Marks of approval
19	Max. liquid temperature

### 2.4.2 Type key, UNILIFT APG

Example: UNILIFT APG.40.10.A1. 1x220-240V SCH

Code	Explanation	Designation
UNILIFT APG	Product name	
40		Nominal diameter of the outlet
10		Power output, P2 / 100 [W]
[ ]	Manual operation without float switch	Level control
A	Automatic operation with float switch	
1	Single-phase	Motor type
3	Three-phase	
1 x 230 V		Nominal voltage
1 x 220 - 240 V		
3 x 220 V		
3 x 380 V		
3 x 400 V		
[ ]	No plug	
SCH	Europe - F type wall plug	Plug type
ARG	Argentina - IRAM approved I type wall plug	
AUS	Australia, New Zealand - I type wall plug	

### 3. Receiving the product



#### WARNING

##### Falling objects

Death or serious personal injury

- Keep the product in a stable position during unpacking.
  - Wear personal protective equipment.
- Check that the product received is in accordance with the order.
  - Check that the voltage and frequency of the product match voltage and frequency of the installation site.

### 4. Installation requirements

#### CAUTION

##### Toxic material

Minor or moderate personal injury



- The product will be classified as contaminated if it has been used for a liquid which is injurious to health or toxic. Wear personal protective equipment.



Installation must be carried out by specially trained persons and according to local regulations.



A product that is not indicated to be protected against freezing shall not be left outside in freezing weather conditions.

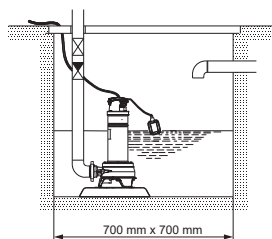
#### 4.1 Location

Always have at least 3 m free cable above liquid level. The installation depth for this product is 7 m.

##### 4.1.1 Minimum space

The pit, basin or tank must be sized according to the relation between the water flow to the pit, basin or tank and the pump performance.

When the pump is installed in a permanent installation with a float switch, the minimum dimensions of the pit, basin or tank must be as shown in the figure below to ensure free movability of the float switch. The float switch is set to the minimum free cable length.



TMO81338

*Minimum pit dimensions when the float switch is set to the minimum free cable length*

#### Related information

*5.6 Adjustment of the float switch cable length*

## 5. Mechanical installation

### CAUTION

#### Sharp element

Minor or moderate personal injury

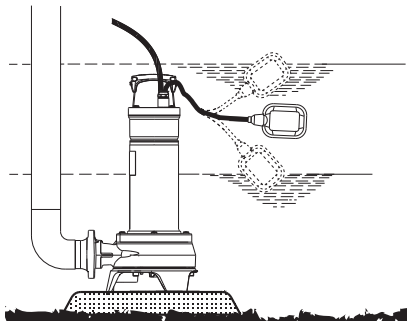
- Wear personal protective equipment.
- Make sure that persons cannot come into contact with the pump impeller.



Do not install the pump hanging from the electric cable or the outlet pipe.

### 5.1 Foundation

Before installation, check that the bottom of the tank is flat and uniform. We recommend to create a support surface that is as solid as possible.



Foundation of the product

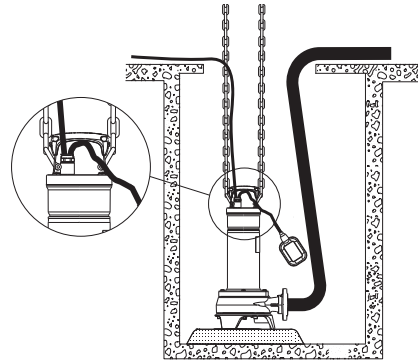
TM081415

### 5.2 Lifting the product



Do not pull or lift the product by the power cable or by the outlet pipe or hose.

- Lift the pump using the pump handle.
- If the pump is installed in a well or tank, lower and lift it by means of a wire or chain fastened to the pump handle. The handle is provided with two lateral holes which may be used to lift the pump.

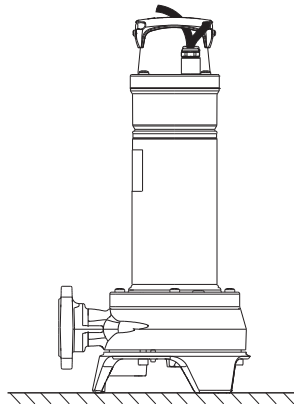


Lifting the product

TM081445

### 5.3 Positioning of the product

The pump can only be used in a vertical position. See the figure below.



Position of the pump

TM081576

When the pipe or hose has been connected, place the pump in its operating position.

In case of a permanent installation, the pit must be cleared of pebbles and other hard materials before the pump is installed in order to prolong the operating time of the knife inside the pump.

### Related information

#### 5.6 Adjustment of the float switch cable length



## 5.4 Installation on auto coupling

See the appendix for drawing of auto-coupling dimensions.

Pumps for permanent installation can be mounted on a stationary auto-coupling guide-rail system or a hookup auto-coupling system.

Both auto-coupling systems facilitate maintenance and service as the pump can easily be lifted out of the pit.



### DANGER

#### Toxic material

Death or serious personal injury

- Before installation, make sure that the atmosphere in the pit is not toxic or in lack of oxygen.

Use loose flanges to ease the installation and to avoid pipe tension at flanges and bolts.



Make sure that the pipes are installed without undue force. No loads from the weight of the pipes must be carried by the pump.



Do not use elastic elements or bellows in the pipes. Never use these elements to align the pipes.

### 5.4.1 Installing an auto-coupling guide-rail system

Proceed as follows:

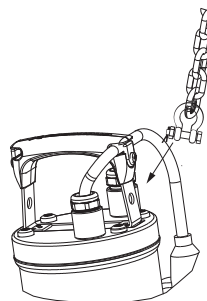
1. Drill mounting holes for the guide-rail bracket on the inside of the pit, and fasten the guide-rail bracket provisionally with two anchor bolts.
2. Place the auto-coupling base unit on the bottom of the pit. Use a plumb line to establish the correct positioning. Fasten the auto coupling with heavy-duty anchor bolts. If the bottom of the pit is uneven, the auto-coupling base unit must be supported.
3. Connect the outlet pipe in accordance with the generally accepted procedures. Avoid exposing the pipe to distortion or tension.
4. Place the guide rails in the auto-coupling base unit, and adjust the length of the rails accurately to the guide-rail bracket at the top of the pit.
5. Unscrew the fastened guide-rail bracket, fit it on top of the guide rails and finally fasten it firmly to the pit wall.



The guide rails must not have any axial play as this may cause noise during pump operation.

6. Clean out debris from the pit before lowering the pump into the pit.

7. Fit the guide claw to the pump outlet. Grease the gasket of the guide claw before lowering the pump into the pit.
8. Mount the lifting shackle and the lifting chain to the handle of the pump on the opposite side of the auto coupling.



TM081567

*Attachment of chain to pump handle.*

9. Slide the guide claw between the guide rails and lower the pump into the pit by the chain. When the pump reaches the auto-coupling base unit, the pump will automatically connect tightly. When the pump has reached the auto-coupling base unit, shake the pump by the chain to make sure that it is placed in the correct position.
10. Hang up the end of the chain on a suitable hook at the top of the pit so the chain cannot touch the pump housing.
11. Adjust the length of the power cable by coiling it up on a relief fitting to ensure that the cable is not damaged during operation. Fasten the relief fitting to a suitable hook at the top of the pit. Make sure that the cable is not sharply bent or pinched.
12. Connect the power cable and the control cable, if any.



The free end of the cable must not be submerged as water may penetrate through the cable into the motor.

### 5.5 Free-standing installation

See the appendix for dimensional drawing.

For free-standing installation of the pumps, fit a 90° elbow to the outlet. The pump can be installed with a rigid pipe and valves.

In order to facilitate service of the pump, fit a flexible connection or coupling to the outlet pipe for easy separation.

If a rigid pipe is used, the union or coupling, non-return valve and isolating valve must be fitted in the sequence mentioned, as seen from the pump side.

A flexible element in the tubing is also needed in order to separate the pipe vibration and sound from the system.

If the pump is installed in muddy conditions or on uneven ground, we recommend that you support the pump on some solid platforms.

### 5.6 Adjustment of the float switch cable length

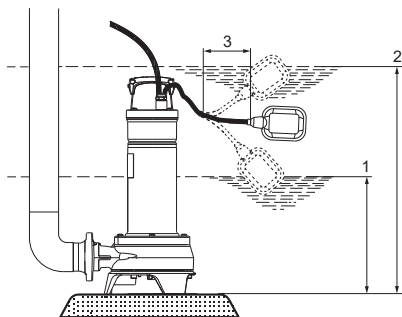
For pumps with a float switch, the difference in level between start and stop can be adjusted by changing the free cable length between the float switch and the pump handle.

- An increased free cable length will result in fewer starts and stops and a large difference in level.
- A reduced free cable length will result in more frequent starts and stops and a small difference in level.

The stop level must be above the pump inlet to prevent the pump from taking in air.



The start level must be below the liquid inlet of the pit to avoid backflow into the system.



TM081336

Start and stop levels

Pos.	Description
1	Stop

Pos.	Description
2	Start
3	Cable length (L)

The start and stop levels vary according to the cable length.

Cable length (L) [mm]	Start [mm]	Stop [mm]
100 (minimum length)	560	360
260 (maximum length)	580	250 (only intermittent operation)

### Intermittent operation

During intermittent operation, the motor must always have a minimum liquid level of 250 mm from the bottom.

### Continuous operation

During continuous operation, the motor and the pump inlet must always have a minimum liquid level of 360 mm from the bottom.

### Related information

4.1.1 *Minimum space*

5.3 *Positioning of the product*

9.4 *The pump runs but gives no water*

## 6. Electrical connection



### DANGER

#### 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.



### DANGER

#### 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.



### DANGER

#### Electric shock

Death or serious personal injury

- Make sure that the power supply plug delivered with the product is in compliance with local regulations.
- The plug must have the same protective earth (PE) connection system as the power outlet. If not, use a suitable adapter if allowed by local regulations.



### DANGER

#### Electric shock

Death or serious personal injury

- Power cables without a plug must be connected to a supply disconnecting device incorporated in the fixed wiring according to the local wiring rules.
- If the power cable is damaged, it must be replaced by the manufacturer, the manufacturer's service partner or a similarly qualified person.



All electrical connections must be carried out by a qualified electrician in accordance with local regulations.



Depending on local regulations, a pump with minimum 10 m of mains cable must be used if the pump is used as a portable pump for different applications.

Make sure that the product is suitable for the supply voltage and frequency available at the installation site. Voltage and frequency are marked on the pump nameplate.

The pump must be connected to an external main switch. If the pump is not installed close to the switch, the switch must be of a lockable type.

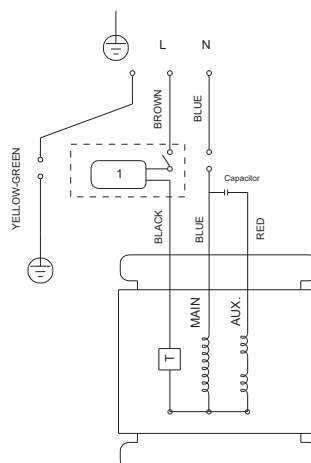
Three-phase pumps must be connected to an external motor-protective circuit breaker with a differential release. The rated current of the motor-protective circuit breaker must correspond to the electrical data marked on the pump nameplate.

If a float switch is connected to a three-phase pump, the motor-protective circuit breaker must be magnetically operated.

Single-phase pumps incorporate thermal overload protection and require no additional motor protection.

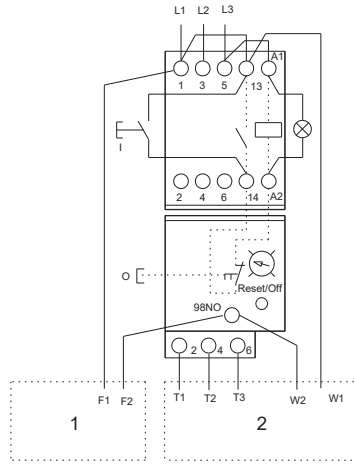


If the single-phase motor is overloaded, it stops automatically. When the motor has cooled to normal temperature, it restarts automatically.



Electrical wiring, single-phase.

TM081330



Electrical wiring with control box, three-phase.

Pos.	Description
1	Float switch
2	Motor

TM082186

## 6.1 Checking the direction of rotation

### Three-phase pumps only

#### CAUTION

##### Sharp element

Minor or moderate personal injury

- Do not touch the sharp edges of the impeller, grinder head and grinder ring without wearing protective gloves.



The impeller rotates counterclockwise. When started, the pump jerks clockwise.

Check the direction of rotation every time the pump is connected to a new installation.

1. Let the pump hang from a lifting device, such as the hoist used for lowering the pump into the pit.

#### DANGER

##### Rotating parts

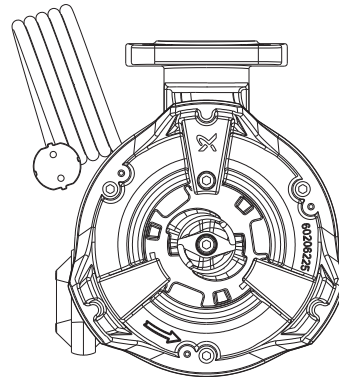
Death or serious personal injury

- Keep hands away from the bottom of the pump while checking the direction of the rotation.



2. Start and stop the pump while observing the movement (jerk) of the pump.
3. If connected correctly, the pump will jerk clockwise.

The correct direction of rotation is indicated by an arrow on the bottom pump base (counterclockwise when seen from the bottom).



TM081442

#### Check the direction

4. If the impeller rotates in the wrong direction, reverse the direction of rotation by interchanging two of the phases to the motor.

If the pump is connected to a pipe system, check the direction of rotation in this way:

1. Start the pump and check the quantity of water or the pressure.
2. Stop the pump and interchange two of the phases to the motor.
3. Start the pump and check the quantity of water or the pressure.
4. Stop the pump.
5. Compare the results taken under points 1 and 3. The largest quantity of water indicates the correct direction of rotation.

#### Related information

9.2 *The motor protection or thermal relay trips after a short time of operation*

9.3 *The pump runs constantly or gives too little water*

### 7. Starting up the product



#### DANGER

##### Electric shock

Death or serious personal injury

- Do not use the pump in swimming pools, garden ponds or similar places if there are people in the water.



The pump may be run briefly to check the direction of rotation without being submerged in the pumped liquid.

1. Before starting the pump, submerge the pump inlet in the pumped liquid.
2. Open the isolating valve, if fitted, and check the float switch setting.

### 8. Servicing the product



#### DANGER

##### 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.



#### CAUTION

##### Sharp element

Minor or moderate personal injury

- Wear personal protective equipment.



#### CAUTION

##### Toxic material

Minor or moderate personal injury

- Wear personal protective equipment.



#### CAUTION

##### Biological hazard

Minor or moderate personal injury

- Flush the product thoroughly with clean water and rinse the parts in water after dismantling.
- Wear personal protective equipment.



If the power cable or the float switch is damaged, it must be replaced by a service workshop authorised by Grundfos.



Service must be carried out by specially trained persons.

Furthermore, all rules and regulations covering safety, health and environment must be observed.

1. If the pump has been used for liquids other than clean water, flush the pump thoroughly with clean water before carrying out maintenance and service.
2. Rinse the pump parts in water after dismantling.

For detailed service information, see <http://net.grundfos.com/qr/i/92678389>.



QR92678389

### 8.1 Maintaining the product

- Check the pump and replace the oil once a year. If the pump is used for pumping liquids containing abrasive particles or it is operating continuously, the pump must be checked at shorter intervals.
- If the drained oil contains water or other impurities, we recommend that you replace the shaft seal. Contact Grundfos Service.

### 8.2 Oil

In the case of long operating time or continuous operation, the oil must be replaced as follows:

Liquid temperature	The oil must be replaced after
20 °C	4500 operating hours
40 °C	3000 operating hours

The pump contains 140 ml of non-poisonous oil. Use MARCOL 152 ESSO oil or equivalent type.

Used oil must be disposed of in accordance with local regulations.

#### Related information

*8.8 Changing the oil*

### 8.3 Construction

The construction of the pump will appear from the table below and the sectional drawing in the appendix.

Pos.	Description
9a	Spline
12c	Set screw
26	Screw
31	Plate
34	Screw
37	O-ring
44	Grinder ring
44a	Screw
45	Grinder head
49	Impeller
50	Pump housing
66	Washer
67a	Plug, power cable
67b	Plug, float switch cable
84	Base
86	Cable gland plate
150	Motor with flange
157	O-ring
160	Top compartment
161	Capacitor
169	Guide
181	Power cable
182	Float switch
184b	Screw
188a	Screw
190	Pump handle
193	Screw
194	O-ring
970	Nameplate

## 8.4 Service kits


The following service kits are available for all pumps.

Service kit	Contents	Pos.	O-ring material	Product number	
Impeller 50 Hz		49, 9a, 66, 188a		92693611	
Impeller 60 Hz		49, 9a, 66, 188a		92928694	
Grinder parts		45, 44, 44a, 66, 188a		92693612	
Set of screws	5 × M8, 3 × M6	26, 12c		92693631	
O-ring kit	O-rings	194, 157, 37	NBR	92693638	
Motor kit 50 Hz	Motor 1 phase A 220-240 V 50 Hz			92693542	
	Motor 1 phase 220-240 V 50 Hz			92701743	
	Motor 1 phase A 230 V 50 Hz			92693544	
	Motor 1 phase 230 V 50 Hz			92701745	
	Motor 3 phase A 220 V 50 Hz	150, 190, 34, 86, 193, 194,	NBR	92701748	
	Motor 3 phase 220 V 50 Hz	157, 37, 184b		92701747	
	Motor 3 phase A 380 V 50 Hz			92701760	
	Motor 3 phase 380 V 50 Hz			92701746	
	Motor 3 phase A 400 V 50 Hz			92701761	
	Motor 3 phase 400 V 50 Hz			92693545	
Capacitor 230 V	161, 194, 157	92695572			
Motor kit 60 Hz	Motor 3 phase A 230 V 60 Hz	150, 190, 34, 86, 193, 194,		NBR	92940308
	Motor 3 phase 230 V 60 Hz	157, 37, 184b			92940304
Cable kit	Cable single-phase no plug				92693615
	Cable single-phase AU plug			92697765	
	Cable single-phase ARG plug	181, 34, 86, 194, 157	NBR	92697766	
	Cable single-phase SCHUKO plug			92697767	
	Cable three-phase			92693617	
Float switch	182	92695571			
Control box kit	Control box, 3 × 220 V	157, 163, 181, 182, 193		NBR	92747267
	Control box, 3 × 400 V	157, 163, 181, 182, 193	92747266		

### 8.5 Maintenance schedule

Inspect pumps running normal operation every 3000 operating hours or at least once a year. If the dry-solids content of the pumped liquid is very high or sandy, check the pump at shorter intervals.

Check the following:

- **Power consumption**  
See the nameplate.
- **Oil level and oil condition**  
When the pump is new or after replacement of the shaft seal, check the oil level after one week of operation.  
Use MARCOL 152 ESSO oil or equivalent type.  
Oil auto-ignition temperature must be above 180 °C.
- **Cable entry**  
 Make sure that the cable entry is watertight and that the cables are not sharply bent and/or pinched.
- **Pump parts**  
Check the wearing parts, for example, impeller and pump housing. Replace defective parts.
- **Grinder system and parts**  
In case of frequent choke-ups, check the grinder system for visible wearing. If necessary, replace the grinder system.

### 8.6 Adjusting the impeller clearance

For position numbers in brackets, see exploded drawing in the appendix.

Proceed as follows:

1. Loosen the set screws fully (12c).
2. Gently tighten the screws (26).
3. Gently tighten the set screws (12c).
4. Loosen the screws (26) with at least three turns.
5. Tighten the set screw (12c) by 180°.
6. Tighten the screws (26) with a torque of 7 Nm.

#### Related information

8.8 *Changing the oil*

### 8.7 Replacing the grinder system

#### CAUTION

#### Sharp element

Minor or moderate personal injury

- Wear protective gloves when touching the sharp edges of the impeller, grinder head and grinder ring.

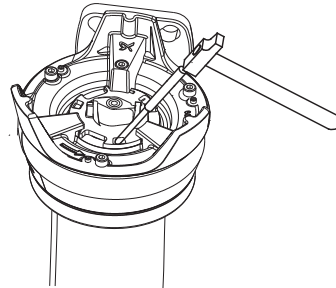


For position numbers in brackets, see the exploded drawing in the appendix.

Proceed as follows:

#### Dismantling

1. Loosen the screw (44a) that holds the grinder ring in place.
2. Loosen the grinder ring (44) and open the bayonet socket by knocking or turning the grinder ring 15 to 20° clockwise. See the figure below.



TIM081555

#### Removing the grinder ring

3. Gently prise the grinder ring (44) out of the pump housing with a screwdriver.

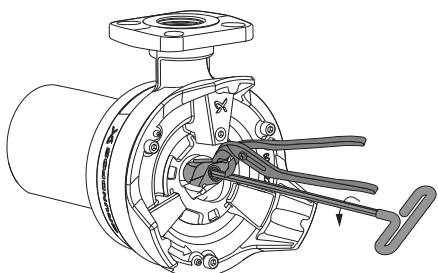


Make sure that the grinder ring does not get stuck against the grinder head.

4. Use a plier to hold the grinder head.



- Loosen and remove the screw (188a) and the locking ring (66) in the shaft end.



*Loosen the grinder head*

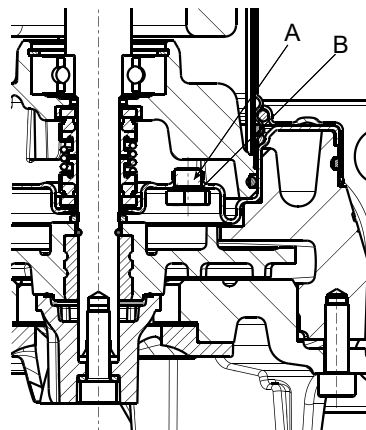
- Remove the grinder head (45).

#### Assembly

- When fitting the grinder head (45), the projections on the back of the grinder head must engage with the holes in the impeller (49).
- Tighten the screw (188a) for the grinder head with a torque of 10 Nm. Do not forget the lock washer.
- Fit the grinder ring (44).
- Turn the grinder ring (44) 15 to 20° counterclockwise until it is tightened.
- Tighten the screw (44a) with a torque of 7 Nm.
- Check that the grinder rotates freely.

#### 8.8 Changing the oil

- Loosen and remove 4 screws (26) and lift away the pump base (84).
- Use a plier to hold the grinder head and loosen and remove the screw (188a) and the locking ring (66) in the shaft end.
- Remove the grinder head (45).
- Pull the impeller (49) away from the shaft. Remember to remove and collect the key (9a).
- Loosen and remove the screw (184b) and lift away the pump housing.
- Raise the pump so the shaft end faces upwards.
- Unscrew and remove the oil plug.



*Oil plug position*

Pos.	Description
A	Oil plug
B	O-ring

- Tilt the pump to let the oil flow out of the oil drainage hole and catch it in a tray.



Used motor oil must be disposed of in accordance with local regulations.

- Analyse the oil: If any particles of abrasive materials, for example sand, or water are found in the oil, we recommend you to check the condition of the mechanical seal and to have it changed if necessary at a Grundfos Service Center. In this case also change the oil with about 140 ml of oil, type MARCOL 152 ESSO.
- Add oil using a funnel inserted in the drain hole. The total amount of oil to use is 140 ml.
- Mount and tighten the oil plug with a torque of  $2.5 \pm 0.2$  Nm.
- Reassembly the pump in the reverse order of the dismantling.
- Adjust the impeller clearance.

#### Related information

8.2 Oil

8.6 Adjusting the impeller clearance

## 8.9 Contaminated pumps

### **CAUTION** **Biological hazard**

Minor or moderate personal injury



- Flush the product thoroughly with clean water and rinse the parts in water after dismantling.
- Wear personal protective equipment.

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.

Any application for service must include details about the pumped liquid.

Clean the product in the best possible way before you return it. Costs of returning the product are to be paid by the customer.

## 9. Fault finding



### DANGER

#### 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.



### CAUTION

#### Sharp element

Minor or moderate personal injury

- Wear personal protective equipment.



### CAUTION

#### Toxic material

Minor or moderate personal injury

- The product will be classified as contaminated if it has been used for a liquid which is injurious to health or toxic.
- Wear personal protective equipment.

### 9.1 The motor does not start

Cause	Remedy
No power supply.	Connect the power supply.
The pump was stopped by the float switch.	Adjust or replace the float switch.
The fuses have blown.	Replace the fuses.
The motor protection or thermal relay has tripped.	Wait until the motor protection trips in again or reset the relay.
The impeller is blocked by impurities.	Clean the impeller.
Short circuit in the cable or motor.	Replace the defective part.

### 9.2 The motor protection or thermal relay trips after a short time of operation

Cause	Remedy
The liquid temperature is too high.	Use another pump type. Contact your local Grundfos supplier or sales support.
The impeller is blocked or partly blocked by impurities.	Clean the pump.
Phase failure.	Call an electrician.
Too low voltage.	Call an electrician.
The overload setting of the motor-protective circuit breaker is too low.	Adjust the setting.
Incorrect direction of rotation.	Reverse the direction of rotation.

#### Related information

6.1 *Checking the direction of rotation*

### 9.3 The pump runs constantly or gives too little water

Cause	Remedy
The pump is partly blocked by impurities.	Clean the pump.
The outlet pipe or valve is partly blocked by impurities.	Clean the outlet pipe or valve.
The impeller is not properly fixed to the shaft.	Tighten the impeller.
Incorrect direction of rotation.	Reverse the direction of rotation.
Incorrect setting of the float switch.	Adjust the float switch.
The pump is too small for the application.	Replace the pump.
The impeller is worn.	Replace the impeller.

#### Related information

*6.1 Checking the direction of rotation*

### 9.4 The pump runs but gives no water

Cause	Remedy
The pump is blocked by impurities.	Clean the pump.
The outlet pipe or valve is blocked by impurities.	Clean the outlet pipe or valve.
The impeller is not properly fixed to the shaft.	Tighten the impeller.
There is air in the pump.	Vent the pump and the outlet pipe.
The liquid level is too low. The pump inlet is not completely submerged in the pumped liquid.	Submerge the pump in the liquid or adjust the float switch.
Pumps with float switch: The float switch does not move freely.	Adjust the float switch.

#### Related information

*5.6 Adjustment of the float switch cable length*

## 10. Technical data

### 10.1 Storage temperature

Down to -30 °C.

### Related information

2.3 *Pumped liquids*

### 10.2 Operating conditions

Liquid temperature	0-40 °C (70 °C for a limited 5 minutes)
Installation depth	7 m below liquid level
pH value	4-10
Density	Domestic wastewater with solid particles.
Technical data	See the pump nameplate.

For more information see relevant documentation about UNILIFT APG in Grundfos Product Center.

Always have at least 3 m free cable above liquid level. This limits the installation depth to 7 m for pumps with 10 m cable.

### 10.3 Sound pressure level

The sound pressure level of the pump is lower than the limiting values stated in the EC Council Directive 2006/42/EC relating to machinery.

## 11. 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.



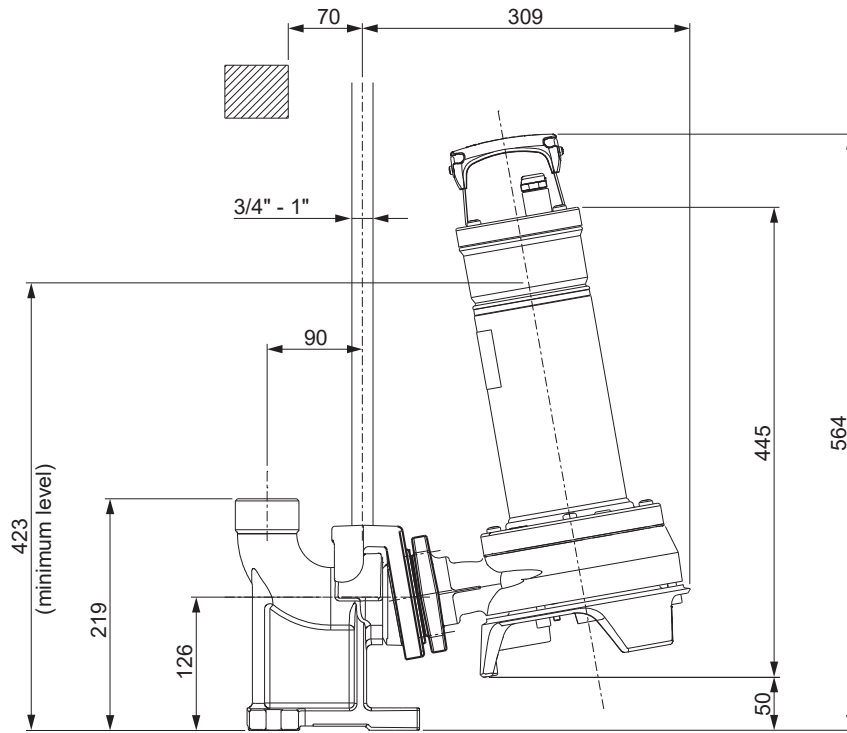
The crossed-out wheeled bin symbol on a product means that it must be disposed of separately from household waste. When a product reaches its end of life, take it to a collection point designated by the local waste disposal authorities. The separate collection and recycling of such products will help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

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

Appendix A

**A.1. Appendix**

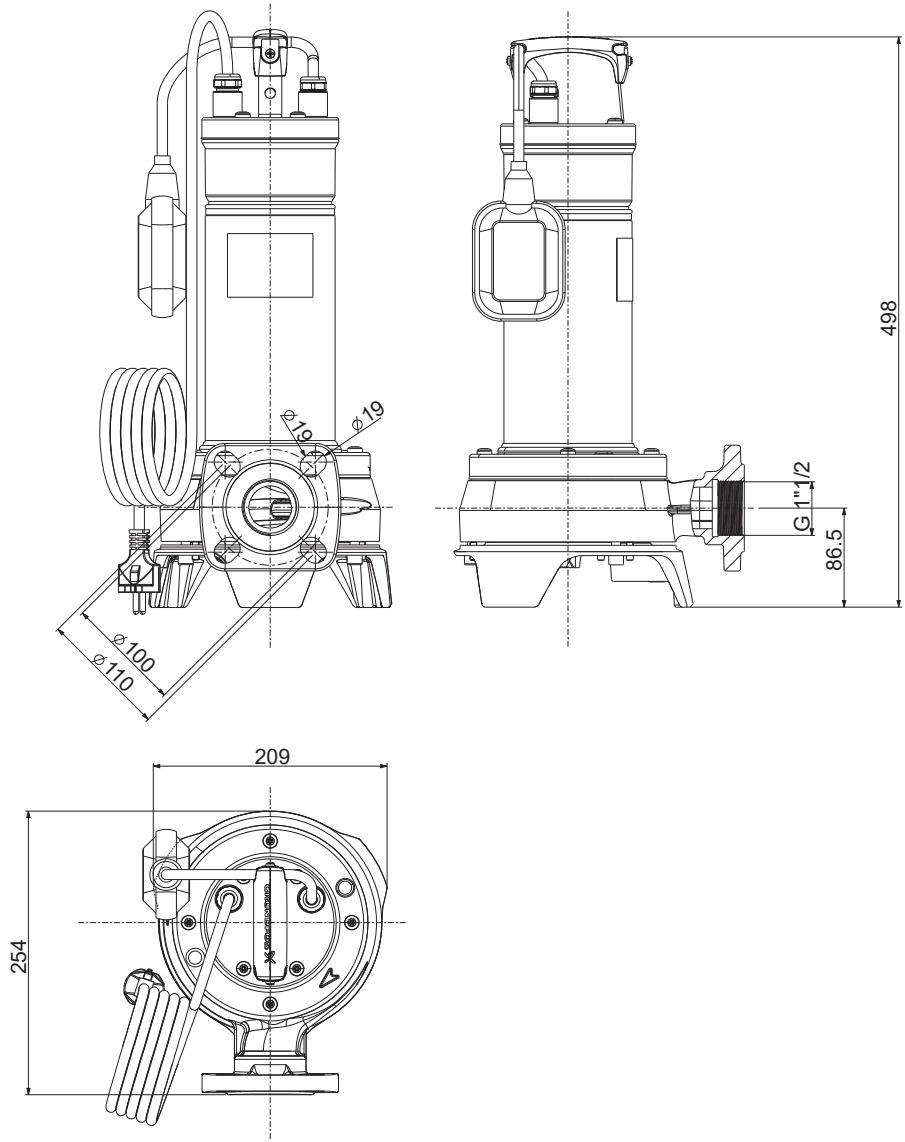
**Auto-coupling installation**



TM081339

*Dimensional drawing [mm], auto-coupling*

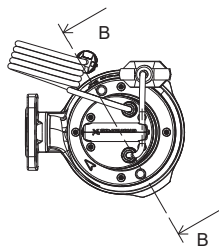
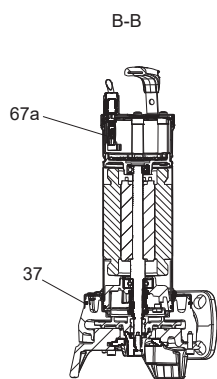
Free-standing installation



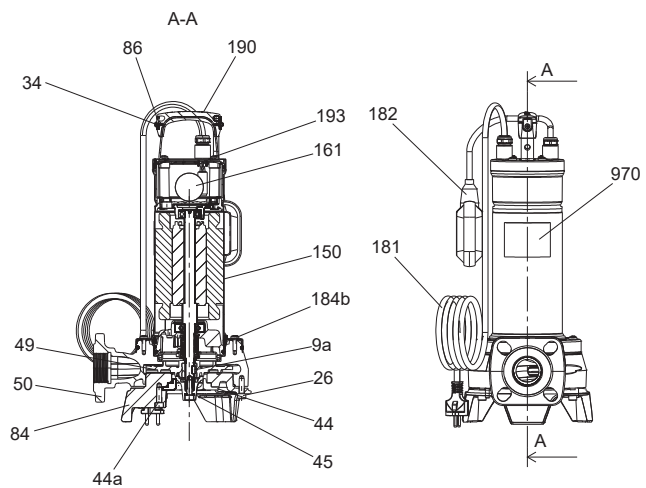
Dimensional drawing [mm], free-standing

TM081427

Sectional drawing



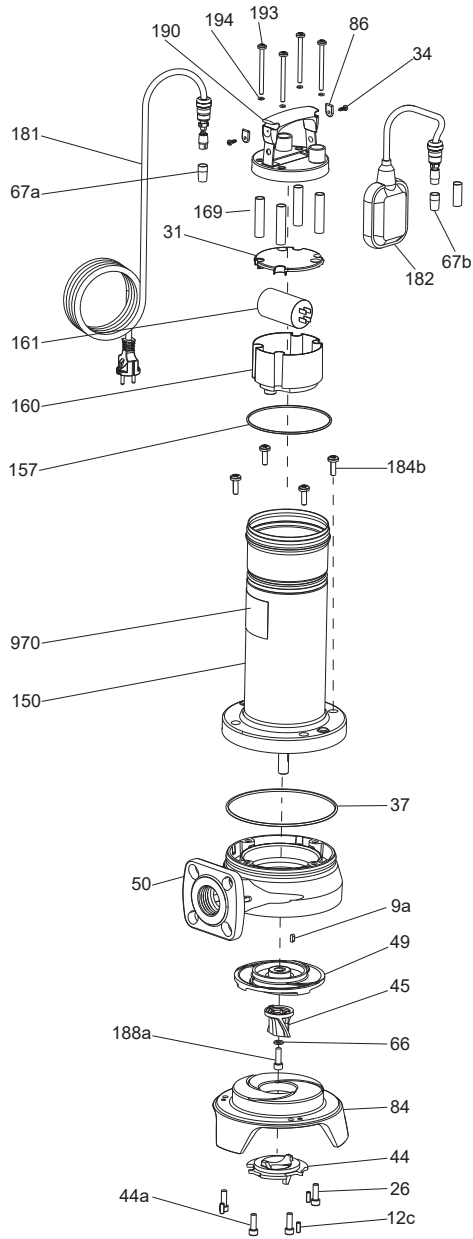
Sectional drawing



TM081366



Exploded drawing



Exploded drawing

TM081327

**Argentina**

Bombas GRUNDFOS de Argentina S.A.  
Ruta Panamericana km. 37.500 Industrias  
1619 - Garín Pcia. de B.A.  
Tel.: +54-3327 414 444  
Fax: +54-3327 45 3190

**Australia**

GRUNDFOS Pumps Pty. Ltd.  
P.O. Box 2040  
Regency Park  
South Australia 5942  
Tel.: +61-8-8461-4611  
Fax: +61-8-8340-0155

**Austria**

GRUNDFOS Pumpen Vertrieb  
Ges.m.b.H.  
Grundfosstraße 2  
A-5082 Grödig/Salzburg  
Tel.: +43-6246-883-0  
Fax: +43-6246-883-30

**Belgium**

N.V. GRUNDFOS Bellux S.A.  
Boomsesteenweg 81-83  
B-2630 Aartselaar  
Tel.: +32-3-870 7300  
Fax: +32-3-870 7301

**Bosnia and Herzegovina**

GRUNDFOS Sarajevo  
Zmaja od Bosne 7-7A  
BIH-71000 Sarajevo  
Tel.: +387 33 592 480  
Fax: +387 33 590 465  
www.ba.grundfos.com  
E-mail: grundfos@bih.net.ba

**Brazil**

BOMBAS GRUNDFOS DO BRASIL  
Av. Humberto de Alencar Castelo  
Branco, 630  
CEP 09850 - 300  
São Bernardo do Campo - SP  
Tel.: +55-11 4393 5533  
Fax: +55-11 4343 5015

**Bulgaria**

Grundfos Bulgaria EOOD  
Slatina District  
Iztochna Tangenta street no. 100  
BG - 1592 Sofia  
Tel.: +359 2 49 22 200  
Fax: +359 2 49 22 201  
E-mail: bulgaria@grundfos.bg

**Canada**

GRUNDFOS Canada inc.  
2941 Brighton Road  
Oakville, Ontario  
L6H 6C9  
Tel.: +1-905 829 9533  
Fax: +1-905 829 9512

**China**

GRUNDFOS Pumps (Shanghai) Co. Ltd.  
10F The Hub, No. 33 Suhong Road  
Minhang District  
Shanghai 201106 PRC  
Tel.: +86 21 612 252 22  
Fax: +86 21 612 253 33

**Columbia**

GRUNDFOS Colombia S.A.S.  
Km 1.5 vía Siberia-Cota Conj. Potrero  
Chico,  
Parque Empresarial Arcos de Cota Bod.  
1A.  
Cota, Cundinamarca  
Tel.: +57(1)-2913444  
Fax: +57(1)-8764586

**Croatia**

GRUNDFOS CROATIA d.o.o.  
Buzinski prilaz 38, Buzin  
HR-10010 Zagreb  
Tel.: +385 1 6595 400  
Fax: +385 1 6595 499  
www.hr.grundfos.com

**Czech Republic**

GRUNDFOS Sales Czechia and Slovakia  
s.r.o.  
Čajkovského 21  
779 00 Olomouc  
Tel.: +420-585-716 111

**Denmark**

GRUNDFOS DK A/S  
Martin Bachs Vej 3  
DK-8850 Bjerringbro  
Tel.: +45-87 50 50 50  
Fax: +45-87 50 51 51  
E-mail: info\_GDK@grundfos.com  
www.grundfos.com/DK

**Estonia**

GRUNDFOS Pumps Eesti OÜ  
Peterburi tee 92G  
11415 Tallinn  
Tel.: + 372 606 1690  
Fax: + 372 606 1691

**Finland**

OY GRUNDFOS Pumput AB  
Trukkikuja 1  
FI-01360 Vantaa  
Tel.: +358-(0) 207 889 500

**France**

Pompes GRUNDFOS Distribution S.A.  
Parc d'Activités de Chesnes  
57, rue de Malacombe  
F-38290 St. Quentin Fallavier (Lyon)  
Tel.: +33-4 74 82 15 15  
Fax: +33-4 74 94 10 51

**Germany**

GRUNDFOS GMBH  
Schlüterstr. 33  
40699 Erkrath  
Tel.: +49-(0) 211 929 69-0  
Fax: +49-(0) 211 929 69-3799  
E-mail: infoservice@grundfos.de  
Service in Deutschland:  
kundendienst@grundfos.de

**Greece**

GRUNDFOS Hellas A.E.B.E.  
20th km. Athinon-Markopoulou Av.  
P.O. Box 71  
GR-19002 Peania  
Tel.: +0030-210-66 83 400  
Fax: +0030-210-66 46 273

**Hong Kong**

GRUNDFOS Pumps (Hong Kong) Ltd.  
Unit 1, Ground floor, Siu Wai Industrial  
Centre  
29-33 Wing Hong Street & 68 King Lam  
Street, Cheung Sha Wan  
Kowloon  
Tel.: +852-27861706 / 27861741  
Fax: +852-27858664

**Hungary**

GRUNDFOS South East Europe Kft.  
Tópark u. 8  
H-2045 Törökbálint  
Tel.: +36-23 511 110  
Fax: +36-23 511 111

**India**

GRUNDFOS Pumps india Private Limited  
118 Old Mahabalipuram Road  
Thoraipakkam  
Chennai 600 097  
Tel.: +91-44 2496 6800

**Indonesia**

PT GRUNDFOS Pompa  
Graha intirub Lt. 2 & 3  
Jln. Cililitan Besar No.454. Makasar,  
Jakarta Timur  
ID-Jakarta 13650  
Tel.: +62 21-469-51900  
Fax: +62 21-460 6910 / 460 6901

**Ireland**

GRUNDFOS (Ireland) Ltd.  
Unit A, Merrywell Business Park  
Ballymount Road Lower  
Dublin 12  
Tel.: +353-1-4089 800  
Fax: +353-1-4089 830

**Italy**

GRUNDFOS Pompe Italia S.r.l.  
Via Gran Sasso 4  
I-20060 Truccazzano (Milano)  
Tel.: +39-02-95838112  
Fax: +39-02-95309290 / 95838461

**Japan**

GRUNDFOS Pumps K.K.  
1-2-3, Shin-Miyakoda, Kita-ku  
Hamamatsu  
431-2103 Japan  
Tel.: +81 53 428 4760  
Fax: +81 53 428 5005

**Kazakhstan**

Grundfos Kazakhstan LLP  
7' Kyz-Zhibek Str., Kok-Tobe micr.  
KZ-050020 Almaty Kazakhstan  
Tel.: +7 (727) 227-98-55/56

**Korea**

GRUNDFOS Pumps Korea Ltd.  
6th Floor, Aju Building 679-5  
Yeoksam-dong, Kangnam-ku, 135-916  
Seoul, Korea  
Tel.: +82-2-5317 600  
Fax: +82-2-5633 725

**Latvia**

SIA GRUNDFOS Pumps Latvia  
Deglava biznesa centrs  
Augusta Deglava ielā 60  
LV-1035, Rīga,  
Tel.: + 371 714 9640, 7 149 641  
Fax: + 371 914 9646

**Lithuania**

GRUNDFOS Pumps UAB  
Smolensko g. 6  
LT-03201 Vilnius  
Tel.: + 370 52 395 430  
Fax: + 370 52 395 431

**Malaysia**

GRUNDFOS Pumps Sdn. Bhd.  
7 Jalan Peguam U1/25  
Glenmarie Industrial Park  
40150 Shah Alam, Selangor  
Tel.: +60-3-5569 2922  
Fax: +60-3-5569 2866

**Mexico**

Bombas GRUNDFOS de México  
S.A. de C.V.  
Boulevard TLC No. 15  
Parque industrial Stiva Aeropuerto  
Apodaca, N.L. 66600  
Tel.: +52-81-8144 4000  
Fax: +52-81-8144 4010

**Netherlands**

GRUNDFOS Netherlands  
Veluwezoom 35  
1326 AE Almere  
Postbus 22015  
1302 CA ALMERE  
Tel.: +31-88-478 6336  
Fax: +31-88-478 6332  
E-mail: info\_gnl@grundfos.com

**New Zealand**

GRUNDFOS Pumps NZ Ltd.  
17 Beatrice Tinsley Crescent  
North Harbour Industrial Estate  
Albany, Auckland  
Tel.: +64-9-415 3240  
Fax: +64-9-415 3250

**Norway**

GRUNDFOS Pumper A/S  
Strømsveien 344  
Postboks 235, Leirdal  
N-1011 Oslo  
Tel.: +47-22 90 47 00  
Fax: +47-22 32 21 50

**Poland**

GRUNDFOS Pompy Sp. z o.o.  
ul. Klonowa 23  
Baranowo k. Poznania  
PL-62-081 Przeźmierowo  
Tel.: (+48-61) 650 13 00  
Fax: (+48-61) 650 13 50

**Portugal**

Bombas GRUNDFOS Portugal, S.A.  
Rua Calvet de Magalhães, 241  
Apartado 1079  
P-2770-153 Paço de Arcos  
Tel.: +351-21-440 76 00  
Fax: +351-21-440 76 90

**Romania**

GRUNDFOS Pompe România SRL  
S-PARK BUSINESS CENTER, Clădirea  
A2, etaj 2  
Str. Tipografilor, Nr. 11-15, Sector 1, Cod  
013714  
București, Romania  
Tel.: 004 021 2004 100  
E-mail: romania@grundfos.ro

**Serbia**

Grundfos Srbija d.o.o.  
Omladinskih brigada 90b  
11070 Novi Beograd  
Tel.: +381 11 2258 740  
Fax: +381 11 2281 769  
www.rs.grundfos.com

**Singapore**

GRUNDFOS (Singapore) Pte. Ltd.  
25 Jalan Tukang  
Singapore 619264  
Tel.: +65-6681 9688  
Faxax: +65-6681 9689

**Slovakia**

GRUNDFOS s.r.o.  
Prievozská 4D 821 09 BRATISLAVA  
Tel.: +421 2 5020 1426  
sk.grundfos.com

**Slovenia**

GRUNDFOS LJUBLJANA, d.o.o.  
Leskoškova 9e, 1122 Ljubljana  
Tel.: +386 (0) 1 568 06 10  
Fax: +386 (0)1 568 06 19  
E-mail: tehnika-si@grundfos.com

**South Africa**

GRUNDFOS (PTY) LTD  
16 Lascelles Drive, Meadowbrook Estate  
1609 Germiston, Johannesburg  
Tel.: (+27) 10 248 6000  
Fax: (+27) 10 248 6002  
E-mail: lgradidge@grundfos.com

**Spain**

Bombas GRUNDFOS España S.A.  
Camino de la Fuentecilla, s/n  
E-28110 Algete (Madrid)  
Tel.: +34-91-848 8800  
Fax: +34-91-628 0465

**Sweden**

GRUNDFOS AB  
Box 333 (Lunnagårdsgatan 6)  
431 24 Mölndal  
Tel.: +46 31 332 23 000  
Fax: +46 31 331 94 60

**Switzerland**

GRUNDFOS Pumpen AG  
Bruggacherstrasse 10  
CH-8117 Fällanden/ZH  
Tel.: +41-44-806 8111  
Fax: +41-44-806 8115

**Taiwan**

GRUNDFOS Pumps (Taiwan) Ltd.  
7 Floor, 219 Min-Chuan Road  
Taichung, Taiwan, R.O.C.  
Tel.: +886-4-2305 0868  
Fax: +886-4-2305 0878

**Thailand**

GRUNDFOS (Thailand) Ltd.  
92 Chaloe Phrakiat Rama 9 Road  
Dokmai, Pravej, Bangkok 10250  
Tel.: +66-2-725 8999  
Fax: +66-2-725 8998

**Turkey**

GRUNDFOS POMPA San. ve Tic. Ltd.  
Sti.  
Gebze Organize Sanayi Bölgesi  
Ihsan dede Caddesi  
2. yol 200. Sokak No. 204  
41490 Gebze/ Kocaeli  
Tel.: +90 - 262-679 7979  
Fax: +90 - 262-679 7905  
E-mail: satis@grundfos.com

**Ukraine**

ТОВ "ГРУНДФОС УКРАЇНА"  
Бізнес Центр Європа  
Столичне шосе, 103  
м. Київ, 03131, Україна  
Tel.: (+38 044) 237 04 00  
Fax: (+38 044) 237 04 01  
E-mail: ukraine@grundfos.com

**United Arab Emirates**

GRUNDFOS Gulf Distribution  
P.O. Box 16768  
Jebel Ali Free Zone, Dubai  
Tel.: +971 4 8815 166  
Fax: +971 4 8815 136

**United Kingdom**

GRUNDFOS Pumps Ltd.  
Grovebury Road  
Leighton Buzzard/Beds. LU7 4TL  
Tel.: +44-1525-850000  
Fax: +44-1525-850011

**U.S.A.**

Global Headquarters for WU  
856 Koomey Road  
Brookshire, Texas 77423 USA  
Phone: +1-630-236-5500

**Uzbekistan**

Grundfos Tashkent, Uzbekistan  
The Representative Office of Grundfos  
Kazakhstan in Uzbekistan  
38a, Oybek street, Tashkent  
Tel.: (+998) 71 150 3290 / 71 150 3291  
Fax: (+998) 71 150 3292

<b>92662011 05.2024</b>
ECM: 1394597



Trademarks displayed in this material, including but not limited to Grundfos and the Grundfos logo, are registered trademarks owned by The Grundfos Group. © 2024 Grundfos Holding A/S, all rights reserved.