

## Unilift CC 5, CC 7, CC 9

Installation and operating instructions



# English (US) Installation and operating instructions

## Original installation and operating instructions

These installation and operating instructions describe Grundfos Unilift CC 5, CC 7 and CC 9.

Sections 1-5 give the information necessary to be able to unpack, install and start up the product in a safe way.

Sections 6-10 give important information about the product, as well as information on service, fault finding and disposal of the product.



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



Successful operation depends on careful attention to the procedures described in this manual. Keep this manual for future use.

## CONTENTS

	Page
<b>1. Limited warranty</b>	<b>3</b>
<b>2. General information</b>	<b>3</b>
2.1 Hazard statements	3
2.2 Notes	4
<b>3. Receiving the product</b>	<b>4</b>
3.1 Inspecting the product	4
3.2 Scope of delivery	4
<b>4. Installing the product</b>	<b>4</b>
4.1 Lifting the product	5
4.2 Mechanical installation	5
4.3 Electrical connection	8
<b>5. Starting up the product</b>	<b>9</b>
5.1 Starting	9
5.2 Venting the product	10
5.3 Manual operation	10
5.4 Automatic operation with float switch	10
5.5 Pumping to a low water level	10
5.6 Thermal protection	10
<b>6. Product introduction</b>	<b>11</b>
6.1 Product description	11
6.2 Applications	12
6.3 Identification	13
<b>7. Servicing the product</b>	<b>13</b>
7.1 Maintaining the product	13
7.2 Cleaning the pump	14
7.3 Service kits	14
7.4 Contaminated pumps	14
<b>8. Fault finding the product</b>	<b>15</b>
<b>9. Technical data</b>	<b>16</b>
9.1 Operating conditions	16
9.2 Electrical data	16
9.3 Mechanical data	17
9.4 Dimensions and weights	17
<b>10. Disposing of the product</b>	<b>17</b>

## 1. Limited warranty

Products manufactured by Grundfos Pumps Corporation (Grundfos) are warranted to the original user only to be free of defects in material and workmanship for a period of 24 months from date of installation, but not more than 30 months from date of manufacture. Grundfos' liability under this warranty shall be limited to repairing or replacing at Grundfos' option, without charge, F.O.B. Grundfos' factory or authorized service station, any product of Grundfos manufacture. Grundfos will not be liable for any costs of removal, installation, transportation, or any other charges that may arise in connection with a warranty claim.

Products which are sold, but not manufactured by Grundfos, are subject to the warranty provided by the manufacturer of said products and not by Grundfos' warranty.

Grundfos will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with Grundfos' printed installation and operating instructions and accepted codes of good practice. The warranty does not cover normal wear and tear.

To obtain service under this warranty, the defective product must be returned to the distributor or dealer of Grundfos' products from which it was purchased together with proof of purchase and installation date, failure date and supporting installation data. Unless otherwise provided, the distributor or dealer will contact Grundfos or an authorized service station for instructions. Any defective product to be returned to Grundfos or a service station must be sent freight prepaid; documentation supporting the warranty claim and/or a Return Material Authorization must be included if so instructed.

Grundfos will not be liable for any incidental or consequential damages, losses, or expenses arising from installation, use, or any other causes. There are no express or implied warranties, including merchantability or fitness for a particular purpose, which extend beyond those warranties described or referred to above. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages and some jurisdictions do not allow limitations on how long implied warranties may last. Therefore the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction.

Products which are repaired or replaced by Grundfos or authorized service center under the provisions of these limited warranty terms will continue to be covered by Grundfos warranty only through the remainder of the original warranty period set forth by the original purchase date.

## 2. General information

### 2.1 Hazard statements

The following symbols and hazard statements may appear in Grundfos installation, operating, safety 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 hazard**

Consequence of ignoring the warning.

- Action to avoid the hazard.

## 2.2 Notes

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

## 3. Receiving the product

### CAUTION

#### Crushing of feet



- Minor or moderate personal injury
- Wear safety shoes when handling the product.
  - Use the pump handle to move the pump. Do not lift it by the power cable.

### 3.1 Inspecting the product

Check that the product received is in accordance with the order. Contact the supplier if the delivery differs from the order.

Check that the voltage and frequency of the product match voltage and frequency of the installation site. Contact the supplier if product electrical requirements do not fit those of the installation site.

### 3.2 Scope of delivery

The box contains the following items:

- pump
- power cable
- float switch, if included with the model
- installation and operating instructions.

## 4. Installing the product

### DANGER

#### Electric shock

- Death or serious personal injury
- The installation, electrical connection, and maintenance of the product must be carried out by an authorized electrician in accordance with National Electrical Code (USA), Canadian Electrical Code (Canada) and any state, local governing codes and regulations.



### DANGER

#### Electric shock

- Death or serious personal injury
- Switch off the power supply before starting any work on the product.
  - Make sure that the power supply cannot be accidentally switched on.



### DANGER

#### Electric shock

- Death or serious personal injury
- Pump installation in a sump pit, basin or tank must be carried out by qualified, specially trained persons in accordance with the National Electrical Code (USA), Canadian Electrical Code (Canada), and any state, local governing codes and regulations.



### DANGER

#### Electric shock

- Death or serious personal injury
- Route the power cable in a way that supports it and protects it from being cut, pinched or damaged.
  - If the power cable is cut, pinched, or damaged, replace it before using the product.



**DANGER****Electric shock**

Death or serious personal injury

- Do not remove the power cable and strain relief.
- Do not connect electrical conduit to the pump.

**WARNING****Electric shock**

Death or serious personal injury

- Connect the product only to a properly grounded receptacle.
- We recommend that you connect the pump to an electrical circuit with a Ground Fault Circuit Interrupter (GFCI).

**WARNING****Moving parts**

Minor or moderate personal injury

- Make sure that persons cannot come into contact with moving parts.



If the pump is used without a float switch, use an approved level controller with a motor protection unit and set the current rating to match the nominal current marked on the product's nameplate.



Observe local regulations setting limits for manual lifting and handling.



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

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.



Make sure that the system in which the pump is incorporated is designed for the maximum pump pressure.



The pump has been evaluated for use with water only.

**4.1 Lifting the product**

Lift the pump by the lifting handle. Never lift the pump by the power cable. Tie a rope to the lifting handle instead.

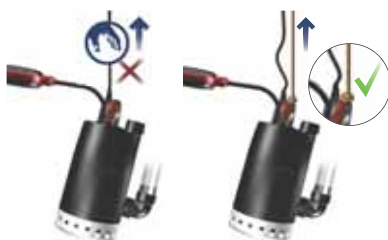


Fig. 1 Lifting the pump

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**4.2 Mechanical installation****4.2.1 Pipe connection****Connecting the outlet pipe**

You can connect the outlet pipe to the pump outlet port on the top or the side by means of an adapter. Use the 90 ° adaptor for the side outlet port.

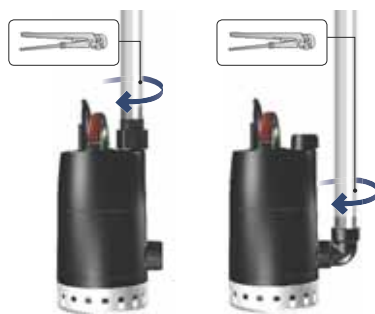


Fig. 2 Connecting the outlet pipe

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The adapter enables connection of a pipe or hose matching 3/4", 1" and 1 1/4" NPT external pipe thread.

Cut off the adapter so that it matches the outlet pipe diameter. If a system gasket is used between the outlet pipe and the adapter, the cut-off adapter must have an even and smooth surface.

Connect the outlet pipe from the fixed installation directly to the pump outlet port. If the adapter supplied with the pump is to be used, cut off the 3/4" and 1" sockets.

Comply with local standards when connecting the multifunctional adapter to a pipe in a permanent installation.

### 4.2.2 Location

Unilift CC 5, CC 7 and CC 9 pumps are suitable for both stationary and portable use.

#### Minimum free cable length



Ensure a minimum free cable length of 9.8 ft (3 m) above the liquid level. This limits the maximum installation depth to 23 ft (7 m) for pumps with a 32.8 ft cable (10 m) and to 6.6 ft (2 m) for pumps with a 16.4 ft (5 m) cable.

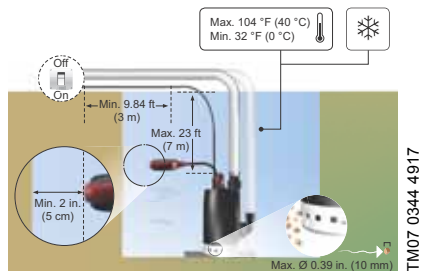


Fig. 3 Location of pump

### 4.2.3 Minimum space

#### Pump without a float switch

A pump installed without a float switch requires space that corresponds to the physical dimensions of the pump.

#### Pump with a float switch

A pump installed with a float switch requires 2 inches (5 cm) free space between the float switch and the wall. The free space ensures free movability of the float switch. See fig. 3 and fig. 4 and the following table for minimum pit dimensions for a pump with a float switch.

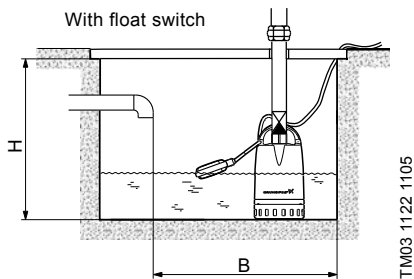


Fig. 4 Minimum installation dimensions, refer to the table below

Minimum pit dimensions for a pump with a float switch:

Pump type	Height (H) (top outlet port) [in. (mm)]	Height (H) (side outlet port) [in. (mm)]	Width (B) [in. (mm)]
CC 5	20.5	13.8	15.7
CC 7	(520)	(350)	(400)
CC 9	22.4	15.7	19.7
	(570)	(400)	(500)

#### Pump with a lever arm

If supplied with a lever arm, you can install the Unilift CC pump in a narrow pit.

The minimum dimensions for a narrow pit are 11.8 x 13.8 inches (300 x 350 mm).

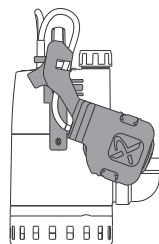


Fig. 5 Unilift CC with a lever arm

### 4.2.4 Foundation

We recommend that you place the pump on a solid base. See fig. 6.

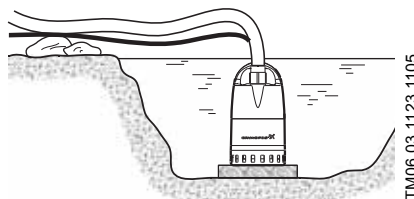


Fig. 6 Pump placed on a plate

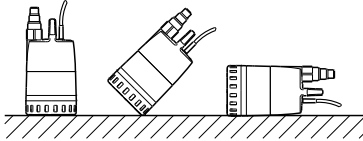
#### 4.2.5 Positioning the product

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

Position the pump so that the inlet strainer will not be blocked by sludge, mud or similar materials.

You can place the pump in three positions: vertical, tilted or horizontal. The outlet port must always be the highest point of the pump.

During operation, the inlet strainer must be completely covered by the pumped liquid.



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Fig. 7 Pump positions

#### 4.2.6 Connecting the non-return valve

To prevent backflow through the pump when it stops, fit the non-return valve supplied in the adapter. The non-return valve is fixed when the adapter is fitted to the pump top outlet port.

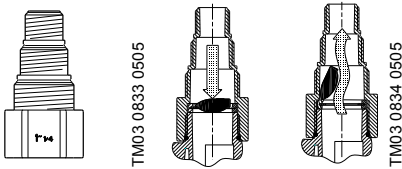


Fig. 8 Adapter position and non-return valve function

#### 4.2.7 Using the side outlet port

If you want to use the side outlet port, proceed as follows:

1. Remove the non-return valve and adapter from the top outlet port.
2. Remove the side plug and screw it on the top outlet port.
3. Fit the 90 ° bend adapter in the side outlet port. Use thread sealing tape or similar material.
4. Fit the non-return valve in the vertical part of the 90 ° bend.
5. Connect the outlet line directly to the outlet port.



Position the non-return valve in the vertical part of the 90 ° bend. If positioned in the horizontal part of the 90 ° bend, the non-return valve may not function correctly.



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Fig. 9 Correct position of a non-return valve

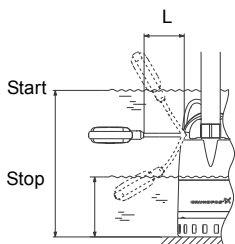
#### 4.2.8 Adjusting the cable length for a float switch

To make sure that the float switch can start and stop the pump, the free cable length must be:

- at least 3.9 inches (100 mm)
- no more than 7.9 inches (200 mm).

Adjust the start and stop level by changing the free cable length between the float switch and the lifting handle.

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

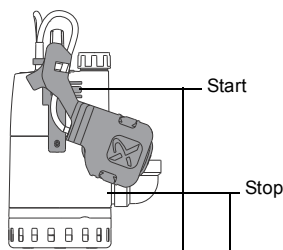


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**Fig. 10** Start and stop levels with a float switch, refer to the table below for minimum and maximum cable lengths

Unlift CC start and stop levels				
Pump type	Min. cable length (L)		Max. cable length (L)	
	3.9 in. (100 mm)	7.9 in. (200 mm)	3.9 in. (100 mm)	7.9 in. (200 mm)
	Start [in. (mm)]	Stop [in. (mm)]	Start [in. (mm)]	Stop [in. (mm)]
CC 5	13.8 (350)	4.5 (115)	15.75 (400)	2.2 (55)
CC 7	13.8 (350)	4.5 (115)	15.75 (400)	2.2 (55)
CC 9	15.2 (385)	5.9 (150)	17 (435)	3.5 (90)

#### 4.2.9 Lever arm start and stop levels



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**Fig. 11** Start and stop levels with a lever arm, refer to the table below for start and stop levels

Pump type	Start and stop levels with a lever arm	
	Start [in. (mm)]	Stop [in. (mm)]
CC 5	8.31 (211)	3.51 (89)
CC 7	8.31 (211)	3.51 (89)
CC 9	9.72 (247)	4.93 (125)

#### 4.3 Electrical connection

##### DANGER

##### Electric shock

- Death or serious personal injury
- Switch off the power supply before starting any work on the product.
- Make sure that the power supply cannot be accidentally switched on.



##### DANGER

##### Electric shock

- Death or serious personal injury
- Connect pumps without a plug permanently to the fixed wiring via an external main switch with a minimum contact gap of 3 mm in all poles.



##### DANGER

##### Electric shock

- Death or serious personal injury
- Connect the product only to a properly grounded receptacle.
- We recommend that you connect the pump to an electrical circuit with a Ground Fault Circuit Interrupter (GFCI).





**DANGER****Electric shock**

Death or serious personal injury

- If the pump is used for cleaning or other maintenance of swimming pools, garden ponds or similar places, make sure that the power supply to the pump is routed through a ground fault circuit interrupter (GFCI) in accordance with state, local governing codes and regulations.

**DANGER****Electric shock**

Death or serious personal injury

- Pump installation in a sump pit, basin or tank must be carried out by qualified, specially trained persons in accordance with the National Electrical Code (USA), the Canadian Electrical Code (Canada), and any state, local governing codes and regulations.

**WARNING****Electric shock**

Death or serious personal injury

- The protective ground of the pump power plug must be connected to the protective ground receptacle of the power outlet.
- The plug must have the same ground connection system as that of the power outlet. If not, use a suitable adapter.



Carry out the electrical connection according to the National Electrical Code (USA), the Canadian Electrical Code (Canada), and any state, local governing codes and regulations.

The pump must be grounded. The operating voltage and frequency are marked on the nameplate. Make sure that the motor is suitable for the power supply on which it will be used.

- Make sure that it is possible to make a good ground connection.
- Pumps with a plug:
  - Connect the plug to the power outlet.
- Pumps without a plug:
  - Connect the pump permanently to the fixed wiring via an external main switch with a minimum contact gap of 3 mm in all poles.

**5. 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.

**WARNING****Moving parts**

Death or serious personal injury

- Make sure that persons cannot come into contact with moving parts.

**WARNING****Flammable material**

Death or serious personal injury

- Do not use the pump for flammable liquids, such as diesel oil, petrol or similar liquids.

**5.1 Starting**

Before starting the pump, check that the following requirements are fulfilled:

- The pump is submerged in liquid. During normal operation with a float switch in a stationary installation, the inlet strainer of the pump must be below the surface of the liquid.
- The pump is placed on a base so that the inlet strainer is not blocked by sludge, mud or similar materials.
- The pipe or hose connection is tight.
- The outlet pipe is open, that is, the pipe is not blocked or bent,
- The pump is connected to the power supply in accordance with the instructions.
- For pumps with a float switch, check that the float switch will allow the pump to pump down to the chosen level according to fig. 10. If you want to pump below this level, hold the float switch in vertical position.

**Startup procedure**

Switch on the pump and check the following:

- The pump is operating properly.
- Water is being pumped.

## 5.2 Venting the product

The pump is self-venting. A vent valve is built into the lifting handle. The valve allows air to escape from the pump in case the free air flow through the outlet pipe is blocked. Once the pump is vented, the valve normally closes.

If the pump sucks air or water with a high air content, the valve may leak a mixture of air and water. This is not a fault but a natural consequence of the opening and closing of the valve.

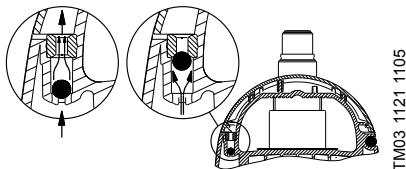


Fig. 12 Self-venting

## 5.3 Manual operation

Start and stop the pump via an external switch.

To eliminate the risk of dry running, check the water level regularly during operation. This can for instance be done by means of an external level controller.

In order for the pump to be able to self-prime when started, the water level must be at least 1 inch (25 mm).

When the pump sucks water, it can pump down to 0.8 inch (20 mm) water level.

## 5.4 Automatic operation with float switch

During automatic operation, the pump starts and stop, depending on the water level, the float switch position and cable length.

### 5.4.1 Forced operation of a pump with a float switch

If the pump is used to drain water below the stop level of the float switch, the float switch can be kept in a higher position by fixing it to the outlet pipe.

During forced operation, the water level must be checked regularly to prevent dry running.

## 5.5 Pumping to a low water level

The pump can pump down to 0.12 inch (3 mm) when the inlet strainer is removed.

These conditions must be fulfilled:

- The inlet strainer must be removed.
- The pump must be placed on an even, horizontal surface.
- The water must not contain particles which may block the pump inlet.
- The water level must be minimum 0.2 inch (5 mm) when the pump is started.

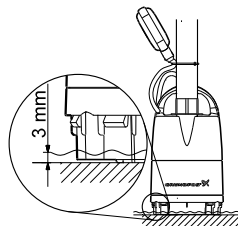


Fig. 13 Low water level

### Removing the inlet strainer

To remove the inlet strainer, insert a screwdriver between the pump housing and the inlet strainer and turn it.

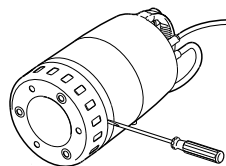


Fig. 14 Removal of the inlet strainer

## 5.6 Thermal protection

If the pump is running without water, or if it is otherwise overloaded, the built-in thermal switch will cut out.

When the motor has cooled to normal temperature, it restarts automatically.

## 6. Product introduction

### 6.1 Product description

Grundfos Unilift CC 5, CC 7 and CC 9 pumps are single-stage submersible pumps designed for pumping rainwater and grey wastewater without fibers. The pumps are self-venting and incorporate a vent valve.

The pumps are designed for manual or automatic operation.

The Unilift CC pumps are available with or without a float switch. If supplied with a lever arm, the pump can be installed in a narrow pit.

#### Pump with a float switch

With a float switch installed:

- the pump automatically starts and stops according to the level of the pumped liquid
- the pump can pump to a low water level during forced operation when the inlet strainer is removed.

#### Pump without a float switch

Without a float switch:

- the pump requires manual external start and stop
- the pump can pump to a low water level when the inlet strainer is removed.

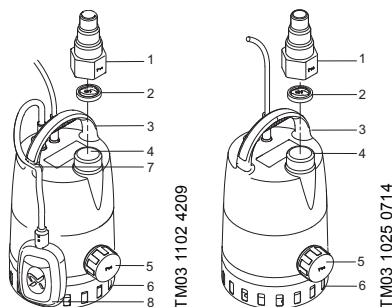


Fig. 15 Pump with and without a float switch

Pos.	Description
1	Adapter
2	Non-return valve
3	Lifting handle
4	Top outlet port
5	Side outlet port and plug The side outlet port is plugged from factory.
6	Inlet strainer
7	Clamp
8	Float switch

## 6.2 Applications

### DANGER

#### Electric shock



Death or serious personal injury  
- Do not use the pumps in or at swimming pools, garden ponds, etc. when there are persons in the water.

If the pump has been used for very dirty or chlorinated water, flush the pump thoroughly with clean water after use.



Wear gloves and other suitable personal protective equipment in accordance with local regulations. Observe local regulations on any exposure to wastewater.



The product is not designed for pumping stones and similar materials

The product can be installed in a permanent installation or used as a portable pump.

Unilift CC 5 is for indoor use only. Unilift CC 7 and CC 9 are suitable for both indoor and outdoor use.

Incorrect use of the product, for example resulting in blockage or wear of the pump, will void the pump's warranty. Note that the pump is not suitable for these liquids:

- sewage
- liquids containing long fibers
- flammable liquids (oil, gasoline, etc.)
- aggressive liquids
- liquids containing particles exceeding the pump's

Applications	CC 5	CC 7	CC 9
Drainage of basements or buildings prone to flooding.	•	•	•
Pumping of wastewater from washing machines, sinks, baths, showers, etc., up to the sewer level.	•	•	•
Dewatering of sites or pumping of water for fountains.	•	•	•
Pumping in draining wells.	•	•	•
Emptying of swimming pools, ponds, tanks, or fountains.	•	•	•

Check the regional or local EX-approval requirements for surface water at gas stations and in parking areas.

**Note:** Unilift CC does not have any explosion-proof approval. See the Grundfos SL range.

## 6.3 Identification

### 6.3.1 Nameplate

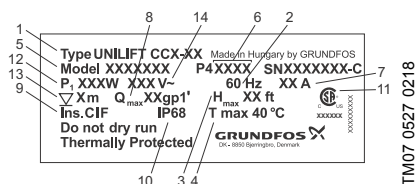


Fig. 16 Example of the nameplate

Pos.	Description
1	Pump type
2	Frequency
3	Maximum head
4	Maximum liquid temperature during continuous operation
5	Product number
6	Production code
7	Full-load current
8	Maximum flow rate
9	Motor insulation class
10	Enclosure class
11	Approvals
12	Motor input power
13	Maximum installation depth
14	Supply voltage

## 7. Servicing the product

### 7.1 Maintaining the product

Under normal operating conditions, the pump is maintenance-free.

If the pump has been used for liquids other than clean water, it must be flushed through with clean water immediately after use. See section [7.2 Cleaning the pump](#).

#### DANGER

##### Electric shock



Death or serious personal injury  
- Switch off the power supply before starting any work on the product. Make sure that the power supply cannot be accidentally switched on.

#### DANGER

##### Electric shock



Death or serious personal injury  
- If the power cable is damaged, it must be replaced by the manufacturer, his service agent or similarly qualified persons in order to avoid hazard.

#### CAUTION

##### Biological hazard



Minor or moderate personal injury  
- Before carrying out maintenance and service, flush the pump thoroughly with clean water.  
- After dismantling the pump, rinse the pump parts in clean water.

#### CAUTION

##### Sharp element



Minor or moderate personal injury  
- Wear protective gloves.  
- Never touch the inside of the pump while the pump is running

#### CAUTION

##### Biological hazard



Minor or moderate personal injury  
- If a pump has been used for a liquid which is injurious to health or toxic, the pump will be classified as contaminated.



Service must be performed by trained service persons. Furthermore, all rules and regulations covering safety, health and environment must be observed.

## 7.2 Cleaning the pump

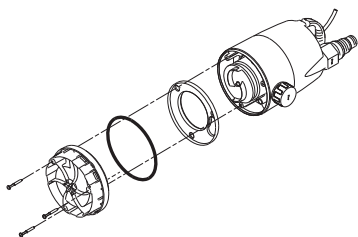
If the pump does not deliver a sufficient quantity of water because of sediment, dismantle and clean the pump.

### 7.2.1 Cleaning the inlet strainer

1. Disconnect the power supply to the pump.
2. Drain the pump.
3. Loosen the inlet strainer by inserting a screwdriver in the recess between the pump housing and the strainer.
4. Use the screwdriver to push apart the outer housing and the strainer. Repeat the procedure, working around the pump, until the strainer is free and can be removed.
5. Clean and refit the inlet strainer.

### Cleaning the impeller

1. Disconnect the power supply to the pump.
2. Drain the pump.
3. Loosen the inlet strainer by inserting a screwdriver in the recess between the pump housing and the strainer,
4. Use the screwdriver to push apart the outer housing and the strainer. Repeat the procedure, working around the pump, until the strainer is free and can be removed.
5. Remove the strainer and the bottom part of the pump housing as shown in fig. 17.



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**Fig. 17** Removal of the strainer and the bottom part of the pump housing

6. Remove and clean the diaphragm.
7. Clean and flush the pump with clean water to remove possible impurities between the motor and the pump housing. Clean the impeller.
8. Check that the impeller can rotate freely.
9. Assemble the pump in reverse order of dismantling.

## 7.3 Service kits

The impeller assembly and power cable can be replaced. The part numbers and the components included in the service kits are found in Grundfos Product Center at [www.grundfos.us](http://www.grundfos.us). Alternatively, contact your local Grundfos dealer or service center.



The cable and the float switch must be replaced by a service workshop authorized by Grundfos.

## 7.4 Contaminated pumps

Any application for service, no matter to whom it may be made, must include details about the pumped liquid.

### CAUTION



#### Biological hazard

Minor or moderate personal injury  
- Flush the pump thoroughly with clean water and rinse the pump parts in water after dismantling.

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.

## 8. Fault finding the product

### DANGER

#### Electric shock



Death or serious personal injury

- Switch off the power supply before starting any work on the product. Make sure that the power supply cannot be accidentally switched on.

Fault	Cause	Remedy
1. The motor does not start.	a) No power supply.	Connect the power supply.
	b) The fuses are blown.	Replace the fuses.
	c) The motor protection or thermal relay has tripped. See section <a href="#">5.6 Thermal protection</a> . See also point 2.	Wait until the motor protection trips in again or reset the relay.
	d) The impeller is blocked by impurities.	Clean the impeller. See section <a href="#">7.2 Cleaning the pump</a> .
	e) There is a short circuit in the cable or motor.	Replace the defective part.
2. The motor protection or thermal relay trips after a short time of operation.	a) The temperature of the pumped liquid is too high.	Contact your Grundfos representative.
	b) The impeller is blocked or partly blocked by impurities.	Clean the pump. See section <a href="#">7.2 Cleaning the pump</a> .
	c) The water level is too low when the pump is started. The pump cannot self-prime. See section <a href="#">9. Technical data</a> .	Move the pump to a position with higher water level, or add water until the pump starts sucking.
3. The pump runs constantly, but does not deliver the rated flow.	a) The pump is partly blocked by impurities.	Clean the pump. See section <a href="#">7.2 Cleaning the pump</a> .
	b) The outlet pipe or hose is partly blocked by impurities.	Clean the outlet pipe or hose. Clean the non-return valve, if fitted. Straighten out the hose or pipe, if bent.
4. The pump runs but gives no water.	a) The pump is blocked by impurities.	Clean the pump. See section <a href="#">7.2 Cleaning the pump</a> .
	b) The pipe or hose is blocked by impurities.	Clean the outlet pipe or hose. Clean or replace the non-return valve, if necessary. Straighten out the outlet pipe or hose, if bent.
	c) Pumps with a float switch: The pump does not stop because the free cable length of the float switch is too long.	Reduce the free cable length of the float switch cable. See section <a href="#">4.2.8 Adjusting the cable length for a float switch</a>

## 9. Technical data

### 9.1 Operating conditions

#### 9.1.1 Flow rate

Pump type	Max. head [ft (m)]	Max. flow rate [gpm (m <sup>3</sup> /h)]
CC 5	16 (5)	26.7 (6)
CC 7	22 (7)	38.3 (10)
CC 9	29 (9)	58.3 (14)



Using the horizontal outlet may cause a 5 % drop in performance.

#### 9.1.2 Temperatures

Maximum ambient temperature	104 °F (40 °C)
Liquid temperature	32 to 104 °F (0 to 40 °C)
Operating temperature	32 to 104 °F (0 to 40 °C)
Storage temperature	14 to 122 °F (-10 to +50 °C)

#### Thermal protection

Pump type	Winding temperature cut-out
CC 5	320 °F (160 °C)
CC 7	320 °F (160 °C)
CC 9	284 °F (140 °C)



At intervals of at least 30 minutes, the pump is allowed to run at maximum 158 °F (70 °C) for periods not exceeding two minutes.



Do not use the thermal protection to control pump operation. If the pump is to be installed permanently in conditions with varying water level, install a pump with a float switch.

#### 9.1.3 Pumped liquid requirements

Pumped liquid	Rainwater and grey wastewater without long fibers
pH range	4-9 pH
Maximum particle size	Ø0.40 inch (10 mm)
Viscosity	Close to the viscosity of water or 1 cSt (1 mm <sup>2</sup> /s) at 68 °F (20 °C).

#### 9.1.4 Inlet level and installation depth

Pump type	Min. inlet level with inlet strainer [in. (mm)]	Min. inlet level without inlet strainer [in. (mm)]
CC 5	0.79 (20)	0.12 (3)
CC 7	0.79 (20)	0.12 (3)
CC 9	0.79 (20)	0.12 (3)

Pump type	Max. installation depth [ft (m)]	Cable length [ft (m)]
CC 5		
CC 7	23 (7)	32.8 (10)
CC 9		

### 9.2 Electrical data

#### 9.2.1 Power supply

Pump type	Supply voltage [V]
CC 5	1 x 115 V, 60 Hz
CC 7	1 x 230 V, 60 Hz
CC 9	1 x 230 V, 60 Hz

60 Hz	CC 5		CC 7		CC 9	
Voltage [V]	115	230	115	230	115	230
Current, I 1/1 [A]	2.6	1.2	3.4	1.6	6.7	3.1
Power, P1 [W]	270	270	370	370	730	730
Power factor, cos φ 1/1	0.95	0.97	0.95	0.98	0.92	0.95

#### 9.2.2 Insulation class

Pump type	Cable type	Insulation class
CC 5, 230 V	H05RN-F 3G0.75	F
CC 7, 230 V	H07RN-F 3G1	F
CC 9, 230 V	H07RN-F 3G1	B
CC 5, 115 V		
CC 7, 115 V	H07RN-F 3G1	B
CC 9, 115 V		

#### 9.2.3 Capacitors

Pump type	Capacitor	
	[µF]	[Vc]
CC 5	4	450
CC 7	8	450
CC 9	8	450



### 9.3 Mechanical data

Maximum dry-running time	1 minute
Airborne noise emitted by pump	≤ 70 dB(A)
Enclosure class	IP68

### 9.4 Dimensions and weights

See the appendix.

## 10. 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.

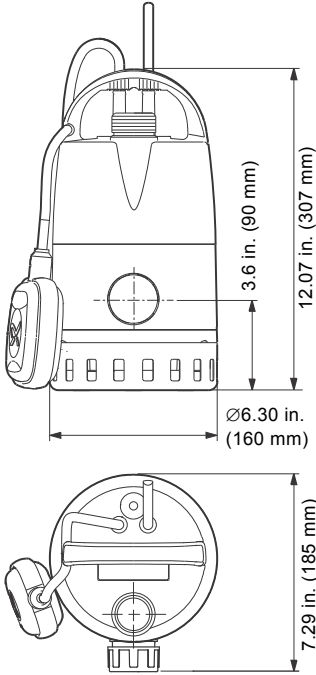
See also end-of-life information at [www.grundfos.com/product-recycling](http://www.grundfos.com/product-recycling).

Appendix

Dimensions and weights

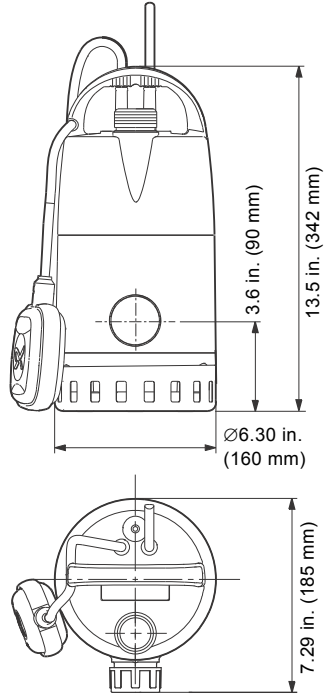
Pump type	Weight [lb (kg)]	Dimensions [in. (mm)]		
		Pump height	Pump width	Pump diameter
Unilift CC 5	9.5 (4.3)	12.07 (307)	7.29 (185)	Ø6.30 (160)
Unilift CC 7	12.8 (5.8)	12.07 (307)	7.29 (185)	Ø6.30 (160)
Unilift CC 9	14.5 (6.6)	13.50 (342)	7.29 (185)	Ø6.30 (160)

Unilift CC 5 and CC 7



TM07 0538 0218

Unilift CC 9



TM07 0537 0218

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