

Unilift CC

Service instructions



Original service instructions.

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1. Symbols used in this document



Warning
 If these safety instructions are not observed,
 it may result in personal injury.

2. Safety



Warning
 Work in or near pits must be carried out
 according to local regulations.

Sumps and pits for submersible wastewater pumps may contain gasses and wastewater with toxic and/or disease-causing substances. Therefore, all persons involved must wear appropriate personal protective equipment and clothing, and all work on and near the pump must be carried out under strict observance of hygienic regulations.

3. Identification

3.1 Nameplate

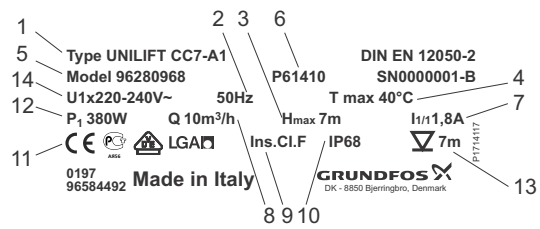


Fig. 1 Example of nameplate for Unilift CC 9

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

3.2 Type key

Example	Unilift	CC	7	A1
Pump range				
Type				
Maximum head [m]				
Operation				
A1 = Automatic				
M1 = Manual				

TM06 0896 1314

4. Cleaning the pump



Warning

Switch off the electricity supply before dismantling the pump.

4.1 Cleaning the suction strainer

1. Drain the pump.
2. Loosen the strainer (pos. 84) by inserting a screwdriver between the bottom part (pos. 50) and the suction strainer and turning the screwdriver.

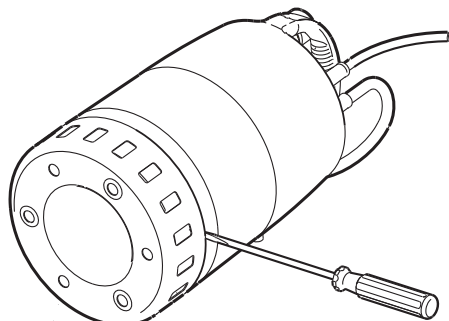


Fig. 2 Removing the suction strainer

3. Clean and refit the suction strainer.

4.2 Cleaning the impeller

1. Loosen the strainer (pos. 84) by inserting a screwdriver between the bottom part (pos. 50) and the suction strainer and turning the screwdriver.
2. Remove the screws (pos. 84b) and the bottom part (pos. 50).

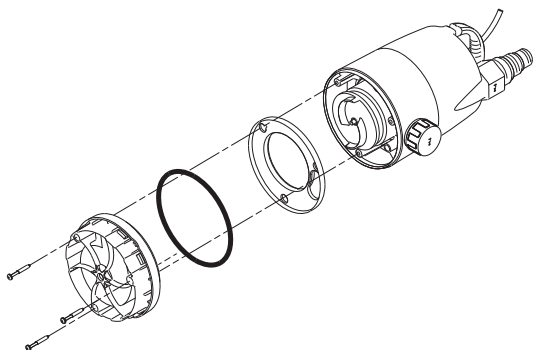


Fig. 3 Removing the bottom part

3. Remove and clean the O-ring (pos. 37a) and the diaphragm (pos. 58).
4. Flush the inside of the pump between the motor and pump sleeve, and clean the impeller. Check that the impeller (pos. 49) can rotate freely and is intact.
5. Fit the diaphragm, O-ring and bottom part.
6. Fit and tighten the screws.
7. Press the suction strainer onto the pump.

5. Dismantling and assembly

General information

Position numbers of pump part (figures) refer to exploded views, sectional drawings and parts lists.

Before dismantling

- Disconnect the electricity supply to the motor.
- Remove the electric cable in accordance with local regulations.

Before assembly

O-rings should always be replaced when the pump is overhauled.

- Clean and check all parts.
- Order the necessary service kits.

Replace defective parts by new parts.

Disposal

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.

5.1 Removing the motor

1. Loosen the strainer (pos. 84) by inserting a screwdriver between the bottom part (pos. 50) and the suction strainer and turning the screwdriver.
2. Remove the screws (pos. 84b) and the bottom part (pos. 50).

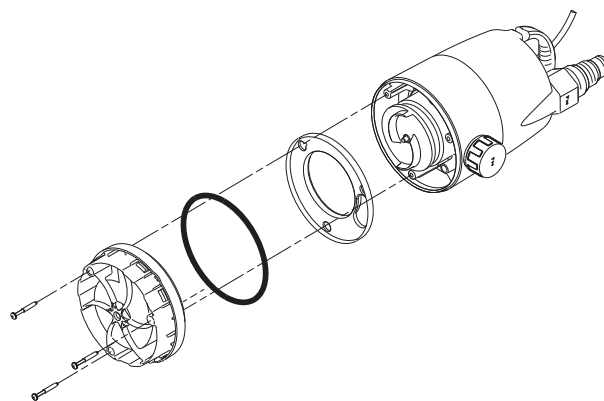


Fig. 4 Removing the bottom part

3. Remove the O-ring (pos. 37a) and the diaphragm (pos. 58).
4. Remove the screws (pos. 36).
5. Remove the pump sleeve (pos. 55a) by holding the sleeve and pressing the impeller.
6. Moisten the O-rings (pos. 37 and 48a) and remove them.
7. Pull the motor (pos. 48) out of motor sleeve (pos. 55).

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5.2 Replacing the capacitor

1. Remove the motor, see section [5.1 Removing the motor](#).
2. Pull the capacitor (pos. 161) out of the retainer (pos. 160).
3. Pull of the cable terminals and fit the new capacitor.
4. Fit the motor, see section [5.5 Fitting the motor](#).

5.3 Replacing the impeller

1. Remove the motor, see section [5.1 Removing the motor](#).
2. Remove the retainer (pos. 160) with capacitor so that the shaft end is visible.
3. Insert a screwdriver into the slot in the shaft end and remove the impeller (pos. 49), nut (pos. 67) and washer (pos. 66) as well as the V-ring (pos. 159) in CC7 and CC9.
4. Keep the screwdriver in the slot and fit the washer, V-ring, if any, the new impeller and the nut.
5. Make sure that the nut is positioned in the "seat" of the impeller.
6. Fit the retainer (pos. 160) with capacitor.
7. Fit the motor, see section [5.5 Fitting the motor](#).

5.4 Replacing the supply cable or float switch

1. Remove the motor, see section [5.1 Removing the motor](#).
2. Cut the defective cable and the cable entry just above the motor sleeve (pos. 55).
3. Cut off the wire connectors.
4. Pull the cable and cable relief (pos. 250a) out of the motor sleeve from the inside.
5. Push the cable entry out of the motor sleeve (pos. 55) from outside and in.
6. Lead the cable through the motor sleeve, and moisten the cable entry with water and fit it with the thin end upwards. The cable entry must be approx. 20 cm from the cable end.
Note: The cable entry for H05 cable is red, that for H07 white.
7. Fit the cable relief (pos. 250a) and pull the cable entry into position in the motor sleeve. The cable entry must now be fixed in the retainer in the motor sleeve. It must not be possible to pull the cable any longer. The cable entry is fitted correctly when its collar is free of the motor sleeve.
8. Strip the cable and fit the conductors with new wire connectors, see fig. 5.
9. Fit the motor, see section [5.5 Fitting the motor](#).

5.5 Fitting the motor

1. Fit the O-ring (pos. 48a) on the motor and place the motor in the motor sleeve (pos. 55).
2. Fit the O-ring (pos. 37) on the pump sleeve (pos. 55a).
3. Fit the pump sleeve on the motor sleeve.
4. Fit and tighten the three screws (pos. 36).
5. Fit the diaphragm (pos. 58).
6. Fit the O-ring (pos. 37) on the bottom part (pos. 50).
7. Fit the bottom part to the pump sleeve.
8. Fit and tighten the three screws (pos. 84b).
9. Fit the strainer (pos. 84).

6. Winding resistances

By measuring on the mains plug the resistance in the mains winding and the cable is measured.

The float switch must point upwards during the measurement.

Pump type	Winding resistance ^a ± 10 %	
	Auxiliary winding	Main winding
Unilift CC 5	99 Ω	43 Ω
Unilift CC 7	43 Ω	31 Ω
Unilift CC 9	31 Ω	11 Ω

^a The table values do not include the cable.
Resistance in cable: 2 x 10 m, approx. 1 Ω

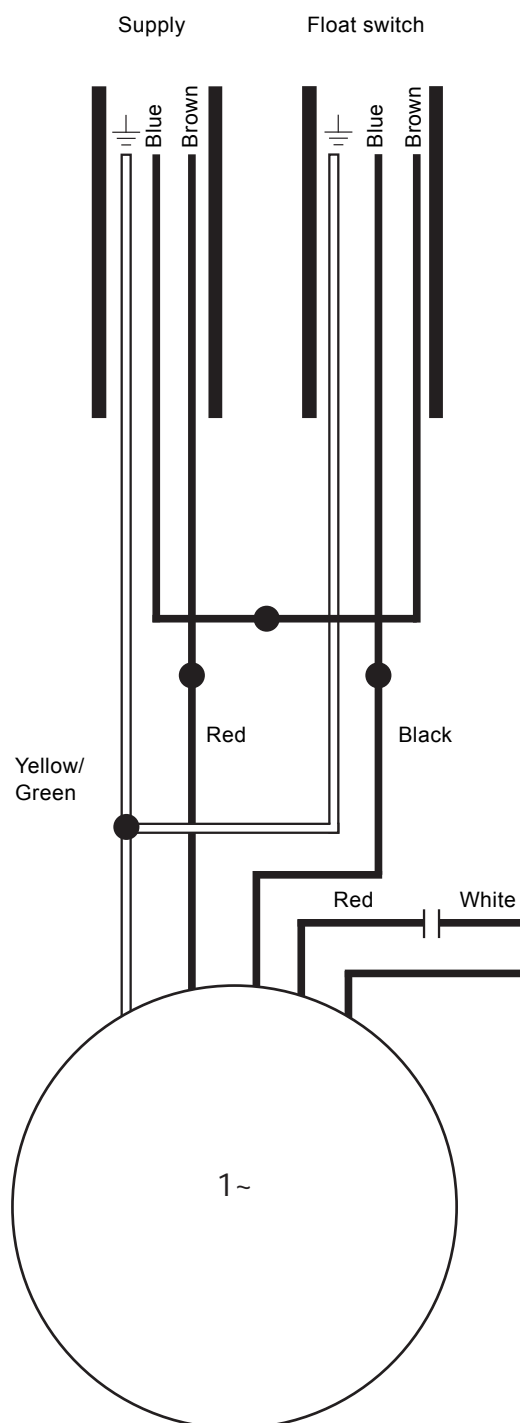


Fig. 5 Wiring diagram

7. Fault finding

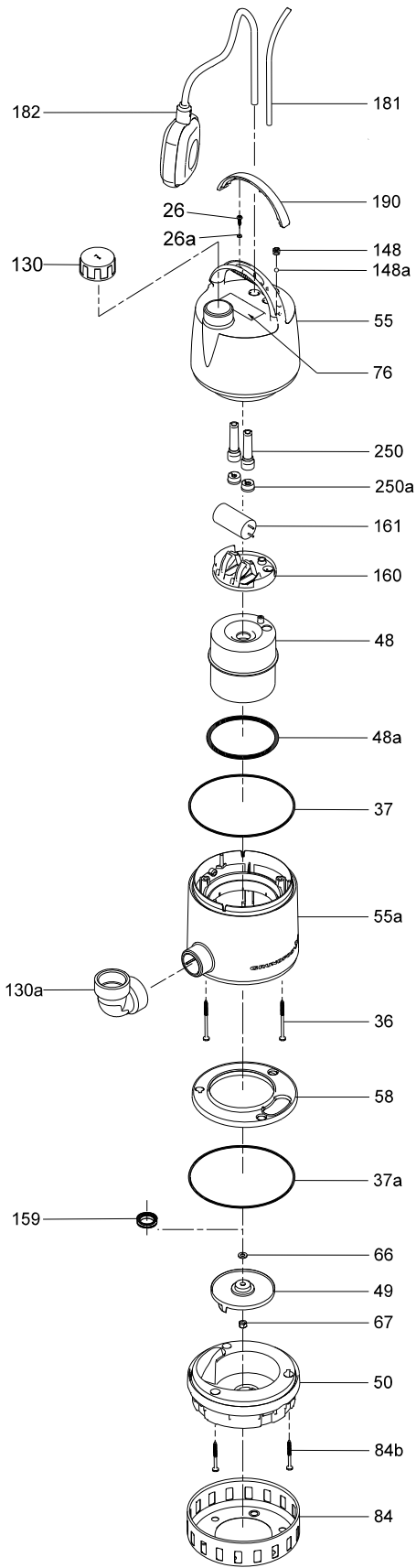


Warning

Switch off the electricity supply before dismantling the pump.

Fault	Cause	Remedy
1. Pump does not run.	a) Electricity supply switched off.	Switch on the electricity supply.
	b) Fuses in installation blown.	Replace defective fuses.
	c) The pump thermal switch has tripped out.	The thermal switch restarts the pump when the motor has cooled to normal temperature.
	d) The main winding is defective, see section 6. <i>Winding resistances</i> .	Replace the motor, see section 5.1 <i>Removing the motor</i> .
2. The pump does not run, but hums.	a) The capacitor is defective.	Replace the capacitor, see section 5.2 <i>Replacing the capacitor</i> . Replace the motor, see section 5.1 <i>Removing the motor</i> .
	b) The auxiliary winding is defective.	
3. The pump stops after short time of operation (thermal switch tripped out).	a) The pumped liquid temperature is too high.	The pump restarts automatically after sufficient cooling.
	b) Pump partly blocked by impurities or blocked.	Clean the pump, see section 4.2 <i>Cleaning the impeller</i> .
	c) Water level too low when the pump is started. The pump cannot self-prime.	Move the pump to a position with higher water level or add water until the pump starts sucking.
4. Pump runs but gives insufficient water.	a) Pump is partly blocked by impurities.	Clean the pump, see section 4.2 <i>Cleaning the impeller</i> .
	b) Discharge pipe/hose partly blocked by impurities. The hose may be sharply bent.	Check and clean the non-return valve, if fitted.
	c) Impeller, bottom part or diaphragm defective.	Replace defective parts.
5. Pump runs but gives no water.	a) Pump is blocked by impurities.	Clean the pump, see section 4.2 <i>Cleaning the impeller</i> .
	b) Non-return valve in discharge pipe/hose blocked in closed position or blocked by impurities. The hose may be sharply bent.	Check the non-return valve. Clean or replace the valve, if necessary.
	c) Pumps with float switch: The pump does not stop because the free cable length of the float switch is too long.	Reduce the free cable length.

8. Drawing



TM03 1101 1005

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