Unilift CC

TM03 1358 1805

Fig. 1 Unilift CC

Unilift CC 5, CC 7 and CC 9 are single-stage, submersible pumps with a low-suction ability down to 3 mm water level. The pumps are designed for pumping rainwater and grey wastewater, e.g. from

- washing machines, baths, sinks, etc. from low-lying parts of buildings up to sewer level
- cellars or buildings prone to flooding
- drain pits
- surface water pits with inlets from roof gutters, shafts, tunnels, etc.
- swimming pools, ponds or fountains.

The pumps are suitable for both stationary and portable use. They are available in two versions:

- M for manual operation
- A for automatic operation.

The pumps allow free passage of particles up to ø10 mm.

Approvals

VDE, GOST and LGA according to DIN EN 12050-2.

Pumped liquids

The pumps are suitable for:

- clean, non-aggressive water
- slightly dirty (grey) wastewater.

The pumps are **not** suitable for:

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

If the pump has been used for other liquids than clean water, it should be flushed through with clean water immediately after use.

Components included

The pump is supplied with an adaptor and a non-return valve.

The adaptor has ¾", 1" and 1¼" external threads. It must be cut to fit the discharge pipe.

The non-return valve can be fitted in the adaptor to prevent backflow through the pump when it stops.

Pump sleeve and housing

The sleeve is made of composite material cast in one piece with a 1¼" external pipe thread (G) discharge connection. A slot on the handle holds the float switch cable.

The main cable and flow switch cable are introduced into the sleeve through hermetically sealed cable inlets.

The suction strainer is fitted to the sleeve with a light push and can be removed easily by means of a screwdriver or similar tool. The water enters the pump through the holes of the suction strainer preventing the passage of large solids. The large holes also ensure a slow flow into the pump.

Suction to low water level is obtained by removing the strainer.

Motor

The motor is a single-phase, asynchronous, dry-running motor. The axial rotor position is secured by means of a ball bearing. The motor is cooled by the pumped liquid around the motor.

	Insulation class	Enclosure class
Unilift CC 5	B	IP 68
Unilift CC 7	F	IP 68
Unilift CC 9	B	IP 68

The motor incorporates automatic overload protection cutting out the motor in case of overload. When cooled to normal temperature, the motor restarts automatically.

Materials

Component	Material	DIN W.-Nr.
Motor sleeve	PP 15 GF	
Pump sleeve	PP 15 GF	
Motor		
Impeller	PPOm 20 GF	
Suction strainer	Stainless steel class A2	1.4301
V-ring	NBR 50	
O-rings	NBR 70	
Cable	H05RN-F 3G0.75 (CC 5) H07RN-F3G1 (CC 7 - CC 9)	

Selection

The below overview is suitable for the selection of the correct size of Unilift CC pumps used in stationary applications.

The flow velocity through the discharge pipe must be minimum 0.7 m/s to ensure self-cleaning.
Example: A DN 32 discharge pipe with an inner diameter of 26 to 34 mm (depending on local standards) requires a minimum flow velocity of approximately 2 m^3/h.

The overview below shows the maximum lengths of combined vertical and horizontal DN 32 discharge pipes.

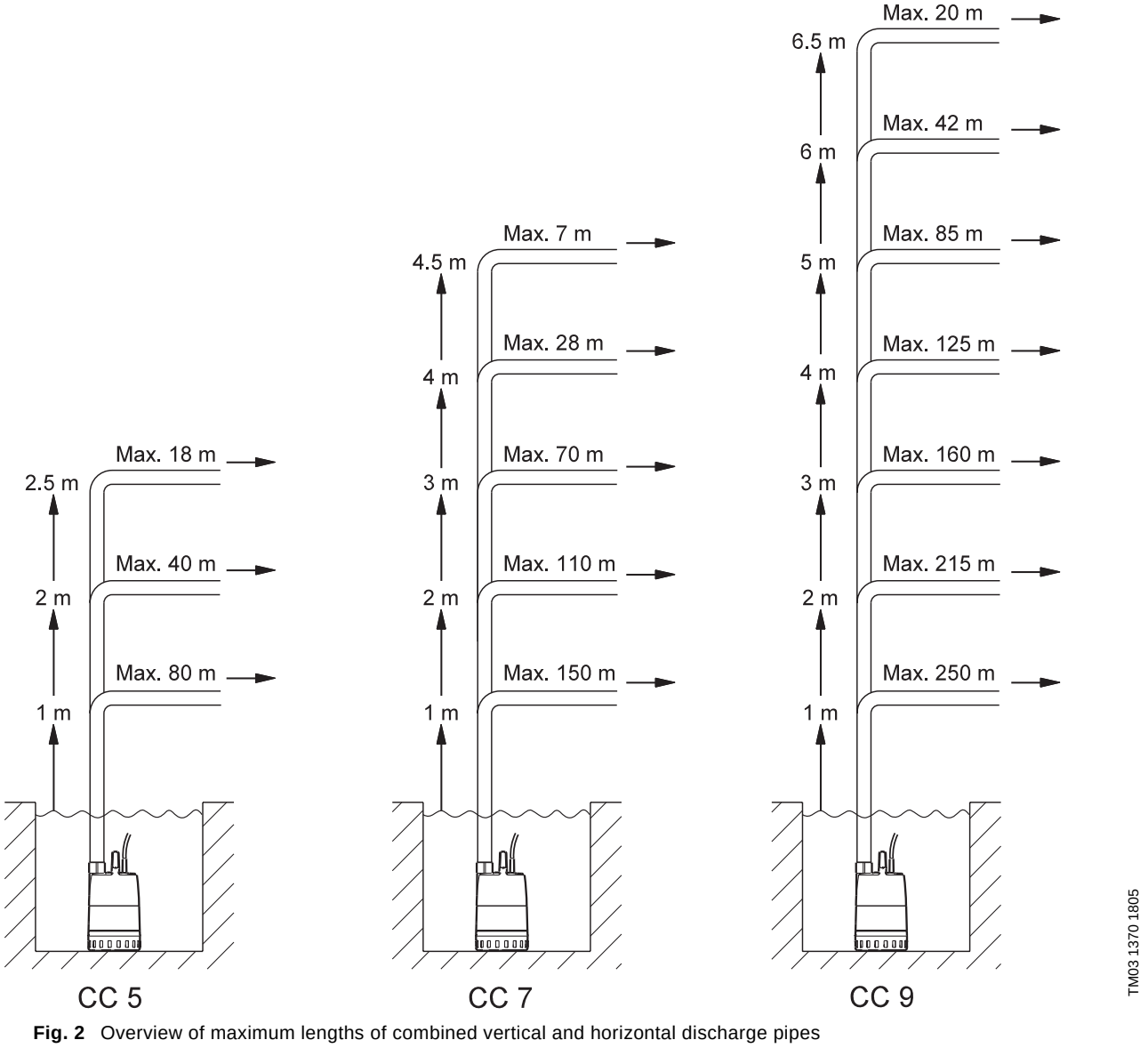


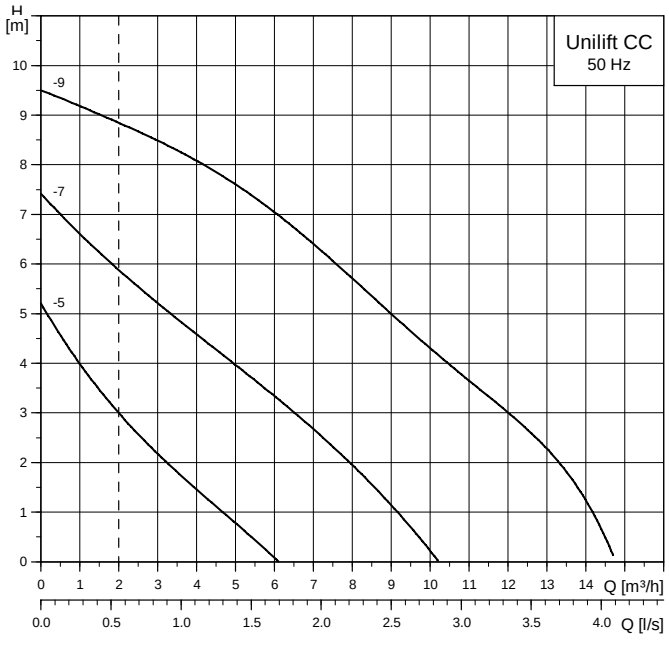
Fig. 2 Overview of maximum lengths of combined vertical and horizontal discharge pipes

The above overview is only intended as a guide. Grundfos is not liable for any faulty installations based on the overview.

Note: If the non-return valve is used, the pressure drop in the valve is 0.2 m head at 2 m³/h, which is to be subtracted from the vertical pipe lengths.

The vertical height of the discharge pipe should be measured from the pump stop level.

Performance curves



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The broken line represents a min. liquid velocity of 0.7 m/s with a DN 32 discharge pipe to DIN EN 12056.

Operating conditions

Liquid temperature

0° C to +40° C.

However, at intervals of at least 30 minutes, the pump is allowed to run at maximum +70° C for periods not exceeding two minutes.

Installation

The pump can be used in the vertical position as well as in the tilted or horizontal position with the discharge port as the highest point of the pump. The suction strainer must be covered by the pumped liquid.

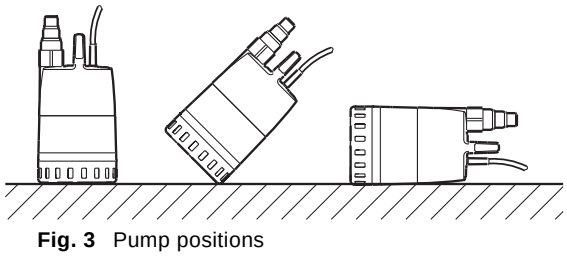

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Fig. 3 Pump positions

Installation depth

Maximum 10 metres below the water surface.

Adjustment of cable length for 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.

- Increasing the free cable length results in fewer starts/stops and a large difference in level.
- Reducing the free cable length results in more starts/stops and a small difference in level.

In order for the float switch to start and stop the pump, the free cable length must be minimum 100 mm and maximum 200 mm.

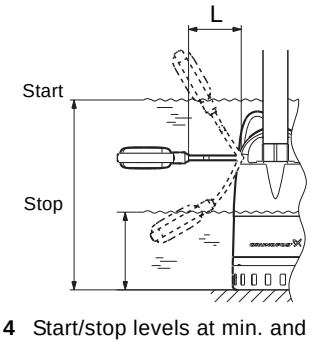

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Fig. 4 Start/stop levels at min. and max. cable lengths

Pump type	Cable length (L) min. 100 mm		Cable length (L) max. 200 mm	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
Unilift CC 5	350	115	400	55
Unilift CC 7	350	115	400	55
Unilift CC 9	385	150	435	90

Technical data

Pump type	Voltage [V]	P_1 [W]	I_n [A]	Dimensions [mm]					Weight [kg]
				H	B	H1	B1	B2	
Unilift CC 5	1 x 220/240	240	1.1	520	400	305	160	26.5	4.35
Unilift CC 7	1 x 220/240	380	1.7	520	400	305	160	26.5	4.6
Unilift CC 9	1 x 220-240	780	3.7	570	500	340	160	26.5	6.5

With float switch

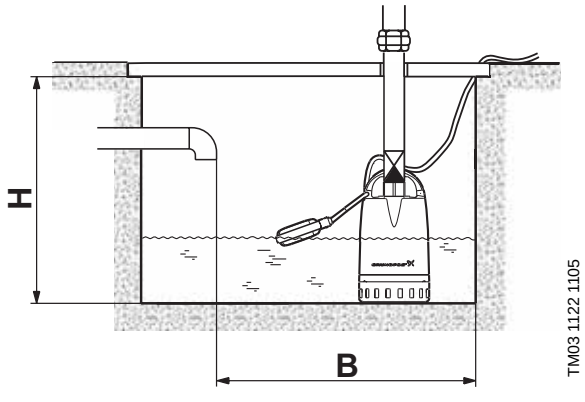

Fig. 5 Unilift CC with float switch

If the pump is installed in a pit, the minimum dimensions of the pit should be as shown above to ensure free movability of the float switch.

Without float switch

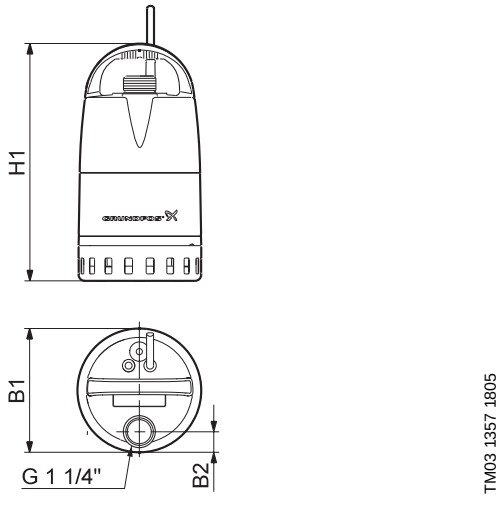

Fig. 6 Unilift CC without float switch

The space required corresponds to the physical dimensions of the pump.