

UNILIFT KP



UNILIFT KP submersible, stainless-steel drainage pump in a compact design with hermetically sealed stator housing (canned motor). It has a service-friendly and sustainable product design. The pump body contains a cooling jacket for partially submerged operation. The pump is able to handle particles up to 10 mm.

The pump is suitable for permanent installation or can be used as a portable pump.

The following options are available:

- with a cable-guided float switch for automatic start/stop
- with a vertical level switch for automatic start in small confined spaces
- without a float switch for manual operation
- connection to a separate level controller.

Applications

The pump is suitable for the following applications:

- pumping in drainage collecting wells, pits inside and outside the building
- mobile emergency use to drain flooded areas such as basements
- backwater prevention to protect the building basement and to discharge greywater from sanitary appliances
- emptying of swimming pools, ponds and tanks
- industrial and commercial use, for example, evaporative cooling systems
- various applications within agriculture, horticulture and dairies, breweries and the process industry.

Features and benefits of UNILIFT KP

UNILIFT KP has many beneficial features:

- robust and sustainable stainless-steel design for all hydraulic parts
- service friendly to extend pump lifetime – quick access to replace wear parts, for example, float switch, shaft sealing, impeller and rotor
- cooling jacket that allows the pump to operate continuously while partially submerged
- comprehensive motor protection
- the only wet runner on the market with prolonged pump longevity even on worn shaft seals
- longitudinal, water-tight cables and glass-sealed cable socket on the pump that prevents water from entering the motor at damaged cables and enables easy replacement.

Type key

Example:

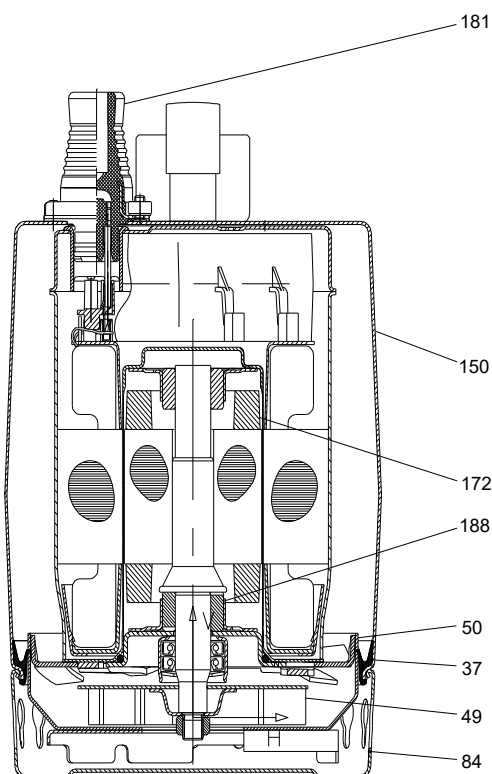
UNILIFT KP.150.A.1

	Description
UNILIFT KP	Type range
150	
250	Rated motor output (P2 [W])
350	
AV - With vertical level switch (automatic operation)	
A - With float switch (automatic operation)	Level control
M - Without level switch (manual operation)	
1 - single-phase	Motor
3 - three-phase	

Approvals and markings

Approvals			
CE	TM075405	ETC	TM074611
98507008_RCM_MARK			TM075835
TÜV Rheinland CERTIFIED	99853271	DVE	TM074619

Construction of UNILIFT KP



TM078228

Materials

Pos.	Component	Material	DIN W. - Nr.	AISI
	Pump sleeve	Stainless steel	1.4301	304
50	Pump housing	Stainless steel	1.4301	304
84	Inlet strainer	Stainless steel	1.4301	304
49	Impeller	Stainless steel	1.4301	304
172	Shaft	Stainless steel	1.4057	431
	Stator housing	Stainless steel	1.4301	304
-	Guide vanes	Stainless steel	1.4301	304
188	Bearings	Carbon		
-	O-rings	NBR		
37	Seal rings	NBR		
181	Cables	H07RN(8)-F 3G1 H07RN(8)-F 4G1		

Cooling jacket

The pump has an outer casing that ensures continuous cooling of the motor by the pumped liquid. The rotor shaft operates in two maintenance-free carbon bearings cooled by the pumped liquid.

Pump sleeve

The stainless-steel pump sleeve is made in one piece with Rp 1 1/4 outlet port and insulating handle. UNILIFT KP pumps have a watertight vulcanised plug.

Stator housing

Completely hermetically sealed stator housing eliminates potential entry points for water. A semi-open impeller is designed to avoid solids and fibres jamming the pump.

Motor

The motor is a single-phase or three-phase, asynchronous canned motor with liquid-filled rotor chamber and water-lubricated bearings. The motor is cooled by the pumped liquid around the motor.

- Enclosure class: IP68
- Insulation class: F

The motor incorporates automatic overload protection. In case of overload, the motor stops automatically. When cooled, the motor restarts automatically.

Shaft seal

The pump has a double shaft seal consisting of two lip seals that are greased in between.

Impeller

The sturdy impeller has single-curved vanes. The bevelled front edges prevent fibres from jamming the impeller.

The guide vanes of the pump housing guide the liquid, lifting sand grains into the liquid flow. This prevents sand from blocking the impeller.

Strainer

Liquid enters the pump through the holes of the inlet strainer. The holes of the strainer prevent the passage of large solids.

Pumped liquids

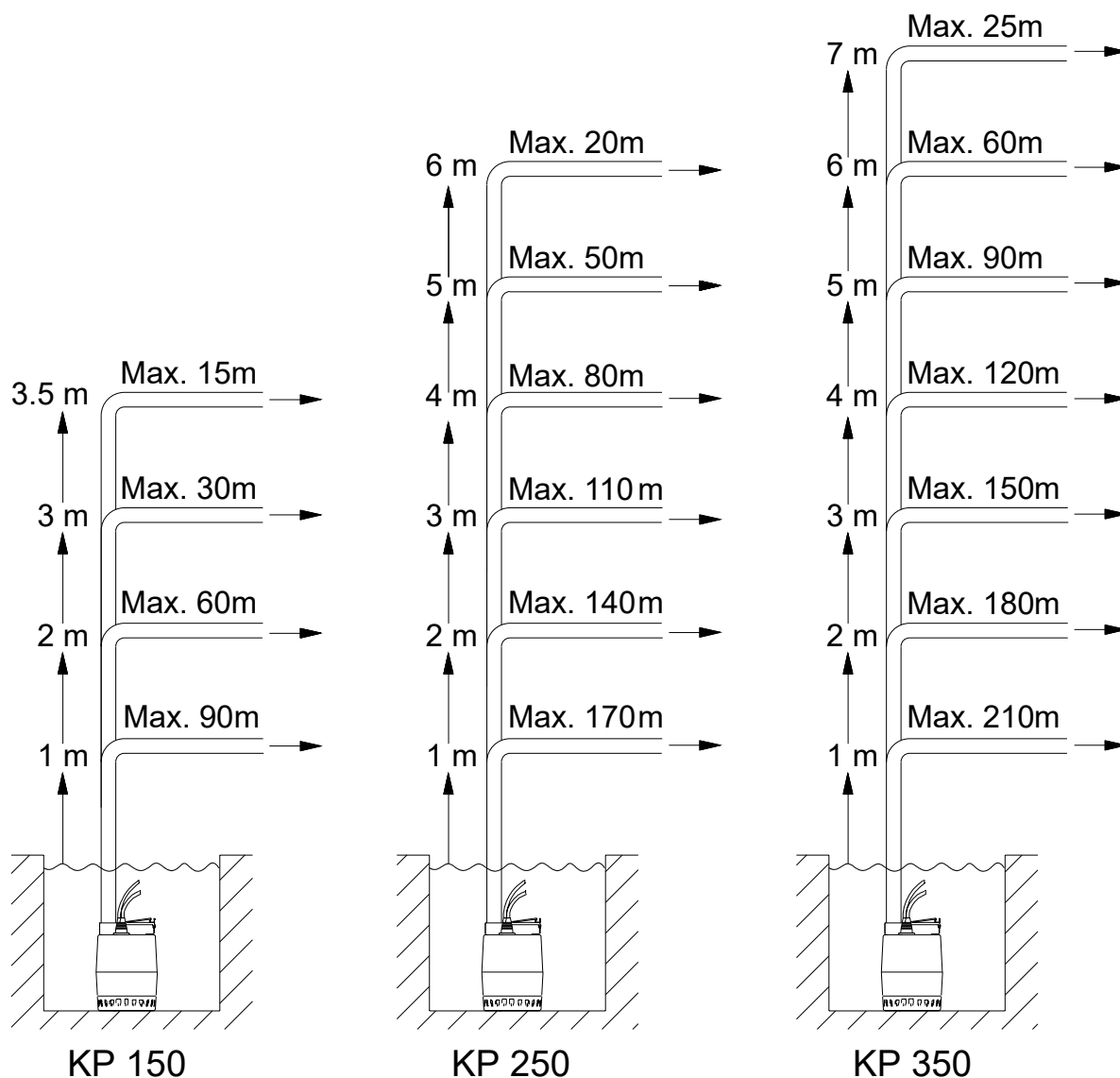
The pump is suitable for the following liquids:

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

The open-impeller design ensures free passage of solids up to Ø10.

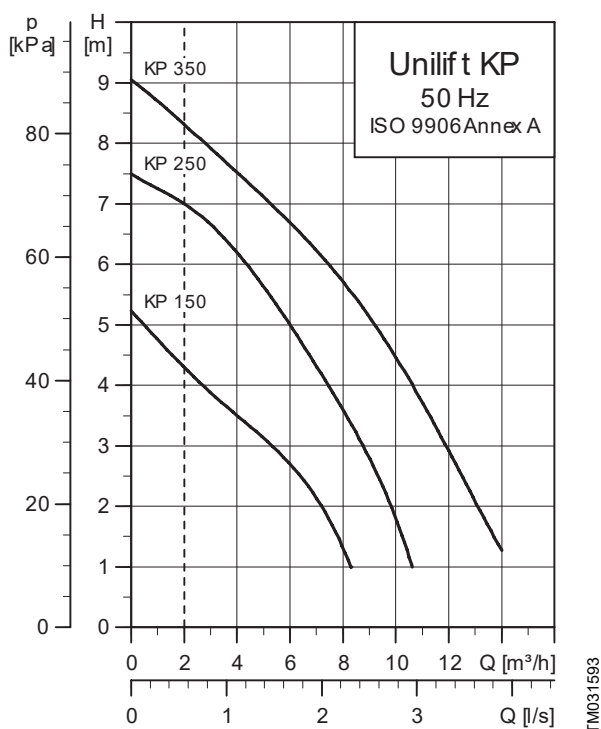
Sizing guide

The quick sizing chart below gives an approximate overview of heights and outlet pipe lengths with an inner pipe diameter of 32 mm and flow of 2 m³/h, so that a self-cleaning velocity of $v=0,7$ m/s is covered. The overview is only intended as a guide. Grundfos is not liable for installations that do not comply with the overview. Pressure loss of a non-return valve, 4x90° bends and a gate valve is calculated. The vertical height of the outlet pipe must be measured from the pump stop level. For more flow requirements a calculation is needed.

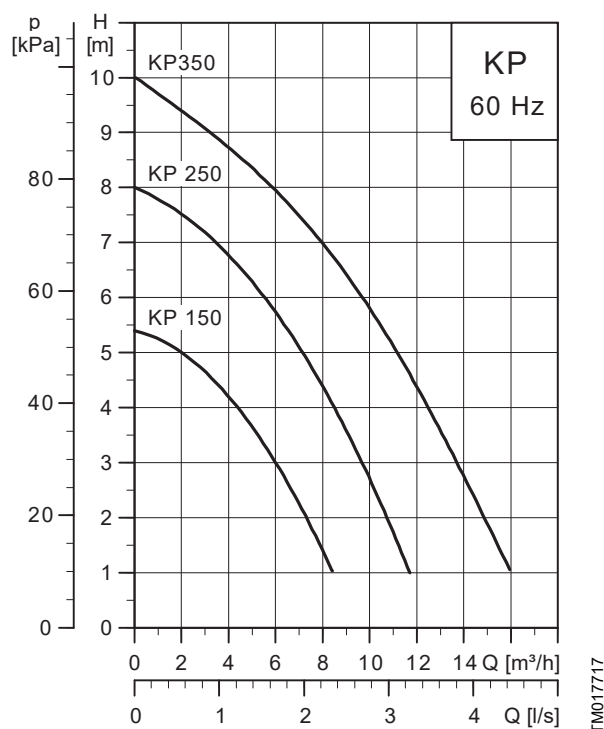


TM066946

Performance curves UNILIFT KP 50 Hz



Performance curves UNILIFT KP 60 Hz



Product range UNILIFT KP 50 Hz

UNILIFT KP 150

Pump type	Product number	Voltage[V]	Plug type	Float switch	Cable length	Cable type	Net weight [kg]
KP 150	011H1300	1 x 220-230	SCHUKO	-	10 m	H07RN8-F 3G1	6.1
	011H1600	1 x 220-230	SCHUKO	Cable guided	5 m	H07RN8-F 3G1	5.7
	011H1800	1 x 220-230	SCHUKO	Cable guided	10 m	H07RN8-F 3G1	6.3
	011H1400	1 x 220-230	SCHUKO	Vertical	5 m	H07RN8-F 3G1	5.8
	011H1900	1 x 220-230	SCHUKO	Vertical	10 m	H07RN8-F 3G1	6.4
	011H6000	1 x 220-230	No plug	-	5 m	H07RN8-F 3G1	5.4
	011H6300	1 x 220-230	No plug	-	10 m	H07RN8-F 3G1	6.0
	011H6600	1 x 220-230	No plug	Cable guided	5 m	H07RN8-F 3G1	5.6
	011H6800	1 x 220-230	No plug	Cable guided	10 m	H07RN8-F 3G1	6.2
	011H6400	1 x 220-230	No plug	Vertical	5 m	H07RN8-F 3G1	5.7
	011H6900	1 x 220-230	No plug	Vertical	10 m	H07RN8-F 3G1	6.3
	92533101	1 x 220-230	Australia	-	5 m	H07RN-F 3G1	5.5
	92533687	1 x 220-230	Australia	Cable guided	5 m	H07RN-F 3G1	5.7
	92533103	1 x 220-230	Australia	Vertical	5 m	H07RN-F 3G1	5.8

UNILIFT KP 250

Pump type	Product number	Voltage[V]	Plug type	Float switch	Cable length	Cable type	Net weight [kg]
KP 250	012H1300	1 x 220-230	SCHUKO	-	10 m	H07RN8-F 3G1	6.3
	012H1600	1 x 220-230	SCHUKO	Cable guided	5 m	H07RN8-F 3G1	5.9
	012H1800	1 x 220-230	SCHUKO	Cable guided	10 m	H07RN8-F 3G1	6.5
	012H1400	1 x 220-230	SCHUKO	Vertical	5 m	H07RN8-F 3G1	6.0
	012H1900	1 x 220-230	SCHUKO	Vertical	10 m	H07RN8-F 3G1	6.6
	012H6000	1 x 220-230	No plug	-	5 m	H07RN8-F 3G1	5.6
	012M6100	3 x 380-415	No plug	-	5 m	H07RN8-F 4G1	6.3
	012M6300	3 x 380-415	No plug	-	5 m	H07RN8-F 4G1	7.0
	012H6300	1 x 220-230	No plug	-	10 m	H07RN8-F 3G1	6.2
	012H6600	1 x 220-230	No plug	Cable guided	5 m	H07RN8-F 3G1	5.8
	012H6800	1 x 220-230	No plug	Cable guided	10 m	H07RN8-F 3G1	6.4
	012H6400	1 x 220-230	No plug	Vertical	5 m	H07RN8-F 3G1	5.9
	012H6900	1 x 220-230	No plug	Vertical	10 m	H07RN8-F 3G1	6.5
	92533641	1 x 220-230	Australia	-	5 m	H07RN-F 3G1	5.7
	92533646	1 x 220-230	Australia	Cable guided	5 m	H07RN-F 3G1	5.9
	92533644	1 x 220-230	Australia	Vertical	5 m	H07RN-F 3G1	6.0

UNILIFT KP 350

Pump type	Product number	Voltage[V]	Plug type	Float switch	Cable length	Cable type	Net weight [kg]
KP 350	013N1300	1 x 220-240	SCHUKO	-	10 m	H07RN8-F 3G1	6.7
	013N1600	1 x 220-240	SCHUKO	Cable guided	5 m	H07RN8-F 3G1	6.3
	013N1800	1 x 220-240	SCHUKO	Cable guided	10 m	H07RN8-F 3G1	6.9
	013N1400	1 x 220-240	SCHUKO	Vertical	5 m	H07RN8-F 3G1	6.4
	013N1900	1 x 220-240	SCHUKO	Vertical	10 m	H07RN8-F 3G1	7.0
	013M6100	3 x 380-400	No plug	-	5 m	H07RN8-F 4G1	7.1
	013M6300	3 x 380-400	No plug	-	10 m	H07RN8-F 4G1	7.5
	013N6300	1 x 220-240	No plug	-	10 m	H07RN8-F 3G1	6.6
	013N6600	1 x 220-240	No plug	Cable guided	5 m	H07RN8-F 3G1	6.2
	013N6800	1 x 220-240	No plug	Cable guided	10 m	H07RN8-F 3G1	6.8
	013N7900	1 x 220-240	No plug	Vertical	10 m	H07RN8-F 3G1	6.9
	92533648	1 x 220-240	Australia	-	5 m	H07RN-F 3G1	6.1
	92533666	1 x 220-240	Australia	Cable guided	5 m	H07RN-F 3G1	6.3
	92533662	1 x 220-240	Australia	Vertical	5 m	H07RN-F 3G1	6.4

Product range UNILIFT KP 60 Hz**UNILIFT KP 250**

Pump type	Product number	Voltage[V]	Plug type	Float switch	Cable length	Cable type	Net weight
KP 250	012G6300	1 x 220-230	No plug	-	10 m	H07RN8-F 3 G 1	5.6
	012G6600	1 x 220-230	No plug	Cable guided	5 m	H07RN8-F 3 G 1	5.6
	012G6800	1 x 220-230	No plug	Cable guided	10 m	H07RN8-F 3 G 1	5.6
	012G6400	1 x 220-230	No plug	Vertical	5 m	H07RN8-F 3 G 1	5.6
	012G6900	1 x 220-230	No plug	Vertical	10 m	H07RN8-F 3 G 1	5.6

UNILIFT KP 350

Pump type	Product number	Voltage[V]	Plug type	Float switch	Cable length	Cable type	Net weight
KP 350	013G6600	1 x 220-230	No plug	Cable guided	5 m	H07RN8-F 3 G 1	5.6
	013G6800	1 x 220-230	No plug	Cable guided	10 m	H07RN8-F 3 G 1	5.6

Technical data

Electrical data

UNILIFT KP 50 Hz

Pump type	Voltage[V]	P1 [kW]	P2 [kW]	I _n [A]	I _{start} [A]	Speed [rpm]
KP 150	1 x 220-230	0.30	0.15	1.3	3.3	2666
KP 250	1 x 220-230	0.48	0.25	2.3	6.6	2692
	3 x 380-415	0.48	0.25	0.8	2.9	2568
KP 350	1 x 220-240	0.72	0.35	3.2	8.9	2665
	3 x 380-400	0.70	0.35	1.3	5.2	2674

UNILIFT KP 60 Hz

Pump type	Voltage [V]	P1 [kW]	P2 [kW]	I _n [A]	I _{start} [A]	Speed [rpm]
KP 250	1 x 220-230	0.71	0.25	3.6	7.7	3298
KP 350	1 x 220-230	0.75	0.35	3.2	8.1	3155

Operating conditions

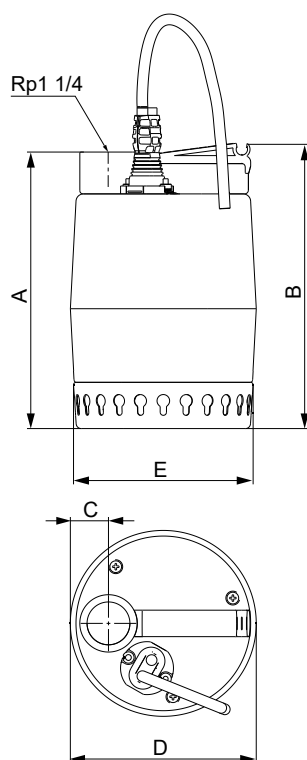
During continuous operation, the inlet strainer must always be completely covered by liquid.

Max. head	5.5-10 m
Max. flow rate	11.2-14 m ³ /h
Liquid temperature range	0-50 °C
Liquid requirements	Clean, non-aggressive water and grey wastewater
Max. ambient temperature	50 °C
Max. particle size	10 mm
Max. submersion depth	2 m with 5 m cable length 7 m with 10 m cable length
Automatic float switch	Type name extension A
Special versions on request	Other voltages and/or frequencies

⁹⁾ At intervals of at least 30 minutes, the pump is allowed to run at maximum +70 °C for periods not exceeding two minutes. Liquid temperature depends on voltage.

¹⁰⁾ IEC 60335-2-41 requires 3 m cable length outside of water.

Dimensions



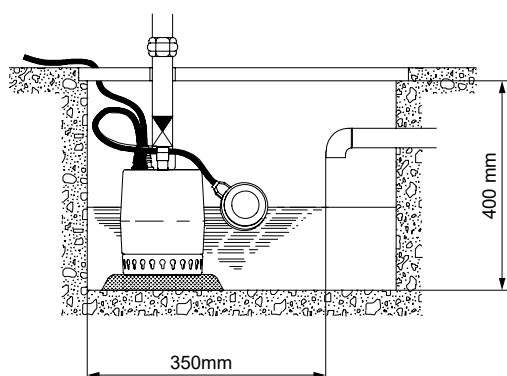
TM013978

Pump type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Connection [inch]
UNILIFT KP 150	214	225	30	148	140	Rp 1 1/4"
UNILIFT KP 250						
UNILIFT KP 350	224	235	30	148	140	Rp 1 1/4"

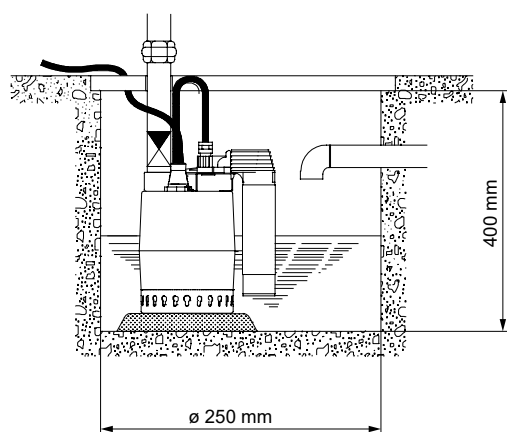
Installation

If UNILIFT KP is installed in a collecting well, the minimum well dimensions must be as shown in the figures below.

To avoid loss of air pressure, the pump must be placed as far from the inlet connection as possible.



Minimum well dimensions, UNILIFT KP-A

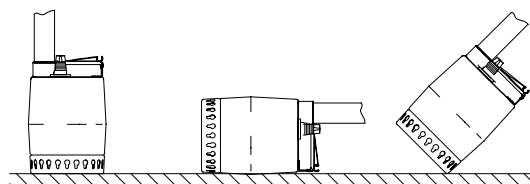


Minimum well dimensions, UNILIFT KP-AV

Pump positioning

UNILIFT KP-M and UNILIFT KP-A can be used in vertical position with the outlet port facing up or in horizontal or tilted position with the outlet port as the highest point of the pump.

UNILIFT KP-AV must be used in vertical position.

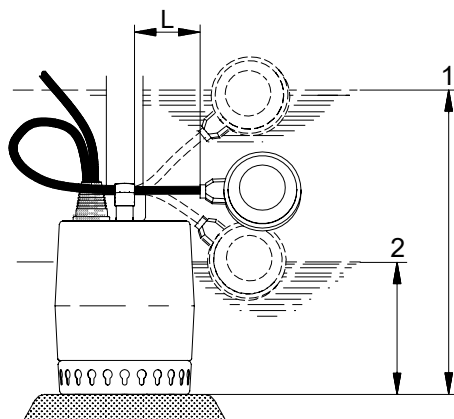


Level switches

A level switch starts and stops the pump between two liquid levels. This type of installation requires a non-return valve in the outlet pipe or the pump. UNILIFT KP pumps are available with two different level switch types.

UNILIFT KP-A with float switch

A clamp on the pump handle holds the float switch cable. The difference in level between start and stop can be adjusted by changing the free cable length between pump handle and float switch.

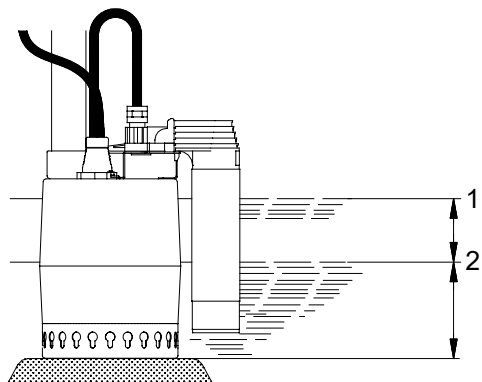


Start/stop levels at min. and max. cable lengths, UNILIFT

Pump type	Cable length		Cable length	
	Start [mm]	Stop [mm]	Start [mm]	Stop [mm]
UNILIFT KP 150 A	290	140	335	100
UNILIFT KP 250 A				
UNILIFT KP 350 A	300	150	345	110

UNILIFT KP AV with vertical level switch

For pumps with vertical level switch, the difference in level between start and stop is not adjustable.



Start/stop levels for UNILIFT KP AV

Pump type	Vertical level switch	
	Start [mm]	Stop [mm]
UNILIFT KP 150 AV	180	100
UNILIFT KP 250 AV		
UNILIFT KP 350 AV	190	110

Level switch water temperature: 0-50 °C

Accessories

Product number	Description
15211	Non-return valve
99369644	LC231 (1 pump) without float switch
99369650	LC231 (2 pump controller) without float switch
91427145	Float switch M2 with 5 m cable