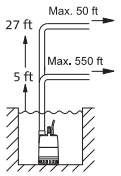
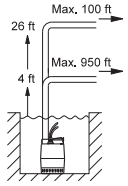
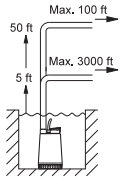
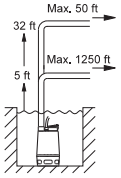
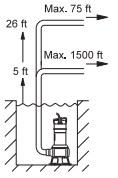
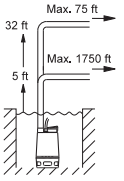
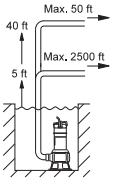
Product overview, Unilift

	Application		Technical data	Sizing
Drainage	**Unilift CC** Unilift CC is a submersible pump designed for pumping clean, non-aggressive water and slightly dirty (grey) wastewater. Unilift CC can pump down to 0.12" water level and can be used in permanent installations or as a portable pump.	 GR A0682	• Max. flow rate, Q: 62 GPM • Max. head, H: 30.8 feet • Liquid temp.: 32 °F to 104 °F • Max. particle size: 0.4" • Material: Composite • Suction down to 0.12".	 TM04 3028 3508
Drainage	**Unilift KP** Unilift KP is a submersible pump designed for pumping clean, non-aggressive water and slightly dirty (grey) wastewater such as domestic effluents from septic and sludge treating systems.	 GR 0111	• Max. flow rate, Q: 65 GPM • Max. head, H: 32 feet • Liquid temp.: 32 °F to 122 °F • Max. particle size: 0.4" • Material: Stainless steel.	 TM04 3029 3508
Drainage	**Unilift AP12** Unilift AP12 is a submersible pump designed for pumping clean, non-aggressive water and slightly dirty (grey) wastewater. The pump can be used as a portable unit.	 TM03 7213	• Max. flow rate, Q: 140 GPM • Max. head, H: 52 feet • Liquid temp.: 32 °F to 131 °F • Max. particle size: 0.4" • Material: Stainless steel.	 TM04 3030 3508
Effluent	**Unilift AP35** Unilift AP35 is a submersible pump designed for pumping dirty water, untreated wastewater (excluding toilet discharge) and liquids containing fibers from light industry, laundries, etc. with particles up to 1.4".	 GR0115	• Max. flow rate, Q: 79 GPM • Max. head, H: 39 feet • Liquid temp.: 32 °F to 131 °F • Max. particle size: 1.4" • Material: Stainless steel.	 TM04 3031 3508
Effluent	**Unilift AP35B** Unilift AP35B is a submersible pump designed for pumping effluents (excluding toilet discharge). The pump is suitable for installation on auto coupling; this allows easy access to the pump for maintenance and other purposes.	 TM03 8260 0907	• Max. flow rate, Q: 92 GPM • Max. head, H: 43 feet • Liquid temp.: 32 °F to 104 °F • Max. particle size: 1.4" • Material: Stainless steel	 TM034 3033 3508
Domestic sewage	**Unilift AP50** Unilift AP50 is a submersible pump designed for pumping dirty water, untreated wastewater and liquids containing fibers from light industry, laundries, etc. with particles up to 2.0".	 GR0117	• Max. flow rate, Q: 140 GPM • Max. head, H: 41 feet • Liquid temp.: 32 °F to 131 °F • Max. particle size: 2.0" • Material: Stainless steel.	 TM04 3032 3508
Domestic sewage	**Unilift AP50B** Unilift AP50B is a submersible pump designed for pumping effluents. The pump is suitable for installation on auto-coupling allowing easy access to the pump for maintenance and other purposes.	 TM03 8260 0907	• Max. flow rate, Q: 136 GPM • Max. head, H: 49 feet • Liquid temp.: 32 °F to 104 °F • Max. particle size: 2.0" • Material: Stainless steel	 TM04 3034 3508

General data, Unilift

Type keys

Unilift CC pumps

Example	Unilift	CC	9	A1

Type range

Type

Maximum head [m]
- 5
- 7
- 9

Operation
- A1 = Automatic operation
- M1 = Manual operation

Unilift KP pumps

Example	Unilift KP	150	A	1

Type range

Rated motor output, P_2 [W]:
- 150
- 250
- 350

Level control:
- S = with integrated, electronic **s**ensor (automatic operation)
- A = with float switch (automatic operation)
- M = without level switch (manual operation)

Motor:
- 1 = single-phase
- 3 = three-phase

Unilift AP pumps

Example	Unilift AP	35	B.	50.	08.	A	1	.V

Type range

Maximum solids size (mm)

Pump type:
- Blank = AP pump
- B = AP Basic

Nominal diameter of discharge port

Power output P_2 /100 [W]

Level control:
- A = Automatic operation (with float switch)
- Blank = Manual operation (without float switch)

Motor:
- 1 = Single-phase
- 3 = Three-phase

Impeller:
- V = Vortex impeller

Unilift KP

Product description

Gr0111

Fig. 6 Unilift KP

The Unilift KP pump is designed for liquid transfer and drainage of clean or slightly dirty wastewater with the pump completely or partly submerged in the liquid.

The pump is suitable for these applications:

- drainage of flooded cellars or buildings
- pumping of domestic wastewater without toilet waste
- emptying of pools, tanks and vessels
- pumping within agriculture, the dairy industry, horticulture and the process industry.

Approvals

c UL us LISTED

Pumped liquids

The pumps are suitable for these liquids:

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

If the pump has been used for other liquids than clean water, it should be flushed through with clean water immediately after use. The open-impeller construction ensures a free passage of solids up to a diameter of 0.4".

Operating conditions

Installation depth:	Max. 30 ft below liquid level
Min. liquid temperature:	32 °F
Max. liquid temperature at continuous operation:	122 °F

During continuous pumping, the suction strainer must always be completely covered by the liquid.

Max. liquid temperature: 158 °F for periods not exceeding two minutes at intervals of at least 30 minutes.

Discharge port

Unilift KP 150, KP 250 and KP 350: 1.25" NPT.

Construction

Single-stage, submersible, stainless steel, drainage pump in a robust design with upward-pointing discharge port placed on top of the pump.

The water enters the pump through the holes of the suction strainer, preventing the passage of large solids. The sturdy impeller has single-curved vanes with bevelled front edges preventing fibres from jamming the impeller. The guide vanes in the pump housing guide the liquid, lifting sand grains into the liquid flow, thus preventing blocking by sand.

The pump sleeve is made in one piece. The mains cable enters through a vulcanized and water-tight plug, which is secured to the socket of the hermetically sealed stator housing.

Motor

The motor is a single- 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 which cuts out the motor in case of overload. When cooled to normal temperature, the motor restarts automatically.

Materials

Component	Material	DIN W.-Nr.	AISI
Pump sleeve	Stainless steel	1.4301	304
Pump housing	Stainless steel	1.4301	304
Suction strainer	Stainless steel	1.4301	304
Impeller	Stainless steel	1.4301	304
Shaft	Stainless steel	1.4057	431
Stator housing	Stainless steel	1.4301	304
Guide vanes	Stainless steel	1.4301	304
Bearings	Carbon		
O-rings, Seal rings	NBR		
Cables	16 AWG 3/C SJOW 90C		

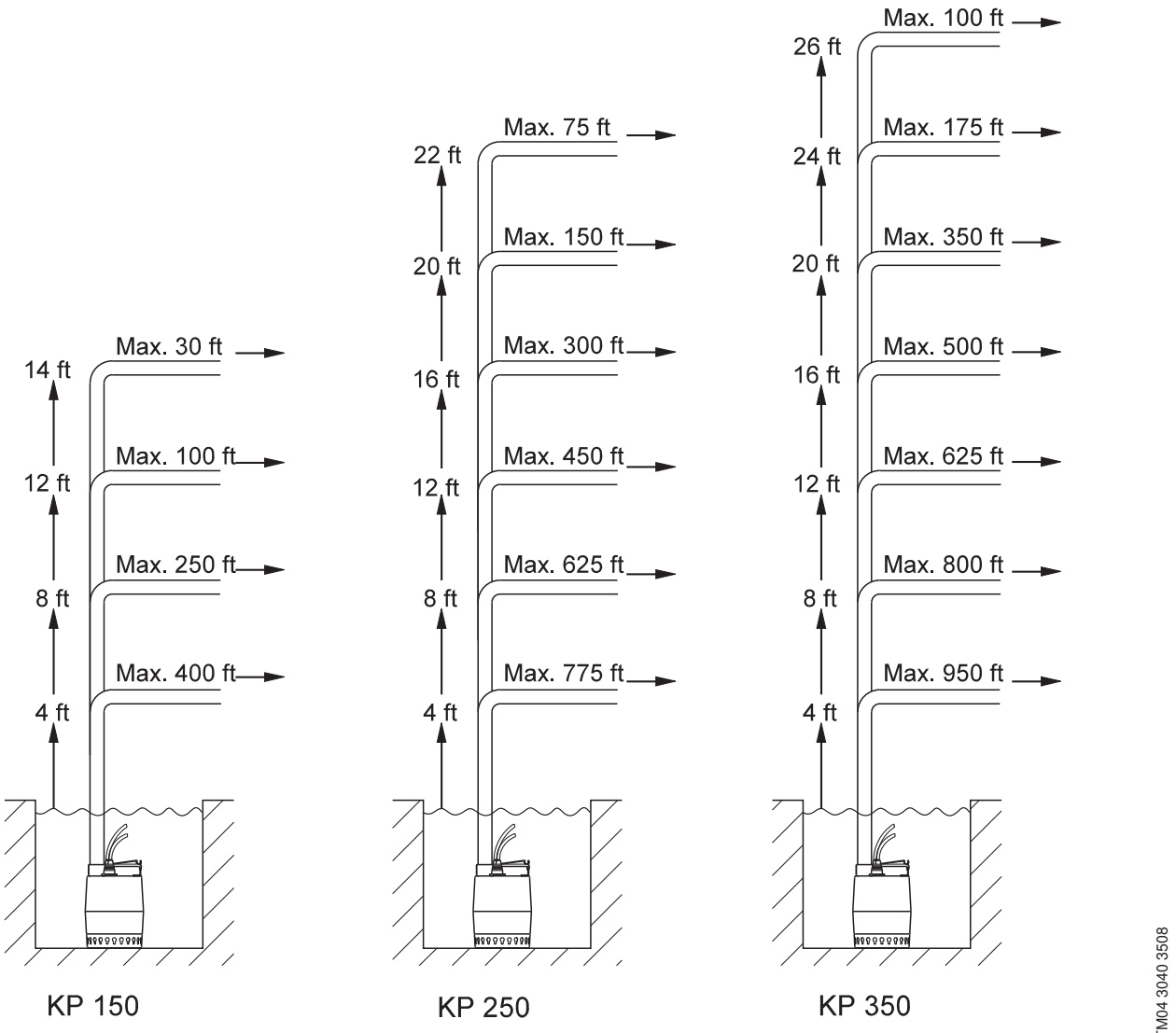
Unilift KP

Selection

The flow velocity through the discharge pipe must be minimum 2.3 ft/s to ensure self-cleaning.

Example: Schedule 40 PVC discharge pipe with an inner diameter of 1.38" requires a minimum flow velocity of approximately 12 gpm.

The overview below shows the maximum lengths of combined vertical and horizontal Schedule 40 PVC discharge pipes.



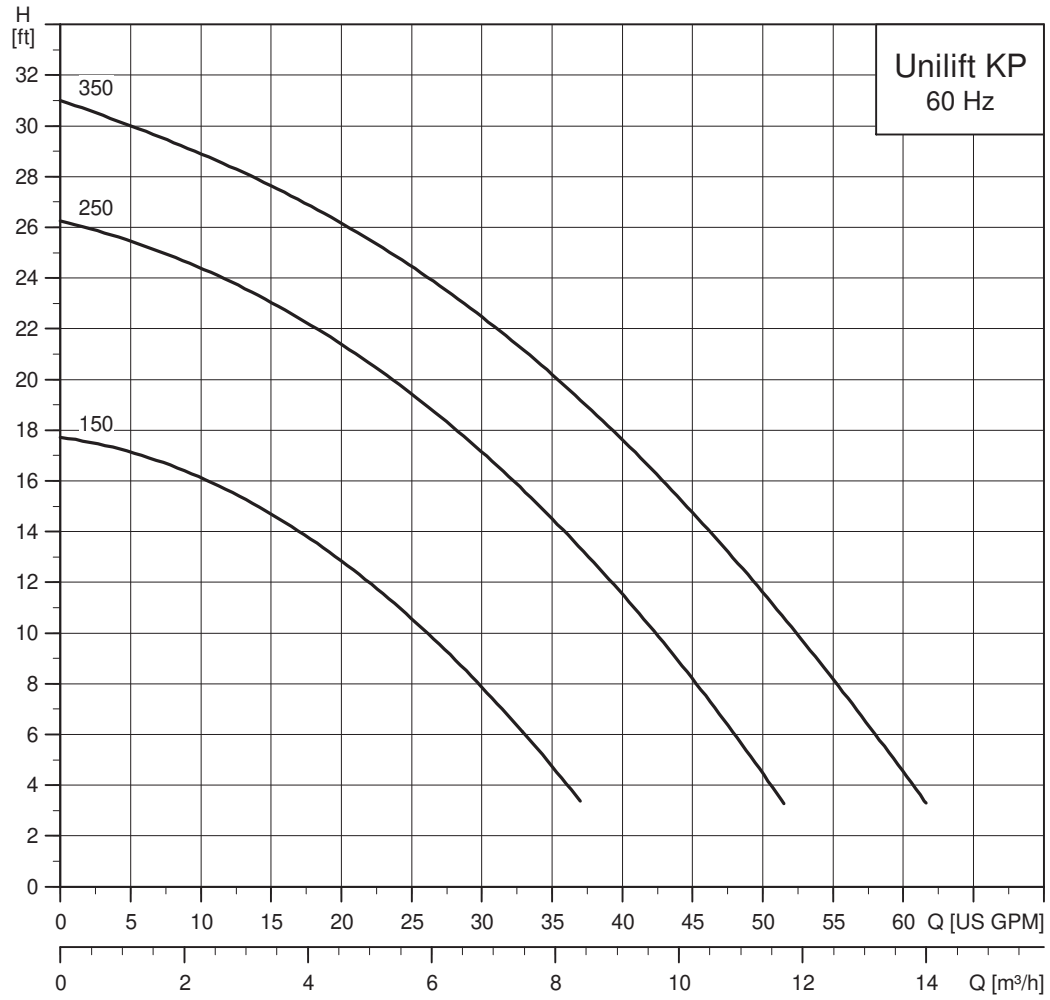
The overview is only intended as a guide. Grundfos is not liable for installations not complying with the overview.

Note: If a non-return valve is used, the pressure drop in the valve will be approximately 0.6 ft head which must be subtracted from the vertical pipe lengths.

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

Unilift KP

Performance curves



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Installation

Pumps without float switch can be used in vertical position with the discharge port pointing upwards or in horizontal or tilted position with the discharge port as the highest point of the pump.

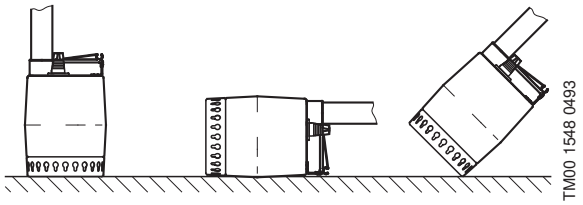


Fig. 7 Pump positions

Adjustment of cable length for 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 the pump handle and the float switch.

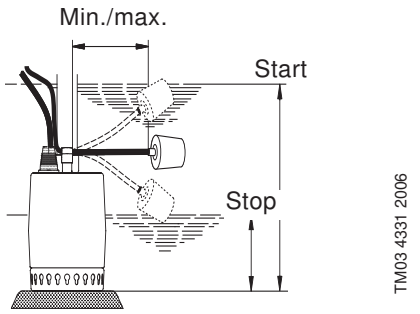


Fig. 8 Start-stop level, Unilift KP

The start/stop level varies according to the cable length.

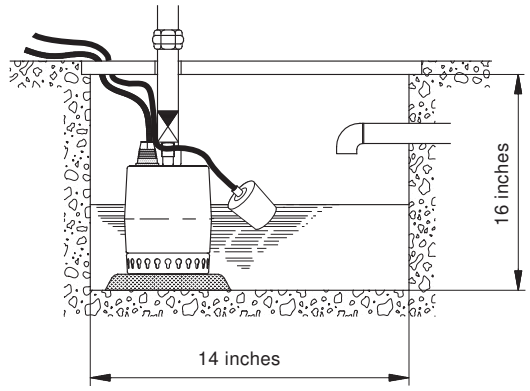
	Cable length Min. 2.5"		Cable length Max. 6"	
	Start	**Stop**	**Start**	**Stop**
Unilift KP 150 Unilift KP 250	11.5"	5.5"	12.5"	3.5"
Unilift KP 350	12"	6"	13	4"

Unilift KP

Technical data

Product no.	Pump type	Voltage [V]	P2 [hp]	I_n [A]	I_{Start} [A]	Dimensions [inches]			Weight [lbs]	Cable length and plug
						H	B1	B2		
96847184	KP 150 A-1	1x115	1/4	2.9	8.7	8.86	5.87	1.22	14.33	10 feet with Nema 5
96847185	KP 150 A -1	1x115	1/4	2.9	8.7	8.86	5.87	1.22	14.33	25 feet with Nema 5
011DC001	KP 150 M -1	1x115	1/4	2.9	8.7	8.86	5.87	1.22	14.33	10 feet with Nema 5
011DC201	KP 150 M -1	1x115	1/4	2.9	8.7	8.86	5.87	1.22	14.33	25 feet with Nema 5
96847186	KP 250 A -1	1x115	1/3	4.9	14.5	8.86	5.87	1.22	15.43	10 feet with Nema 5
96847425	KP 250 A -1	1x115	1/3	4.9	14.5	8.86	5.87	1.22	15.43	25 feet with Nema 5
012DC001	KP 250 M -1	1x115	1/3	4.9	14.5	8.86	5.87	1.22	15.43	10 feet with Nema 5
012DC201	KP 250 M -1	1x115	1/3	4.9	14.5	8.86	5.87	1.22	15.43	25 feet with Nema 5
96847640	KP 350 A -1	1x115	1/2	7.5	21.4	9.25	5.87	1.22	17.64	10 feet with Nema 5
96847798	KP 350 A -1	1x115	1/2	7.5	21.4	9.25	5.87	1.22	17.64	25 feet with Nema 5
013DC001	KP 350 M -1	1x115	1/2	7.5	21.4	9.25	5.87	1.22	17.64	10 feet with Nema 5
013DC201	KP 350 M -1	1x115	1/2	7.5	21.4	9.25	5.87	1.22	17.64	25 feet with Nema 5

With float switch



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Well dimensions with float switch

Fig. 9 Minimum well dimensions, Unilift KP

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

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

Without float switch

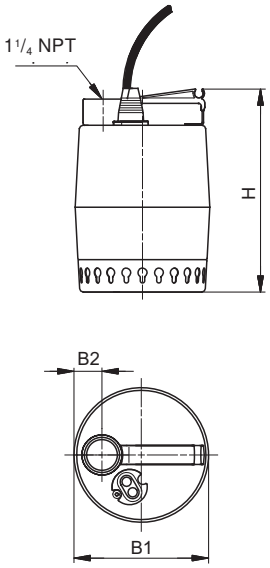

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Fig. 10 Pump dimensions