

Unilift AP50B



TM03 8260 0907

Fig. 34 Unilift AP50B

The Unilift AP50B pump is a single-stage submersible pump designed for pumping effluent.

The pump is suitable for these applications:

- groundwater lowering
- pumping in drainage collecting wells
- pumping in surface water collecting wells with inflow from roof gutters, shafts, tunnels, etc.
- emptying of ponds, tanks, etc.
- pumping of fibre-containing effluent from laundries and industries
- pumping of domestic effluent from septic tanks and sludge treating systems
- pumping of domestic effluent without discharge from water closets.

Liquid temperature range: 0 °C to +40 °C.

Automatic operation

The pump is available for automatic as well as manual operation and can be installed in a permanent installation or used as a portable pump. The pump is available in these versions:

- with float switch fitted for automatic on/off operation between two liquid levels (single-phase pumps)
- without level switch for manual on/off operation.

Pumps fitted with float switches can also be used for manual on/off operation. In this case, the float switch must be secured in an upward-pointing position.

Pump housing

Pump housing with an outstanding design for submersible wastewater pumps resulting in a high head.

The pump housing is made of a steel tube with a smooth surface and a hydraulically correct shape ensuring free passage of particles.

Ring stand, pump inlet and pump housing are fastened to the motor by means of four springs enabling quick and easy dismantling.

Discharge port

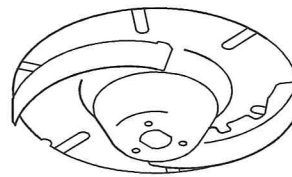
All Unilift AP50B pumps have a threaded R 2 horizontal discharge port.

Shaft and bearings

The stainless steel shaft rotates in maintenance-free prelubricated ball bearings.

Impeller

The stainless steel impeller is a vortex impeller with L-shaped blades and a clearance of 50 mm in the pump housing. The blades are curved backwards to reduce any harmful effect from solid particles and to minimise power consumption. The impeller has a protective cap to prevent the deposit of long-fibred material.



TM00 5477 0895

Fig. 35 Impeller, Unilift AP50B

Shaft seal

The shaft seal is a combination of a mechanical, bellows shaft seal and a lip seal with 80 ml oil between. Seal faces are made of silicone carbide.

Motor

The motor is a single- or three-phase asynchronous dry-rotor motor.

Enclosure class: IP68
 Insulation class: F (155 °C)
 Cable type: H07RN-F.

Single-phase motors have built-in thermal protection.

Materials

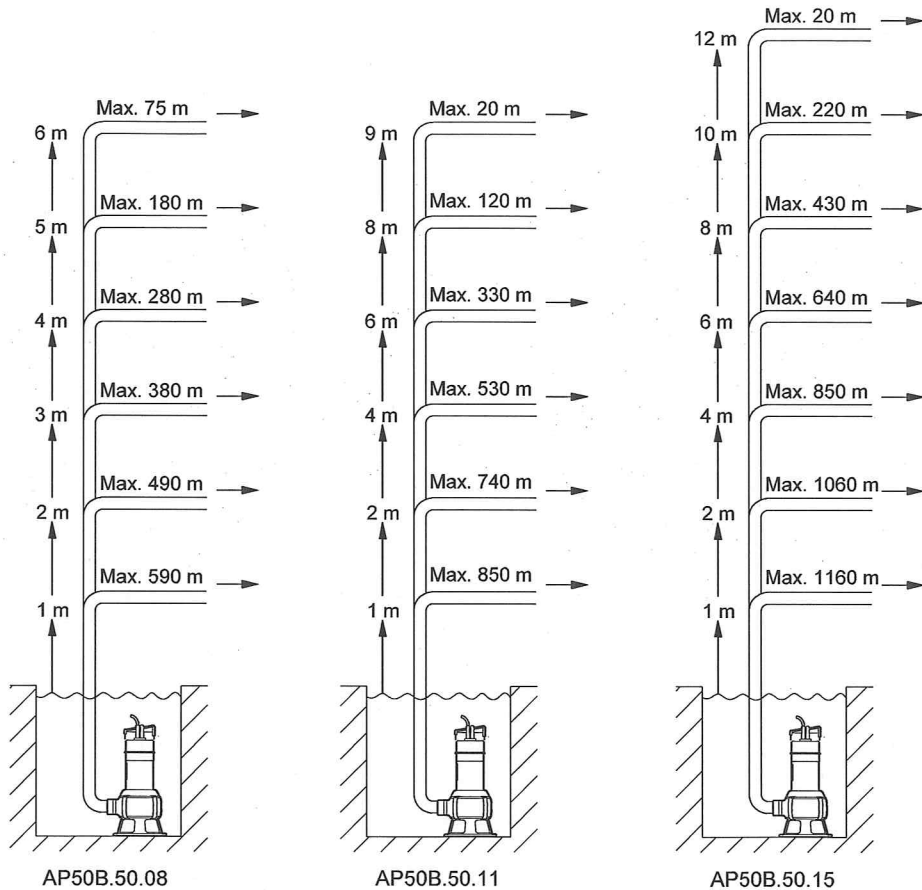
Component	Materials	DIN W.-Nr.	AISI
Pump housing	Stainless steel	1.4301	304
Impeller	Stainless steel	1.4301	304
Washer	Stainless steel	1.4301	304
Protective cap	Novolen 2360 Kx		
Motor unit complete	Parts in contact with liquid: Stainless steel	1.4401	316
Pump shaft	Stainless steel	1.4301	304
Motor cable	Neoprene		
O-rings	NBR rubber		
Spring	Stainless steel	1.4310	
Pump inlet	Stainless steel	1.4301	304
Ring stand	Polycarbonate		
Oil	Shell Ondina 15, non-toxic		

Selection

The overview below is suitable for the selection of the correct size of Unilift AP50B pumps used in stationary applications.

To ensure that the discharge pipe is self-cleaning, the calculation of the pipe lengths is based on these requirements:

- use steel pipes
- the minimum flow velocity through the vertical discharge pipe (2") must be 1 m/s
- the minimum flow velocity through the horizontal discharge pipe (2½") must be 0.7 m/s.

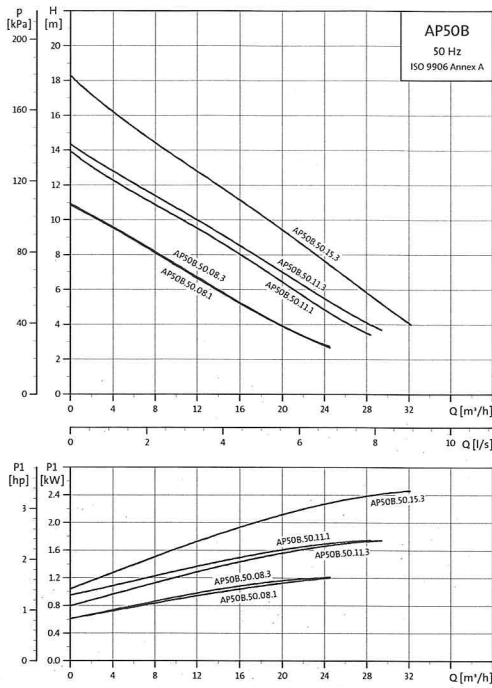


The overview is only intended as a guide. Grundfos is not liable for installations not complying with the overview.

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

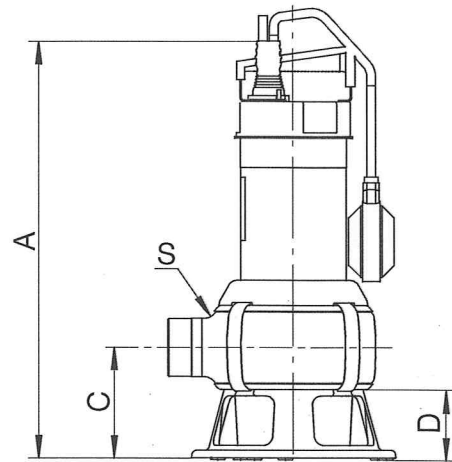
TM03 1882 3305

Performance curves



TM01 3582 0803

Dimensional sketch

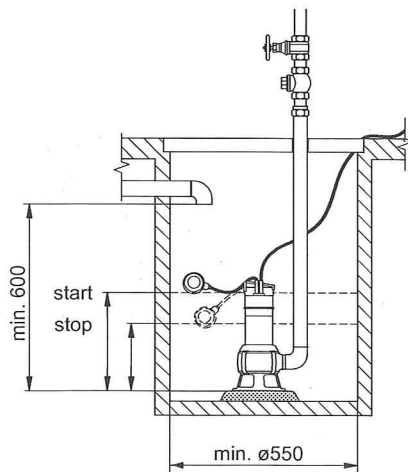


TM03 4097 1806

Fig. 36 Pump dimensions

Pump type	Voltage [V]	P ₁ [kW]	P ₂ [kW]	I _n [A]	Cos φ	C [μF]	I _{start} / I _n	Dimensions [mm]				Weight [kg]	Cable length and plug
								A	C	D	S		
Unilift AP50B.50.08.A1.V	1 x 230	1.2	0.7	5.37	0.97	16	18.4	468	116	73	R 2	10.1	5 m with Schuko plug
Unilift AP50B.50.08.1.V	1 x 230	1.2	0.7	5.37	0.97	16	18.4	468	116	73	R 2	10.1	10 m with Schuko plug
Unilift AP50B.50.08.3.V	3 x 400	1.25	0.8	1.95	0.89	10.6	10.6	468	116	73	R 2	8.4	5 m without plug
Unilift AP50B.50.11.A1.V	1 x 230	1.75	1.2	8.00	0.95	16	23.8	468	116	73	R 2	10.2	5 m with Schuko plug
Unilift AP50B.50.11.1.V	1 x 230	1.75	1.2	8.00	0.95	16	23.8	468	116	73	R 2	10.2	10 m with Schuko plug
Unilift AP50B.50.11.3.V	3 x 400	1.75	1.3	2.81	0.90	16.0	16.0	468	116	73	R 2	9.7	5 m without plug
Unilift AP50B.50.15.3.V	3 x 400	2.15	1.5	3.00	0.88	22.4	22.4	468	116	73	R 2	10.0	5 m without plug

Start/stop level

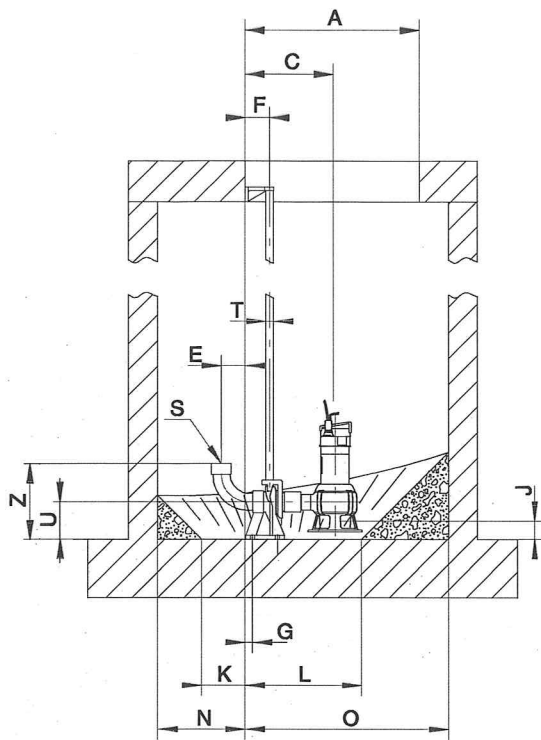


TM03 1914 3305

Fig. 37 Minimum well dimensions, Unilift AP50B

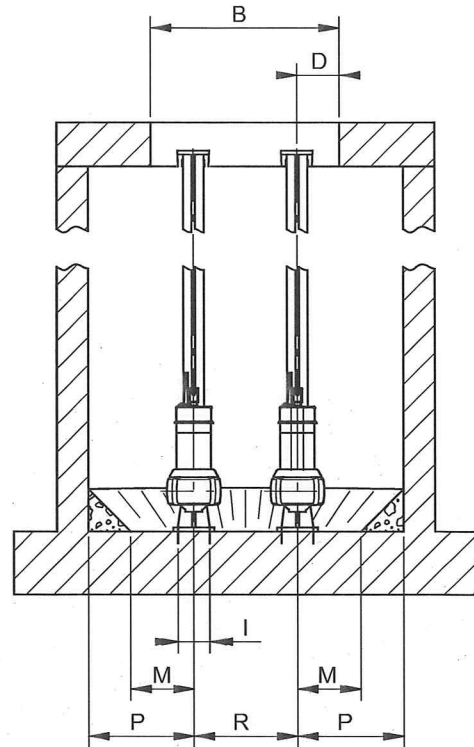
Pump type	Start [mm]	Stop [mm]
Unilift AP50B	633	270

Unilift AP50B installations



TM03 4194 1806

Fig. 38 Dimensional sketch, one-pump installation on auto-coupling system



TM01 3592 0299

Fig. 39 Dimensional sketch, two-pump installation on auto-coupling system

One-pump installation on auto-coupling

Pump type	Dimensions [mm]																			
	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	R	S	T	U	Z
Unilift AP50B.50.08	Ø600	Ø600	304	135	82	85	65	100	76	150	400	200	300	700	500	-	R 2	¾"	130	261
Unilift AP50B.50.11	Ø600	Ø600	304	135	82	85	65	100	76	150	400	200	300	700	500	-	R 2	¾"	130	261
Unilift AP50B.50.15	Ø600	Ø600	304	135	82	85	65	100	76	150	400	200	300	700	500	-	R 2	¾"	130	261

Two-pump installation on auto-coupling

Pump type	Dimensions [mm]																			
	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	R	S	T	U	Z
Unilift AP50B.50.08	600	600	304	135	82	85	26	100	76	150	400	200	300	700	335	330	R 2	¾"	130	261
Unilift AP50B.50.11	600	600	304	135	82	85	26	100	76	150	400	200	300	700	335	330	R 2	¾"	130	261
Unilift AP50B.50.15	600	600	304	135	82	85	26	100	76	150	400	200	300	700	335	330	R 2	¾"	130	261