

Business with an attitude

Knowledge The sharing of knowledge, experience and expertise across our global network will always lead our business forward.

Innovation Combining the best technology with fresh ways of thinking, we will continue to develop even better pumps, systems, services and standards.

Solution With a complete product range, capable of providing every conceivable water solution, we are the most complete player on the market.



VENTURE MARKETING AS
96 48 7514 03 03

**Heavy-duty submersible
sewage pumps 1.65 - 29 kW**



Powerful pumps for handling unscreened raw sewage

Grundfos offers a full range of extremely dependable, powerful sewage pumps, designed for handling unscreened raw sewage. We have more than forty years' experience in providing specialised pumps and pumping equipment for handling all kinds of wastewater and sewage. Our long experience has taught us what our customers demand from a sewage pump:



Powerful advantages

> Higher pump efficiency over time

State-of-the-art technology makes the Grundfos pumps extremely efficient and highly dependable. Innovative features such as the unique SmartTrim adjustment of impeller clearance provide low Cost of Ownership.

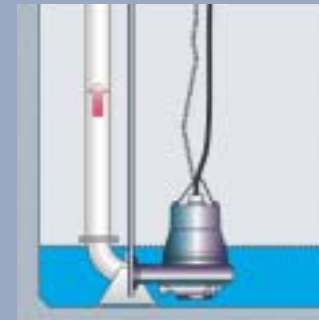
> Less downtime

The inherent non-clogging design of our Super-Vortex-impeller pumps and the excellent solids handling capability of our channel-impeller pumps guarantee maximum operating time and substantial reductions in maintenance costs caused by pump jamming or clogging.

> Lifelong reliability

The sturdy sewage pumps are designed for continuous pumping under the most difficult operating conditions. The well-proven design is based on our long experience in the wastewater business.

At Grundfos we maintain a close dialogue with our customers to constantly improve pump design and performance. Only this way can we build the long-lasting partnerships on which our business is founded.



Submerged installation on auto-coupling, types 1 and 2

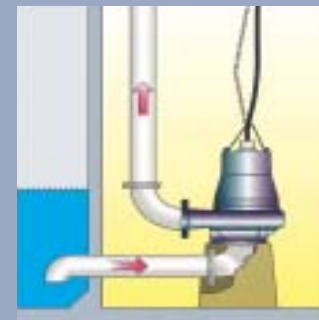
Submerged installation on auto-coupling system requires a base plate with a 90° bend, fixed to the bottom of the pit. When lowered into the pit along the guide rails, the pump automatically connects to the base plate. The flexible neoprene SmartSeal ensures a leak-proof connection between the pump and the auto-coupling.

Type 1:

To prevent sedimentation of sludge in connection with intermittent operation, we recommend a stop level corresponding to the top of the pump housing. For sufficient cooling in connection with continuous operation, the liquid level must always be above the middle of the motor.

Type 2:

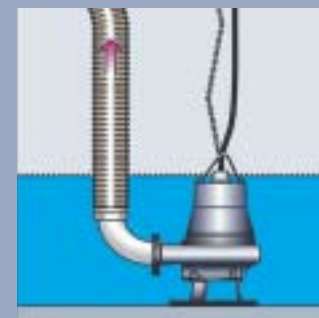
Motor cooling is independent of the pumped liquid level, thanks to separate motor cooling.



Vertical dry installation, type 3

The Grundfos sewage pumps can be installed either vertically or horizontally to suit specific application arrangements. All pumps are 100% watertight, allowing for dry installation with the workspace around the pump remaining clean and dry. The pumps are fully flood-proof if an unexpected flooding should occur.

Motor cooling takes place either by transferring excess heat from the motor to the pumped liquid, or by means of a cooling jacket.



Submerged installation, portable, types 4 and 5

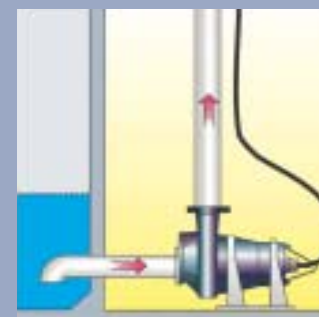
Certain applications, such as construction sites, require portable submersibles. Where a portable submersible is required, hoses of varying lengths and materials can be supplied.

Type 4:

To prevent sedimentation of sludge in connection with intermittent operation, we recommend a stop level corresponding to the top of the pump housing. For sufficient cooling in connection with continuous operation, the liquid level must always be above the middle of the motor.

Type 5:

Motor cooling is independent of the pumped liquid level, thanks to separate motor cooling.



Horizontal dry installation, type 6

Horizontal dry installation improves the overall efficiency of the system as unnecessary components and bends are avoided. The feasibility of horizontal dry installation depends on the floor space available as the system takes up slightly more space than a vertically installed pump.

Motor cooling takes place either by transferring excess heat from the motor to the pumped liquid, or by means of a cooling jacket.

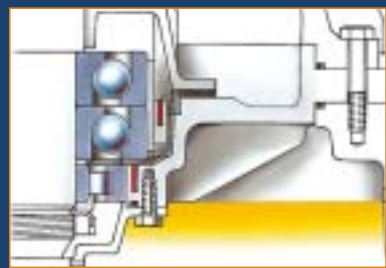
Tough and reliable pumps

with many unique features

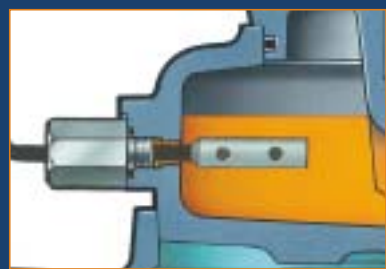
The Grundfos submersible sewage pumps are designed to reduce energy consumption and to keep downtime costs at a minimum. Maintaining peak efficiency throughout the entire lifetime of the system is a key issue:



Watertight encapsulated motor, insulation class F (155°C), enclosure class IP 68, with three thermal sensors in the stator windings.



Heavy-duty maintenance-free greased-for-life ball bearings.



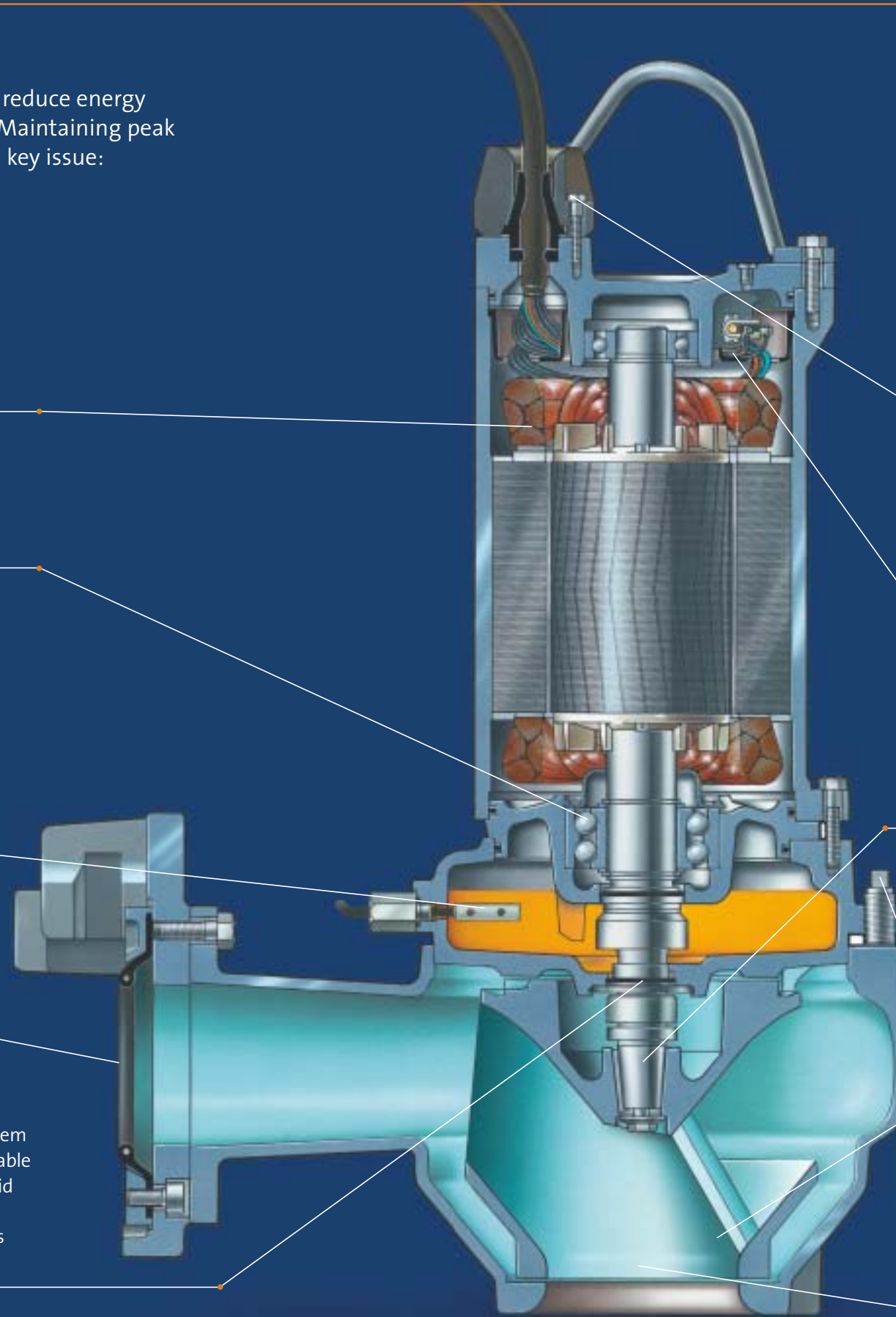
Seal condition monitoring. A monitoring probe in the oil housing gives early warning of seal leakage (optional, from range 50).



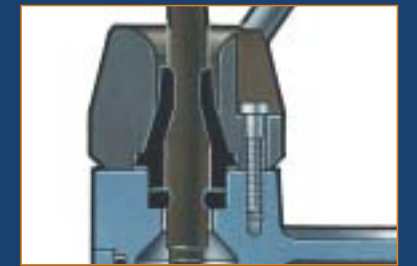
The Grundfos SmartSeal gasket system provides a completely leak-proof connection.



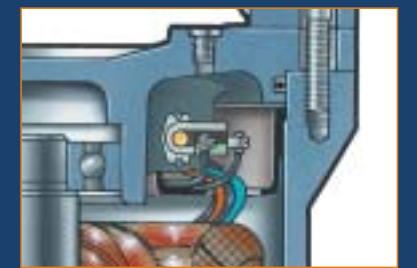
Double mechanical shaft seal system in intermediate oil chamber for reliable sealing between the pumped liquid and the motor. Primary seal with SiC/SiC rings, and SiC/carbon rings in the secondary seal.



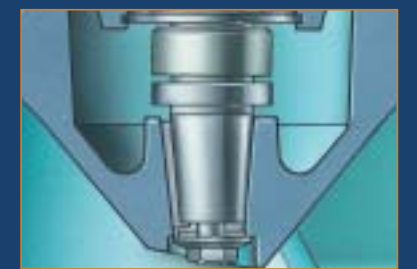
Watertight cable entry of corrosion-resistant polyamide, with soft shapes to prevent damage to the power cable.



Moisture detector continuously monitors the motor enclosure, and automatically cuts off the power in the event of leakage.



Stainless steel pump shaft with dynamically balanced rotor and conical shaft end for securing of impeller.



SmartTrim system allows easy adjustment of factory-set impeller clearance maintaining maximum pump efficiency.



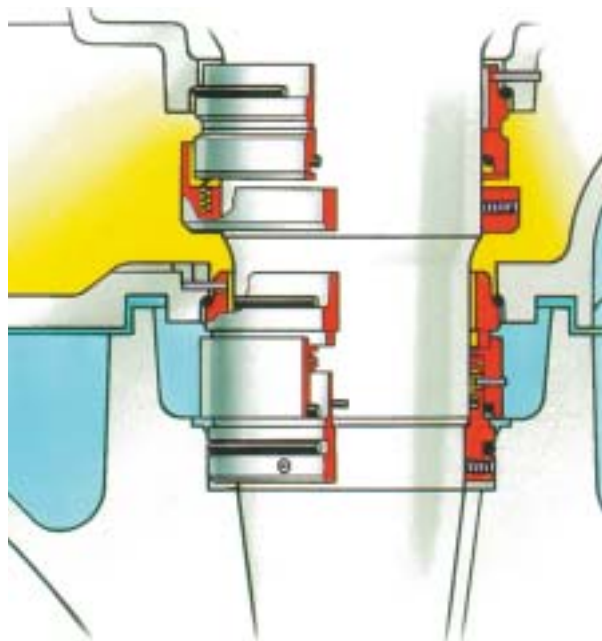
Self-cleaning channel impeller with long vanes that reduce risk of jamming or clogging, or unique Super-Vortex impeller with high pumping efficiency and less downtime.





47 metres of backflow with no non-return valves

In the Pihlajanmaki pumping station in Finland, water is being lifted 47 metres. The Grundfos pumps in this installation have no non-return valves. Consequently, when the pumps are stopped, the entire water column flows back to the pit through the pumps. With this arrangement the liquid in the pit is stirred up and mixed to prevent sedimentation problems.



Automatic flushing of wet pits

The shaft seals of Grundfos pumps are capable of rotating in either direction. When pumps are installed with separate pipework, sludge sedimentation can be effectively avoided by back flushing the system at regular intervals.

Extended pump life

Trouble-free shaft seal operation is ensured by springs located inside the oil chamber. The springs are completely isolated from the pumped liquid. Automatic removal of air and grit from the seal area, in combination with silicon carbide primary seal faces is the best guarantee for trouble-free operation and extended pump life.

Reduced dry pit installation costs

In pumping stations with separate pipework for each pump, costly non-return valves can be avoided.

In dry applications – or in submerged installations at low water level – efficient cooling of the motor is essential. This is achieved either through a cooling jacket encasing the stator housing or by means of built-in heat conduits transporting the heat away from the motor.

Cooling jacket

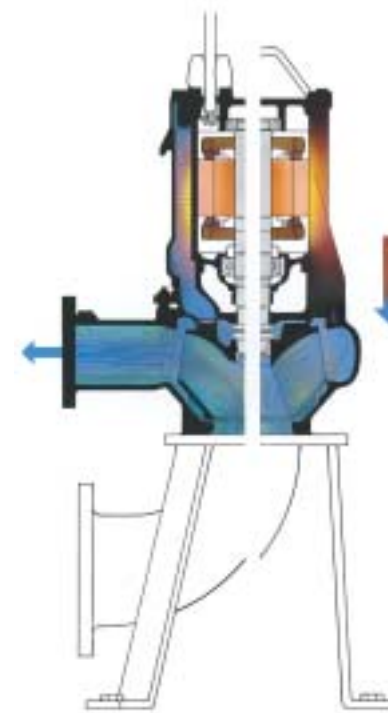
Some of the pumped liquid is led into the cooling jacket via a clearance behind the impeller. An integrated screening system prevents solids from entering the cooling jacket. By circulating the liquid around the motor, excess heat is transferred to the pumped liquid and led away.

Applicable for Grundfos pump ranges 50, 54 and 58.

Stator housing conduits

Cooling of the motor takes place by transferring excess heat via the stator housing to the pumped liquid.

Applicable for Grundfos pump ranges 34, 42 and 46.



Operating conditions and maximum starting frequency

Pump application is restricted by the following limits:

- Maximum ambient temperature and pumped liquid temperature: +40°C
 - Storage temperature range: -30°C to +60°C
 - Maximum submergence: 20 m
 - Voltage tolerance: -10% to +10%
- Pump range 42 and 46: -15% to +5%

Pump starting frequency should not exceed the recommendations indicated below. For shorter periods of time a starting frequency of up to double the recommended is permissible.

Range	Starts per hour
34, 42	25
46, 50, 54	20
58	15



Horizontally installed pumps with cooling jacket



Vertically installed pumps, with stator housing conduit cooling.

Grundfos SuperVortex impellers



A unique impeller design

The unique design of the Grundfos SuperVortex impellers provides high pumping efficiency and less downtime. With a flow range from 4 l/s, the Grundfos SuperVortex-impeller pumps are the optimum solution for all small pumping stations.

No clogging or jamming

In a SuperVortex-impeller pump, the flow is entirely outside the impeller. The design of the impeller ensures that long fibres, rags, etc. pass freely through the pumps without getting caught and without causing clogging or jamming. This means less downtime and, consequently, reduced service costs and higher pumping efficiency.

The design of the SuperVortex-impeller pumps also prevents the common problem of jamming between wear rings. A Grundfos SuperVortex-impeller pump needs no wear rings!

Full performance curve without operating limitations and vibrations

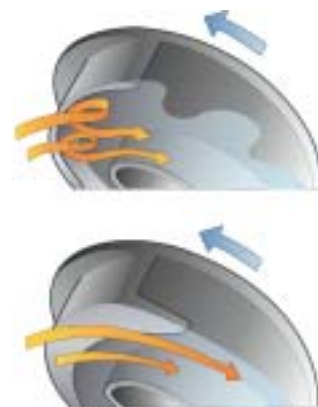
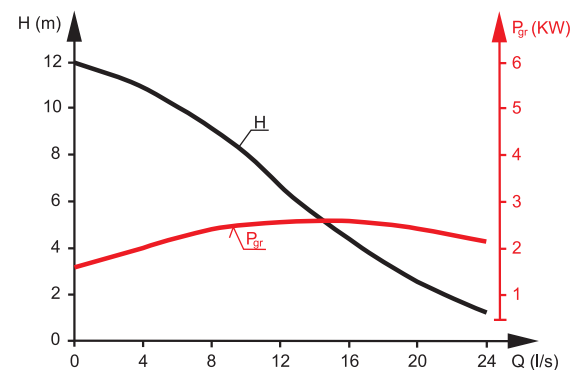
Due to the special power characteristics of the Grundfos SuperVortex-impeller pumps, it is possible to run the pumps right up to the maximum flow on the curves without any risk of overloading the motor. The steep performance curve means minimal flow fluctuation with varying heads.

Conventional vortex impeller

In pumps fitted with a conventional vortex impeller, turbulent disturbance is liable to form around the impeller. This will disrupt the flow pattern and result in lower pumping efficiency and reduced head.

Grundfos SuperVortex impeller

The liquid passes freely outside the impeller without any turbulent disturbance.



Grundfos channel impellers

Efficient non-clogging

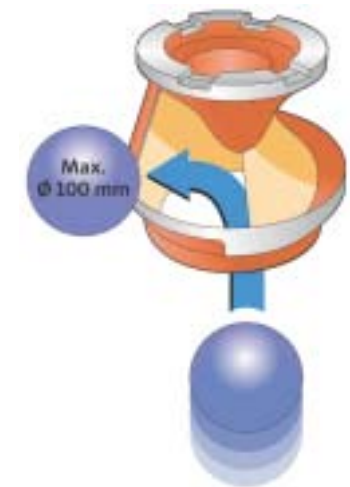
The Grundfos channel-impeller pumps provide high efficiency and excellent non-clogging capabilities. The channel impellers are designed with a large free passage \varnothing 80 mm or 100 mm, depending on model and long impeller vanes. Channel-impeller pumps are ideal for heavy-duty operation in large-scale pumping stations.



Large free passage for superior solids handling

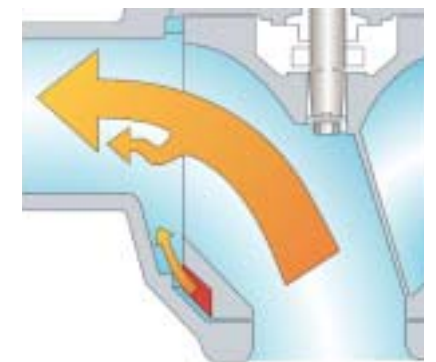
Compromising on the ability to handle solids in order to obtain higher pumping efficiency substantially increases the risk of clogging. More clogging means more downtime and increased operating costs.

The Grundfos channel-impeller pumps are capable of handling solids of up to 80 mm or 100 mm size. The full free passage, however, is much larger. The result is less clogging and less downtime.



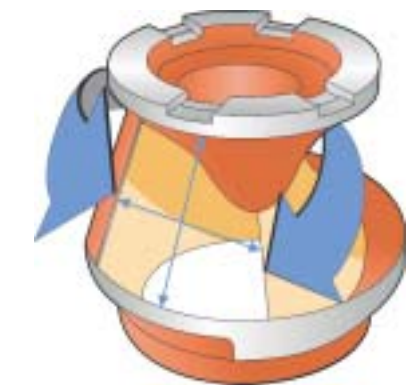
Self-cleaning impeller

On Grundfos wastewater pumps smaller than 12 kW, the bottom part of the channel impellers feature specially designed auxiliary vanes. These vanes are designed to create a powerful flow that keeps the clearance between the impeller and the pump housing free from solids or fibres.

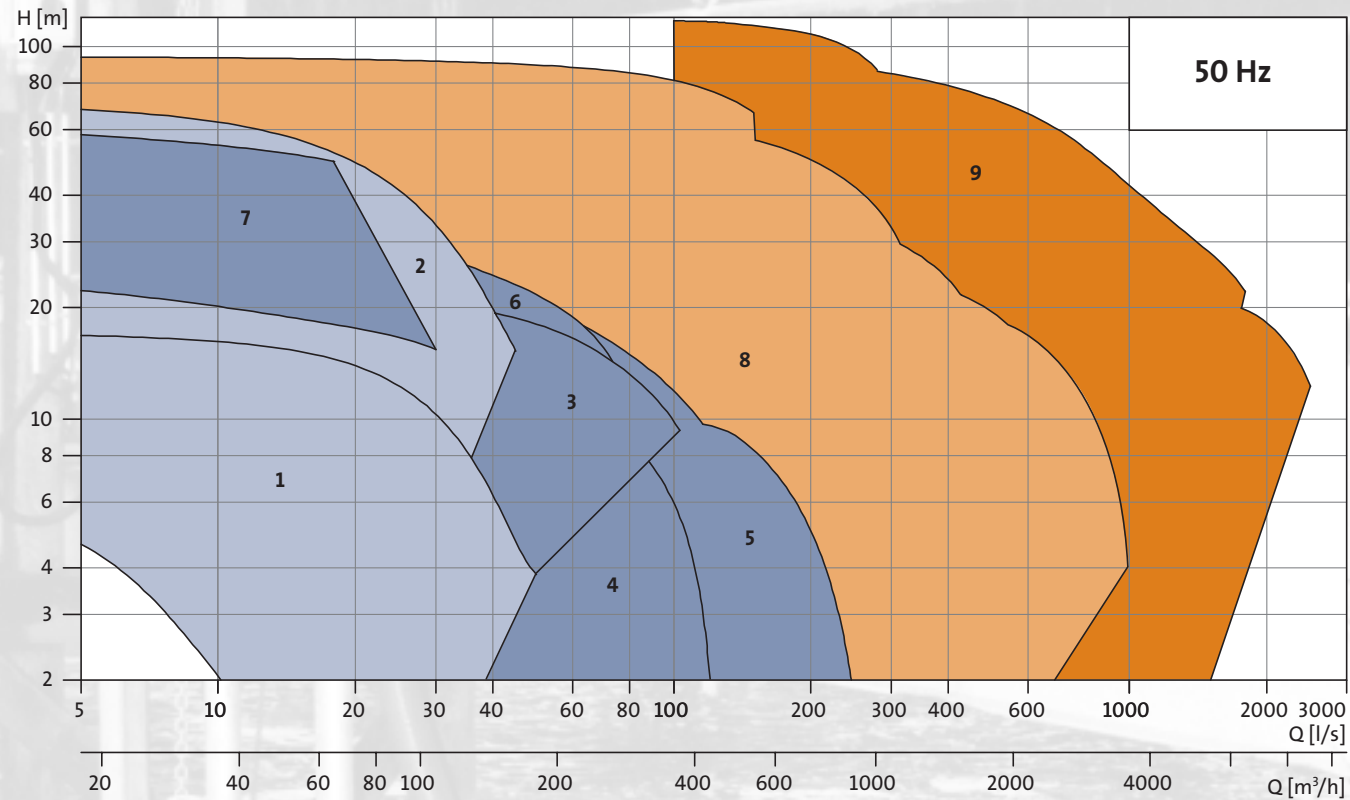


Semi-axial impeller design with long vane

The length of an impeller vane is a key factor in determining the length of fibres that can pass through a pump without getting caught. The Grundfos channel impellers are of a semi-axial design with extra long vanes. This provides maximum performance and eliminates problems with fibres or rags getting caught in the impeller.



Performance overview – Grundfos range of submersible sewage pumps



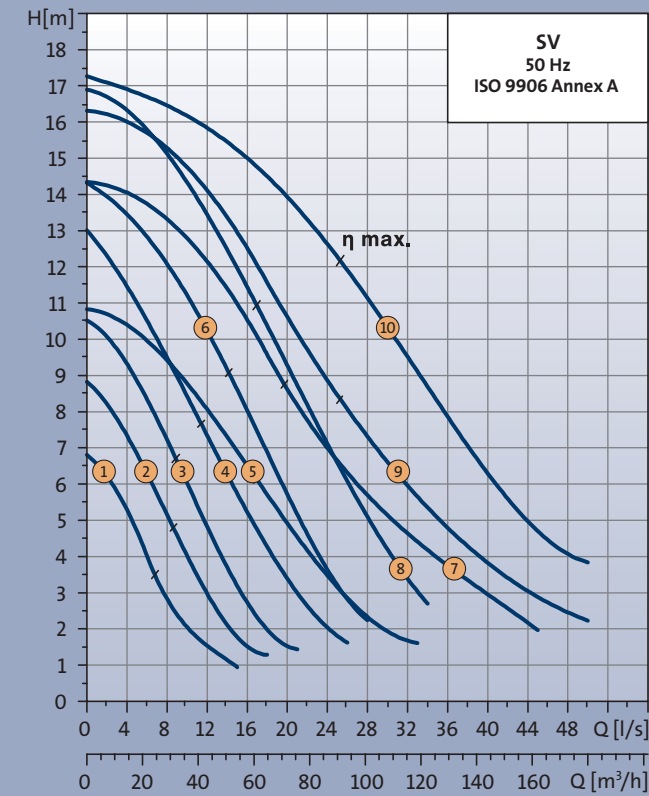
Area	Description
1	SuperVortex impeller, low head ranges 34, 42, 46
2	SuperVortex impeller, high head ranges 42, 50, 54, 58
3	Channel impeller, medium head ranges 42, 46, 50, 54
4	Channel impeller, low head ranges 46, 50
5	Channel impeller, low head range 54
6	Channel impeller, high head ranges 46, 50, 54
7	Channel impeller, super-high head ranges 46, 50, 54
8	Channel-impeller pumps, 15 kW to 155 kW*
9	Channel-impeller pumps, 160 to 520 kW*

Note!
The printed data and curves apply for pumps in installation types 1 and 4 only. Data and curves for other installation types and explosion-proof execution may vary.

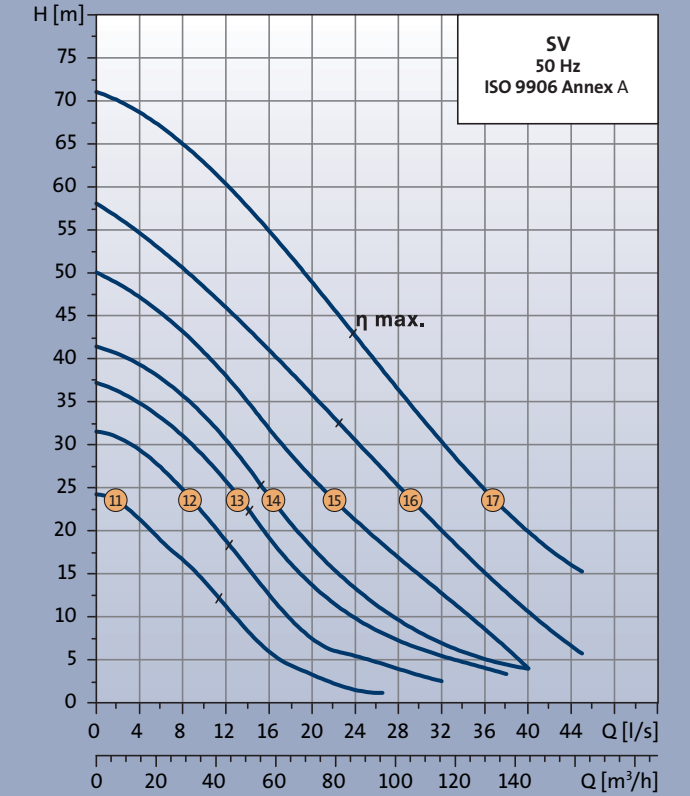
Type key

Example S1X0744AM1 S 1 X 07 4 A M 1
Sewage pump
Type of impeller
 V = SuperVortex
 1 = Single-channel
 2 = Two-channel
 3 = Three-channel
Version
 Blank = Non-explosion-proof motor
 X = Explosion-proof motor
Rated motor power P_N in kW
Number of poles
Pump generation
Head classification
 E = Extra low head L = Low head M = Medium head
 H = High head S = Super-high head
Type of installation
 1 = Submerged installation on auto-coupling
 2 = Submerged installation on auto-coupling
 Motor cooling independent of pumped liquid level
 See page 7
 3 = Vertical dry installation
 4 = Submerged installation, portable
 5 = Submerged installation, portable
 Motor cooling independent of pumped liquid level
 See page 7
 6 = Horizontal dry installation

Low head – ranges 34, 42, 46



High head – ranges 42, 50, 54, 58



Electrical and technical data

No.	Pump type	Pump range	Max. solids size [mm]	Outlet [mm]	Weight [kg]	Submerged installation		Dry installation		Submerged installation, portable		Motor			
						Inlet DN	Outlet DN	Inlet DN	Outlet DN	Hose [mm]	Weight [kg]	P _N [kW]	n _n [min ⁻¹]	I _N 400 V [A]	I _c /I _N
1	SV 014 BL	34	Ø 80	Ø 80	60	100	100	100	100	Ø 75	63	1.65	1440	4.3	6.9
2	SV 014 B	34	Ø 80	Ø 80	60	100	100	100	100	Ø 75	63	1.65	1440	4.3	6.9
3	SV 024 B	34	Ø 80	Ø 80	60	100	100	100	100	Ø 75	63	1.65	1440	4.3	6.9
4	SV 024 BH	34	Ø 80	Ø 80	60					Ø 75	63	2.3	1404	5.4	5.5
5	SV 034 C	42	Ø 100	Ø 100	100	100	100	110	100	Ø 100	100	2.9	1432	8.0	6.2
6	SV 034 CH	42	Ø 80	Ø 80	95	100	100	100	100	Ø 75	95	2.9	1432	8.0	6.2
7	SV 044 C	42	Ø 100	Ø 100	100	100	100	110	100	Ø 100	100	4.2(3.6)	1380	10.0(9.4)	5.0(5.3)
8	SV 044 CH	42	Ø 80	Ø 80	95	100	100	100	100	Ø 75	95	4.2(3.6)	1380	10.0(9.4)	5.0(5.3)
9	SV 064 B	46*	80x100	Ø 100	134	100	100	140	100	Ø 100	140	5.5	1449	12.5	5.9
10	SV 074 B	46*	80x100	Ø 100	134					Ø 100	140	7.0	1423	15.2	4.9
11	SV 042 C	42	Ø 80	Ø 100	95	100	100	105	100	Ø 75	90	4.5(3.5)	2844	10.4(9.7)	7.0(8.0)
12	SV 072 BH	50	Ø 80	Ø 100	163	100	80	180	100	Ø 100	160	7.4(9.4)	2952	16.9(20)	12.3(10.4)
13	SV 092 BH	50	Ø 80	Ø 100	163	100	80	180	100	Ø 100	160	9.4	2928	20	10.4
14	SV 122 BH	50	Ø 80	Ø 100	163	100	80	180	100	Ø 100	160	11.5(12)	2904	23.4(24.7)	8.9(7.6)
15	SV 152 H	54	Ø 80	Ø 80	248					Ø 80	248	15	2780	30	9.1
16	SV 212 H	54	Ø 80	Ø 80	248					Ø 80	248	21.0	2780	41.2	6.6
17	SV 302 H	58*	Ø 80	Ø 150	410					Ø 150	410	29	2916	59.0	6.9

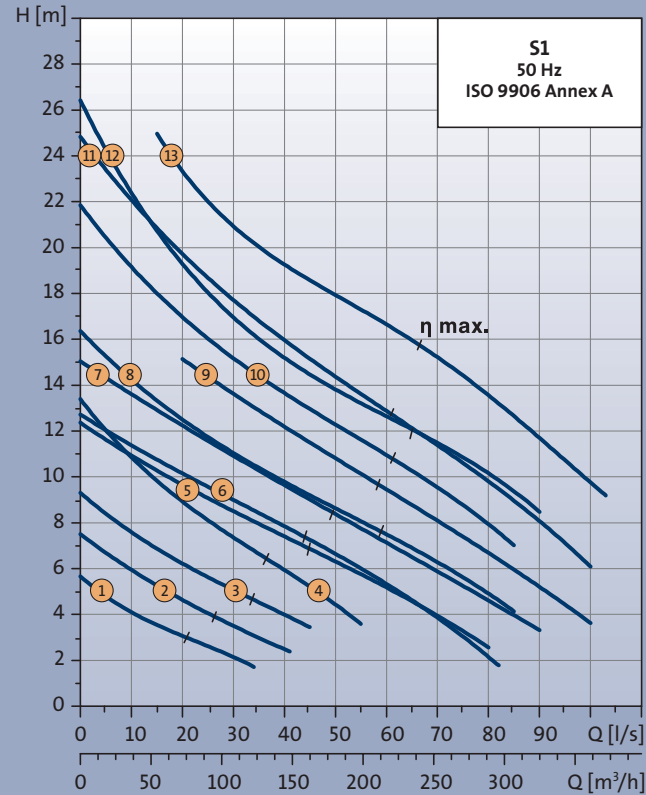
() Motor data in brackets apply to installations 2, 3, 5 and 6.
 * Not available in Ex-version.

Pump range, modular concept

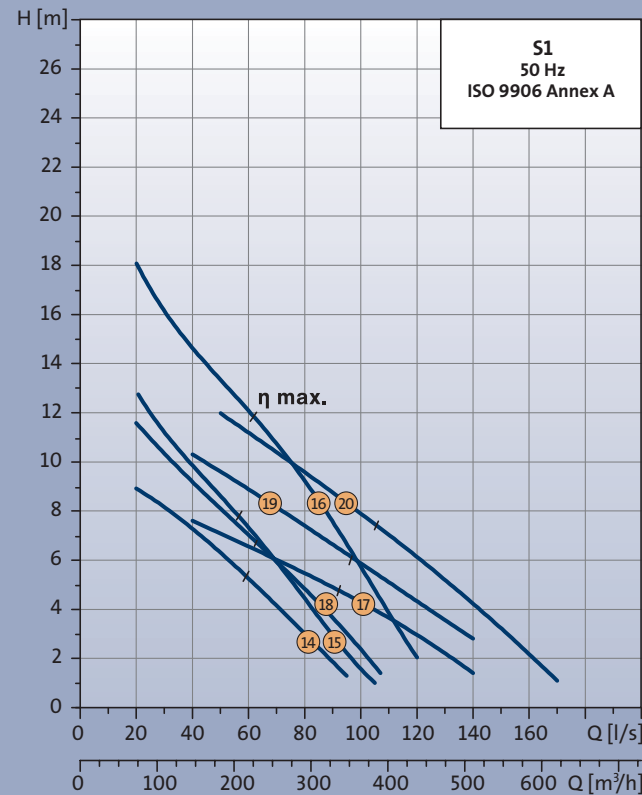
Grundfos sewage pumps are of modular design. This means that pumps belonging to the same model range share many common spare parts. This allows for interchangeability of impellers and hydraulics.

Channel-impeller pumps

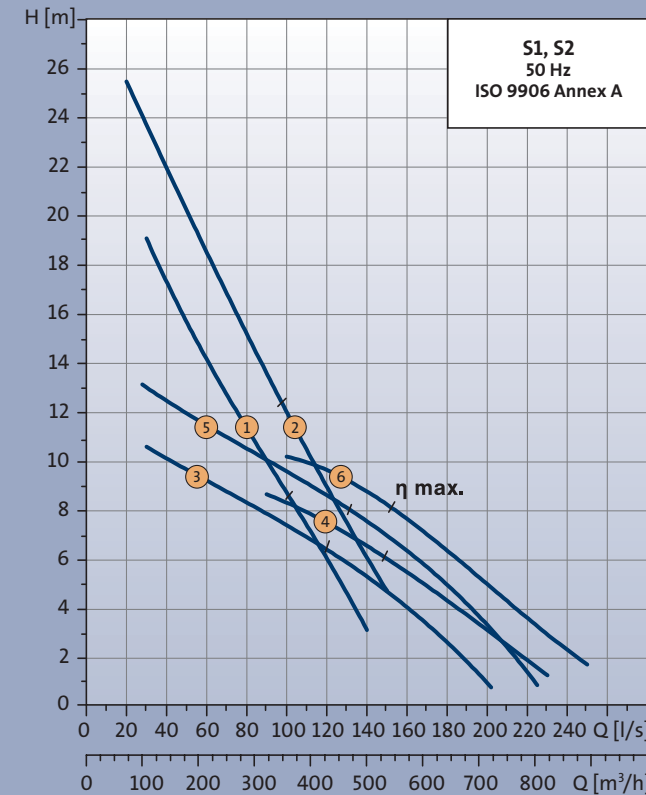
Medium head – ranges 42, 46, 50, 54



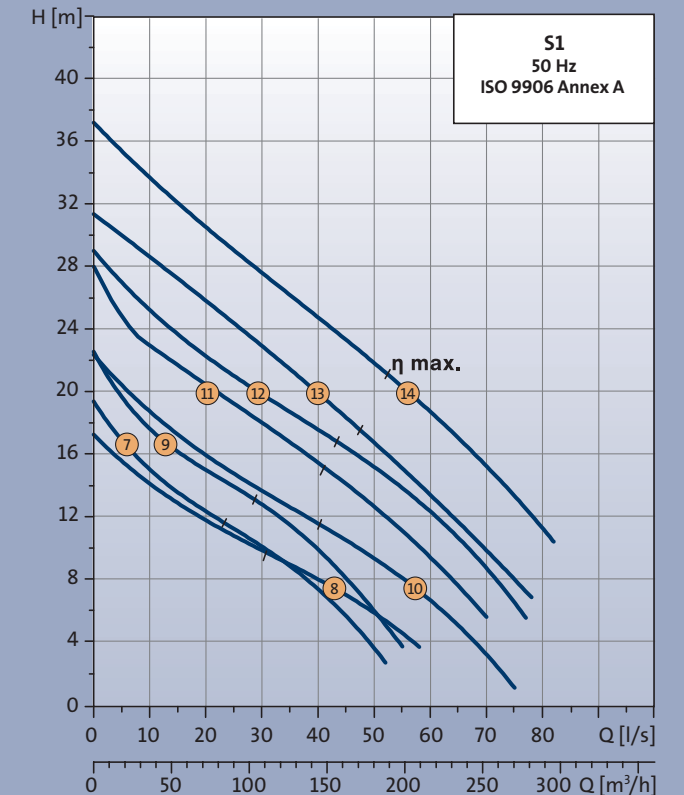
Low head – ranges 46, 50



Low head – range 54



High head – ranges 46, 50, 54



Electrical and technical data

Pump curve				Submerged installation		Dry installation		Submerged installation, portable			Motor			
No.	Pump type	Pump range	Max. solids size [mm]	Outlet [mm]	Weight [kg]	Inlet DN	Outlet DN	Weight [kg]	Hose [mm]	Weight [kg]	P _N [kW]	n _N [min ⁻¹]	I _N 400 V [A]	I _s /I _N
1	S1 026 A	42	Ø 100	Ø 100	110	100	100	120	–	–	1.7	910	6.8	6.0
2	S1 024 C	42	Ø 100	Ø 100	110	100	100	135	Ø 100	110	2.9	1432	8.0	6.2
3	S1 034 C	42	Ø 100	Ø 100	110	100	100	135	Ø 100	110	2.9	1432	8.0	6.2
4	S1 044 C	42	Ø 100	Ø 100	110	100	100	135	Ø 100	110	4.2(3.6)	1380	9.6(9.1)	5.0(5.3)
5	S1 054 CM	50	Ø 100	Ø 100	165	150	100	185	Ø 100	165	5.5	1463	13.8	6.2
6	S1 064 AM	46*	Ø 100	Ø 100	140	150	100	140	Ø 100	140	5.5	1449	12.5	5.9
7	S1 074 AM	46*	Ø 100	Ø 100	140	–	–	–	Ø 100	140	7.0	1423	15.2	4.9
8	S1 074 CM	50	Ø 100	Ø 100	165	150	100	190	Ø 100	185	7.5	1437	17.4	4.9
9	S1 104 AL	50	Ø 100	Ø 150	200	150	125	220	Ø 150	210	10.0	1460	22.0	9.6
10	S1 104 BM	50	Ø 100	Ø 100	220	150	100	220	–	–	10.0	1456	22.5	6.6
11	S1 134 M	54	Ø 100	Ø 150	250	150	125	320	Ø 150	290	13.5(14.0)	1452	32.4(33.1)	4.9(4.8)
12	S1 124 BM	50	Ø 100	Ø 100	180	150	100	210	Ø 100	190	12.5(13.0)	1425	26.8(27.5)	5.5(5.2)
13	S1 074 M	54	Ø 100	Ø 150	250	150	125	320	Ø 150	290	17.0(18.0)	1455	35.4 (37.4)	4.8(4.4)
14	S1 064 AL	46*	Ø 80	Ø 150	160	200	125	160	Ø 150	155	5.5	1449	12.5	5.9
15	S1 074 L	50	Ø 100	Ø 150	200	150	125	220	Ø 150	210	7.5	1437	17.4	4.9
16	S1 124 AL	50	Ø 100	Ø 150	200	150	125	220	Ø 150	210	12.5(13.0)	1425	26.8 (27.5)	5.5(5.2)
17	S1 074 E	50	80x130	Ø 200	345	200	200	385	Ø 200	345	7.0	1423	15.2	4.9
18	S1 074 AL	46*	Ø 80	Ø 150	160	–	–	–	Ø 150	155	17.0(18.0)	1455	35.4 (37.4)	4.8(4.4)
19	S1 104 AE	50	Ø 80	Ø 200	220	200	200	220	–	–	10.0	1456	22.5	6.6
20	S1 124 AE	50	80x130	Ø 200	385	200	200	405	Ø 200	385	12.5(13.0)	1425	26.8 (27.5)	5.5(5.2)

() Motor data in brackets apply to installations 2, 3, 5 and 6.

* Not available in Ex-version.

Electrical and technical data

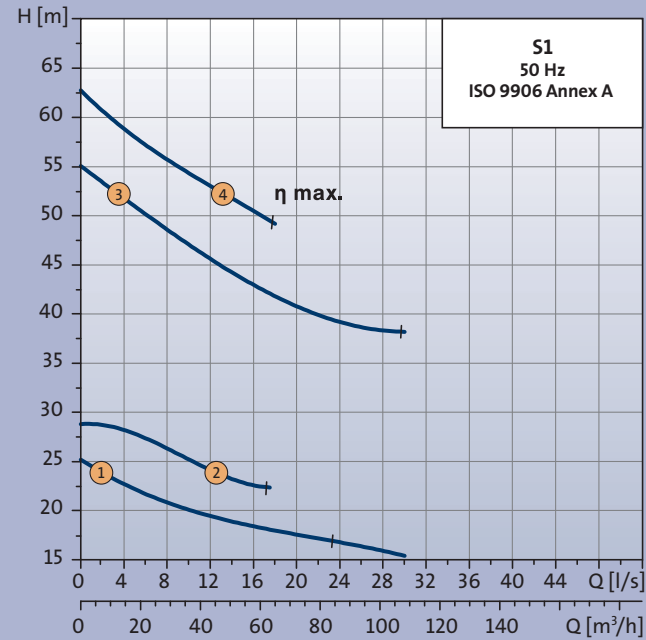
Pump curve				Submerged installation		Dry installation		Submerged installation, portable			Motor			
No.	Pump type	Pump range	Max. solids size [mm]	Outlet [mm]	Weight [kg]	Inlet DN	Outlet DN	Weight [kg]	Hose [mm]	Weight [kg]	P _N [kW]	n _N [min ⁻¹]	I _N 400 V [A]	I _s /I _N
1	S1 134 BL	54	Ø 100	Ø 200	335	200	200	340	Ø 200	300	13.5(14.0)	1452	32.4(33.1)	4.9(4.8)
2	S1 174 BL	54	Ø 100	Ø 200	335	200	200	350	Ø 200	320	17.0(18.0)	1455	35.4(37.4)	4.8(4.4)
3	S2 134 L	54	Ø 100	Ø 200	335	200	200	350	Ø 200	300	13.5(14.0)	1452	32.4(33.1)	4.9(4.8)
4	S2 134 E	54	Ø 100	Ø 250	480	250	250	495	–	–	13.5(14.0)	1452	32.4(33.1)	4.9(4.8)
5	S2 174 L	54	Ø 100	Ø 200	335	200	200	350	Ø 200	320	17.0(18.0)	1455	35.4(37.4)	4.8(4.4)
6	S2 174 E	54	Ø 100	Ø 250	480	250	250	495	–	–	17.0(18.0)	1455	35.4(37.4)	4.8(4.4)
7	S1 064 AH	46*	Ø 80	Ø 100	140	100	100	140	Ø 100	140	5.5	1449	12.5	5.9
8	S1 054 H	50	Ø 80	Ø 100	205	100	100	215	Ø 100	205	5.5	1463	13.8	6.2
9	S1 074 AH	46*	Ø 80	Ø 100	140	–	–	–	Ø 100	140	7.0	1423	15.2	4.9
10	S1 074 H	50	Ø 80	Ø 100	205	100	100	215	Ø 100	205	7.5	1437	17.4	4.9
11	S1 104 AH	50	Ø 100	Ø 100	220	100	100	220	–	–	10.0	1456	22.5	6.6
12	S1 124 AH	50	Ø 80	Ø 100	235	100	100	255	Ø 100	235	12.5(13.0)	1425	26.8(27.5)	5.5(5.2)
13	S1 134 H	54	Ø 80	Ø 100	285	150	100	295	Ø 100	290	13.5(14.0)	1452	32.4(33.1)	4.9(4.8)
14	S1 174 H	54	Ø 80	Ø 100	285	150	100	295	Ø 100	290	17.0(18.0)	1455	35.4(37.4)	4.8(4.4)

() Motor data in brackets apply to installations 2, 3, 5 and 6.

* Not available in Ex-version.

Channel-impeller pumps

Super-high head – ranges 46, 50, 54



Electrical and technical data

Pump curve				Submerged installation		Dry installation			Motor			
No.	Pump type	Pump range	Max. solids size [mm]	Outlet [mm]	Weight [kg]	Inlet DN	Outlet DN	Weight [kg]	P _n [kW]	n _n [min ⁻¹]	I _n 400 V [A]	I _c /I _n
1	S1 074 AS	46*	Ø 80	Ø 100	140	–	–	–	7.0	1423	15.2	4.9
2	S1 074 S	50	Ø 80	Ø 100	205	100	100	215	7.5	1437	17.4	4.9
3	S1 212 H	54	Ø 80	Ø 80	248	–	–	–	21.0	2780	41.2	6.6
4	S1 212 S	54	Ø 80	Ø 80	242	–	–	–	21.0	2780	41.2	6.6

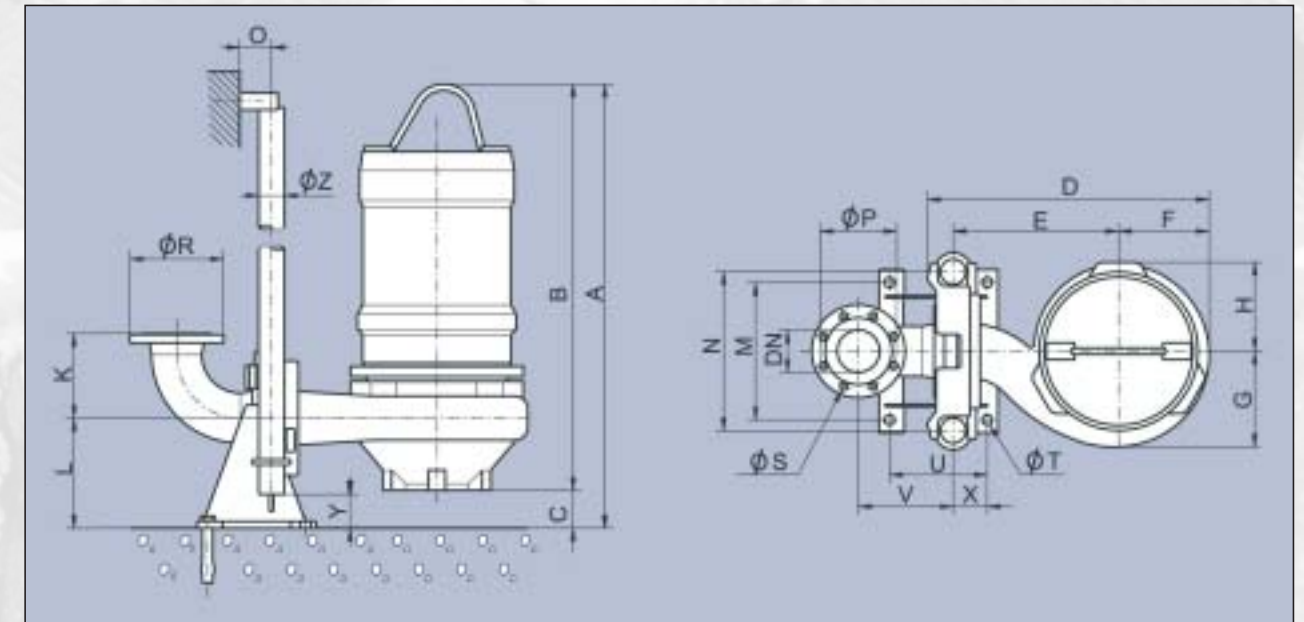
* Not available in Ex-version.

Material specifications

Part	Material	DIN/EN	AISI
Stator housing	Cast iron	EN-JL1040	
Dry stator housing, pump ranges 42-46	Aluminium alloy G-AISI10 Mg	EN-AC43000	
Pump housing	Cast iron	EN-JL1040	
Impeller, S1 and S2 pumps	Cast iron	EN-JL1040	
Impeller, SV pumps	Ductile iron	EN-JS1050	80-55-06
Pump shaft	Stainless steel	1.4460	329
Bolts and nuts	Stainless steel	1.4436	316
Cooling jacket, pump ranges 50-58	Ductile iron	EN-JS1050	80-55-06
O-rings	NBR		
O-rings, mechanical shaft seal	FKM		
Bearings	Heavy-duty prelubricated ball bearings		
Primary shaft seal	SiC/SiC		
Secondary shaft seal	SiC/Carbon		
Lifting bracket, pump ranges 34-46	Cast stainless steel	1.4408	316
Lifting bracket, pump ranges 50-54	Ductile iron	EN-JS1050	80-55-06
Lifting bracket, pump ranges 58	Galvanized steel	Rst 37-2	
Cable, 8 m	EPDM		
Cable entry	PA		
Surface protection	150 my two-component epoxy coating		
Oil	SAE 10 W 30		

Dimensions and installation

Submerged installation on auto-coupling



SuperVortex-impeller pumps

Pump range/type	Dimensions [mm]																						
	DN	A	B	C	D	E	F	G	H	K	L	M	N	O	ØP	ØR	ØS	ØT	U	V	X	Y	ØZ
34																							
SV 014 BL	100	640	555	85	445	270	130	150	130	99	160	184	206	60	180	220	18	20	123	167	65	80	48
SV 014 B	100	640	555	85	445	270	130	150	130	99	160	184	206	60	180	220	18	20	123	167	65	80	48
SV 024 B	100	640	555	85	445	270	130	150	130	99	160	184	206	60	180	220	18	20	123	167	65	80	48
SV 024 BH	100	640	555	85	445	270	130	150	130	99	160	184	206	60	180	220	18	20	123	167	65	80	48
42																							
SV 034 CH	100	695	615	80	475	270	155	155	155	99	160	184	206	60	180	220	18	20	123	167	65	80	48
SV 044 CH	100	695	615	80	475	270	155	155	155	99	160	184	206	60	180	220	18	20	123	167	65	80	48
SV 034 C	100	790	650	140	540	330	155	165	155	120	260	180	220	60	180	220	18	20	205	180	121	180	48
SV 044 C	100	790	650	140	540	330	155	165	155	120	260	180	220	60	180	220	18	20	205	180	121	180	48
SV 042 C	100	795	615	180	520	310	150	150	150	120	260	180	220	60	180	220	18	20	205	180	121	180	48
46																							
SV 064 B	100	775	645	130	560	330	170	175	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
SV 074 B	100	775	645	130	560	330	170	175	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
50																							
SV 072 BH	100	965	805	100	705	465	180	180	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
SV 092 BH	100	965	805	100	705	465	180	180	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
SV 122 BH	100	965	805	100	705	465	180	180	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
54																							
SV 152 H	80	1055	945	110	610	370	180	180	215	180	260	325	375	75	160	200	18	24	230	203	80	80	60
SV 212 H	80	1055	945	110	610	370	180	180	215	180	260	325	375	75	160	200	18	24	230	203	80	80	60
58																							
SV 302 H	150	1375	1155	220	870	575	225	225	225	250	380	280	500	100	240	285	22	24	320	265	115	165	77

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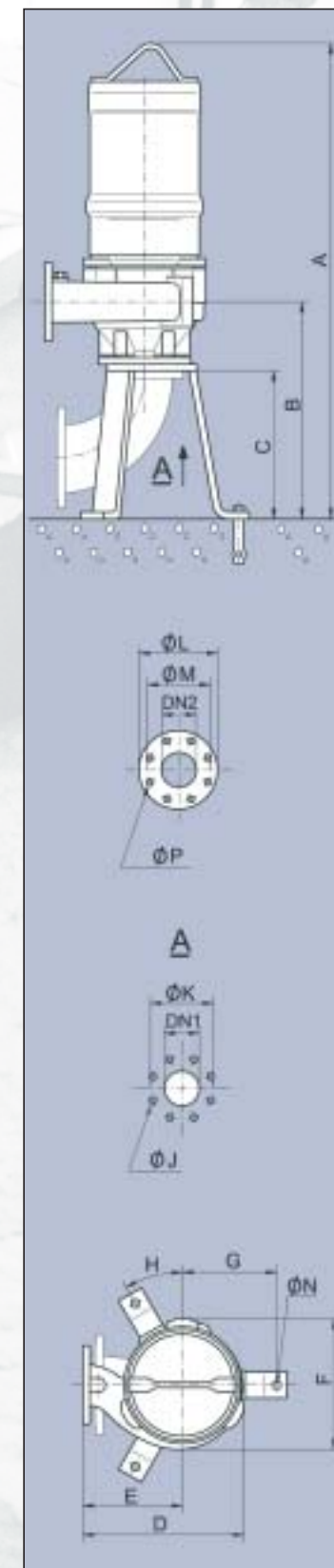
Dimensions and installation

Channel-impeller pumps

Pump range/type	Dimensions [mm]																						
	DN	A	B	C	D	E	F	G	H	K	L	M	N	O	ØP	ØR	ØS	ØT	U	V	X	Y	ØZ
42																							
S1 024 C	100	770	670	100	545	320	165	175	160	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 034 C	100	770	670	100	545	320	165	175	160	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 044 C	100	770	670	100	545	320	165	175	160	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 026 A	100	770	670	100	545	320	165	175	160	120	260	180	220	60	180	220	18	20	205	180	121	180	48
46																							
S1 064 AL	150	890	705	185	800	465	265	300	270	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 074 AL	150	890	705	185	800	465	265	300	270	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 064 AM	100	775	675	100	590	360	170	190	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 AM	100	775	675	100	590	360	170	190	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 064 AH	100	770	655	115	575	340	175	185	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 AH	100	770	655	115	575	340	175	185	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 AS	100	770	655	115	575	340	175	185	220	120	260	180	220	60	180	220	18	20	205	180	121	180	48
50																							
S1 074 L	150	1050	845	205	730	455	210	240	190	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 104 AL	150	1120	915	205	730	455	210	240	190	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 124 AL	150	1120	915	205	730	455	210	240	190	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 074 E	200	1070	930	140	950	550	325	365	260	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S1 104 AE	200	1130	990	140	950	550	325	365	260	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S1 124 AE	200	1130	990	140	950	550	325	365	260	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S1 054 CM	100	975	875	100	610	375	180	190	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 CM	100	975	875	100	610	375	180	190	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 054 S	100	940	840	100	585	350	180	185	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 H	100	940	840	100	585	350	180	185	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 074 S	100	940	840	100	585	350	180	185	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 104 BM	100	1035	935	100	610	375	180	190	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 124 BM	100	1035	935	100	610	375	180	190	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 104 AH	100	1000	890	100	585	350	180	185	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
S1 124 AH	100	1000	890	100	585	350	180	185	190	120	260	180	220	60	180	220	18	20	205	180	121	180	48
54																							
S2 134 E	250	1205	1060	145	1290	840	370	420	310	350	400	620	700	150	350	395	23	28	500	370	205	270	88
S2 174 E	250	1205	1060	145	1290	840	370	420	310	350	400	620	700	150	350	395	23	28	500	370	205	270	88
S1 134 BL	200	1215	1020	195	930	590	265	315	235	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S1 174 BL	200	1215	1020	195	930	590	265	315	235	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S2 134 L	200	1215	1020	195	930	590	265	315	235	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S2 174 L	200	1215	1020	195	930	590	265	315	235	300	400	540	600	150	295	340	22	28	460	320	140	20	88
S1 134 M	150	1180	995	185	715	432	215	235	210	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 174 M	150	1180	995	185	715	432	215	235	210	250	380	280	500	100	240	285	22	24	320	265	115	165	77
S1 134 H	100	1050	960	90	670	390	215	230	210	200	260	325	375	75	180	220	18	24	230	223	80	80	60
S1 174 H	100	1050	960	90	670	390	215	230	210	200	260	325	375	75	180	220	18	24	230	223	80	80	60
S1 212 H	80	1085	980	105	610	370	180	180	215	180	260	325	375	75	160	200	18	24	230	203	80	80	60
S1 212 S	80	1085	980	105	610	370	180	180	215	180	260	325	375	75	160	200	18	24	230	203	80	80	60



Vertical dry installation SuperVortex-impeller pumps



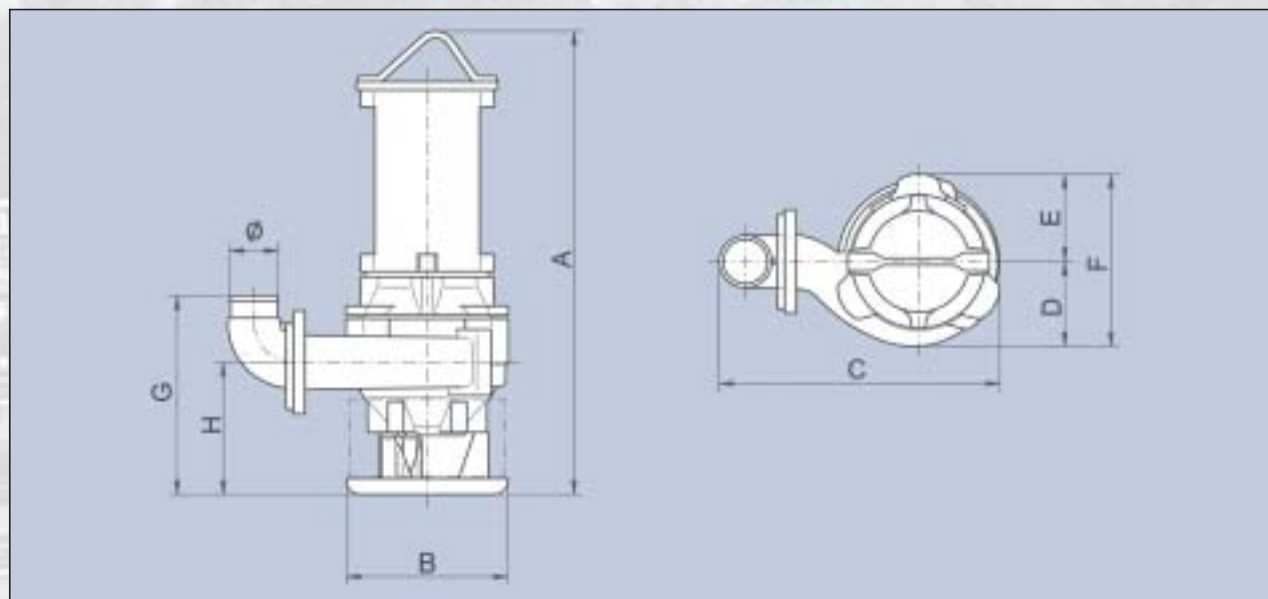
Pump range/type	Dimensions [mm]															
	DN1	DN2	A	B	C	D	E	F	G	H	ØJ	ØK	ØL	ØM	ØN	ØP
34																
SV 014 BL	100	100	1025	545	425	347	217	255	270	30°	M16	180	225	180	24	19
SV 014 B	100	100	1025	545	425	347	217	255	270	30°	M16	180	225	180	24	19
SV 024 B	100	100	1025	545	425	347	217	255	270	30°	M16	180	225	180	24	19
42																
SV 034 CH	100	100	1055	525	425	372	217	320	270	30°	M16	180	225	180	24	19
SV 044 CH	100	100	1055	525	425	372	217	320	270	30°	M16	180	225	180	24	19
SV 034 C	100	100	1095	565	425	420	265	320	270	30°	M16	180	225	180	24	19
SV 044 C	100	100	1095	565	425	420	265	320	270	30°	M16	180	225	180	24	19
SV 042 C	100	100	1060	525	425	397	247	300	270	30°	M16	180	225	180	24	19
46																
SV 064 B	100	100	1085	570	425	437	267	395	270	30°	M16	180	225	180	24	19
50																
SV 072 BH	100	80	1265	620	425	580	400	370	270	30°	M16	180	200	160	24	19
SV 122 BH	100	80	1265	620	425	580	400	370	270	30°	M16	180	200	160	24	19

Channel-impeller pumps

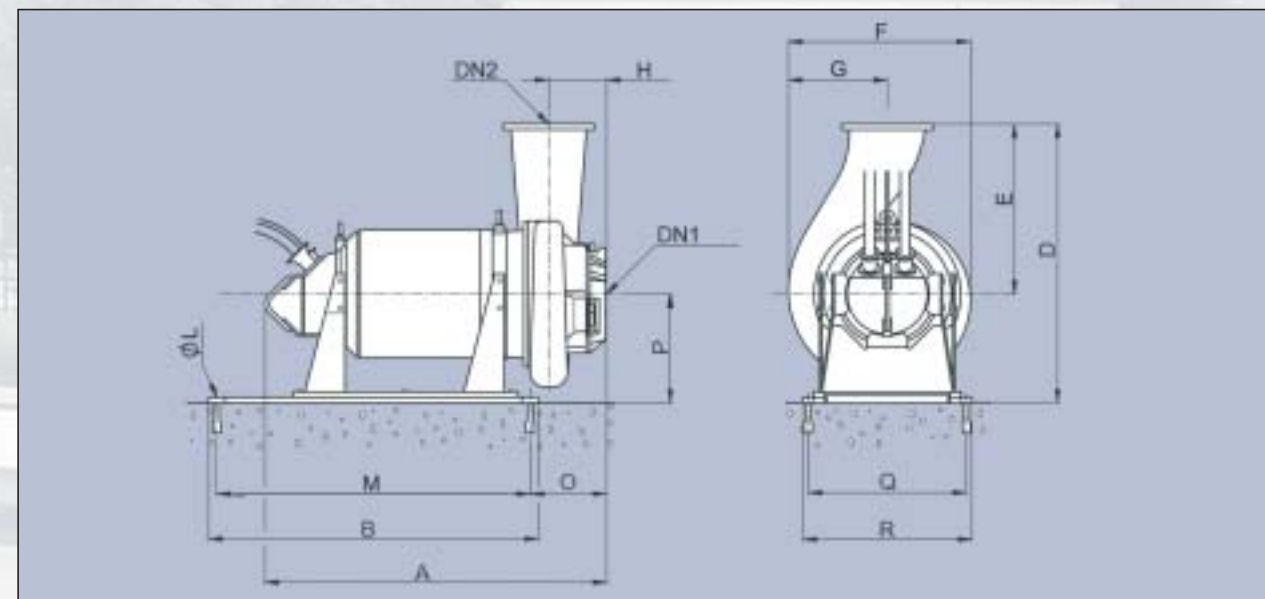
Pump range/type	Dimensions [mm]															
	DN1	DN2	A	B	C	D	E	F	G	H	ØJ	ØK	ØL	ØM	ØN	ØP
42																
S1 024 C	100	100	1095	600	425	425	257	335	270	30°	M16	180	220	180	24	19
S1 034 C	100	100	1095	600	425	425	257	335	270	30°	M16	180	220	180	24	19
S1 044 C	100	100	1095	600	425	425	257	335	270	30°	M16	180	220	180	24	19
S1 026 A	100	100	1095	600	425	425	257	335	270	30°	M16	180	220	180	24	19
46																
S1 064 AL	200	125	1420	910	700	655	390	520	350	30°	M20	295	250	210	24	19
S1 064 AM	150	100	1130	805	600	467	297	410	300	30°	M20	240	220	180	24	19
S1 064 AH	100	100	1100	590	425	452	277	405	270	30°	M16	180	225	180	24	19
50																
S1 074 L	150	130	1505	815	600	590	380	435	300	30°	M20	240	250	210	24	19
S1 104 AL	150	130	1570	815	600	590	380	435	300	30°	M20	240	250	210	24	19
S1 124 AL	150	130	1570	815	600	590	380	435	300	30°	M20	240	250	210	24	19</

Dimensions and installation

Submerged installation, portable



Horizontal dry installation



SuperVortex-impeller pumps

Pump range/type	Dimensions [mm]								
	Ø	A	B	C	D	E	F	G	H
34									
SV 014 BL	76	640	305	490	150	125	275	305	160
SV 014 B	76	640	305	490	150	125	275	305	160
SV 024 B	76	640	305	490	150	125	275	305	160
SV 024 BH	76	640	305	490	150	125	275	305	160
42									
SV 034 CH	76	725	305	490	155	155	310	355	195
SV 044 CH	76	725	305	490	155	155	310	355	195
SV 034 C	100	765	305	565	165	155	320	380	230
SV 044 C	100	765	305	565	165	155	320	380	230
SV 042 C	100	725	305	545	150	150	300	335	190
46									
SV 064 B	100	755	305	580	175	220	395	385	240
SV 074 B	100	755	305	580	175	220	395	385	240
50									
SV 072 BH	100	930	350	555	180	180	370	460	290
SV 092 BH	100	930	350	555	180	180	370	460	290
SV 122 BH	100	930	350	555	180	180	370	460	290
54									
SV 152 H	80	1080	350	635	180	215	395	430	280
SV 212 H	80	1080	350	635	180	215	395	430	280
58									
SV 302 H	150	1375	700	1060	225	225	550	630	380



Channel-impeller pumps

Pump range/type	Dimensions [mm]								
	Ø	A	B	C	D	E	F	G	H
42									
S1 024 C	100	765	305	570	175	160	335	415	270
S1 034 C	100	765	305	570	175	160	335	415	270
S1 044 C	100	765	305	570	175	160	335	415	270
46									
S1 064 AL	150	825	550	945	300	275	575	595	300
S1 074 AL	150	825	550	945	300	275	575	595	300
S1 064 AM	100	775	305	610	190	220	410	415	270
S1 074 AM	100	775	305	610	190	220	410	415	270
S1 064 AH	100	745	305	600	185	220	405	380	235
S1 074 AH	100	745	305	600	185	220	405	380	235
50									
S1 074 L	150	1000	350	870	240	190	430	590	310
S1 104 AL	150	1065	350	870	240	190	430	590	310
S1 124 AL	150	1065	350	870	240	190	430	590	310
S1 074 E	200	1030	550	1210	365	275	640	815	380
S1 104 AE	200	1090	550	1210	365	275	640	815	380
S1 124 AE	200	1090	550	1210	365	275	640	815	380
S1 054 CM	100	1020	350	640	190	190	380	450	285
S1 074 CM	100	1020	350	640	190	190	380	450	285
S1 054 H	100	950	350	615	185	190	375	435	290
S1 074 H	100	950	350	615	185	190	375	435	290
S1 104 BM	100	1080	350	640	190	190	380	450	305
S1 124 BM	100	1080	350	640	190	190	380	450	305
S1 104 AH	100	1020	350	615	185	190	375	435	290
S1 124 AH	100	1020	350	615	185	190	375	435	290
54									
S1 134 BL	200	1125	550	1200	315	235	590	750	315
S1 174 BL	200	1125	550	1200	315	235	590	750	315
S2 134 L	200	1125	550	1200	315	235	590	750	315
S2 174 L	200	1125	550	1200	315	235	590	750	315
S1 134 M	150	1105	550	915	235	210	550	585	305
S1 174 M	150	1105	550	915	235	210	550	585	305
S1 134 H	100	1070	550	775	230	210	550	550	280
S1 174 H	100	1070	550	775	230	210	550	550	280

SuperVortex-impeller pumps

Pump range/type	Dimensions [mm]														
	DN1	DN2	A	B	D	E	F	G	H	ØL	M	O	P	Q	R
34															
SV 014 BL	100	100	600	250	437	217	275	150	120	20	150	57	220	230	300
SV 014 B	100	100	600	250	437	217	275	150	120	20	150	57	220	230	300
SV 024 B	100	100	600	250	437	217	275	150	120	20	150	57	220	230	300
42															
SV 034 CH	100	100	635	250	437	217	320	160	102	20	150	57	220	230	300
SV 044 CH	100	100	635	250	437	217	320	160	102	20	150	57	220	230	300
SV 034 C	100	100	675	250	485	265	320	165	142	20	150	57	220	230	300
SV 044 C	100	100	675	250	485	265	320	165	142	20	150	57	220	230	300
SV 042 C	100	100	640	250	467	247	310	155	102	20	150	60	220	230	300
46															
SV 064 B	100	100	665	500	517	267	395	175	142	20	300	75	250	250	300
50															
SV 072 BH	100	80	820	820	700	400	370	180	195	20	500	115	300	390	450
SV 122 BH	100	80	820	820	700	400	370	180	195	20	500	115	300	390	450




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Channel-impeller pumps


Pump range/type	Dimensions [mm]														
	DN1	DN2	A	B	D	E	F	G	H	ØL	M	O	P	Q	R
42															
S1 024 C	100	100	670	250	477	257	335	175	175	20	150	60	220	230	335
S1 034 C	100	100	670	250	477	257	335	175	175	20	150	60	220	230	335
S1 044 C	100	100	670	250	477	257	335	175	175	20	150	60	220	230	335
S1 026 A	100	100	670	250	477	257	335	175	175	20	150	60	220	230	335
46															
S1 064 AL	200	125	717	—	790	390	520	300	207	15	300	—	400	250	320
S1 064 AM	150	100	670	520	547	297	410	190	175	20	300	75	250	250	320
S1 064 AH	100	100	680	520	527	277	405	220	160	20	300	75	250	250	320
50															
S1 074 L	150	130	950	820	680	380	430	240	200	20	500	115	300	390	450
S1 104 AL	150	130	950	820	680	380	430	240	200	20	500	115	300	390	450
S1 124 AL	150	130	950	820	680	380	430	240	200	20	500	115	300	390	450
S1 074 E	200	200	940	820	860	460	685	365	275	20	500	115	400	390	450
S1 104 AE	200	200	1000	820	860	460	685	365	275	20	500	115	400	390	450
S1 124 AE	200	200	1000	820	860	460	685	365	275	20	500	115	400	390	450
S1 054 CM	150	100	900	820	610	310	380	190	190	20	500	115	300	390	450
S1 074 CM	150	100	900	820	610	310	380	190	190	20	500	115	300	390	450
S1 054 S	100	100	885	820	585	285	375	190	175	20	500	115	300	390	450
S1 074 H	100	100	885	820	585	285	375	190	175	20	500	115	300	390	450
S1 074 S	100	100	885	820	585	285	375	190	175	20	500	115	300	390	450
S1 104 BM	150	100	970	820	612	312	380	190	175	20	500	115	300	390	450
S1 124 BM	150	100	970	820	612	312	380	190	175	20	500	115	300	390	450
S1 104 AH	100	100	955	820	585	285	375	190	175	20	500	115	300	390	450
S1 124 AH	100	100	955	820	585	285	375	190	175	20	500	115	300	390	450
54															
S2 134 E	250	250	1070	—	1250	750	730	420	265	18	500	—	500	390	450
S2 174 E	250	250	1070	—	1250	750	730	420	265	18	500	—	500	390	450
S1 134 BL	200	200	1045	820	875	500	550	315	220	20	500	115	375	390	450
S1 174 BL	200	200	1045	820	875	500	550	315	220	20	500	115	375	390	450
S2 134 L	200	200	1045	820	875	500	550	315	220	20	500	115	375	390	450
S2 174 L	200	200	1045	820	875	500	550	315	220	20	500	115	375	390	450
S1 134 M	150	125	1055	820	660	360	445	235	210	20	500	115	375	390	450
S1 174 M	150	125	1055	820	660	360	445	235	210	20	500	115	375	390	450
S1 134 H	150	100	1020	820	655	355	440	230	185	20	500	115	375	390	450
S1 174 H	150	100	1020	820	655	355	440	230	185	20	500	115	375	390	450



	Description	Base plate discharge flange PN10					Product number				
		Pump outlet [mm]	Pump range	DN80	DN100	DN150		DN200	DN250		
	Auto-coupling Cast iron base plate incl. bend.	80	≤50	•	•			96066506			
		100	≤50		•			96066511			
		100	≥54		•			96066471			
		150				•		96066466			
	Auto-coupling Steel base plate excl. bend, incl. galvanized bolts and gaskets.	80	≥54	•				96066496			
		100	≥54		•			96066472			
		150	≥46			•		96066467			
		200	≥46				•	96066482			
		250	≥46					•	96066493		
	Cast iron bend, 90° PN 10.	DN									
		80/80						96060928			
		80/100						96060929			
		100/100						96060930			
		100/150						96060931			
		150/150						96060934			
		150/200						96060935			
		200/200						96060938			
		200/300						96060940			
		250/250						96060942			
		250/300						96060943			
		250/350						96060944			
			Guide bar bracket Upper holder in stainless steel for twin guide rails.	80/100	≥50	•	•			96067990	
80/100	≤54			•	•			96067992			
150						•		96457261			
200							•	96067996			
250								•	96067999		
	Non-return valve Cast iron ball-type, PN 10.	Types									
		DN80						96060975			
		DN100						96060973			
		DN150						96060976			
		DN200						96060977			
	Lifting chain Galvanized lifting chain with lifting link and safety hook, length 6 m.							Max. load 1100 kg	96468285		
									Max. load 2000 kg	96468290	
										Max. load 3200 kg	96468295
										Max. load 8000 kg	96468300
	Alarm status monitoring The ASM 3 alarm status module is designed for monitoring motor temperature and possible moisture leaks in submersible pump motors. The ASM 3 decodes the internal protection circuit P1-P2 of the pump in such a way that the thermal alarm and moisture alarm, which are normally connected in series, can be separated. The ASM 3 registers the status of the internal protection circuit of the pump. The pump must be prepared for ASM 3.	ASM 3 110 V						All ranges	96060434		
		ASM 3 230 V							All ranges	96069934	
	Automatic water in oil and motor insulation resistance check The SARI 2 monitors the motor insulation resistance as well as the water content in the oil chamber between the two mechanical shaft seals. In case of deterioration of the motor insulation, the SARI 2 will provide an early warning, allowing for the necessary preventative maintenance before any motor damage occurs.	SARI 2						≥ range 50	96061602		
		Probe for seal condition monitoring The OCT monitoring probe is inserted in the oil chamber. It ensures that any seal leakage is registered immediately. The OCT probe is available for the pump ranges 50, 54 and 58.	OCT3460010							Cable length 10 m	96476770
		OCT3460020							Cable length 20 m	96476771	
		OCT3460030							Cable length 30 m	96476772	

Level switch	Description	Product number	
	Level switch with 10 m cable	96 00 33 32	
	Level switch with 20 m cable	96 00 36 95	
	Level switch for potentially explosive applications with 10 m cable	96 00 34 21	
	Level switch for potentially explosive applications with 20 m cable	96 00 35 36	
	Bracket for two level switches	96 00 33 38	
	Standard level switch with 10 m cable and bracket	1 pump without alarm (2 switches)	62 50 00 13
		1 pump with alarm (3 switches)	62 50 00 14
		2 pumps without alarm (3 switches)	62 50 00 14
		2 pumps with alarm (4 switches)	62 50 00 15
	Level switches for potentially explosive areas with 10 m cable and bracket	1 pump without alarm (2 switches)	62 50 00 16
1 pump with alarm (3 switches)		62 50 00 17	
2 pumps without alarm (3 switches)		62 50 00 17	
2 pumps with alarm (4 switches)		62 50 00 18	

In addition to the chemical and thermal properties of the water-proof polypropylene housing as well as the polyurethane cable, the level switches are resistant to alcohol, uric acid, sewage, oils, fats, petrol, fruit acid, as well as a range of other chemicals.

Level controller	Description	Operating current per pump [A]	Mains switch required [A]	Product number			
				Standard controller	Including hour counter	Including start counter	Including combined hour and start counter
	LC 107 controller, pneumatic version with level bells and tube for 1 pump 3 x 400 V, direct-on-line starting.	1.0 - 2.9	25	96 00 24 67			
		1.6 - 5.0	25	96 00 24 68			
		3.7 - 12.0	25	96 00 24 69			
		12.0 - 23.0	40	96 00 24 70			
	LCD 107 controller, pneumatic version with level bells and tube for 2 pumps 3 x 400 V, direct-on-line starting.	1.0 - 2.9	25	96 00 24 74			
		1.6 - 5.0	25	96 00 24 75			
		3.7 - 12.0	25	96 00 24 76			
		12.0 - 23.0	40	96 00 24 77			
	LC 108 controller for level switches for 1 pump 3 x 400 V, direct-on-line starting.	1.0 - 2.9	25	96 43 39 91	96 43 39 92	96 43 39 93	96 43 39 94
		1.6 - 5.0	25	96 43 39 95	96 43 39 96	96 43 39 97	96 43 39 98
		3.7 - 12.0	25	96 43 39 99	96 43 40 00	96 43 40 01	96 43 40 02
		12.0 - 23.0	40	96 43 40 03	96 43 40 04	96 43 40 05	96 43 40 06
	LC 108 controller for level switches for 1 pump 3 x 400 V, star-delta starting.	6.4 - 20.0	25	96 43 79 28			
		20.8 - 30.0	40	96 43 79 50			
		20.8 - 59.0	80	96 43 79 70			
		24.2 - 72.0		96 43 79 90			
	LCD 108 controller for level switches for 2 pumps 3 x 400 V, direct-on-line starting.	1.0 - 2.9	25	96 43 40 39	96 43 40 40	96 43 40 41	96 43 40 42
		1.6 - 5.0	25	96 43 40 43	96 43 40 44	96 43 40 45	96 43 40 46
		3.7 - 12.0	40	96 43 40 47	96 43 40 48	96 43 40 49	96 43 40 50
		12.0 - 23.0	60	96 43 40 51	96 43 40 52	96 43 40 53	96 43 40 54
	LCD 108 controller for level switches for 2 pumps 3 x 400 V, star-delta starting.	6.4 - 20.0	25	96 43 80 32			
		20.8 - 30.0	40	96 43 80 52			
		20.8 - 59.0	80	96 43 80 72			
		24.2 - 72.0		96 43 80 92			

Description	Product number
Battery back-up	96 00 25 20
Hour counter [400 V]	96 00 25 15
Start counter [400 V]	96 00 25 17
Combined hour and start counter [400 V]	96 00 25 19
25 [A] external mains switch for supply cable	96 00 25 11
40 [A] external mains switch for supply cable	96 00 25 12
80 [A] external mains switch for supply cable	96 00 25 13
LC-Ex4	96 44 03 00

Submersible sewage grinder pumps

Brochure covers the new Grundfos range of sewage grinder pumps (SEG) for pumping of wastewater with toilet discharge.



Super heavy-duty submersible sewage and raw water pumps

Brochure covers the Grundfos range of super-heavy-duty channel-impeller pumps, axial-flow pumps, and propeller pumps from 2.8 kW up to 520 kW.



Heavy-duty submersible sewage pumps 15 - 155 kW

Brochure covers the Grundfos range of sewage pumps from 15 kW up to 155 kW for handling of raw sewage in heavy-duty applications.



The KP/AP stainless steel range

Brochure covers a wide range of high quality stainless steel pumps for a variety of domestic and commercial applications.



Portable dewatering pumps

Brochure covers the Grundfos range of portable dewatering pumps (DW) from 0.8 kW to 20 kW for pumping raw water with abrasives.



Stainless steel heavy-duty submersible pumps

Brochure covers the Grundfos range of heavy-duty stainless steel pumps (SEN) for aggressive and corrosive environments.



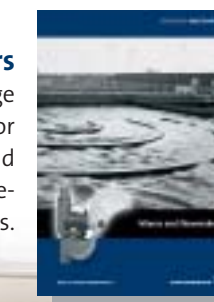
Lifting stations

Brochure covers Grundfos lifting stations for individual as well as multi-user applications.



Mixers and flowmakers

Brochure covers the new range of mixers and flowmakers for optimal control of liquids and solids throughout the wastewater treatment process.



LC/LCD level controllers

Brochure covers the Grundfos range of controls for the wastewater pumping systems.

