

# S pumps, range 54

Up to 21 kW  
50 Hz



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### Introduction

This data booklet deals with Grundfos heavy-duty sewage pumps called S pumps, range 54.



Gr66679

**Fig. 1** S pump, range 54

The S pumps, range 54, are a range of free-flow (SuperVortex) and single-channel impeller pumps specifically designed for pumping sewage and wastewater in a wide range of municipal, private and industrial applications.

The pumps are made of resistant materials, such as cast iron and stainless steel. These materials ensure a proper operation.

The pumps are fitted with motors from 13.5 kW up to 21.0 kW. The motors are either 2- or 4-pole motors, depending on the motor size.

The free passage in the pumps is 80 to 100 mm.

The pumps are available for:

- submerged installation on auto-coupling system
- submerged installation, free-standing
- dry installation, vertical
- dry installation, horizontal.

### Applications

The S pumps, range 54, are designed for applications, such as:

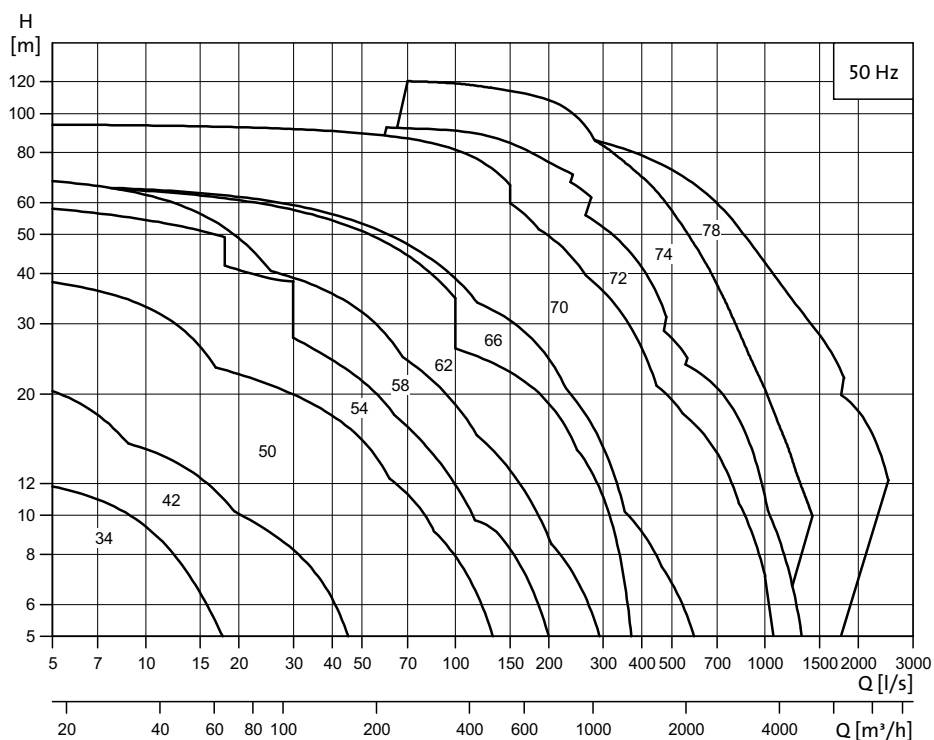
- raw water intake
- waste water treatment plants
- municipal pump pits
- public buildings
- blocks of flats
- industries
- garages
- underground car parks
- car wash areas
- restaurants and hotels.

The pumps are suitable for both temporary and permanent installation. The lifting bracket fitted on the pumps facilitates easy transportation to as well as installation at the installation site.

### Overall construction features

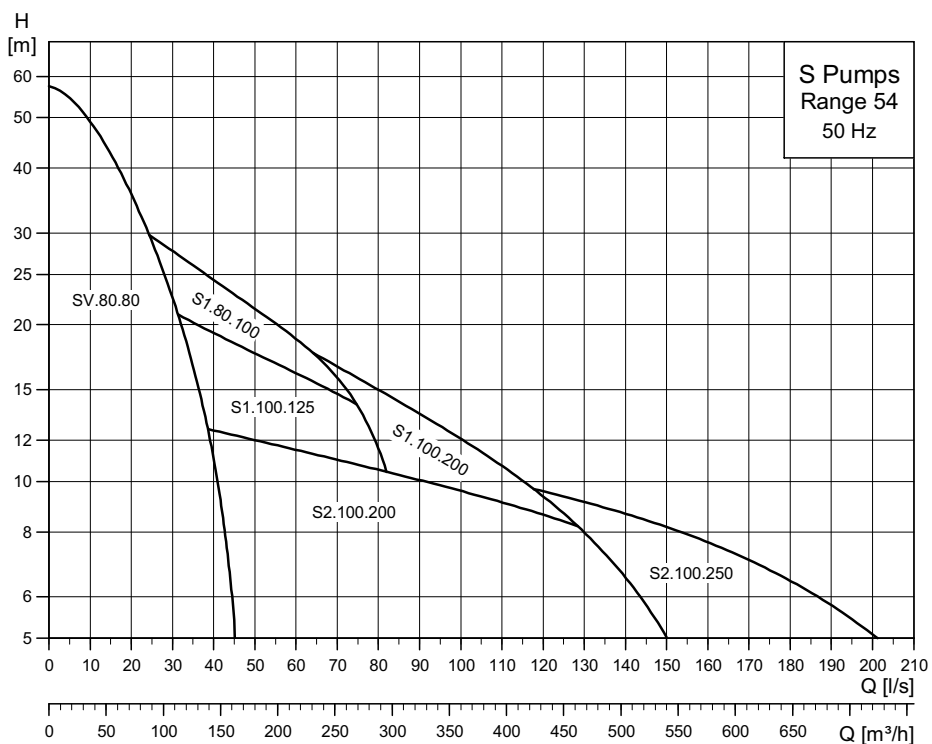
- Leak-proof connections via the Grundfos SmartSeal gasket system
- Double mechanical shaft seal system for reliable sealing between pumped liquid and motor
- Watertight cable entry of corrosion-resistant polyamide
- Moisture detector for continuously monitoring of motor enclosure and automatic cut-off of power in leaking occur
- Self-cleaning channel impeller with long vanes thus reducing risk of jamming or clogging, or Super-Vortex impeller with high pumping efficiency and less downtime
- SmartTrim system allows easy adjustment of impellers clearance maintaining maximum pump efficiency over pump life time
- Motor in insulation class F (155 °C), enclosure class IP 68 with three thermal sensors in stator windings.
- Seal condition monitoring via Water-In-Oil sensor (optional)
- Explosion-proof motors for applications in high risk of explosion
- For use in corrosive or aggressive liquids, 3 stainless steel version is available
  - stainless steel impeller, cast iron pump and stator housing
  - stainless steel pump housing, flange and impeller, cast iron stator housing
  - made entirely of corrosion-resistant stainless steel

## Performance range, S pumps



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## Performance range, S pumps, range 54



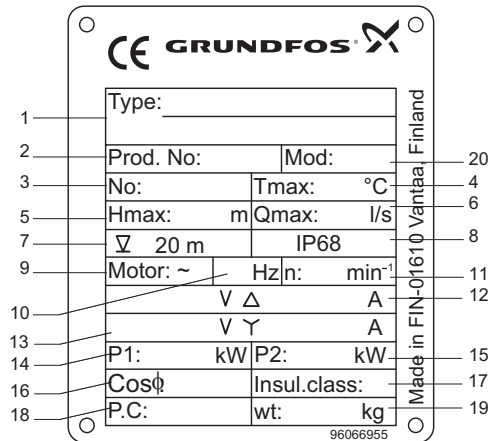
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## Type key

Code	Example	S	1	.100	.100	.55	4	.54M	.S	.205	.G	.N	.D	.Z
<b>Pump type:</b>														
S	Grundfos sewage and wastewater pump													
ST	Single-channel impeller pumps installed in a column tube													
<b>Impeller type:</b>														
1	Single-channel impeller													
V	SuperVortex (free-flow) impeller													
<b>Pump passage:</b> Maximum solids size [mm]														
<b>Pump discharge:</b> Nominal diameter of pump discharge port [mm]														
<b>Power:</b> Motor output power P2/100 [W]														
<b>Number of poles:</b>														
2	2-pole motor													
4	4-pole motor													
<b>Pump range / Pressure version:</b>														
54H	High pressure													
54M	Middle pressure													
54L	Low pressure													
54E	Extra low pressure													
<b>Installation:</b>														
S	Submersible installation without cooling jacket													
C	Submersible installation with cooling jacket													
D	Dry installation, vertical													
H	Dry installation, horizontal													
U	Universal; covers installation types S, C, D and H.													
<b>Actual impeller diameter:</b> [mm]														
<b>Material code for impeller, pump and motor housing:</b>														
G	Impeller, pump housing and motor housing: Cast iron													
R	Impeller, pump housing and motor housing: Stainless steel DIN W.-Nr. 1.4408													
S	Impeller and pump housing: Stainless steel DIN W.-Nr. 1.4408													
Q	Impeller, Stainless steel DIN W.-Nr. 1.4408													
<b>Pump version:</b>														
N	Non-explosion-proof pump													
Ex	Explosion-proof pump													
<b>Sensor version:</b>														
B	B = S Pump with built-in SM 111 module. PTC sensors are connected directly to IO 111 or other PTC relay.													
C	C = Not in use													
D	D = S Pump without built-in SM 111 module.													
Z	Custom-built products													

## Nameplate

### Pump name plate

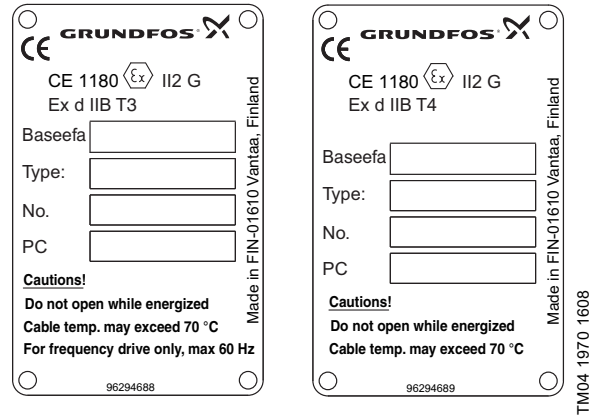


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Fig. 2 Pump name plate

Pos.	Description
1	Type designation
2	SAP code
3	Serial number
4	Maximum liquid temperature
5	Maximum head
6	Maximum flow
7	Maximum installation depth
8	Enclosure class
9	Number of phases
10	Frequency
11	Rated speed
12	Voltage/current, delta connection
13	Voltage/current, star connection
14	Power input
15	Shaft power
16	Power factor
17	Insulation class
18	Production code, year/week
19	Weight of the pump
20	Model

### Ex-name plate



TM04 1970 1608

Fig. 3 Ex- name plate

The approval plate gives the following details:

Pos.	Description
CE	CE mark.
1180	Number of Quality Assurance notified body.
	EU ex-symbol.
II	Equipment group (II = non-mining).
2	Equipment category (high protection).
G	Type of explosive atmosphere.
Ex	Motor explosion-proof according to European standard.
d	Motor withstands explosion pressure.
IIB	Gas Group.
T3	Maximum surface temperature of the motor is 200°C.
T4	Maximum surface temperature of the motor is 135°C.
c	Constructional safety.
Baseefa	Certificate number.
No.	
PC	Production code

## Ordering a pump

When ordering an S pump, range 54, you need to take the following four aspects into consideration.

1. Pump
2. Custom-built variation (option)
3. Accessories
4. Controller.

## Pump

Use the Product range on page 8 and the Type key on page 5 to identify the pump that best fulfils your needs. The list below is a detailed description of the product you get if you order the following pump:

Pump	Product no
S1.100.200.170.4.54L.S.285.G.N.D	95113515

- Pump as specified in the type key
- 10 m cable
- Paint: Graphic grey, NCS S8005-R80B, thickness 150 µ
- Three thermal switches (Klixon), one in each phase
- Three thermal sensors (PTC)
- One moisture switch below the motor top cover (Two moisture switches below the motor top cover on explosion-proof versions)
- Tested duty point.

See section Performance curves Technical data for selection of a standard pump.

**Note:** Product specific data for the pump can also be seen in WebCAPS using the product number 95113515.

95113667.

## Custom-built variants

The S pumps can be customised to meet individual requirements. Many pump features and options are available for customisation e.g. explosion proof versions, various cable lengths or special materials.

Variants can be seen in the List of variants table on page 18. For requirements or designs outside the mentioned table, contact Grundfos.

## Accessories

Depending on the installation type, you may need to order accessories. See Accessories page 60 for selection of the correct accessories.

**Note:** Ordered accessories are not fitted from factory.

## Controller

The following controllers are available:

- LC/LCD 107 with level pickups
- LC/LCD 108 with float switches
- LC/LCD 110 with level electrodes.

## Standard pumps

### Cast iron 3x400/690 V

Pump type	Cable length [m]	Pump	Product numbers			
			Delivered together with pump		Must be ordered separately	
			Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.G.N.D	10	95113504			96102240	96790702
SV.80.80.150.2.54H.S.220.G.N.D	10	95113505			96102240	96790702
S1.100.200.135.4.54L.S.261.G.N.D	10	95113506			96641489	96789480
S1.100.200.135.4.54L.C.261.G.N.D	10	95113507		96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.N.D	10	95113508	96801089			
S1.80.100.135.4.54H.S.277.G.N.D	10	95113509			96090994	96789478
S1.80.100.135.4.54H.C.277.G.N.D	10	95113510		96308238	96090994	96789478
S1.80.100.135.4.54H.H.277.G.N.D	10	95113511	96776519			
S1.100.125.135.4.54M.S.259.G.N.D	10	95113512			96782145	96789479
S1.100.125.135.4.54M.C.259.G.N.D	10	95113513		96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.N.D	10	95113514	96776519			
S1.100.200.170.4.54L.S.285.G.N.D	10	95113515			96641489	96789480
S1.100.200.170.4.54L.C.285.G.N.D	10	95113516		96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.N.D	10	95113517	96801089			
S1.80.100.170.4.54H.S.304.G.N.D	10	95113518			96090994	96789478
S1.80.100.170.4.54H.C.304.G.N.D	10	95113519		96308238	96090994	96789478
S1.80.100.170.4.54H.H.304.G.N.D	10	95113520	96776519			
S1.100.125.170.4.54M.S.274.G.N.D	10	95113521			96782145	96789479
S1.100.125.170.4.54M.C.274.G.N.D	10	95113522		96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.N.D	10	95113523	96776519			
S2.100.250.135.4.54E.S.218.G.N.D	10	95113526			96782483	96789481
S2.100.250.135.4.54E.C.218.G.N.D	10	95113527			96782483	
S2.100.250.135.4.54E.D.218.G.N.D	10	95113528		96094525		96789481
S2.100.200.135.4.54L.S.214.G.N.D	10	95113529			96641489	96789480
S2.100.200.135.4.54L.C.214.G.N.D	10	95113530		96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.N.D	10	95113531	96801089			
S2.100.250.170.4.54E.S.232.G.N.D	10	95113532			96782483	96789481
S2.100.250.170.4.54E.C.232.G.N.D	10	95113533			96782483	
S2.100.250.170.4.54E.D.232.G.N.D	10	95113534		96094525		96789481
S2.100.200.170.4.54L.S.227.G.N.D	10	95113535			96641489	96789480
S2.100.200.170.4.54L.C.227.G.N.D	10	95113536		96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.N.D	10	95113537	96801089			
S2.100.250.135.4.54E.H.218.G.N.D	10	96781216	96801090			
S2.100.250.170.4.54E.H.232.G.N.D	10	96781218	96801090			



### Cast iron 3x415 V

Pump type	Cable length [m]	Product numbers				
		Pump	Delivered together with pump		Must be ordered separately	
			Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.G.N.D	10	95114371			96102240	96790702
SV.80.80.150.2.54H.S.220.G.N.D	10	95114374			96102240	96790702
S1.100.200.135.4.54L.S.261.G.N.D	10	95114377			96641489	96789480
S1.100.200.135.4.54L.C.261.G.N.D	10	95114380		96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.N.D	10	95114383	96801089			
S1.80.100.135.4.54H.S.277.G.N.D	10	95114386			96090994	96789478
S1.80.100.135.4.54H.C.277.G.N.D	10	95114389		96308238	96090994	96789478
S1.80.100.135.4.54H.H.277.G.N.D	10	95114392	96776519			
S1.100.125.135.4.54M.S.259.G.N.D	10	95114395			96782145	96789479
S1.100.125.135.4.54M.C.259.G.N.D	10	95114398		96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.N.D	10	95114401	96776519			
S1.100.200.170.4.54L.S.285.G.N.D	10	95114404			96641489	96789480
S1.100.200.170.4.54L.C.285.G.N.D	10	95114407		96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.N.D	10	95114410	96801089			
S1.80.100.170.4.54H.S.304.G.N.D	10	95114413			96090994	96789478
S1.80.100.170.4.54H.C.304.G.N.D	10	95114416		96308238	96090994	96789478
S1.80.100.170.4.54H.H.304.G.N.D	10	95114419	96776519			
S1.100.125.170.4.54M.S.274.G.N.D	10	95114422			96782145	96789479
S1.100.125.170.4.54M.C.274.G.N.D	10	95114425		96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.N.D	10	95114428	96776519			
S2.100.250.135.4.54E.S.218.G.N.D	10	95114431			96782483	96789481
S2.100.250.135.4.54E.C.218.G.N.D	10	95114434			96782483	
S2.100.250.135.4.54E.D.218.G.N.D	10	95114437		96094525		96789481
S2.100.200.135.4.54L.S.214.G.N.D	10	95114440			96641489	96789480
S2.100.200.135.4.54L.C.214.G.N.D	10	95114443		96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.N.D	10	95114446	96801089			
S2.100.250.170.4.54E.S.232.G.N.D	10	95114449			96782483	96789481
S2.100.250.170.4.54E.C.232.G.N.D	10	95114452			96782483	
S2.100.250.170.4.54E.D.232.G.N.D	10	95114455		96094525		96789481
S2.100.200.170.4.54L.S.227.G.N.D	10	95114458			96641489	96789480
S2.100.200.170.4.54L.C.227.G.N.D	10	95114461		96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.N.D	10	95114464	96801089			
S2.100.250.135.4.54E.H.218.G.N.D	10	96781217	96801090			
S2.100.250.170.4.54E.H.232.G.N.D	10	96781219	96801090			
SV.80.80.210.2.54H.S.244.G.N.D	15	96810343			96102240	96790702
SV.80.80.150.2.54H.S.220.G.N.D	15	96810344			96102240	96790702
S1.100.200.135.4.54L.S.261.G.N.D	15	96810345			96641489	96789480
S1.100.200.135.4.54L.C.261.G.N.D	15	96810346		96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.N.D	15	96810347	96801089			
S1.80.100.135.4.54H.S.277.G.N.D	15	96810348			96090994	96789478
S1.80.100.135.4.54H.C.277.G.N.D	15	96810349		96308238	96090994	96789478
S1.80.100.135.4.54H.H.277.G.N.D	15	96810350	96776519			
S1.100.125.135.4.54M.S.259.G.N.D	15	96810351			96782145	96789479
S1.100.125.135.4.54M.C.259.G.N.D	15	96810352		96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.N.D	15	96810353	96776519			
S1.100.200.170.4.54L.S.285.G.N.D	15	96810354			96641489	96789480
S1.100.200.170.4.54L.C.285.G.N.D	15	96810355		96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.N.D	15	96810356	96801089			
S1.80.100.170.4.54H.S.304.G.N.D	15	96810357			96090994	96789478
S1.80.100.170.4.54H.C.304.G.N.D	15	96810358		96308238	96090994	96789478
S1.80.100.170.4.54H.H.304.G.N.D	15	96810359	96776519			
S1.100.125.170.4.54M.S.274.G.N.D	15	96810360			96782145	96789479
S1.100.125.170.4.54M.C.274.G.N.D	15	96810361		96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.N.D	15	96810362	96776519			
S2.100.250.135.4.54E.S.218.G.N.D	15	96810363			96782483	96789481
S2.100.250.135.4.54E.C.218.G.N.D	15	96810364			96782483	
S2.100.250.135.4.54E.D.218.G.N.D	15	96810365		96094525		96789481

Pump type	Cable length [m]	Pump	Product numbers			
			Delivered together with pump		Must be ordered separately	
			Horizontal	Vertical	Auto-coupling	Transportable
S2.100.250.135.4.54E.H.218.G.N.D	15	96810366	96801090			
S2.100.200.135.4.54L.S.214.G.N.D	15	96810367			96641489	96789480
S2.100.200.135.4.54L.C.214.G.N.D	15	96810368		96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.N.D	15	96810369	96801089			
S2.100.250.170.4.54E.S.232.G.N.D	15	96810370			96782483	96789481
S2.100.250.170.4.54E.C.232.G.N.D	15	96810371			96782483	
S2.100.250.170.4.54E.D.232.G.N.D	15	96810372		96094525		96789481
S2.100.250.170.4.54E.H.232.G.N.D	15	96810373	96801090			
S2.100.200.170.4.54L.S.227.G.N.D	15	96810374			96641489	96789480
S2.100.200.170.4.54L.C.227.G.N.D	15	96810375		96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.N.D	15	96810376	96801089			

### Stainless steel impeller 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.150.2.54H.S.220.Q.N.D	96811226		-		-
SV.80.80.210.2.54H.S.244.Q.N.D	96811225		-		-
S1.100.125.135.4.54M.C.259.Q.N.D	96811234		-		-
S1.100.125.135.4.54M.H.259.Q.N.D	96811235		-		-
S1.100.125.135.4.54M.S.259.Q.N.D	96811233		-		-
S1.100.125.170.4.54M.C.274.Q.N.D	96811243		-		-
S1.100.125.170.4.54M.H.274.Q.N.D	96811244		-		-
S1.100.125.170.4.54M.S.274.Q.N.D	96811242		-		-
S1.100.200.135.4.54L.C.261.Q.N.D	96811228		-		-
S1.100.200.135.4.54L.H.261.Q.N.D	96811229		-		-
S1.100.200.135.4.54L.S.261.Q.N.D	96811227		-		-
S1.100.200.170.4.54L.C.285.Q.N.D	96811237		-		-
S1.100.200.170.4.54L.H.285.Q.N.D	96811238		-		-
S1.100.200.170.4.54L.S.285.Q.N.D	96811236		-		-
S1.80.100.135.4.54H.C.277.Q.N.D	96811231		-		-
S1.80.100.135.4.54H.H.277.Q.N.D	96811232		-		-
S1.80.100.135.4.54H.S.277.Q.N.D	96811230		-		-
S1.80.100.170.4.54H.C.304.Q.N.D	96811240		-		-
S1.80.100.170.4.54H.H.304.Q.N.D	96811241		-		-
S1.80.100.170.4.54H.S.304.Q.N.D	96811239		-		-
S2.100.200.135.4.54L.C.214.Q.N.D	96811250		-		-
S2.100.200.135.4.54L.H.214.Q.N.D	96811251		-		-
S2.100.200.135.4.54L.S.214.Q.N.D	96811249		-		-
S2.100.200.170.4.54L.C.227.Q.N.D	96811257		-		-
S2.100.200.170.4.54L.H.227.Q.N.D	96811258		-		-
S2.100.200.170.4.54L.S.227.Q.N.D	96811256		-		-
S2.100.250.135.4.54E.C.218.Q.N.D	96811246		-		-
S2.100.250.135.4.54E.D.218.Q.N.D	96811247		-		-
S2.100.250.135.4.54E.H.218.Q.N.D	96811248		-		-
S2.100.250.135.4.54E.S.218.Q.N.D	96811245		-		-
S2.100.250.170.4.54E.C.232.Q.N.D	96811253		-		-
S2.100.250.170.4.54E.D.232.Q.N.D	96811254		-		-
S2.100.250.170.4.54E.H.232.Q.N.D	96811255		-		-
S2.100.250.170.4.54E.S.232.Q.N.D	96811252		-		-

## Stainless steel impeller and pump housing 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.S.N.D	96811259	-	-	-	-
SV.80.80.150.2.54H.S.220.S.N.D	96811260	-	-	-	-
S1.100.125.135.4.54M.C.259.S.N.D	96811268	-	-	-	-
S1.100.125.135.4.54M.H.259.S.N.D	96811269	-	-	-	-
S1.100.125.135.4.54M.S.259.S.N.D	96811267	-	-	-	-
S1.100.125.170.4.54M.C.274.S.N.D	96811277	-	-	-	-
S1.100.125.170.4.54M.H.274.S.N.D	96811278	-	-	-	-
S1.100.125.170.4.54M.S.274.S.N.D	96811276	-	-	-	-
S1.100.200.135.4.54L.C.261.S.N.D	96811262	-	-	-	-
S1.100.200.135.4.54L.H.261.S.N.D	96811263	-	-	-	-
S1.100.200.135.4.54L.S.261.S.N.D	96811261	-	-	-	-
S1.100.200.170.4.54L.C.285.S.N.D	96811271	-	-	-	-
S1.100.200.170.4.54L.H.285.S.N.D	96811272	-	-	-	-
S1.100.200.170.4.54L.S.285.S.N.D	96811270	-	-	-	-
S1.80.100.135.4.54H.C.277.S.N.D	96811265	-	-	-	-
S1.80.100.135.4.54H.H.277.S.N.D	96811266	-	-	-	-
S1.80.100.135.4.54H.S.277.S.N.D	96811264	-	-	-	-
S1.80.100.170.4.54H.C.304.S.N.D	96811274	-	-	-	-
S1.80.100.170.4.54H.H.304.S.N.D	96811275	-	-	-	-
S1.80.100.170.4.54H.S.304.S.N.D	96811273	-	-	-	-
S2.100.200.135.4.54L.C.214.S.N.D	96811284	-	-	-	-
S2.100.200.135.4.54L.H.214.S.N.D	96811285	-	-	-	-
S2.100.200.135.4.54L.S.214.S.N.D	96811283	-	-	-	-
S2.100.200.170.4.54L.C.227.S.N.D	96811291	-	-	-	-
S2.100.200.170.4.54L.H.227.S.N.D	96811292	-	-	-	-
S2.100.200.170.4.54L.S.227.S.N.D	96811290	-	-	-	-
S2.100.250.135.4.54E.C.218.S.N.D	96811280	-	-	-	-
S2.100.250.135.4.54E.D.218.S.N.D	96811281	-	-	-	-
S2.100.250.135.4.54E.H.218.S.N.D	96811282	-	-	-	-
S2.100.250.135.4.54E.S.218.S.N.D	96811279	-	-	-	-
S2.100.250.170.4.54E.C.232.S.N.D	96811287	-	-	-	-
S2.100.250.170.4.54E.D.232.S.N.D	96811288	-	-	-	-
S2.100.250.170.4.54E.H.232.S.N.D	96811289	-	-	-	-
S2.100.250.170.4.54E.S.232.S.N.D	96811286	-	-	-	-

## Stainless steel impeller pump- and motor housing 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.R.N.D	96811293	-	-	-	-
SV.80.80.150.2.54H.S.220.R.N.D	96811294	-	-	-	-
S1.100.125.135.4.54M.C.259.R.N.D	96811302	-	-	-	-
S1.100.125.135.4.54M.H.259.R.N.D	96811303	-	-	-	-
S1.100.125.135.4.54M.S.259.R.N.D	96811301	-	-	-	-
S1.100.125.170.4.54M.C.274.R.N.D	96811311	-	-	-	-
S1.100.125.170.4.54M.H.274.R.N.D	96811312	-	-	-	-
S1.100.125.170.4.54M.S.274.R.N.D	96811310	-	-	-	-
S1.100.200.135.4.54L.C.261.R.N.D	96811296	-	-	-	-
S1.100.200.135.4.54L.H.261.R.N.D	96811297	-	-	-	-
S1.100.200.135.4.54L.S.261.R.N.D	96811295	-	-	-	-
S1.100.200.170.4.54L.C.285.R.N.D	96811305	-	-	-	-
S1.100.200.170.4.54L.H.285.R.N.D	96811306	-	-	-	-
S1.100.200.170.4.54L.S.285.R.N.D	96811304	-	-	-	-
S1.80.100.135.4.54H.C.277.R.N.D	96811299	-	-	-	-
S1.80.100.135.4.54H.H.277.R.N.D	96811300	-	-	-	-
S1.80.100.135.4.54H.S.277.R.N.D	96811298	-	-	-	-
S1.80.100.170.4.54H.C.304.R.N.D	96811308	-	-	-	-
S1.80.100.170.4.54H.H.304.R.N.D	96811309	-	-	-	-
S1.80.100.170.4.54H.S.304.R.N.D	96811307	-	-	-	-
S2.100.200.135.4.54L.C.214.R.N.D	96811319	-	-	-	-
S2.100.200.135.4.54L.H.214.R.N.D	96811320	-	-	-	-
S2.100.200.135.4.54L.S.214.R.N.D	96811318	-	-	-	-
S2.100.200.170.4.54L.C.227.R.N.D	96811326	-	-	-	-
S2.100.200.170.4.54L.H.227.R.N.D	96811327	-	-	-	-
S2.100.200.170.4.54L.S.227.R.N.D	96811325	-	-	-	-
S2.100.250.135.4.54E.C.218.R.N.D	96811314	-	-	-	-
S2.100.250.135.4.54E.D.218.R.N.D	96811315	-	-	-	-
S2.100.250.135.4.54E.H.218.R.N.D	96811317	-	-	-	-
S2.100.250.135.4.54E.S.218.R.N.D	96811313	-	-	-	-
S2.100.250.170.4.54E.C.232.R.N.D	96811322	-	-	-	-
S2.100.250.170.4.54E.D.232.R.N.D	96811323	-	-	-	-
S2.100.250.170.4.54E.H.232.R.N.D	96811324	-	-	-	-
S2.100.250.170.4.54E.S.232.R.N.D	96811321	-	-	-	-

## Explosion proof pumps

### Cast iron 3x400/690 V

Pump type	Cable length [m]	Pump	Product numbers			
			Delivered together with pump		Must be ordered separately	
			Horizontal	Vertical	Auto-coupling	Transportable
S1.80.100.135.4.54H.S.277.G.EX.D	10	95113542			96090994	96789478
S1.80.100.135.4.54H.C.277.G.EX.D	10	95113543		96308238	96090994	96789478
S1.80.100.135.4.54H.H.277.G.EX.D	10	95113544	96776519			
S1.100.125.135.4.54M.S.259.G.EX.D	10	95113545			96782145	96789479
S1.100.125.135.4.54M.C.259.G.EX.D	10	95113546		96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.EX.D	10	95113547	96776519			
S1.100.200.135.4.54L.S.261.G.EX.D	10	95113548			96641489	96789480
S1.100.200.135.4.54L.C.261.G.EX.D	10	95113549		96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.EX.D	10	95113550	96801089			
S1.80.100.170.4.54H.S.304.G.EX.D	10	95113551			96090994	96789478
S1.80.100.170.4.54H.C.304.G.EX.D	10	95113552		96308238	96090994	96789478
S1.80.100.170.4.54H.H.304.G.EX.D	10	95113553	96776519			
S1.100.125.170.4.54M.S.274.G.EX.D	10	95113554			96782145	96789479
S1.100.125.170.4.54M.C.274.G.EX.D	10	95113555		96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.EX.D	10	95113556	96776519			
S1.100.200.170.4.54L.S.285.G.EX.D	10	95113557			96641489	96789480
S1.100.200.170.4.54L.C.285.G.EX.D	10	95113558		96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.EX.D	10	95113559	96801089			
S2.100.250.135.4.54E.S.218.G.EX.D	10	95113560			96782483	96789481
S2.100.250.135.4.54E.C.218.G.EX.D	10	95113561			96782483	
S2.100.250.135.4.54E.D.218.G.EX.D	10	95113562		96094525		96789481
S2.100.200.135.4.54L.S.214.G.EX.D	10	95113563			96641489	96789480
S2.100.200.135.4.54L.C.214.G.EX.D	10	95113564		96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.EX.D	10	95113565	96801089			
S2.100.250.170.4.54E.S.232.G.EX.D	10	95113566			96782483	96789481
S2.100.250.170.4.54E.C.232.G.EX.D	10	95113567			96782483	
S2.100.250.170.4.54E.D.232.G.EX.D	10	95113568		96094525		96789481
S2.100.200.170.4.54L.S.227.G.EX.D	10	95113569			96641489	96789480
S2.100.200.170.4.54L.C.227.G.EX.D	10	95113570		96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.EX.D	10	95113571	96801089			
SV.80.80.210.2.54H.S.244.G.EX.D	10	95113572			96102240	96790702
SV.80.80.150.2.54H.S.220.G.EX.D	10	95113573			96102240	96790702
S2.100.250.135.4.54E.H.218.G.EX.D	10	96781734	96801090			
S2.100.250.170.4.54E.H.232.G.EX.D	10	96781742	96801090			

### Cast iron 3x415 V

Pump type	Cable length [m]	Product numbers				
		Pump	Delivered together with pump		Must be ordered separately	
			Horizontal	Vertical	Auto-coupling	Transportable
S1.80.100.135.4.54H.S.277.G.EX.D	10	96781713			96090994	96789478
S1.80.100.135.4.54H.C.277.G.EX.D	10	96781714		96308238	96090994	96789478
S1.80.100.135.4.54H.H.277.G.EX.D	10	96781715	96776519			
S1.100.125.135.4.54M.S.259.G.EX.D	10	96781716			96782145	96789479
S1.100.125.135.4.54M.C.259.G.EX.D	10	96781717		96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.EX.D	10	96781718	96776519			
S1.100.200.135.4.54L.S.261.G.EX.D	10	96781719			96641489	96789480
S1.100.200.135.4.54L.C.261.G.EX.D	10	96781720		96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.EX.D	10	96781721	96801089			
S1.80.100.170.4.54H.S.304.G.EX.D	10	96781722			96090994	96789478
S1.80.100.170.4.54H.C.304.G.EX.D	10	96781723		96308238	96090994	96789478
S1.80.100.170.4.54H.H.304.G.EX.D	10	96781724	96776519			
S1.100.125.170.4.54M.S.274.G.EX.D	10	96781725			96782145	96789479
S1.100.125.170.4.54M.C.274.G.EX.D	10	96781726		96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.EX.D	10	96781727	96776519			
S1.100.200.170.4.54L.S.285.G.EX.D	10	96781728			96641489	96789480
S1.100.200.170.4.54L.C.285.G.EX.D	10	96781729		96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.EX.D	10	96781730	96801089			
S2.100.250.135.4.54E.S.218.G.EX.D	10	96781731			96782483	96789481
S2.100.250.135.4.54E.C.218.G.EX.D	10	96781732			96782483	
S2.100.250.135.4.54E.D.218.G.EX.D	10	96781733		96094525		96789481
S2.100.250.135.4.54E.H.218.G.EX.D	10	96781735	96801090			
S2.100.200.135.4.54L.S.214.G.EX.D	10	96781736			96641489	96789480
S2.100.200.135.4.54L.C.214.G.EX.D	10	96781737		96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.EX.D	10	96781738	96801089			
S2.100.250.170.4.54E.S.232.G.EX.D	10	96781739			96782483	96789481
S2.100.250.170.4.54E.C.232.G.EX.D	10	96781740			96782483	
S2.100.250.170.4.54E.D.232.G.EX.D	10	96781741		96094525		96789481
S2.100.250.170.4.54E.H.232.G.EX.D	10	96781743	96801090			
S2.100.200.170.4.54L.S.227.G.EX.D	10	96781744			96641489	96789480
S2.100.200.170.4.54L.C.227.G.EX.D	10	96781745		96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.EX.D	10	96781746	96801089			
SV.80.80.210.2.54H.S.244.G.EX.D	10	96781747			96102240	96790702
SV.80.80.150.2.54H.S.220.G.EX.D	10	96781748			96102240	96790702

## Stainless steel impeller 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.Q.Ex.D	96811362	-	-	-	-
SV.80.80.150.2.54H.S.220.Q.Ex.D	96811363	-	-	-	-
S1.100.125.135.4.54M.C.259.Q.Ex.D	96811334	-	-	-	-
S1.100.125.135.4.54M.H.259.Q.Ex.D	96811335	-	-	-	-
S1.100.125.135.4.54M.S.259.Q.Ex.D	96811333	-	-	-	-
S1.100.125.170.4.54M.C.274.Q.Ex.D	96811343	-	-	-	-
S1.100.125.170.4.54M.H.274.Q.Ex.D	96811344	-	-	-	-
S1.100.125.170.4.54M.S.274.Q.Ex.D	96811342	-	-	-	-
S1.100.200.135.4.54L.C.261.Q.Ex.D	96811337	-	-	-	-
S1.100.200.135.4.54L.H.261.Q.Ex.D	96811338	-	-	-	-
S1.100.200.135.4.54L.S.261.Q.Ex.D	96811336	-	-	-	-
S1.100.200.170.4.54L.C.285.Q.Ex.D	96811346	-	-	-	-
S1.100.200.170.4.54L.H.285.Q.Ex.D	96811347	-	-	-	-
S1.100.200.170.4.54L.S.285.Q.Ex.D	96811345	-	-	-	-
S1.80.100.135.4.54H.C.277.Q.Ex.D	96811221	-	-	-	-
S1.80.100.135.4.54H.H.277.Q.Ex.D	96811332	-	-	-	-
S1.80.100.135.4.54H.S.277.Q.Ex.D	96811220	-	-	-	-
S1.80.100.170.4.54H.C.304.Q.Ex.D	96811340	-	-	-	-
S1.80.100.170.4.54H.H.304.Q.Ex.D	96811341	-	-	-	-
S1.80.100.170.4.54H.S.304.Q.Ex.D	96811339	-	-	-	-
S2.100.200.135.4.54L.C.214.Q.Ex.D	96811353	-	-	-	-
S2.100.200.135.4.54L.H.214.Q.Ex.D	96811354	-	-	-	-
S2.100.200.135.4.54L.S.214.Q.Ex.D	96811352	-	-	-	-
S2.100.200.170.4.54L.C.227.Q.Ex.D	96811360	-	-	-	-
S2.100.200.170.4.54L.H.227.Q.Ex.D	96811361	-	-	-	-
S2.100.200.170.4.54L.S.227.Q.Ex.D	96811359	-	-	-	-
S2.100.250.135.4.54E.C.218.Q.Ex.D	96811349	-	-	-	-
S2.100.250.135.4.54E.D.218.Q.Ex.D	96811350	-	-	-	-
S2.100.250.135.4.54E.H.218.Q.Ex.D	96811351	-	-	-	-
S2.100.250.135.4.54E.S.218.Q.Ex.D	96811348	-	-	-	-
S2.100.250.170.4.54E.C.232.Q.Ex.D	96811356	-	-	-	-
S2.100.250.170.4.54E.D.232.Q.Ex.D	96811357	-	-	-	-
S2.100.250.170.4.54E.H.232.Q.Ex.D	96811358	-	-	-	-
S2.100.250.170.4.54E.S.232.Q.Ex.D	96811355	-	-	-	-

## Stainless steel impeller and pump housing 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.210.2.54H.S.244.S.Ex.D	96811364	-	-	-	-
SV.80.80.150.2.54H.S.220.S.Ex.D	96811365	-	-	-	-
S1.100.125.135.4.54M.C.259.S.Ex.D	96811373	-	-	-	-
S1.100.125.135.4.54M.H.259.S.Ex.D	96811374	-	-	-	-
S1.100.125.135.4.54M.S.259.S.Ex.D	96811372	-	-	-	-
S1.100.125.170.4.54M.C.274.S.Ex.D	96811382	-	-	-	-
S1.100.125.170.4.54M.H.274.S.Ex.D	96811383	-	-	-	-
S1.100.125.170.4.54M.S.274.S.Ex.D	96811381	-	-	-	-
S1.100.200.135.4.54L.C.261.S.Ex.D	96811367	-	-	-	-
S1.100.200.135.4.54L.H.261.S.Ex.D	96811368	-	-	-	-
S1.100.200.135.4.54L.S.261.S.Ex.D	96811366	-	-	-	-
S1.100.200.170.4.54L.C.285.S.Ex.D	96811376	-	-	-	-
S1.100.200.170.4.54L.H.285.S.Ex.D	96811377	-	-	-	-
S1.100.200.170.4.54L.S.285.S.Ex.D	96811375	-	-	-	-
S1.80.100.135.4.54H.C.277.S.Ex.D	96811370	-	-	-	-
S1.80.100.135.4.54H.H.277.S.Ex.D	96811371	-	-	-	-
S1.80.100.135.4.54H.S.277.S.Ex.D	96811369	-	-	-	-
S1.80.100.170.4.54H.C.304.S.Ex.D	96811379	-	-	-	-
S1.80.100.170.4.54H.H.304.S.Ex.D	96811380	-	-	-	-
S1.80.100.170.4.54H.S.304.S.Ex.D	96811378	-	-	-	-
S2.100.200.135.4.54L.C.214.S.Ex.D	96811389	-	-	-	-
S2.100.200.135.4.54L.H.214.S.Ex.D	96811390	-	-	-	-
S2.100.200.135.4.54L.S.214.S.Ex.D	96811388	-	-	-	-
S2.100.200.170.4.54L.C.227.S.Ex.D	96811396	-	-	-	-
S2.100.200.170.4.54L.H.227.S.Ex.D	96811397	-	-	-	-
S2.100.200.170.4.54L.S.227.S.Ex.D	96811395	-	-	-	-
S2.100.250.135.4.54E.C.218.S.Ex.D	96811385	-	-	-	-
S2.100.250.135.4.54E.D.218.S.Ex.D	96811386	-	-	-	-
S2.100.250.135.4.54E.H.218.S.Ex.D	96811387	-	-	-	-
S2.100.250.135.4.54E.S.218.S.Ex.D	96811384	-	-	-	-
S2.100.250.170.4.54E.C.232.S.Ex.D	96811392	-	-	-	-
S2.100.250.170.4.54E.D.232.S.Ex.D	96811393	-	-	-	-
S2.100.250.170.4.54E.H.232.S.Ex.D	96811394	-	-	-	-
S2.100.250.170.4.54E.S.232.S.Ex.D	96811391	-	-	-	-



## Stainless steel impeller pump- and motor housing 3x400/690 V

Pump type	Pump	Product numbers			
		Delivered together with pump		Must be ordered separately	
		Horizontal	Vertical	Auto-coupling	Transportable
SV.80.80.150.2.54H.S.220.R.Ex.D	96811431			-	
SV.80.80.210.2.54H.S.244.R.Ex.D	96811430			-	
S1.100.125.135.4.54M.C.259.R.Ex.D	96811402			-	
S1.100.125.135.4.54M.H.259.R.Ex.D	96811403			-	
S1.100.125.135.4.54M.S.259.R.Ex.D	96811401			-	
S1.100.125.170.4.54M.C.274.R.Ex.D	96811411			-	
S1.100.125.170.4.54M.H.274.R.Ex.D	96811412			-	
S1.100.125.170.4.54M.S.274.R.Ex.D	96811410			-	
S1.100.200.135.4.54L.C.261.R.Ex.D	96811405			-	
S1.100.200.135.4.54L.H.261.R.Ex.D	96811406			-	
S1.100.200.135.4.54L.S.261.R.Ex.D	96811404			-	
S1.100.200.170.4.54L.C.285.R.Ex.D	96811414			-	
S1.100.200.170.4.54L.H.285.R.Ex.D	96811415			-	
S1.100.200.170.4.54L.S.285.R.Ex.D	96811413			-	
S1.80.100.135.4.54H.C.277.R.Ex.D	96811399			-	
S1.80.100.135.4.54H.H.277.R.Ex.D	96811400			-	
S1.80.100.135.4.54H.S.277.R.Ex.D	96811398			-	
S1.80.100.170.4.54H.C.304.R.Ex.D	96811408			-	
S1.80.100.170.4.54H.H.304.R.Ex.D	96811409			-	
S1.80.100.170.4.54H.S.304.R.Ex.D	96811407			-	
S2.100.200.135.4.54L.C.214.R.Ex.D	96811421			-	
S2.100.200.135.4.54L.H.214.R.Ex.D	96811422			-	
S2.100.200.135.4.54L.S.214.R.Ex.D	96811420			-	
S2.100.200.170.4.54L.C.227.R.Ex.D	96811428			-	
S2.100.200.170.4.54L.H.227.R.Ex.D	96811429			-	
S2.100.200.170.4.54L.S.227.R.Ex.D	96811427			-	
S2.100.250.135.4.54E.C.218.R.Ex.D	96811417			-	
S2.100.250.135.4.54E.D.218.R.Ex.D	96811418			-	
S2.100.250.135.4.54E.H.218.R.Ex.D	96811419			-	
S2.100.250.135.4.54E.S.218.R.Ex.D	96811416			-	
S2.100.250.170.4.54E.C.232.R.Ex.D	96811424			-	
S2.100.250.170.4.54E.D.232.R.Ex.D	96811425			-	
S2.100.250.170.4.54E.H.232.R.Ex.D	96811426			-	
S2.100.250.170.4.54E.S.232.R.Ex.D	96811423			-	

## List of variants

<b>MOTOR</b>		
Various cable lengths		15m
		25m
		50m
EMC power cables	Screened power cables for variable speed drives	10m
		15m
		25m
		50m
Special motor		Insulation class H
		Special voltage
Special oil	Non-toxic Shell Ondina 917	
<b>Motor protection</b>		
PTC + moisture switch		FPV1
Klixon + moisture switch + WIO		FPV2a
PTC + moisture switch + WIO		FPV2b
Klixon + moisture + WIO + PT100 at lower bearing		FPV3a
PTC + moisture + WIO + PT100 at lower bearing		FPV3b
<b>MATERIALS</b>		
Stainless steel lifting bracket	AISI 316 lifting bracket	
Stainless steel shaft		
<b>TESTS</b>		
Test at specified duty on standard single-channel impeller curve		
Trimmed impeller for specified duty test		
Additional test of entire QH curve (incl. report)	5-10 flows from pump performance curve	
Different test standard	Efficiency guaranteed by Grundfos	ISO 9906 grade 1 tolerances
		ISO 9906 grade 2 tolerances
Vibration test (incl report)	According to Grundfos factory quality standard	
Performance test on dry test stand	Not yet available	
NPSHr test	Not yet available	
String test	Contact Grundfos	
Witness test	Contact Grundfos	
<b>MISCELLANEOUS</b>		
Special packaging	Contact Grundfos	
Special nameplate	Contact Grundfos	
Other variants	Contact Grundfos	

## Sectional drawings, motors

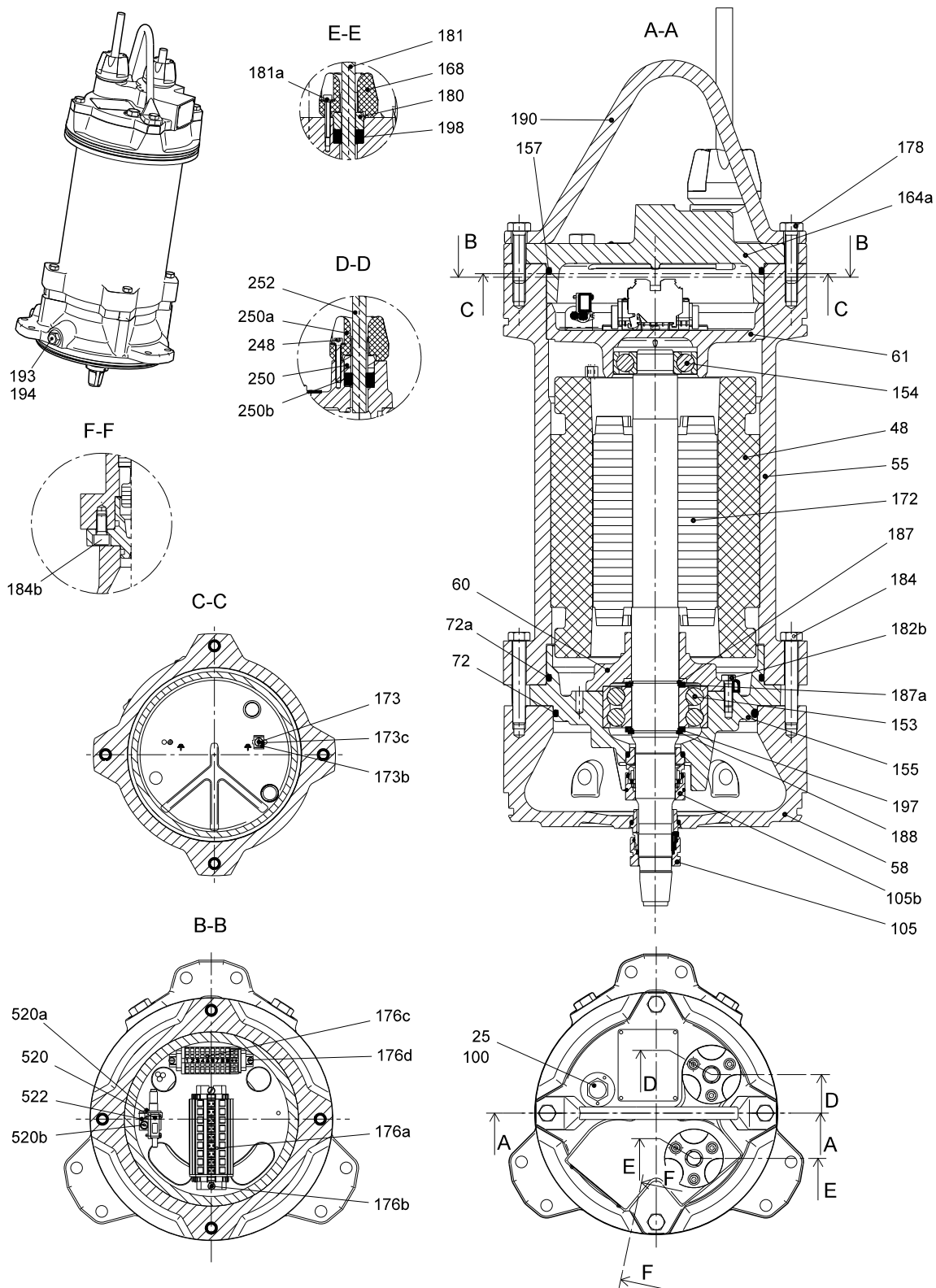


Fig. 4 Non-explosion-proof, without cooling jacket

TM04 1719 1008

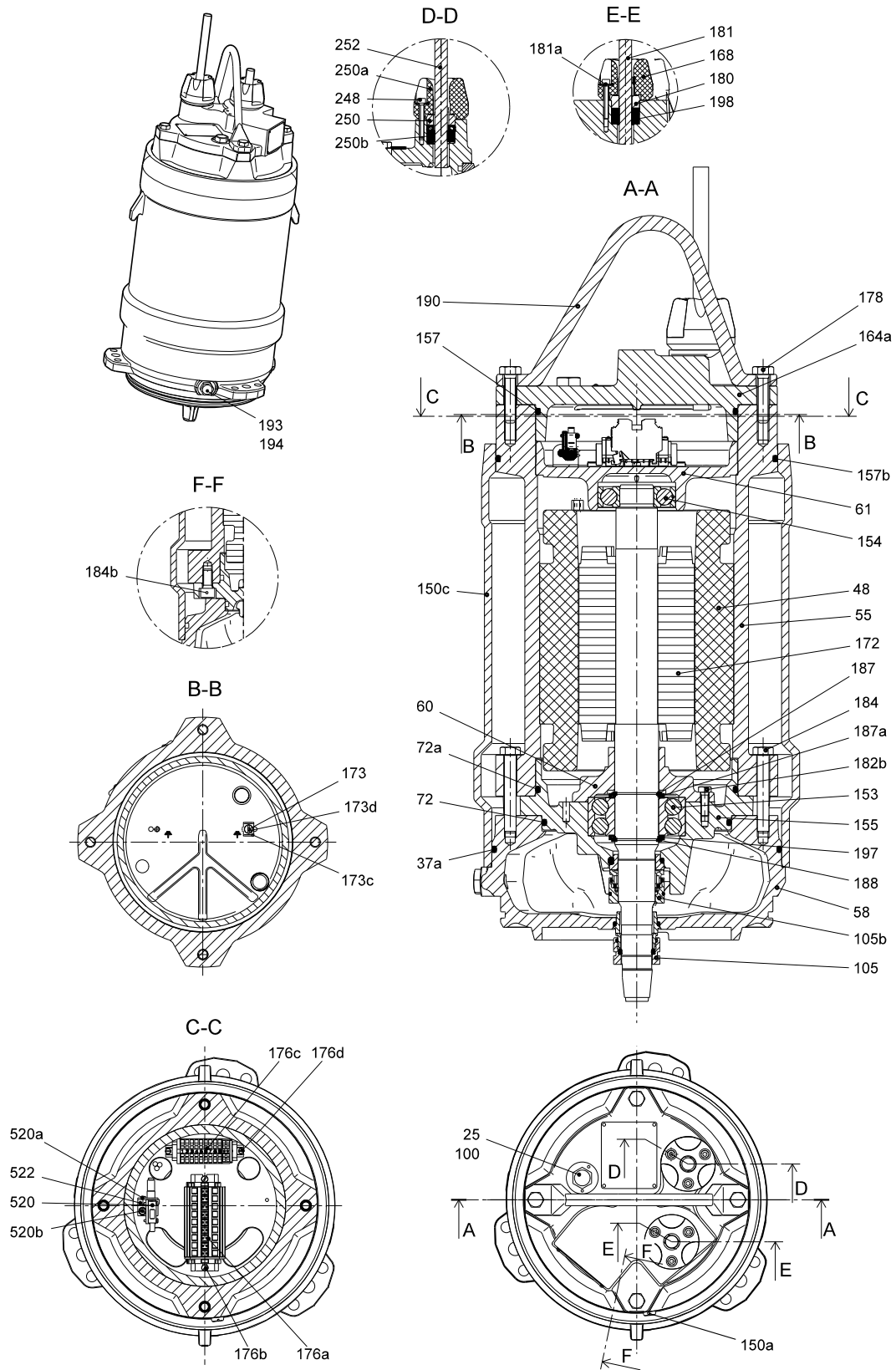


Fig. 5 Non-explosion-proof, with cooling jacket

TM04 1720 1008

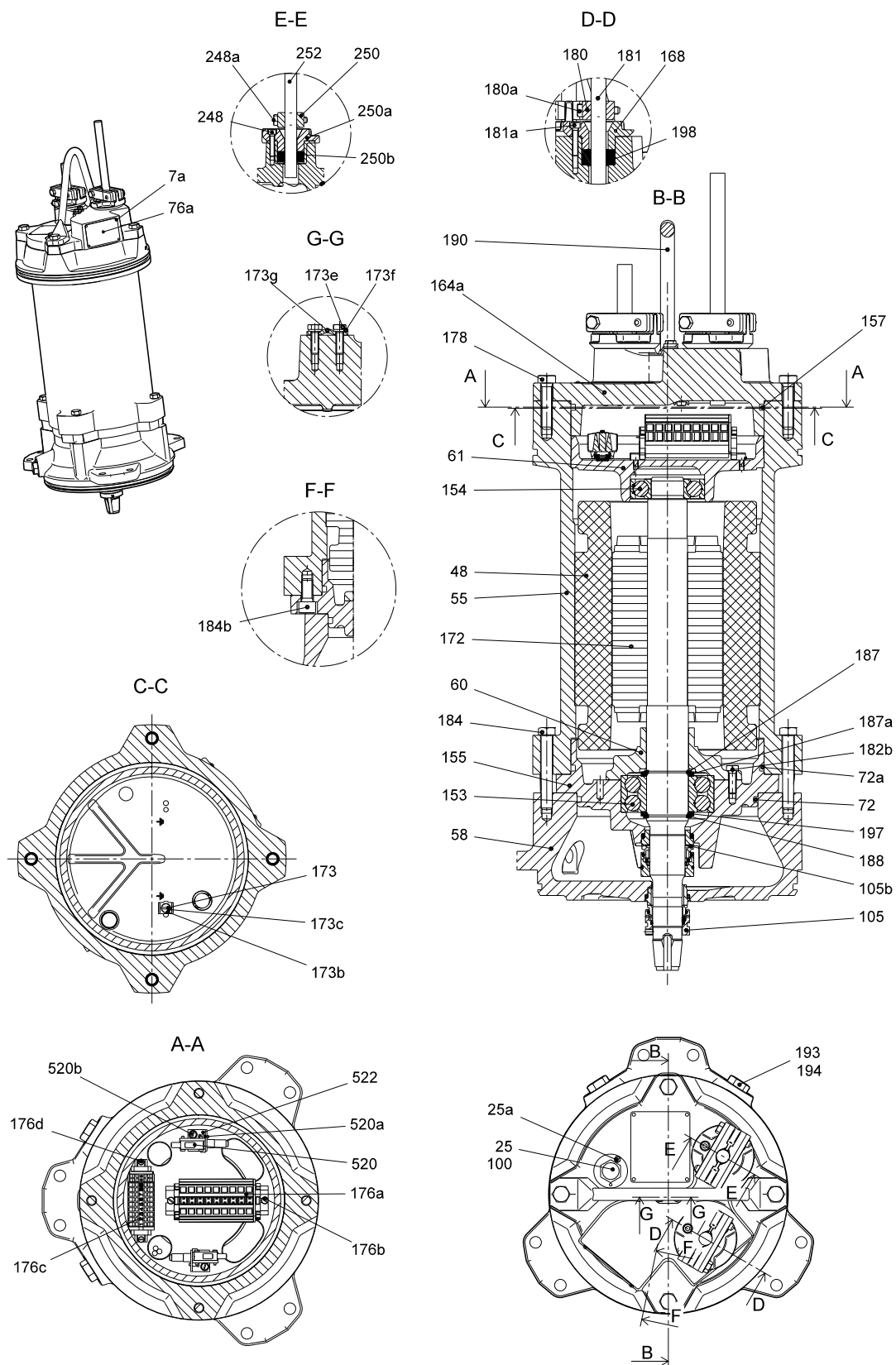


Fig. 6 Explosion-proof, without cooling jacket

TM04 1721 1008

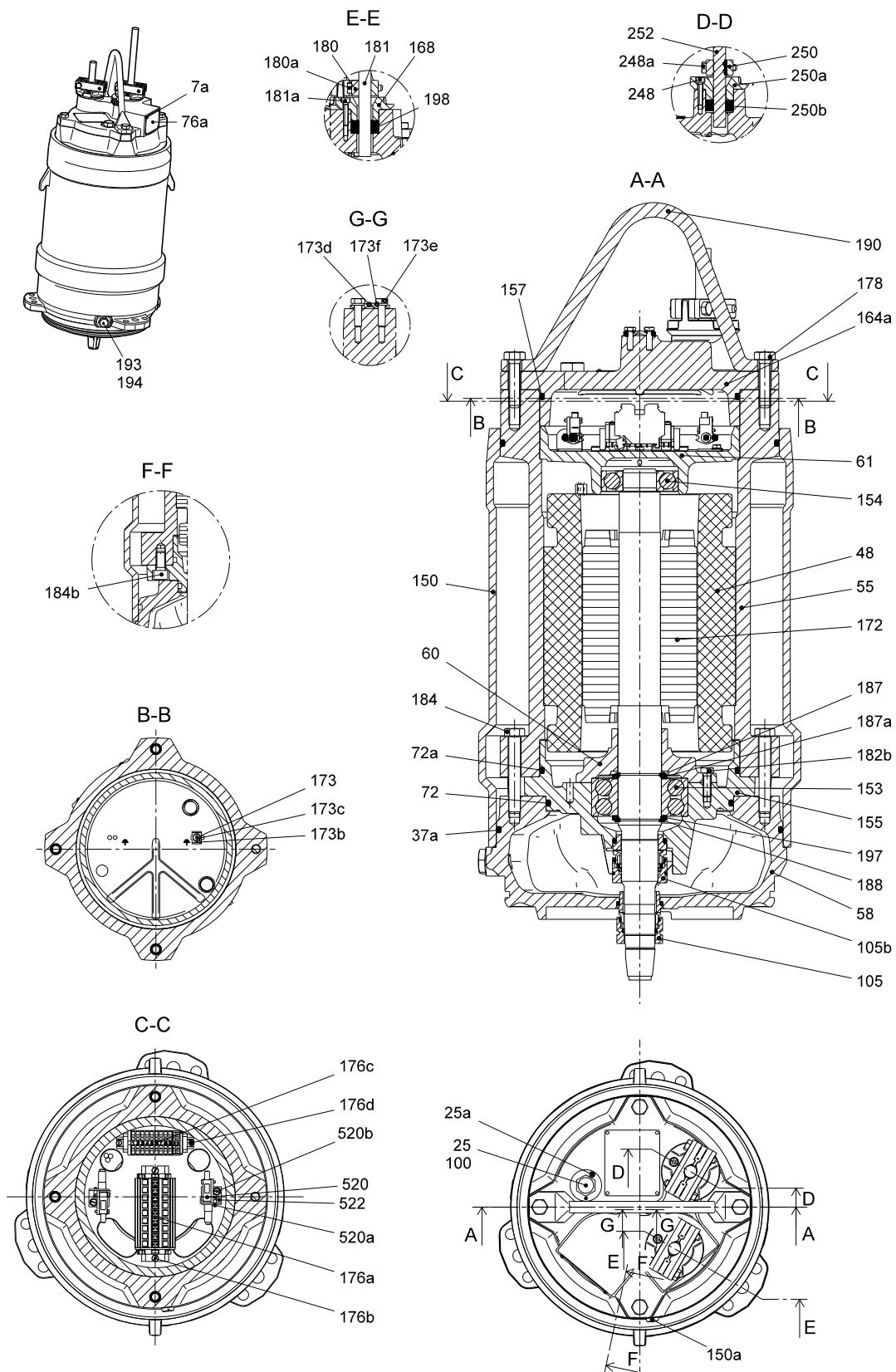


Fig. 7 Explosion-proof, with cooling jacket

TM04 1722 1008

## Sectional drawings, pumps

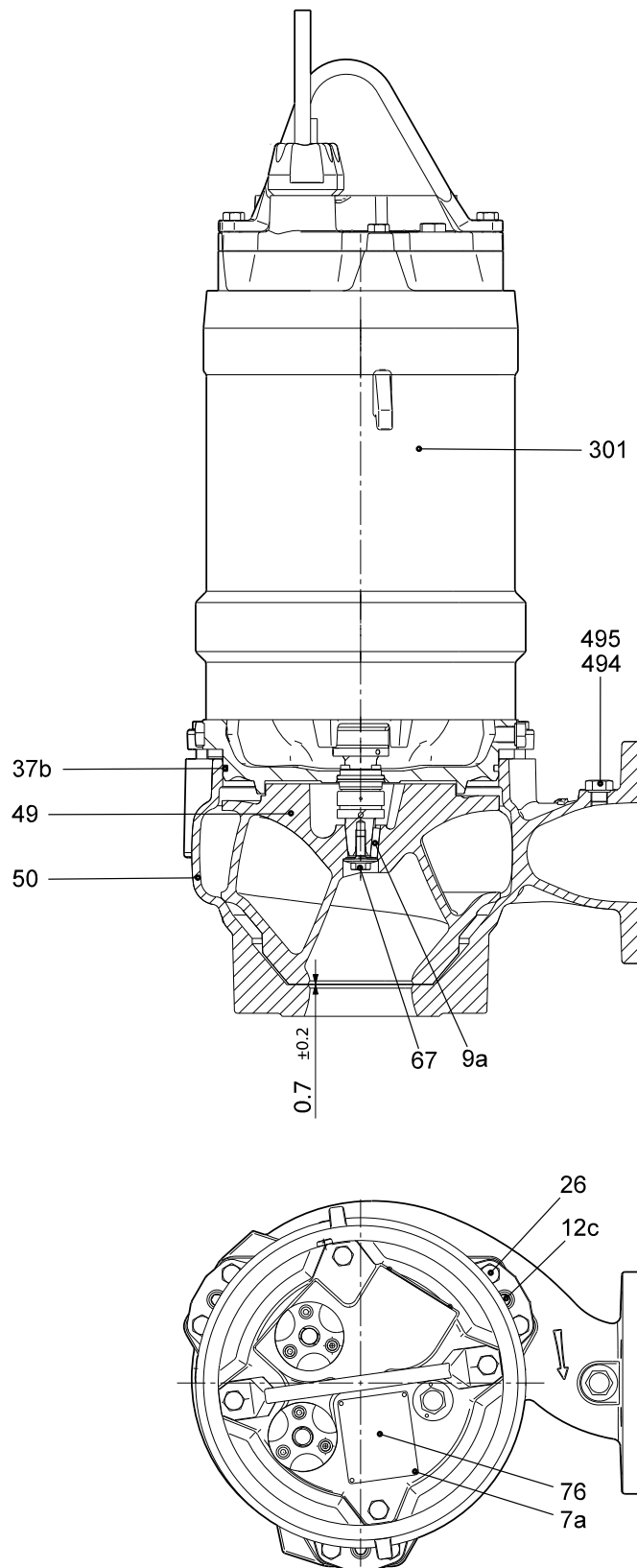


Fig. 8 S1 pump

TM04-1715-1008

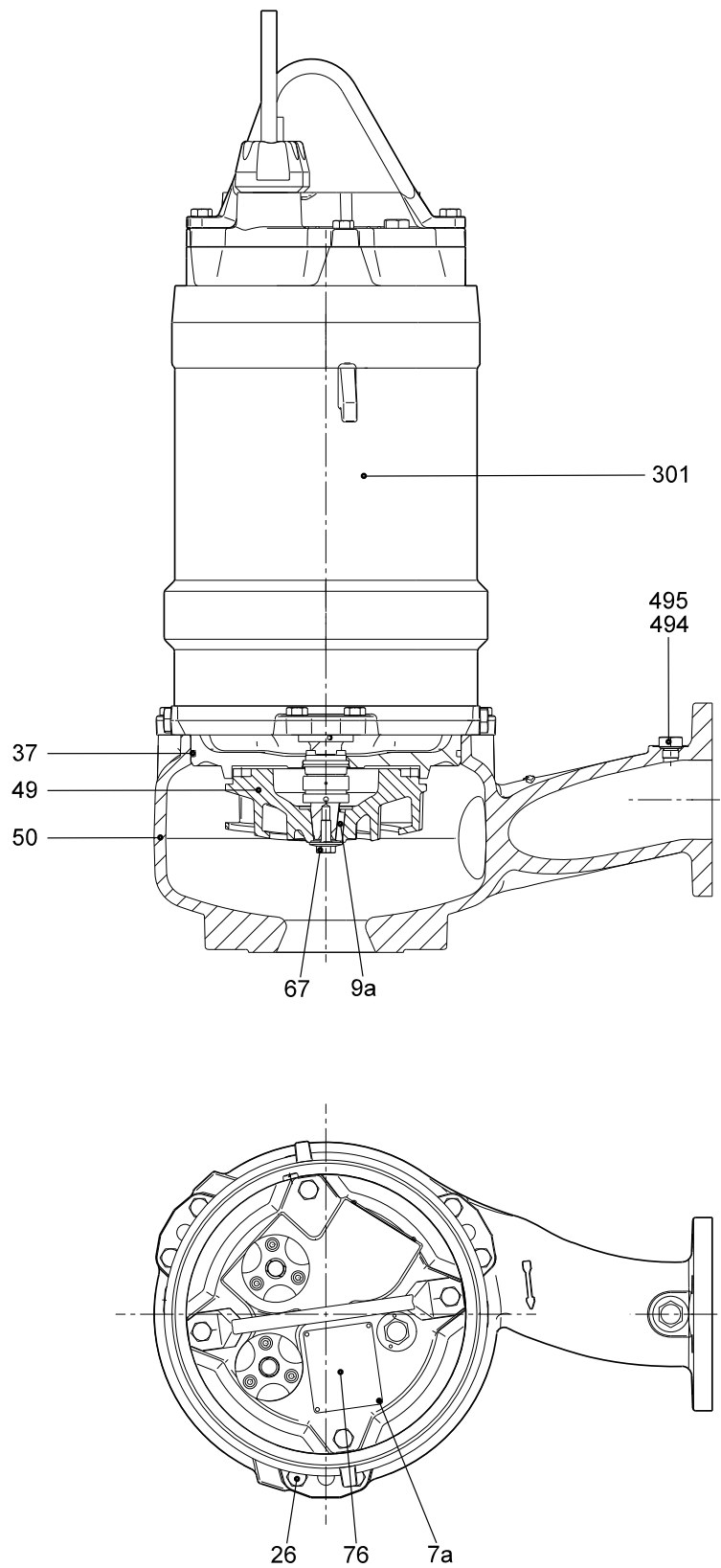


Fig. 9 SV pump

TM04-1716-1008



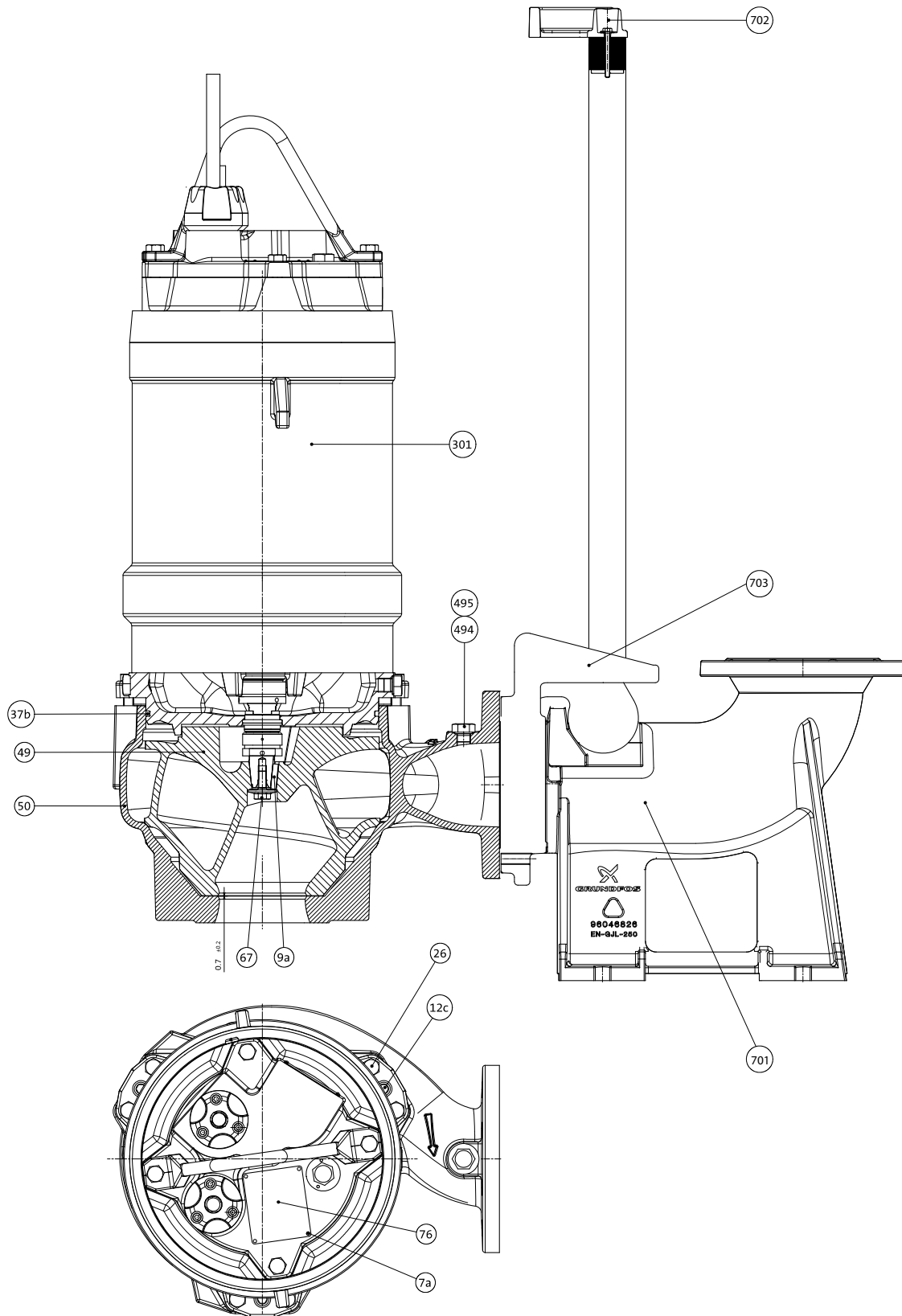


Fig. 10 Pumps, type S and C on auto-coupling

95113686-ren

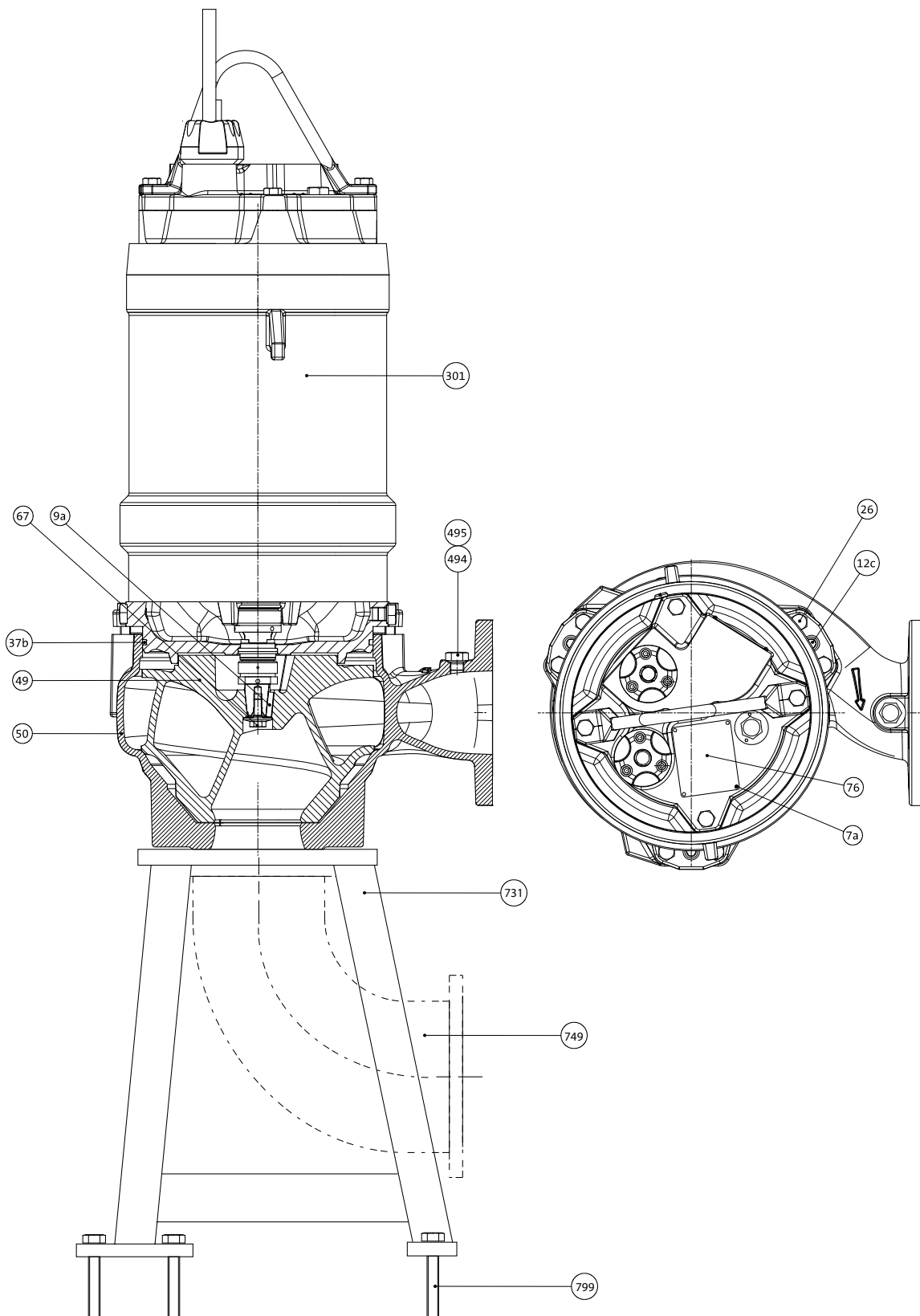


Fig. 11 Pump, type D

TM02 5964 4502

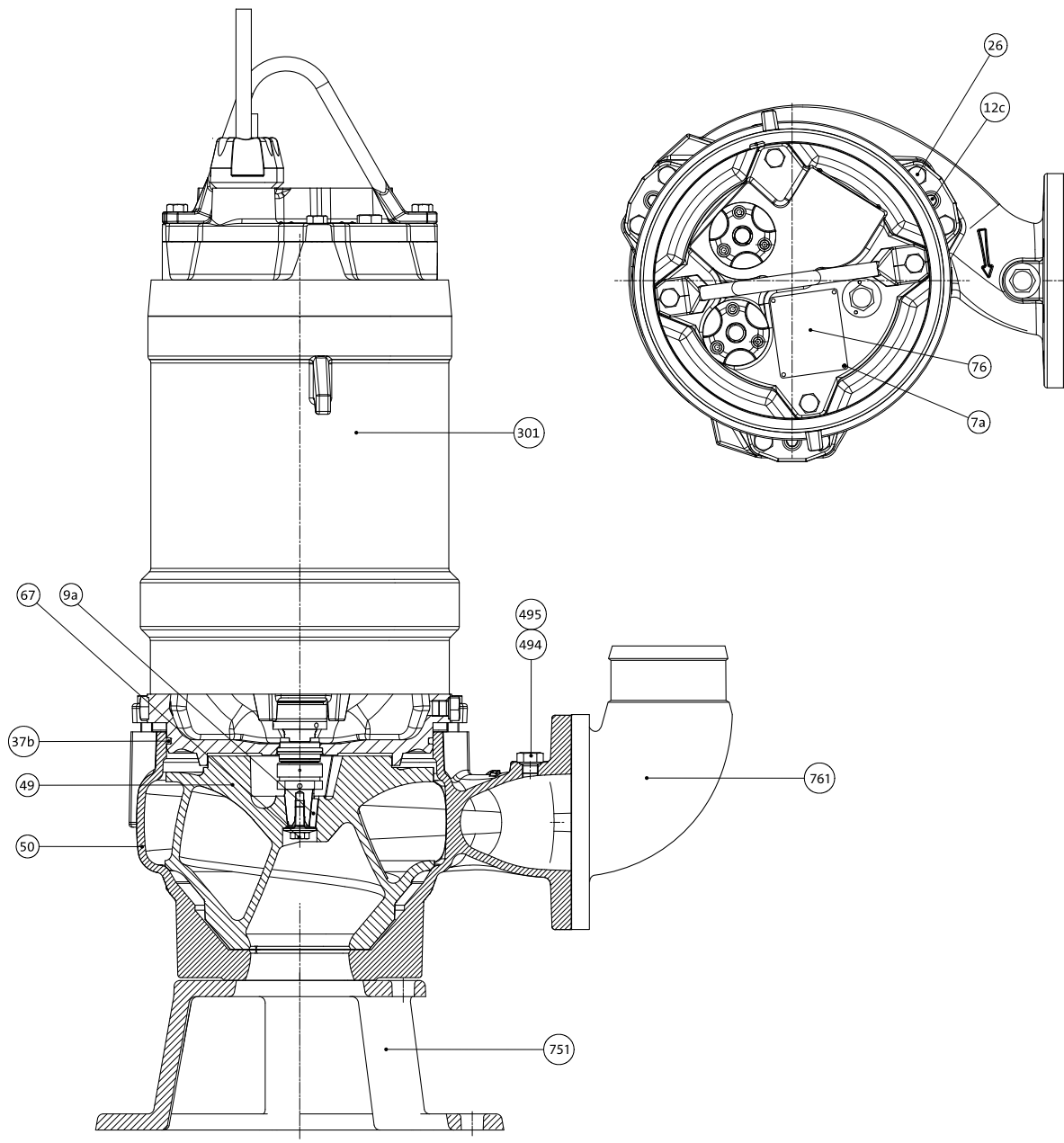


Fig. 12 Pumps, type S and C, free-standing installation

Ringstand-1

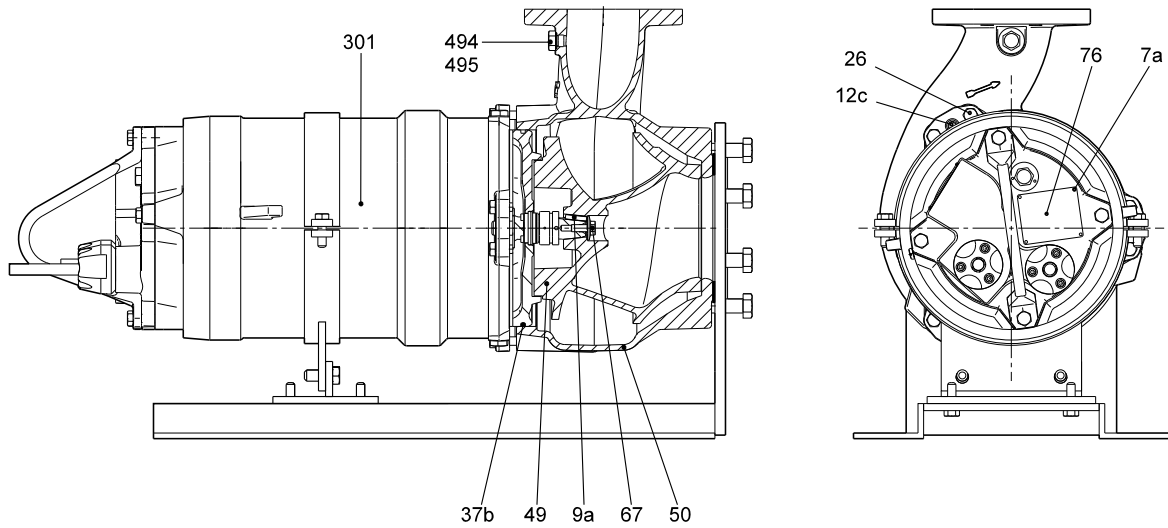


Fig. 13 S1 Pump, installation type H

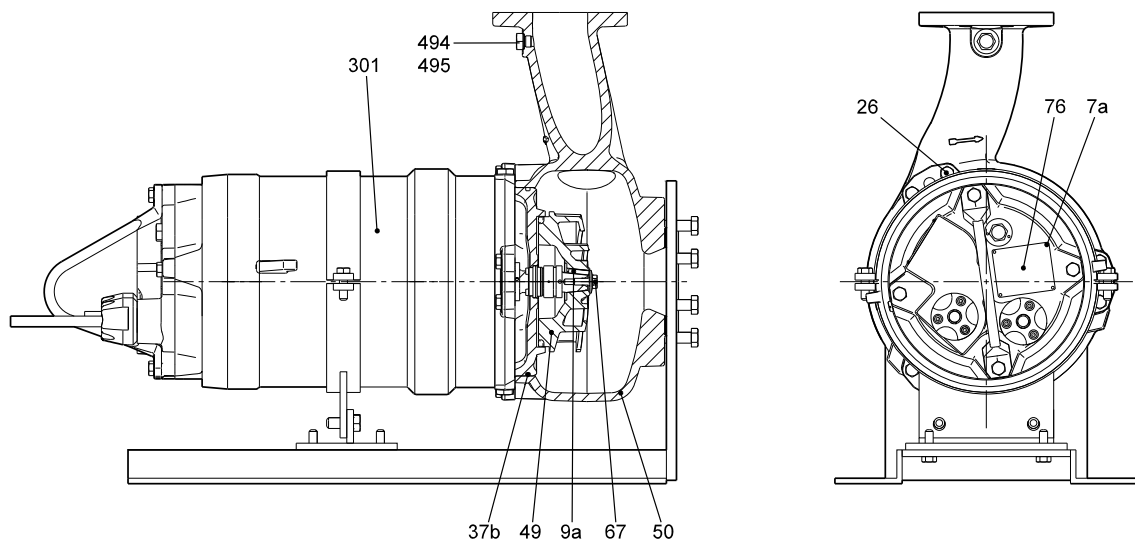


Fig. 14 SV Pump, installation type H

TM04 1714 1008

TM04 1718 1008

### Components and material specification

#### Motor

Pos.	Component	Material
007a	Screw nail	Stainless steel (1.4436/316)
025a	Screw	Stainless steel (1.4436/316)
025	Pressure test plug	Stainless steel (1.4436/316)
048	Stator package	
**055	Stator housing	Cast iron (EN-JL 1040/A48 30)
058	Seal housing	Cast iron
060	Bearing bracket cover	Cast iron
061c	Upper bearing bracket	Cast iron
072a	O-ring	NBR rubber
072	O-ring	NBR rubber
076a	Approval plate	
100	O-ring	NBR rubber
105b	Mechanical seal	SiC/SiC or SiC/carbon
105	Mechanical seal	SiC/SiC or SiC/carbon
150c	Cooling jacket	Galvanized steel
153	Ball bearing	Stainless steel
154	Ball bearing	Stainless steel
**155	Lower bearing bracket	Cast iron
157b	O-ring	NBR rubber
157	O-ring	NBR rubber
**164a	Motor top cover	Cast iron
*168	Cable inlet	PA or cast iron
172	Shaft with rotor	Stainless steel (1.4462/329)
173b	Grounding terminal	
173c	Ground washer	Stainless steel (1.4436/316)
173e	Screw	Stainless steel (1.4436/316)
173f	Spring wascher	Stainless steel (1.4436/316)
173g	Ground connector	
173	Screw	Stainless steel (1.4436/316)
176a	Connection plate	
176b	Screw	Stainless steel (1.4436/316)
176c	Connection plate	
176d	Connector set	
178	Screw	Stainless steel (1.4436/316)
180	Cable clamp	PA or cast iron
181a	Screw	Stainless steel (1.4436/316)
181	Cable	ATON
182b	Allen screw	Stainless steel (1.4436/316)
184b	Screw	Stainless steel (1.4436/316)
184	Screw	Stainless steel (1.4436/316)
187a	Washer	Stainless steel (1.4436/316)
187	Circlip	
188	Circlip	
190	Lifting handle	Stainless steel (1.4408/316)
193	Plug	Stainless steel (1.4408/316)
194	O-ring	NBR rubber
197	Washer	Stainless steel (1.4436/316)

Pos.	Component	Material
198	Rubber seal	
248	Screw	Stainless steel (1.4436/316)
250a	Cable inlet	PA or cast iron
250b	Rubber seal	
250	Cable clamp	PA or cast iron
252	Cable	ATON
520a	Screw	Stainless steel (1.4436/316)
520b	Nut	Stainless steel (1.4436/316)
*520	Moisture switch	
522	Holder	

#### Pump

Pos.	Component	Material
7a	Screw nail	
9a	Key	Stainless steel (1.4436/316)
12c	Adjusting screw	Stainless steel (1.4436/316)
026	Screw	Stainless steel (1.4436/316)
037	O-ring	NBR rubber
37b	O-ring	NBR rubber
**049	Impeller	Cast iron EN-JL 1050
**050	Volute casing	Cast iron EN-JS 1050
067	Impeller screw	Stainless steel (1.4436/316)
076	Rating plate	
301	Motor unit	
494	Plug	Stainless steel (1.4436/316)
495	O-ring	NBR rubber

#### Installation accessories

Pos.	Component	Material
**701	Baseplate	Cast iron
**702	Guide rail holder	
**703	Guide shoe	Cast iron
731	Stand	Galvanized steel
749	Bend	Cast iron
751	Stand	Galvanized steel
**761	Hose connector	Cast iron
**771	Stand	Galvanized steel
799	Anchor bolt	

\* For Ex versions the cable inlet is made of Cast Iron and there are two moisture switches

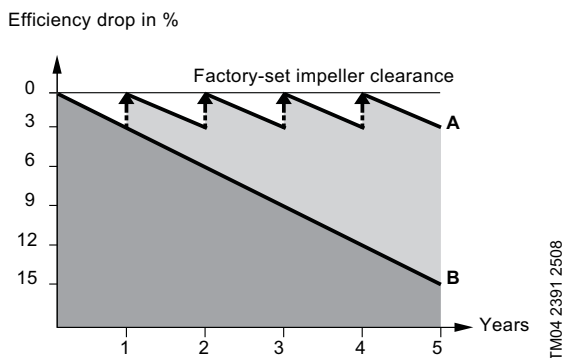
\*\* As FPV option it can be delivered in stainless steel

## Features

### Smart trim

On conventional pumps, maintaining factory-set impeller clearance is a time-consuming and costly task. The pumps need to be disconnected from the pipework and to be totally dismantled, and new parts need to be mounted in order to maintain full pumping efficiency. Not so with Grundfos SmartTrim!

All Grundfos heavy-duty channel-impeller pumps, whether for submerged or dry installation, are equipped with the unique SmartTrim impeller clearance adjustment system. This enables you to easily restore factory-set impeller clearance and maintain peak pumping efficiency. All you need to do is to tighten the adjustment screws on the exterior of the impeller housing. This can be done on site, quickly and easily, without dismantling the pump and without using special tools.



**A:** With Grundfos SmartTrim impeller clearance adjustment system

**B:** Without impeller clearance adjustment system

### Smart seal

The Grundfos SmartSeal auto-coupling gasket mounted on the pump discharge flange provides a completely leak-proof connection between the pump and the base unit of the auto-coupling system. This optimises the efficiency of the entire pumping system and keeps operating costs at a minimum

### Ball bearings

The bearings are greased for life.

**Main bearings:** Double-row angular contact ball bearing

**Support bearing:** Single-row deep-groove ball bearings.

### Shaft seal

The pumps have a shaft seal consisting of a primary and a secondary shaft seal.

The material combination of the primary shaft seal of all pump types is silicon carbide/silicon carbide. For the secondary shaft seal, the material combination is silicon carbide/carbon.

The shaft seals are placed in the oil chamber of the pump. The oil chamber provides reliable sealing between the pumped liquid and the motor.

The shaft seals have no springs or other parts in direct contact with the pumped liquid. This prevents rags and fibres from getting caught. The shaft seals are bidirectional, meaning that they can operate in either direction thus allowing for opposite rotation caused by back-flow of liquid through the pump.

### Motor

The motor is a water-tight, totally encapsulated motor with:

- insulation class F (155 °C)
- temperature rise class F (105 °C)
- enclosure class IP 68

For motor protection and sensors, see Sensors below.

### Power cables

The pumps have 2X4X6mm<sup>2</sup>+7X1.5mm<sup>2</sup> H07RN-F AT cables as standard or screened ATON EMC VSCCB cables on request.

The cables are 10 m long as standard. Other cable lengths are available on request. See List of variants page 18.

The number and dimension of cables depend on the motor size.

### Cable inlet

Water-tight PA or cast iron cable entry with soft shape and sealing rings to prevent damage of the cable or leaks.

### Sensors

As standard the pump is equipped with:

- Three thermal switches (Klixon), one in each 2X4X70mm<sup>2</sup>+7X1.5mm<sup>2</sup>.
- One moisture switch in connection board.

## FPV sensor options

### 1. WIO (Water in oil sensor)

Analogue water-in-oil sensor (optional)

The WIO sensor monitors the contents of water in the intermediate oil chamber of the sewage pumps. Within 0-20 %, a warning limit can be set to 4,8,12, 16 or 20 % oil in the water. If these limits are exceeded, the Grundfos WIO sensor will activate a warning signal so that the pump can be serviced in due time. The WIO sensor is also able to detect if the oil chamber is leaking oil. If the amount of oil in the chamber fall below a critical level, the sensor will activate an alarm and stop the pump.

The WIO sensor is connected to the Grundfos IO 111 module.

### 2. PVS 3 Vibration sensor

The sensor monitors the vibration level of the pump in order to protect the pump and the pipe system from damage. A change in the vibration level is an indication of an abnormal situation. The reason for this can be a clogged impeller, worn bearings, closed discharge valve, etc. indicating that a service inspection should be carried out before the pump or the pipe system is damaged.

### 3. Bearing temperature sensor

## Testing

All pumps are tested before leaving the factory. The factory test report is based on ISO 9906, Annex A. Test reports can be ordered directly with the pump or can be ordered separately based on the pump serial number.

Other tests or third party inspection certificates are available on request. See List of variants page 18.

## Operating conditions

### Operation

The pumps are suitable for:

- continuous operation when fully submerged
- intermittent operation with max. 20 starts per hour.

### Pumped liquids

**pH value:** 4-10

**Liquid temperature:** 0 °C - + 40 °C

When pumping liquids with a density and/or a kinematic viscosity higher than that of water, use motors with correspondingly higher outputs.

### Sound pressure

The sound pressure level of the pump is lower than the limiting values stated in the EC Council Directive 98/37/EC relating to machinery. (the EC Machinery Directive)

## Motor range

Shaft power[kW]	No. of poles
13.5	4
15	2
17	4
21	2

## Explosion-proof pumps

Use explosion-proof pumps in potentially explosive environments. The explosion protection classification of the pumps is Ex c d IIB T3. The Ex d IIB T4 protection classification is available on request. Operation of the pump via a frequency converter requires temperature class T3. All installations must be approved by the local authorities.

## Pump controllers

S pumps, range 54, can be controlled by the following LC and LCD pump controllers:

- LC 107 and LCD 107 with level pickups
- LC 108 and LCD 108 with float switches
- LC 110 and LCD 110 with level electrodes.

LC controllers are for single-pump installations;  
LCD controllers are for two-pump installations.

In the following description, “level switch” means level pickup, float switch or level electrode, depending on the pump controller selected.

The LC controller is fitted with two or three level switches: One for start and one for stop of pump. The third - optional - level switch, is for high-level alarm.

The LCD controller is fitted with three or four level switches: One for common stop and two for start of the pumps. The fourth - optional - level switch, is for high-level alarm.

For further settings, see the installation and operating instructions for the pump controller selected.

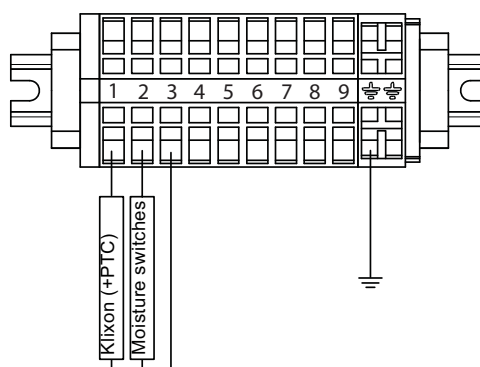


Fig. 16 Wiring diagrams

TM04 1763 1108

## Wiring diagrams

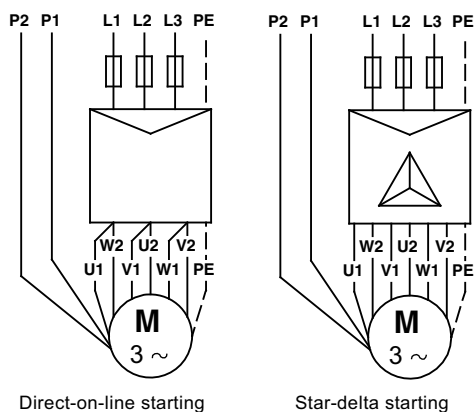


Fig. 15 Wiring diagrams

TM02 2420 4201/TM02 2421 4201



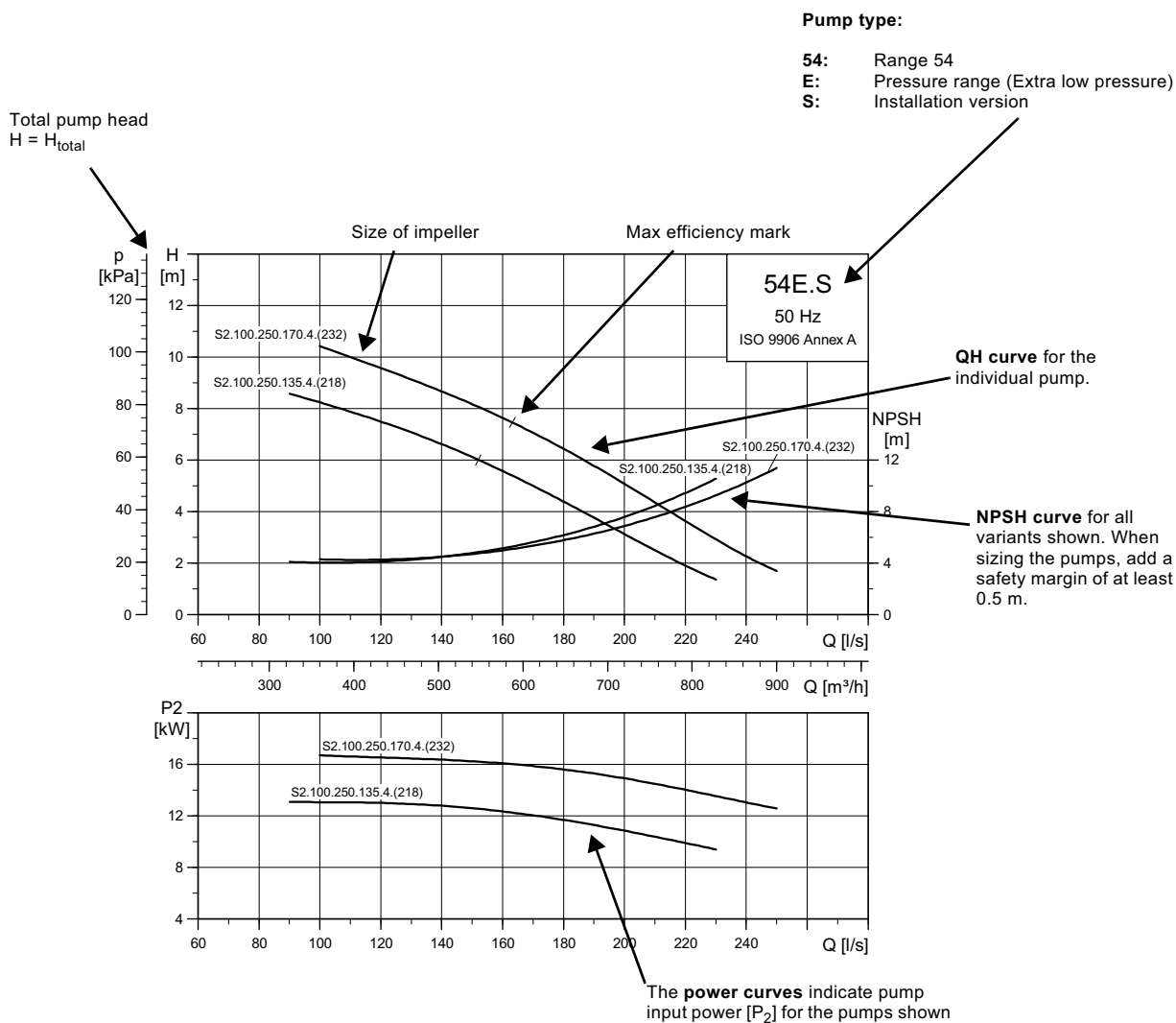
The following many pages are divided into sections:

Pages 33 and 34      A brief explanation of how to read the curve charts, the curve conditions, etc.

**Performance curves and technical data:**

Page 36                  Pumps with SuperVortex impeller  
 Page 40                  Extra low pressure  
 Page 44                  High pressure  
 Page 44                  Low pressure  
 Page 52                  Middle pressure

## How to read the curve charts



TM04 0642 0908

## Curve conditions

The guidelines below apply to the curves shown in the performance charts on page 36 to page 54.

- Tolerances according to: ISO 9906, Annex A.
- The curves show pump performance with different impeller diameters at the nominal speed.
- The **bold** part of the curves show the **recommended** operating range.
- The curves apply to the pumping of airless water at a temperature of +20 °C and a kinematic viscosity of 1 mm<sup>2</sup>/s (1 cSt).
- **ETA**: The lines show values of the hydraulic efficiency of the pump for the different impeller diameters.
- **NPSH**: The curves show average values measured under the same conditions as the performance curves.  
When dimensioning the pump, add a safety margin of at least 0.5 m.
- In case of other densities than 1000 kg/m<sup>3</sup>, the discharge pressure is proportional to the density.
- When pumping liquids with a density higher than 1000 kg/m<sup>3</sup>, motors with correspondingly higher outputs must be used.

### Calculation of total head

The total pump head consists of the height difference between the measuring points + the differential head + the dynamic head.

$$H_{\text{total}} = H_{\text{geo}} + H_{\text{stat}} + H_{\text{dyn}}$$

$H_{\text{geo}}$ : Height difference between measuring points.

$H_{\text{stat}}$ : Differential head between suction and the discharge side of the pump.

$H_{\text{dyn}}$ : Calculated values based on the velocity of the pumped liquid on the suction and the discharge side of the pump.

## Performance tests

The requested duty point for every pump is tested according to ISO 9906, Annex A, and without certification.

In case of pumps ordered on the basis of impeller diameter only (no requested duty point), the pump will be tested at a duty point which is 2/3 of the maximum flow of the published performance curve which is related to the ordered impeller diameter (according to ISO 9906, Annex A).

If the customer requires either more points on the curve to be checked or certain minimum performances or certificates, individual measurements must be made, and a certificate can be ordered.

## Certificates

Certificates have to be confirmed for every order and are available on request as follows:

- Certificate of compliance with the order (EN 10204 - 2.1)
- Pump test sheet.

## Witness test

When the pumps are being tested or are tested with a certification it is possible for the customer to witness the testing procedure according to ISO 9906.

The witness test is not a certificate and will not result in a written statement from Grundfos. The witness itself is the only guarantee that everything is carried out as prescribed in the testing procedure.

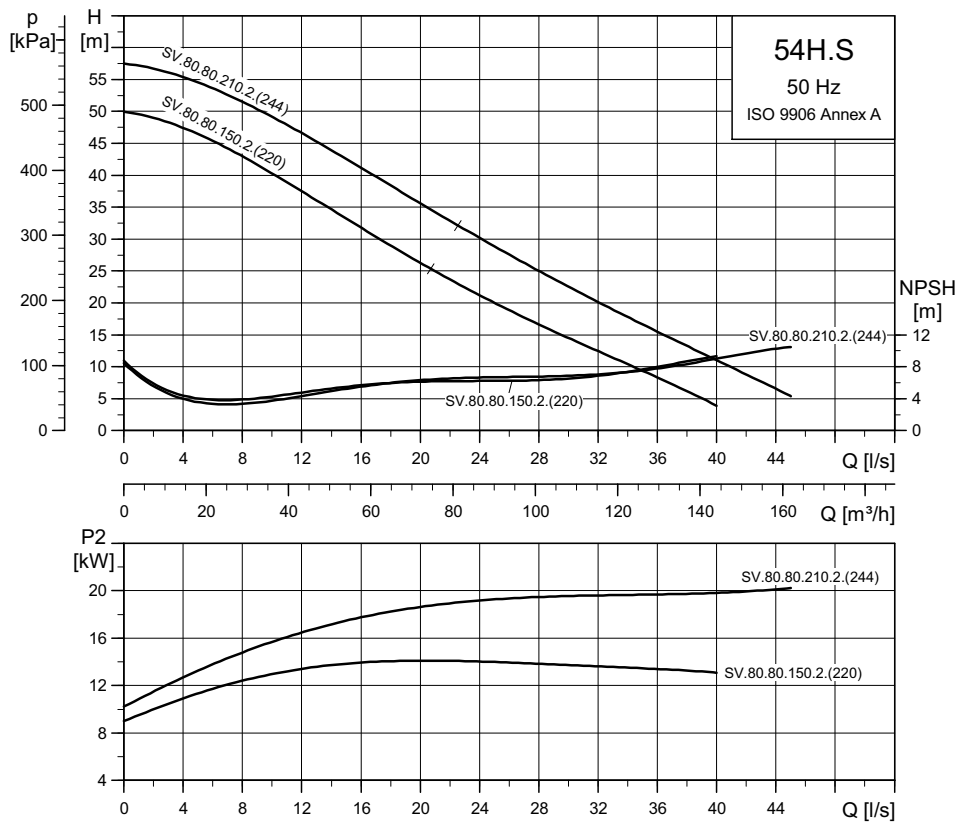
If the customer wants to witness test the pump performance, place this request on the order.



# Performance curves Technical data

S pumps, range 54

## SuperVortex - 3x400/690 V



TM04 0644 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
SV.80.80.210.2.54H.S.244.G.N.D	S	1.004	516	205	332	421	178	DN150	DN80	300	95113504
SV.80.80.150.2.54H.S.220.G.N.D	S	1.004	516	205	332	421	178	DN150	DN80	300	95113505

With 10 m cable

### Electrical data

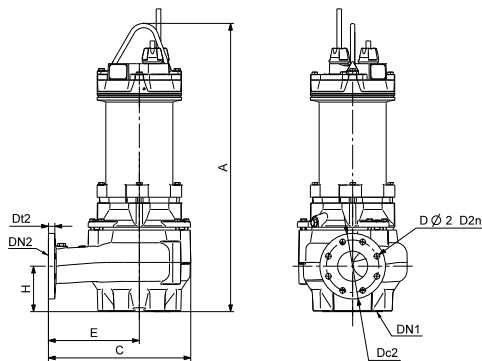
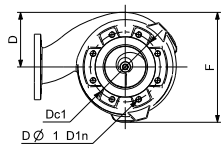
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$I_{start}$			$\eta_{motor} [\%]$			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1			
SV.80.80.210.2.54H.S.244.G.N.D	24	21	2	2780	Y/D	11.5	277	0.86	0.87	0.87	0.75	0.83	0.86	0.14	214				
SV.80.80.150.2.54H.S.220.G.N.D	17	15	2	2780	Y/D	11.5	277	0.85	0.86	0.87	0.70	0.77	0.82	0.117	214				

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
SV.80.80.210.2.54H.S.244.G.N.D	244	80	10	20
SV.80.80.150.2.54H.S.220.G.N.D	220	80	10	20

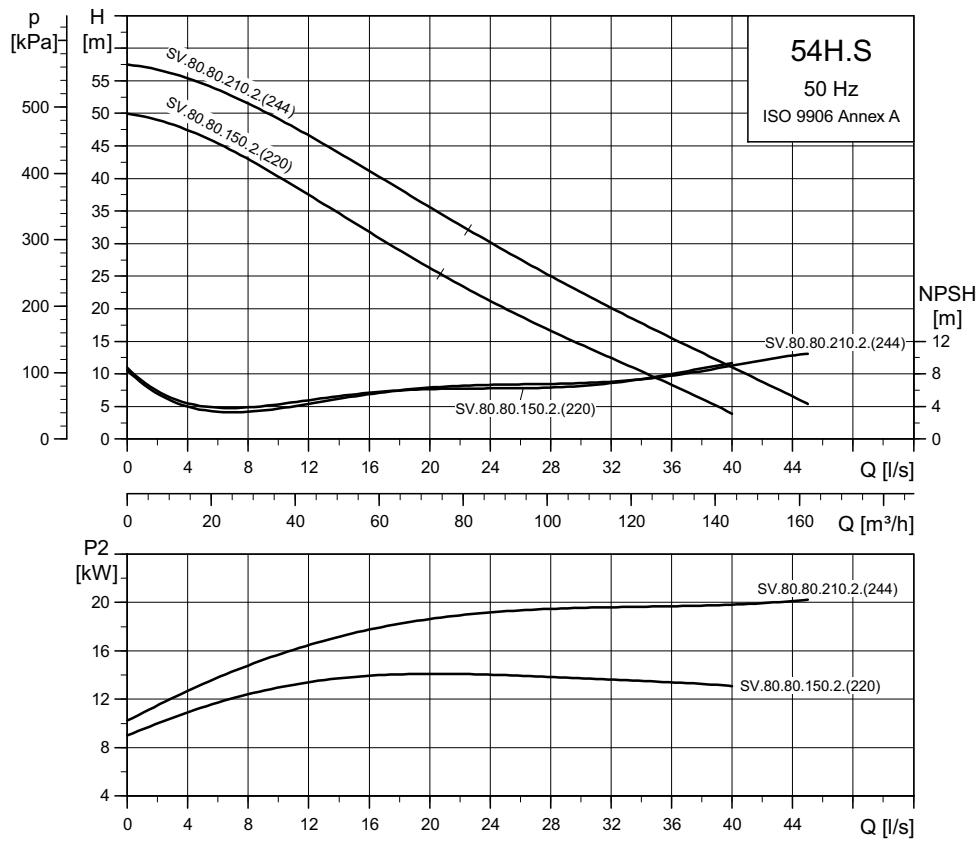
### Dimensional sketches



TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## SuperVortex - 3x415 V



TM04 0644 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
SV.80.80.210.2.54H.S.244.G.N.D	S	1.004	516	205	332	421	178	DN150	DN80	300	95114371
SV.80.80.150.2.54H.S.220.G.N.D	S	1.004	516	205	332	421	178	DN150	DN80	300	95114374

With 10 m cable

### Electrical data

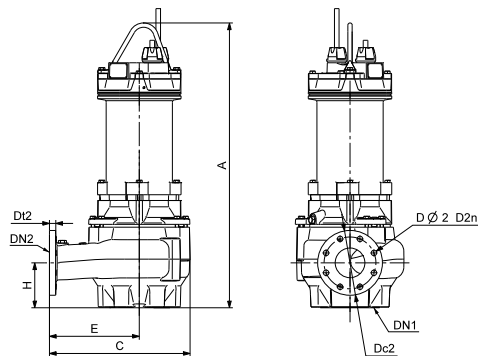
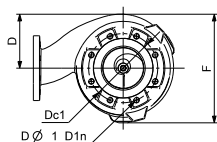
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$I_{start}$			$\eta_{motor} [\%]$			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1			
SV.80.80.210.2.54H.S.244.G.N.D	24	21	2	2780	Y/D	11.08	267	0.86	0.87	0.87	0.75	0.83	0.86	0.14	214				
SV.80.80.150.2.54H.S.220.G.N.D	17	15	2	2780	Y/D	11.08	267	0.85	0.86	0.87	0.70	0.77	0.82	0.117	214				

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
SV.80.80.210.2.54H.S.244.G.N.D	244	80	10	20
SV.80.80.150.2.54H.S.220.G.N.D	220	80	10	20

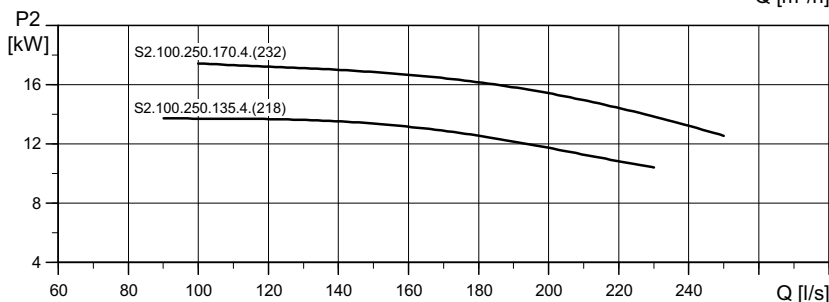
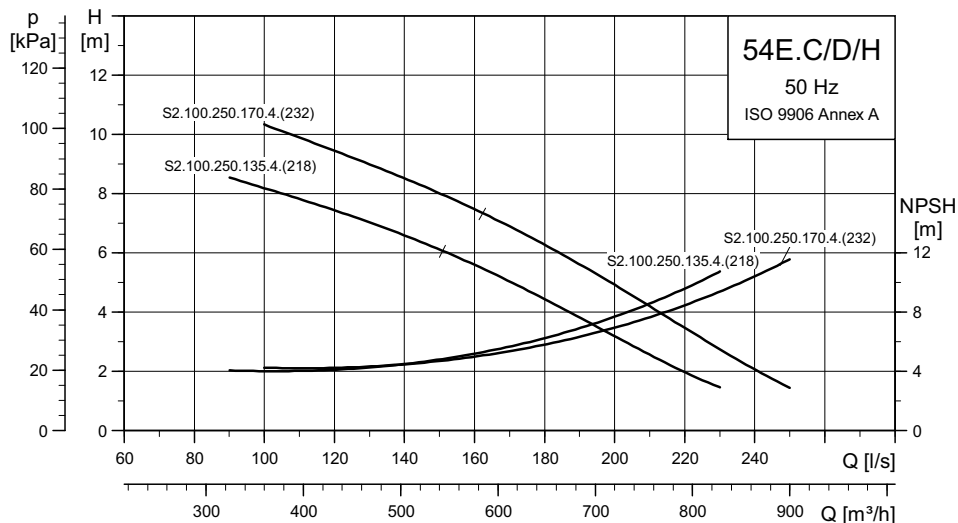
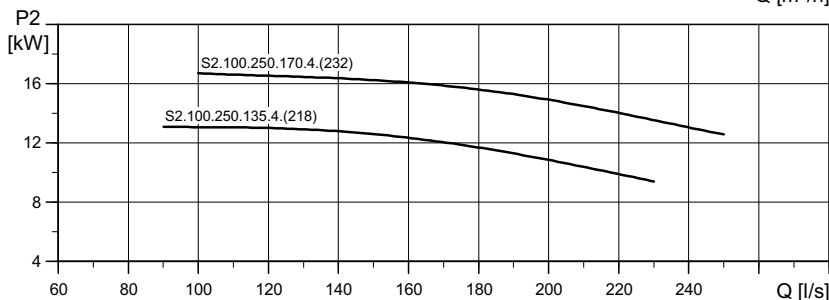
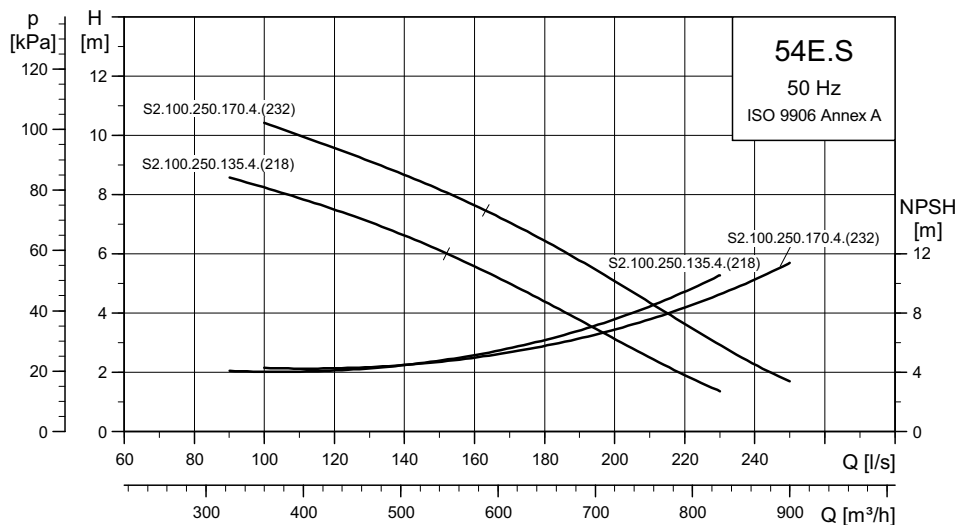
### Dimensional sketches



TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Extra low pressure - 3x400/690 V



TM04 0642 0908

TM04 0643 0908



### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S2.100.250.135.4.54E.S.218.G.N.D	S	1.086	1.135	418	750	747	248	DN250	DN250	450	95113526
S2.100.250.135.4.54E.C.218.G.N.D	C	1.086	1.135	418	750	747	248	DN250	DN250	500	95113527
S2.100.250.135.4.54E.D.218.G.N.D	D	1.086	1.135	418	750	747	248	DN250	DN250	450	95113528
S2.100.250.135.4.54E.H.218.G.N.D	H	1.086	1.135	418	750	747	248	DN250	DN250	500	96781216
S2.100.250.170.4.54E.S.232.G.N.D	S	1.095	1.135	418	750	747	248	DN250	DN250	470	95113532
S2.100.250.170.4.54E.C.232.G.N.D	C	1.095	1.135	418	750	747	248	DN250	DN250	520	95113533
S2.100.250.170.4.54E.D.232.G.N.D	D	1.095	1.135	418	750	747	248	DN250	DN250	470	95113534
S2.100.250.170.4.54E.H.232.G.N.D	H	1.095	1.135	418	750	747	248	DN250	DN250	520	96781218

With 10 m cable

### Electrical data

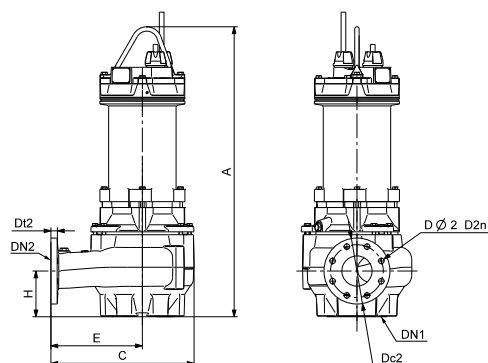
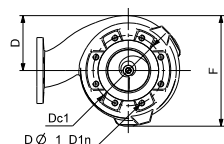
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$\eta_{\text{motor}} [\%]$			$\text{Cos } \varphi$		Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{\text{max}}$
						[A]	[A]		1/2	3/4	1/1	1/2	3/4		
S2.100.250.135.4.54E.S.218.G.N.D	16	13.5	4	1452	Y/D	26	166	0.78	0.82	0.82	0.50	0.62	0.70	0.233	289
S2.100.250.135.4.54E.C.218.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.233	289
S2.100.250.135.4.54E.D.218.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.233	289
S2.100.250.135.4.54E.H.218.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.247	289
S2.100.250.170.4.54E.S.232.G.N.D	20	17	4	1455	Y/D	19.9	169	0.84	0.86	0.86	0.60	0.73	0.81	0.247	248
S2.100.250.170.4.54E.C.232.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.247	248
S2.100.250.170.4.54E.D.232.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.233	248
S2.100.250.170.4.54E.H.232.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.247	248

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S2.100.250.135.4.54E.S.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.C.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.D.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.H.218.G.N.D	218	100	10	20
S2.100.250.170.4.54E.S.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.C.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.D.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.H.232.G.N.D	232	100	10	20

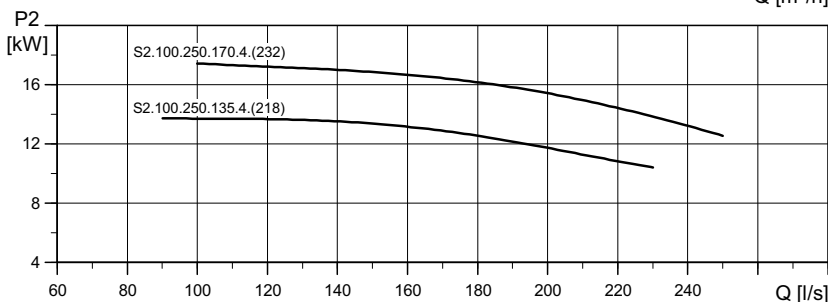
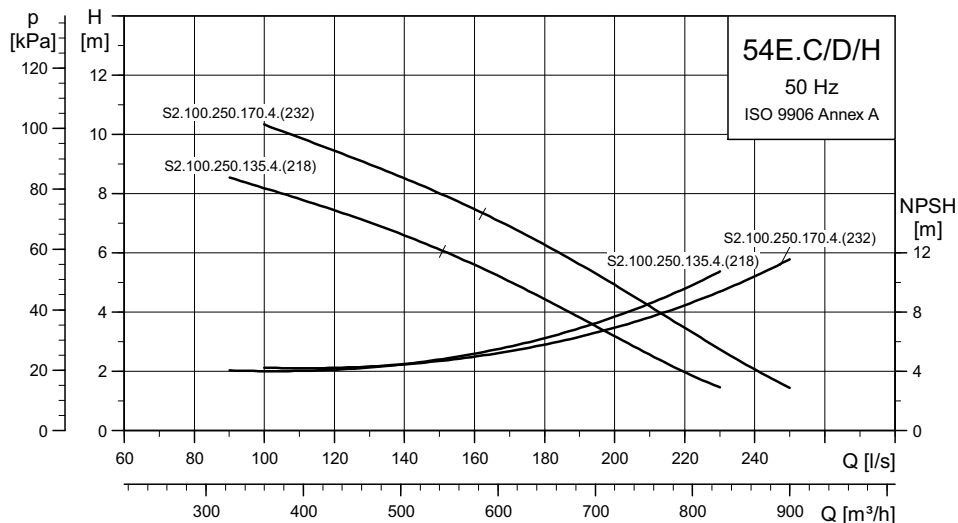
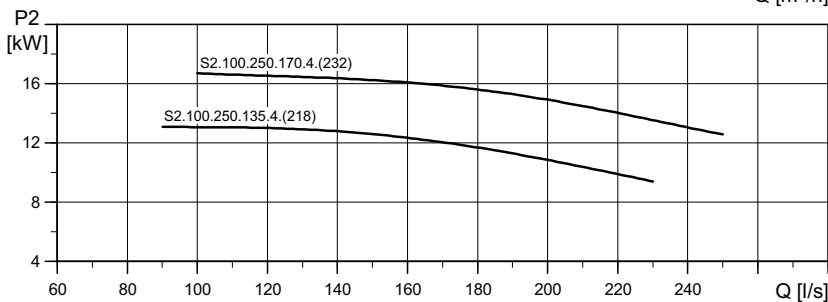
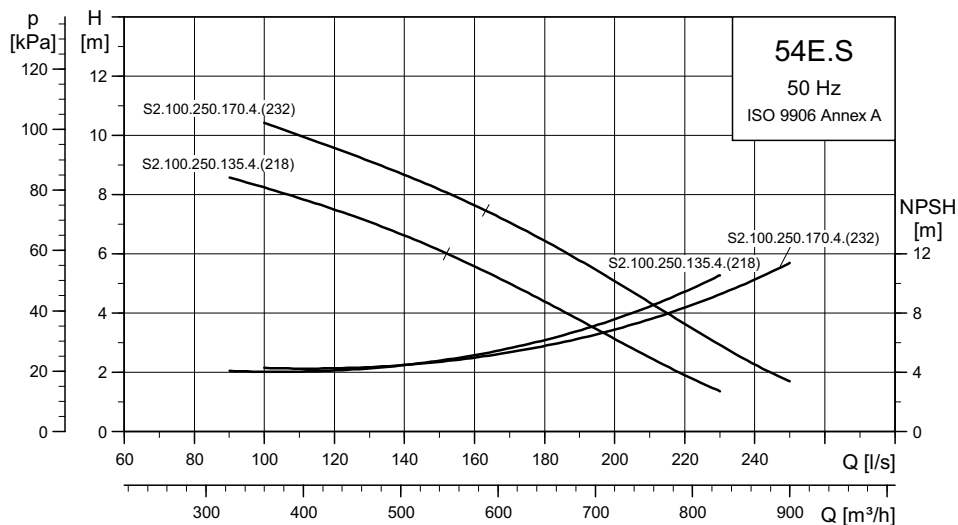
### Dimensional sketches



TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Extra low pressure - 3x415 V



TM04 0642 0908

TM04 0643 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S2.100.250.135.4.54E.S.218.G.N.D	S	1.086	1.135	418	750	747	248	DN250	DN250	450	95114431
S2.100.250.135.4.54E.C.218.G.N.D	C	1.086	1.135	418	750	747	248	DN250	DN250	500	95114434
S2.100.250.135.4.54E.D.218.G.N.D	D	1.086	1.135	418	750	747	248	DN250	DN250	450	95114437
S2.100.250.135.4.54E.H.218.G.N.D	H	1.086	1.135	418	750	747	248	DN250	DN250	500	96781217
S2.100.250.170.4.54E.S.232.G.N.D	S	1.095	1.135	418	750	747	248	DN250	DN250	470	95114449
S2.100.250.170.4.54E.C.232.G.N.D	C	1.095	1.135	418	750	747	248	DN250	DN250	520	95114452
S2.100.250.170.4.54E.D.232.G.N.D	D	1.095	1.135	418	750	747	248	DN250	DN250	470	95114455
S2.100.250.170.4.54E.H.232.G.N.D	H	1.095	1.135	418	750	747	248	DN250	DN250	520	96781219

With 10 m cable

### Electrical data

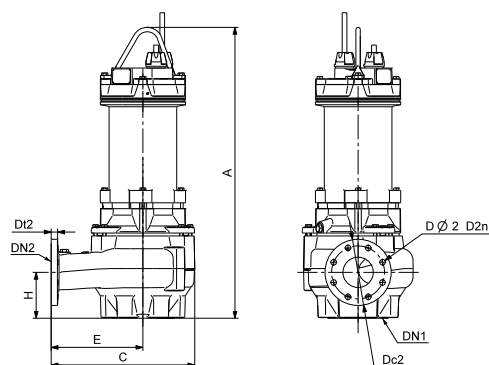
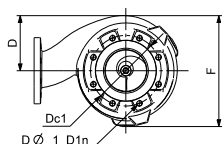
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$\eta_{\text{motor}}$ [%]			Cos $\phi$		Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{\text{max}}$
						[A]	[A]		1/2	3/4	1/1	1/2	3/4		
S2.100.250.135.4.54E.S.218.G.N.D	16	13.5	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.50	0.62	0.70	0.233	289
S2.100.250.135.4.54E.C.218.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.233	289
S2.100.250.135.4.54E.D.218.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.233	289
S2.100.250.135.4.54E.H.218.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.247	289
S2.100.250.170.4.54E.S.232.G.N.D	20	17	4	1455	Y/D	19.7	161	0.83	0.86	0.86	0.59	0.73	0.81	0.247	248
S2.100.250.170.4.54E.C.232.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.247	248
S2.100.250.170.4.54E.D.232.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.233	248
S2.100.250.170.4.54E.H.232.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.247	248

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S2.100.250.135.4.54E.S.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.C.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.D.218.G.N.D	218	100	10	20
S2.100.250.135.4.54E.H.218.G.N.D	218	100	10	20
S2.100.250.170.4.54E.S.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.C.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.D.232.G.N.D	232	100	10	20
S2.100.250.170.4.54E.H.232.G.N.D	232	100	10	20

### Dimensional sketches

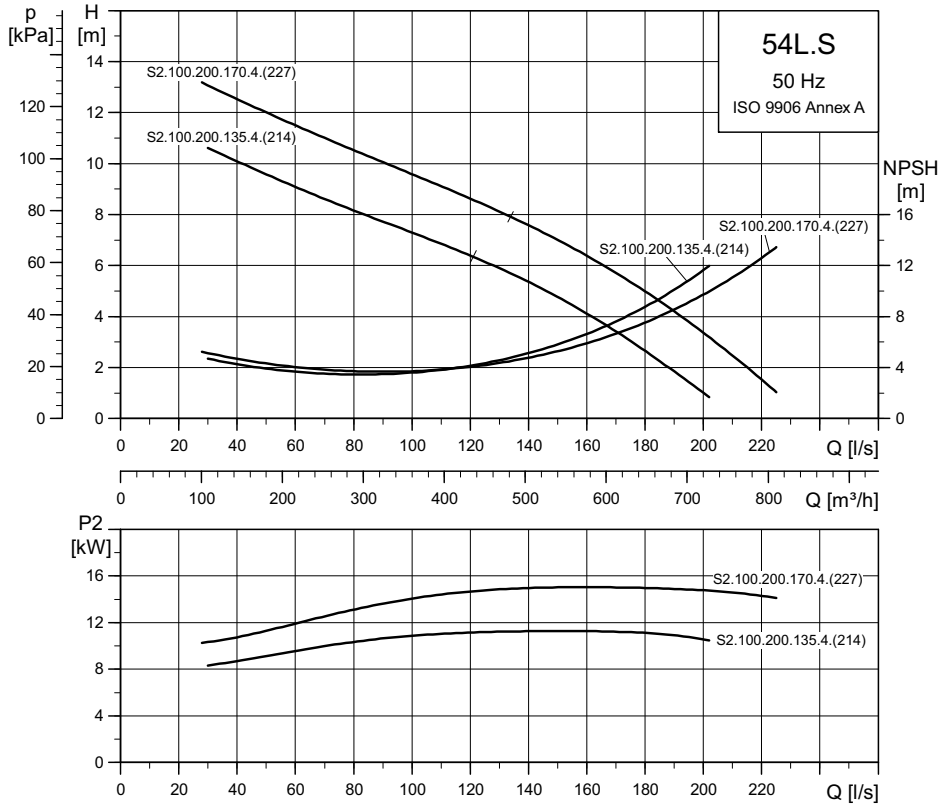


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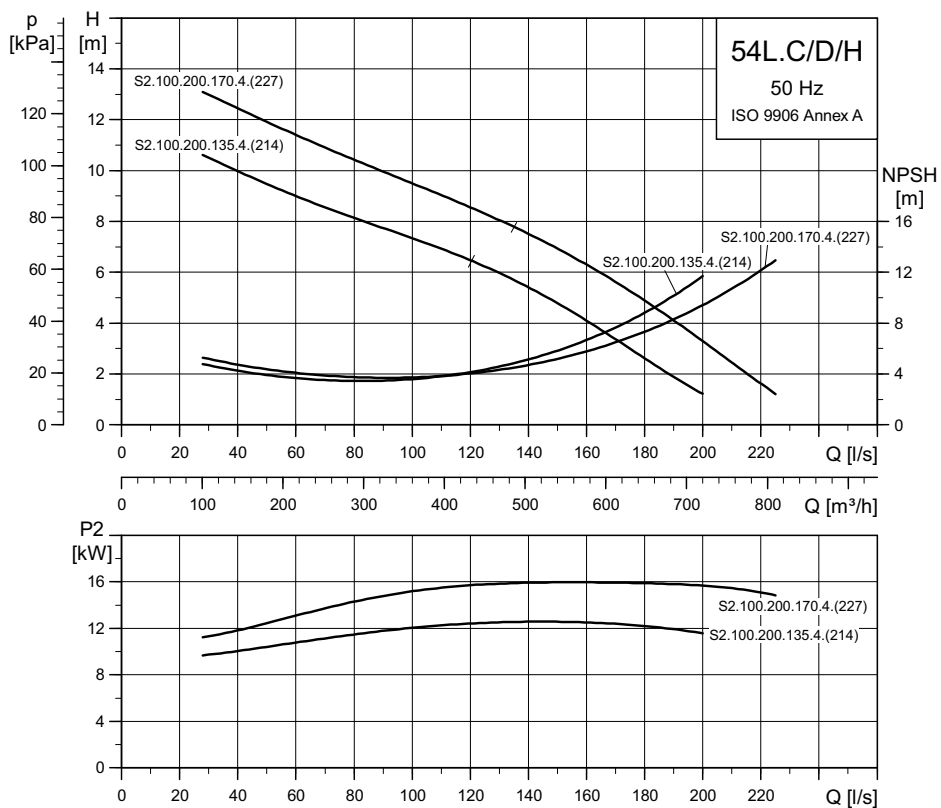
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Low pressure - 3x400/690 V

Impeller dia. 214 and 227



TM04 0649 0908



TM04 0650 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S2.100.200.135.4.54L.S.214.G.N.D	S	1.040	762	325	500	587	195	DN200	DN200	360	95113529
S2.100.200.135.4.54L.C.214.G.N.D	C	1.040	762	325	500	587	195	DN200	DN200	390	95113530
S2.100.200.135.4.54L.H.214.G.N.D	H	1.040	762	325	500	587	195	DN200	DN200	430	95113531
S2.100.200.170.4.54L.S.227.G.N.D	S	1.049	762	325	500	587	195	DN200	DN200	380	95113535
S2.100.200.170.4.54L.C.227.G.N.D	C	1.049	762	325	500	587	195	DN200	DN200	410	95113536
S2.100.200.170.4.54L.H.227.G.N.D	H	1.049	762	325	500	587	195	DN200	DN200	450	95113537

With 10 m cable

### Electrical data

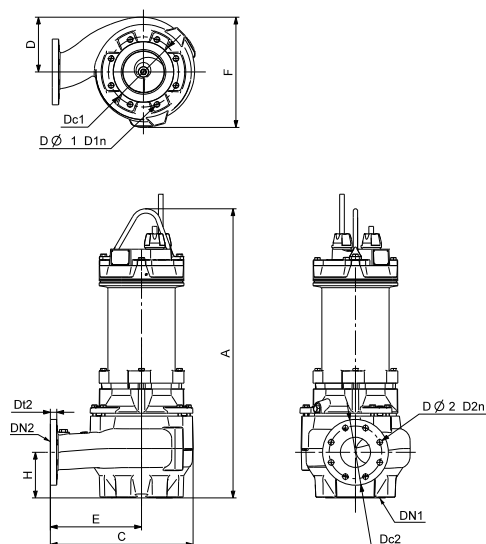
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$					$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	$I_{start}$ [A]	$\eta_{motor}$ [%]	1/2	3/4	1/1	1/2	3/4		
S2.100.200.135.4.54L.S.214.G.N.D	16	13.5	4	1452	Y/D	26	166	0.78	0.82	0.82	0.50	0.62	0.70	0.1964	289
S2.100.200.135.4.54L.C.214.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.1964	289
S2.100.200.135.4.54L.H.214.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.1964	289
S2.100.200.170.4.54L.S.227.G.N.D	20	17	4	1455	Y/D	19.9	169	0.84	0.86	0.86	0.60	0.73	0.81	0.1892	248
S2.100.200.170.4.54L.C.227.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.1892	248
S2.100.200.170.4.54L.H.227.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.1892	248

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S2.100.200.135.4.54L.S.214.G.N.D	214	100	10	20
S2.100.200.135.4.54L.C.214.G.N.D	214	100	10	20
S2.100.200.135.4.54L.H.214.G.N.D	214	100	10	20
S2.100.200.170.4.54L.S.227.G.N.D	227	100	10	20
S2.100.200.170.4.54L.C.227.G.N.D	227	100	10	20
S2.100.200.170.4.54L.H.227.G.N.D	227	100	10	20

### Dimensional sketches

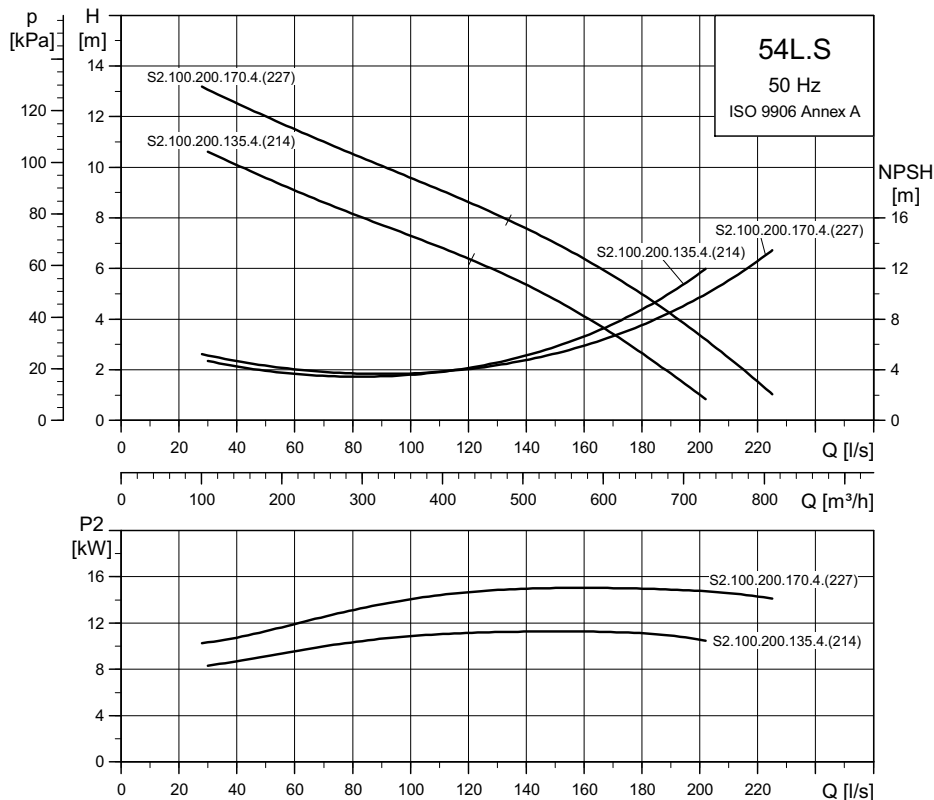


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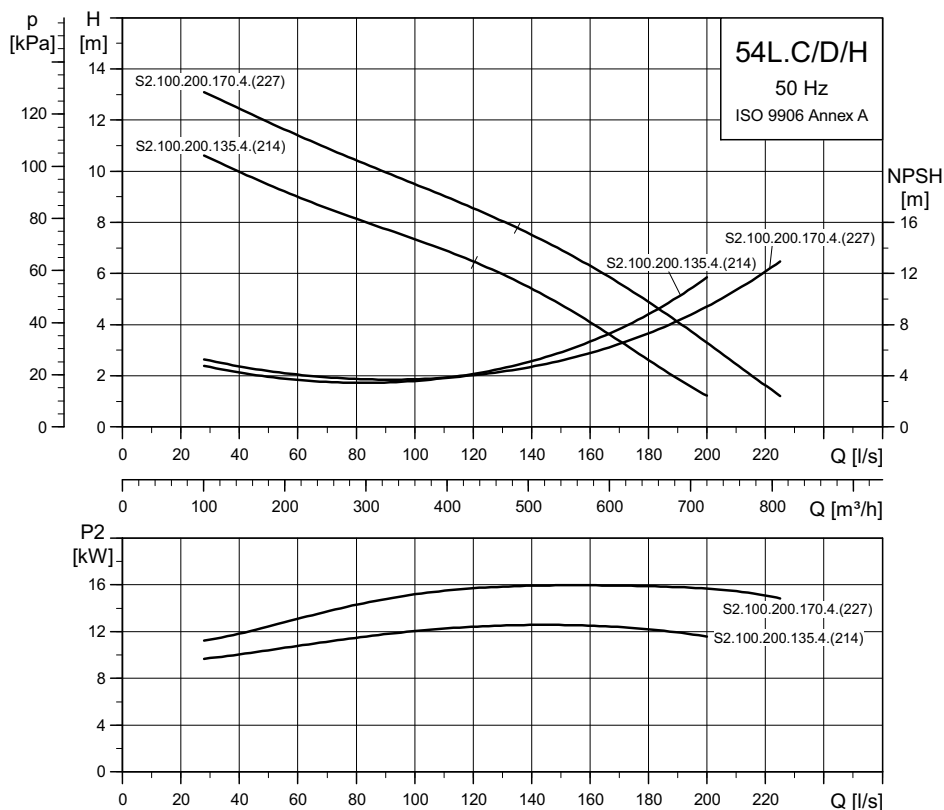
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Low pressure - 3x415 V

Impeller dia. 214 and 227



TM04 0649 0908



TM04 0650 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S2.100.200.135.4.54L.S.214.G.N.D	S	1.040	762	325	500	587	195	DN200	DN200	360	95114440
S2.100.200.135.4.54L.C.214.G.N.D	C	1.040	762	325	500	587	195	DN200	DN200	390	95114443
S2.100.200.135.4.54L.H.214.G.N.D	H	1.040	762	325	500	587	195	DN200	DN200	430	95114446
S2.100.200.170.4.54L.S.227.G.N.D	S	1.049	762	325	500	587	195	DN200	DN200	380	95114458
S2.100.200.170.4.54L.C.227.G.N.D	C	1.049	762	325	500	587	195	DN200	DN200	410	95114461
S2.100.200.170.4.54L.H.227.G.N.D	H	1.049	762	325	500	587	195	DN200	DN200	450	95114464

With 10 m cable

### Electrical data

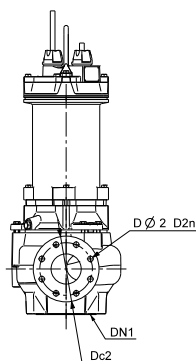
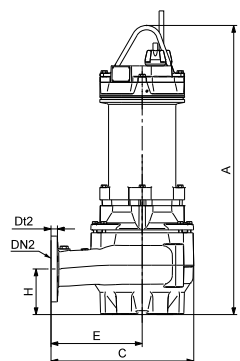
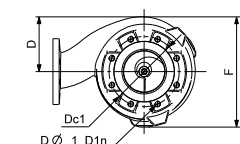
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$I_{start}$			$\eta_{motor}$ [%]			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S2.100.200.135.4.54L.S.214.G.N.D	16	13.5	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.50	0.62	0.70	0.1964	289				
S2.100.200.135.4.54L.C.214.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.1964	289				
S2.100.200.135.4.54L.H.214.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.1964	289				
S2.100.200.170.4.54L.S.227.G.N.D	20	17	4	1455	Y/D	19.7	161	0.83	0.86	0.86	0.59	0.73	0.81	0.1892	248				
S2.100.200.170.4.54L.C.227.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.1892	248				
S2.100.200.170.4.54L.H.227.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.1892	248				

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S2.100.200.135.4.54L.S.214.G.N.D	214	100	10	20
S2.100.200.135.4.54L.C.214.G.N.D	214	100	10	20
S2.100.200.135.4.54L.H.214.G.N.D	214	100	10	20
S2.100.200.170.4.54L.S.227.G.N.D	227	100	10	20
S2.100.200.170.4.54L.C.227.G.N.D	227	100	10	20
S2.100.200.170.4.54L.H.227.G.N.D	227	100	10	20

### Dimensional sketches

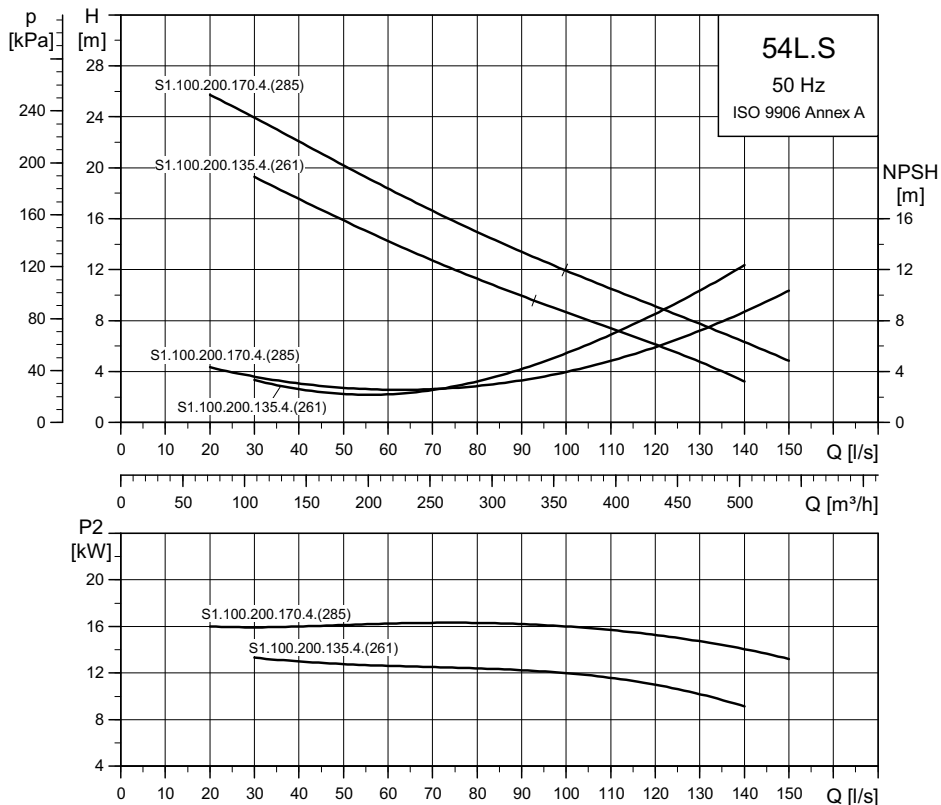


TM04 2410 2508

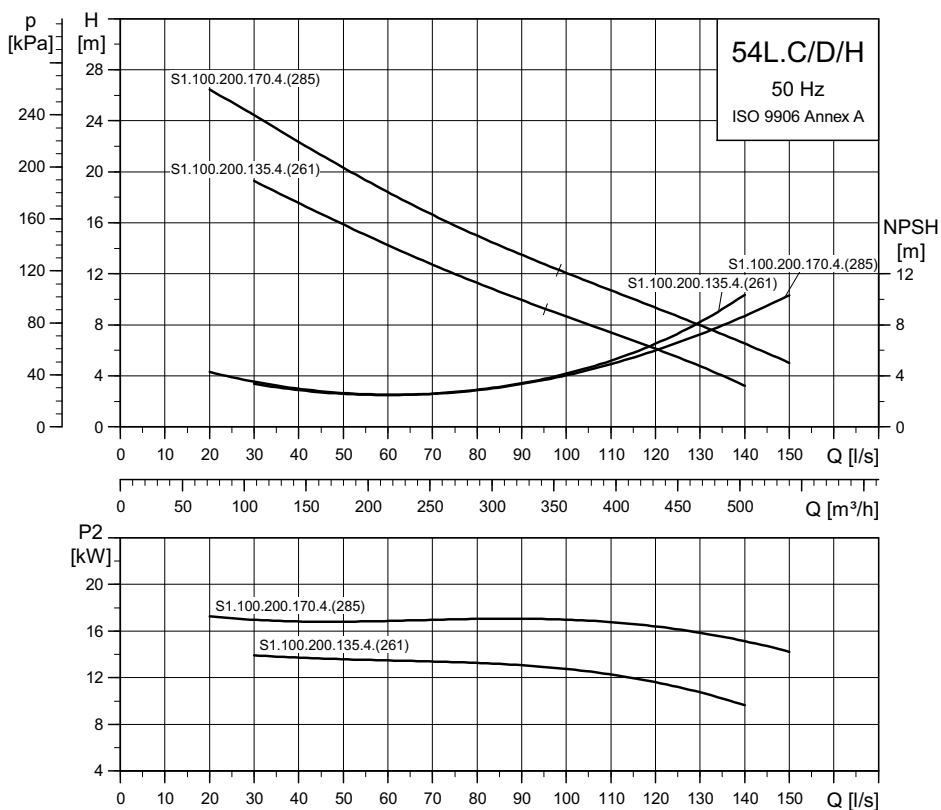
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Low pressure - 3x400/690 V

Impeller dia. 261 and 285



TM04 0647 0908



TM04 0648 0908



### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.100.200.135.4.54L.S.261.G.N.D	S	1.045	762	325	500	587	199	DN200	DN200	360	95113506
S1.100.200.135.4.54L.C.261.G.N.D	C	1.045	762	325	500	587	199	DN200	DN200	390	95113507
S1.100.200.135.4.54L.H.261.G.N.D	H	1.045	762	325	500	587	199	DN200	DN200	430	95113508
S1.100.200.170.4.54L.S.285.G.N.D	S	1.049	762	325	500	587	199	DN200	DN200	370	95113515
S1.100.200.170.4.54L.C.285.G.N.D	C	1.049	762	325	500	587	199	DN200	DN200	410	95113516
S1.100.200.170.4.54L.H.285.G.N.D	H	1.049	762	325	500	587	199	DN200	DN200	440	95113517

With 10 m cable

### Electrical data

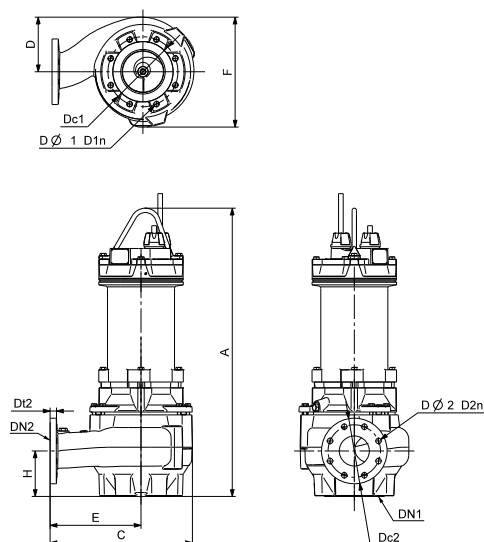
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I <sub>N</sub>			I <sub>start</sub>			η <sub>motor</sub> [%]			Cos φ			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] M <sub>max</sub> [Nm]
						[A]	[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S1.100.200.135.4.54L.S.261.G.N.D	16	13,5	4	1452	Y/D	26	166	0,78	0,82	0,82	0,50	0,62	0,70	0,315	289				
S1.100.200.135.4.54L.C.261.G.N.D	17	14	4	1452	Y/D	26	166	0,78	0,82	0,82	0,51	0,63	0,71	0,315	289				
S1.100.200.135.4.54L.H.261.G.N.D	17	14	4	1452	Y/D	26	166	0,78	0,82	0,82	0,51	0,63	0,71	0,315	289				
S1.100.200.170.4.54L.S.285.G.N.D	20	17	4	1455	Y/D	19,9	169	0,84	0,86	0,86	0,60	0,73	0,81	0,3657	248				
S1.100.200.170.4.54L.C.285.G.N.D	21	18	4	1451	Y/D	19,9	169	0,84	0,86	0,86	0,62	0,75	0,82	0,3657	248				
S1.100.200.170.4.54L.H.285.G.N.D	21	18	4	1451	Y/D	19,9	169	0,84	0,86	0,86	0,62	0,75	0,82	0,3657	248				

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.100.200.135.4.54L.S.261.G.N.D	261	100	10	20
S1.100.200.135.4.54L.C.261.G.N.D	261	100	10	20
S1.100.200.135.4.54L.H.261.G.N.D	261	100	10	20
S1.100.200.170.4.54L.S.285.G.N.D	285	100	10	20
S1.100.200.170.4.54L.C.285.G.N.D	285	100	10	20
S1.100.200.170.4.54L.H.285.G.N.D	285	100	10	20

### Dimensional sketches

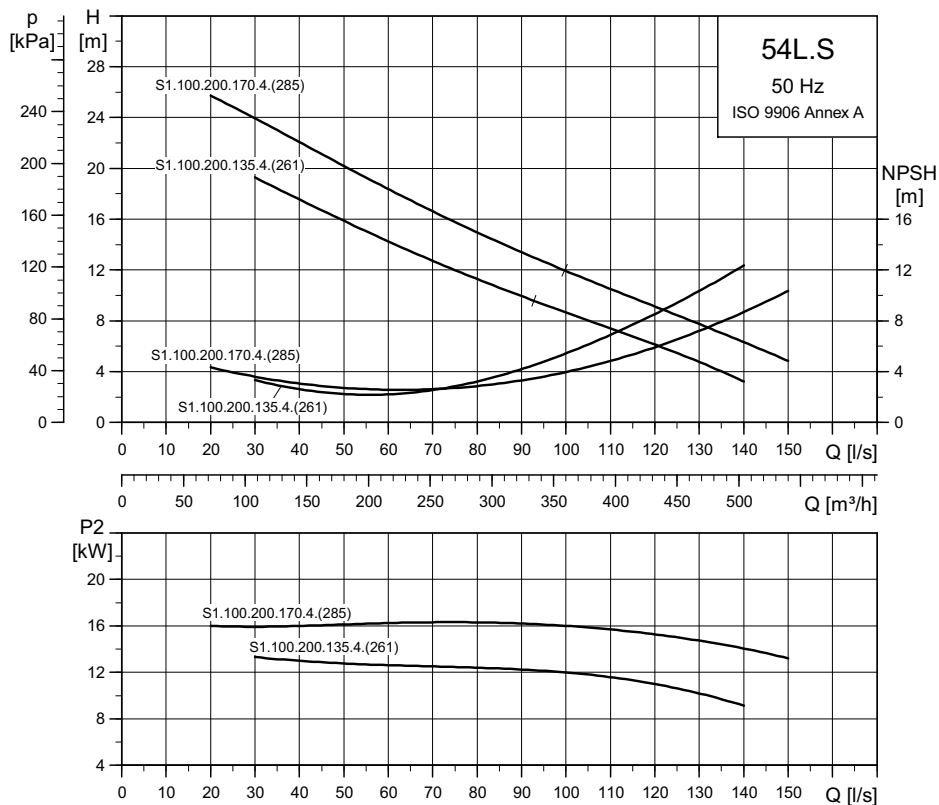


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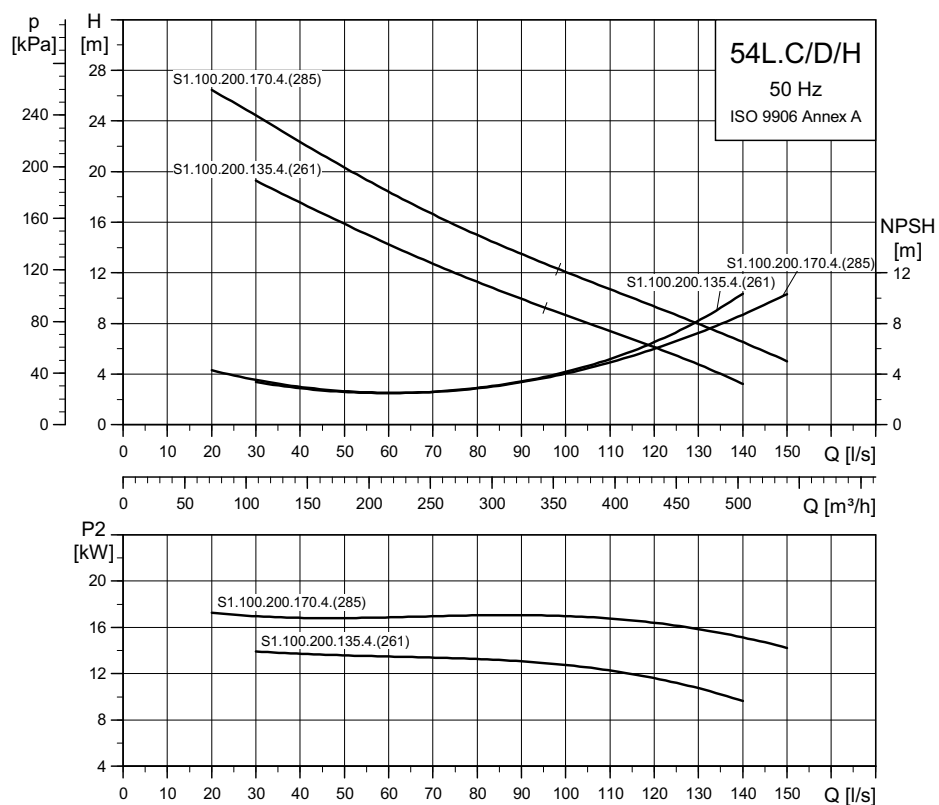
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Low pressure - 3x415 V

Impeller dia. 261 and 285



TM04 0647 0908



TM04 0648 0908

## Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.100.200.135.4.54L.S.261.G.N.D	S	1.045	762	325	500	587	199	DN200	DN200	360	95114377
S1.100.200.135.4.54L.C.261.G.N.D	C	1.045	762	325	500	587	199	DN200	DN200	390	95114380
S1.100.200.135.4.54L.H.261.G.N.D	H	1.045	762	325	500	587	199	DN200	DN200	430	95114383
S1.100.200.170.4.54L.S.285.G.N.D	S	1.049	762	325	500	587	199	DN200	DN200	370	95114404
S1.100.200.170.4.54L.C.285.G.N.D	C	1.049	762	325	500	587	199	DN200	DN200	410	95114407
S1.100.200.170.4.54L.H.285.G.N.D	H	1.049	762	325	500	587	199	DN200	DN200	440	95114410

With 10 m cable

## Electrical data

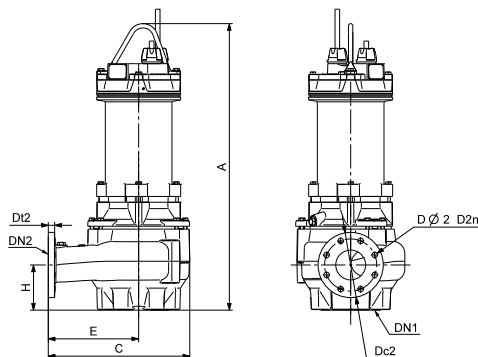
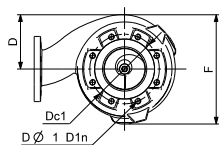
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I <sub>n</sub>			I <sub>start</sub>			η <sub>motor</sub> [%]			Cos φ			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] M <sub>max</sub> [Nm]
						[A]	[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S1.100.200.135.4.54L.S.261.G.N.D	16	13.5	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.50	0.62	0.70	0.315	289				
S1.100.200.135.4.54L.C.261.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.315	289				
S1.100.200.135.4.54L.H.261.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.315	289				
S1.100.200.170.4.54L.S.285.G.N.D	20	17	4	1455	Y/D	19.7	161	0.83	0.86	0.86	0.59	0.73	0.81	0.3657	248				
S1.100.200.170.4.54L.C.285.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3657	248				
S1.100.200.170.4.54L.H.285.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3657	248				

Note: Enclosure class: IP 68

## Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.100.200.135.4.54L.S.261.G.N.D	261	100	10	20
S1.100.200.135.4.54L.C.261.G.N.D	261	100	10	20
S1.100.200.135.4.54L.H.261.G.N.D	261	100	10	20
S1.100.200.170.4.54L.S.285.G.N.D	285	100	10	20
S1.100.200.170.4.54L.C.285.G.N.D	285	100	10	20
S1.100.200.170.4.54L.H.285.G.N.D	285	100	10	20

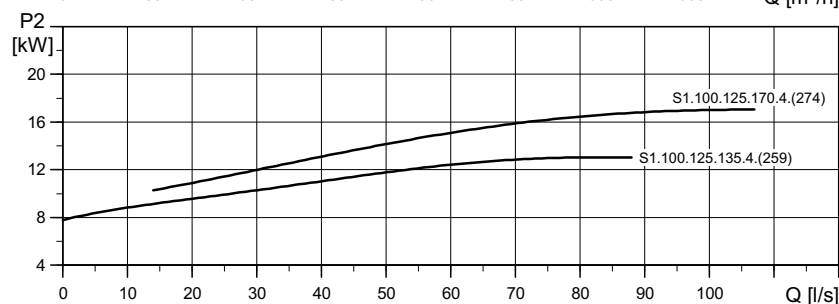
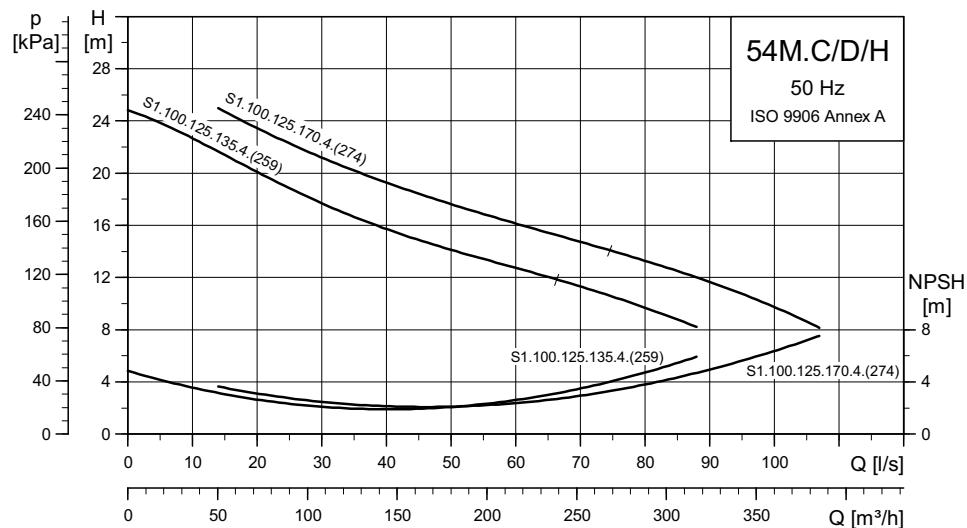
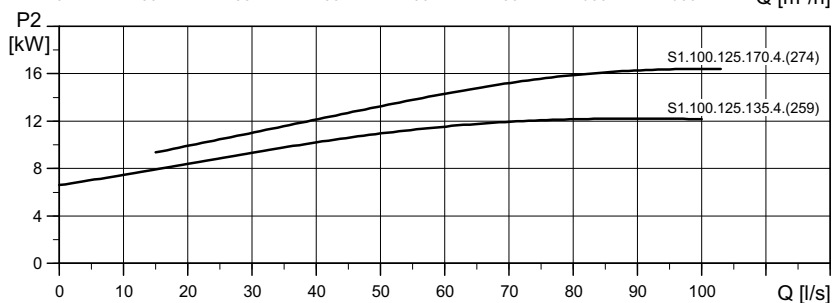
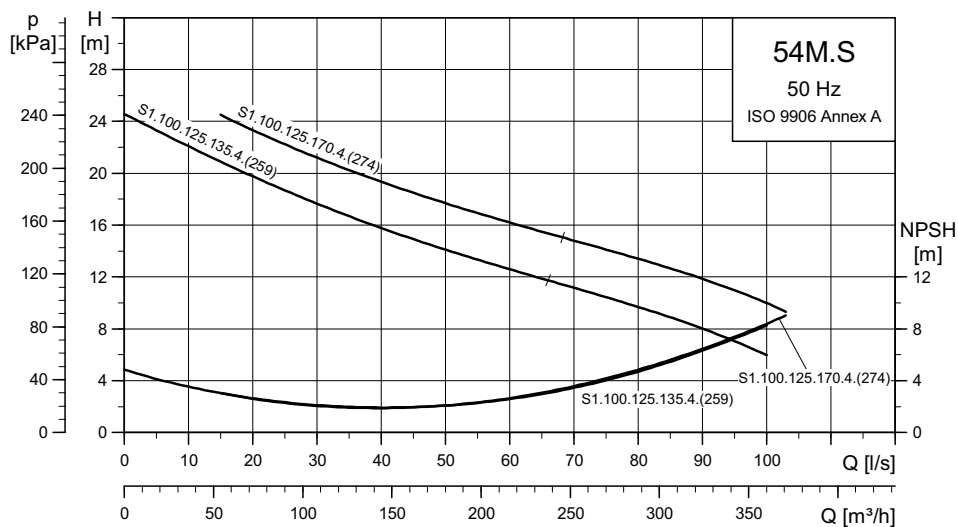
## Dimensional sketches



TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Middle pressure - 3x400/690 V



TM04 0651 0908

TM04 0652 0908

## Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.100.125.135.4.54M.S.259.G.N.D	S	1.042	577	233	360	446	211	DN150	DN125	300	95113512
S1.100.125.135.4.54M.C.259.G.N.D	C	1.042	577	233	360	446	211	DN150	DN125	330	95113513
S1.100.125.135.4.54M.H.259.G.N.D	H	1.042	577	233	360	446	211	DN150	DN125	360	95113514
S1.100.125.170.4.54M.S.274.G.N.D	S	1.051	577	233	360	446	211	DN150	DN125	320	95113521
S1.100.125.170.4.54M.C.274.G.N.D	C	1.051	577	233	360	446	211	DN150	DN125	350	95113522
S1.100.125.170.4.54M.H.274.G.N.D	H	1.051	577	233	360	446	211	DN150	DN125	380	95113523

With 10 m cable

## Electrical data

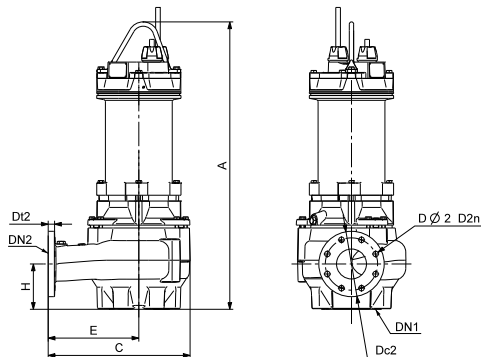
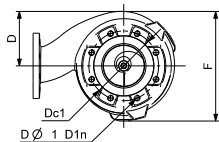
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$					$I_{start}$			$\eta_{motor} [\%]$			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max} [Nm]$
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1					
S1.100.125.135.4.54M.S.259.G.N.D	16	13.5	4	1452	Y/D	26	166	0.78	0.82	0.82	0.50	0.62	0.70	0.3393	289						
S1.100.125.135.4.54M.C.259.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.3393	289						
S1.100.125.135.4.54M.H.259.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.3393	289						
S1.100.125.170.4.54M.S.274.G.N.D	20	17	4	1455	Y/D	19.9	169	0.84	0.86	0.86	0.60	0.73	0.81	0.3048	248						
S1.100.125.170.4.54M.C.274.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.3048	248						
S1.100.125.170.4.54M.H.274.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.3048	248						

Note: Enclosure class: IP 68

## Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.100.125.135.4.54M.S.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.C.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.H.259.G.N.D	259	100	10	20
S1.100.125.170.4.54M.S.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.C.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.H.274.G.N.D	274	100	10	20

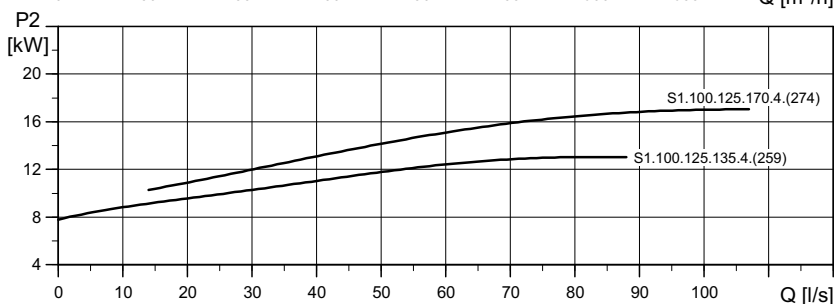
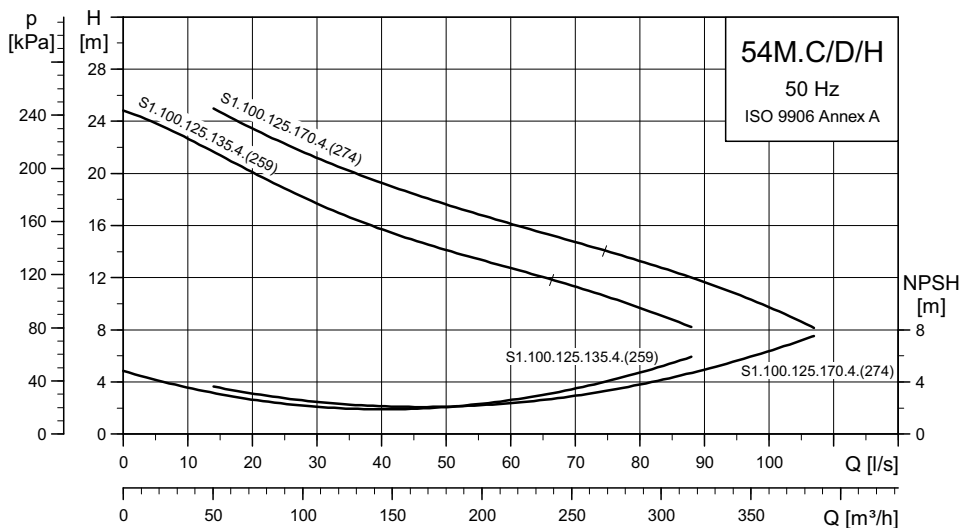
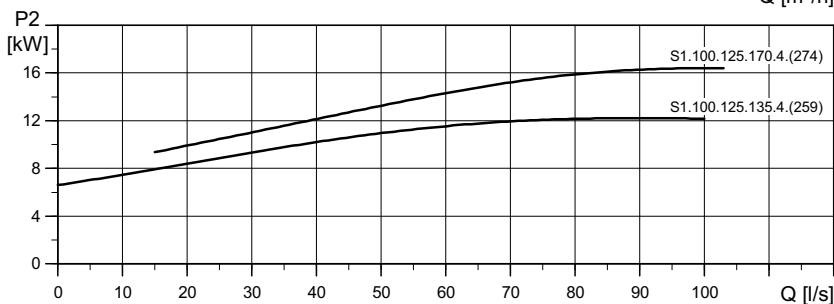
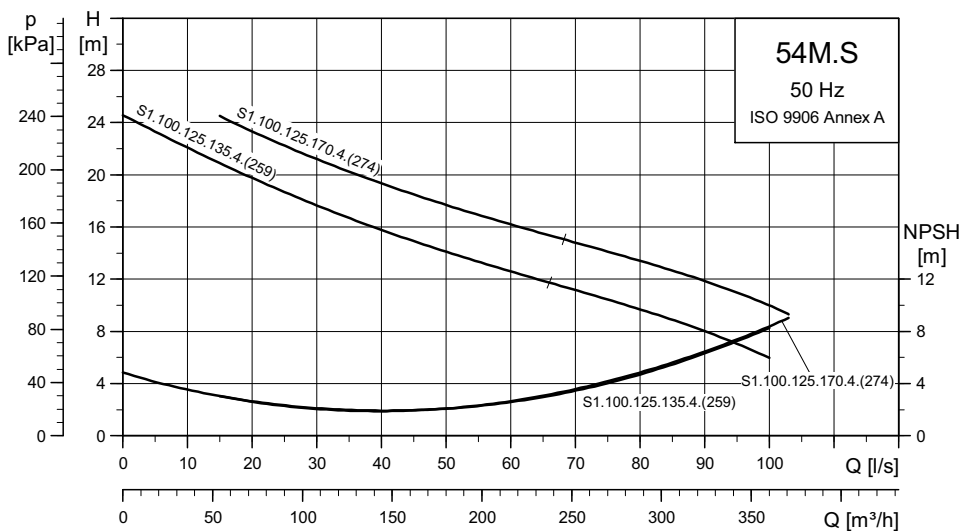
## Dimensional sketches



TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## Middle pressure - 3x415 V



TM04 0451 0808

TM04 0652 0908

### Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.100.125.135.4.54M.S.259.G.N.D	S	1.042	577	233	360	446	211	DN150	DN125	300	95114395
S1.100.125.135.4.54M.C.259.G.N.D	C	1.042	577	233	360	446	211	DN150	DN125	330	95114398
S1.100.125.135.4.54M.H.259.G.N.D	H	1.042	577	233	360	446	211	DN150	DN125	360	95114401
S1.100.125.170.4.54M.S.274.G.N.D	S	1.051	577	233	360	446	211	DN150	DN125	320	95114422
S1.100.125.170.4.54M.C.274.G.N.D	C	1.051	577	233	360	446	211	DN150	DN125	350	95114425
S1.100.125.170.4.54M.H.274.G.N.D	H	1.051	577	233	360	446	211	DN150	DN125	380	95114428

With 10 m cable

### Electrical data

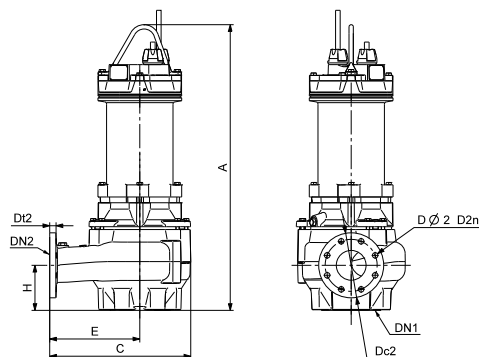
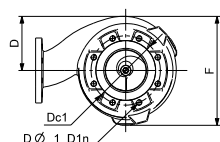
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$		$\eta_{\text{motor}} [\%]$			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{\text{max}}$
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S1.100.125.135.4.54M.S.259.G.N.D	16	13.5	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.50	0.62	0.70	0.3393	289
S1.100.125.135.4.54M.C.259.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.3393	289
S1.100.125.135.4.54M.H.259.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.3393	289
S1.100.125.170.4.54M.S.274.G.N.D	20	17	4	1455	Y/D	19.7	161	0.83	0.86	0.86	0.59	0.73	0.81	0.3048	248
S1.100.125.170.4.54M.C.274.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3048	248
S1.100.125.170.4.54M.H.274.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3048	248

Note: Enclosure class: IP 68

### Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.100.125.135.4.54M.S.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.C.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.H.259.G.N.D	259	100	10	20
S1.100.125.170.4.54M.S.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.C.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.H.274.G.N.D	274	100	10	20

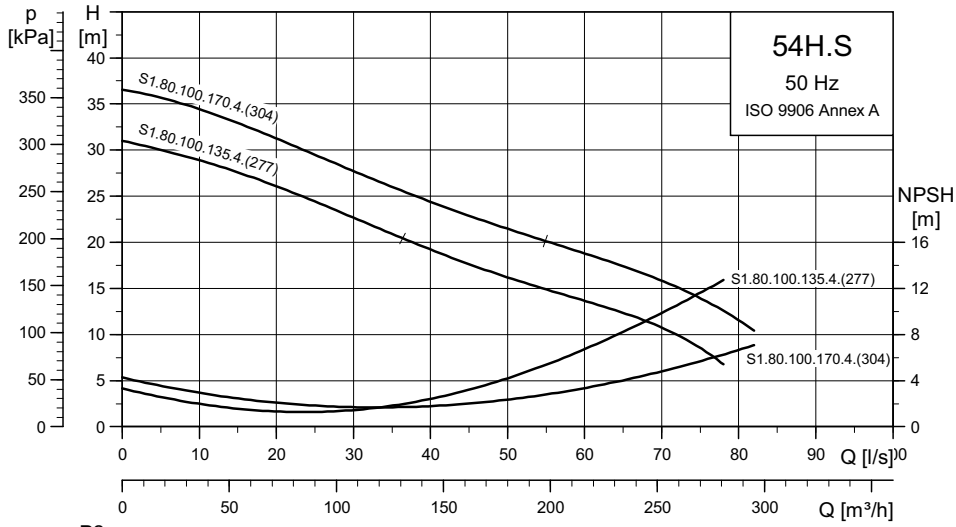
### Dimensional sketches



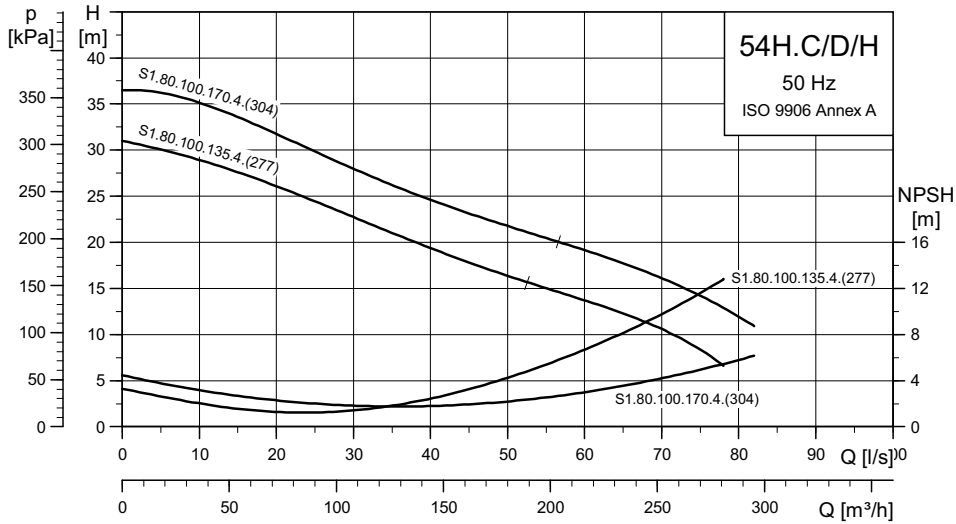
TM04 2410 2508

Size DN	PN	Dc	Dt	D Ø
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## High pressure - 3x400/690 V



TM04 0645 0908



TM04 0646 0908



## Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.80.100.135.4.54H.S.277.G.N.D	S	994	572	227	355	437	171	DN150	DN100	300	95113509
S1.80.100.135.4.54H.C.277.G.N.D	C	994	572	227	355	437	171	DN150	DN100	330	95113510
S1.80.100.135.4.54H.H.277.G.N.D	H	994	572	227	355	437	171	DN150	DN100	360	95113511
S1.80.100.170.4.54H.S.304.G.N.D	S	1.003	572	227	355	437	171	DN150	DN100	320	95113518
S1.80.100.170.4.54H.C.304.G.N.D	C	1.003	572	227	355	437	171	DN150	DN100	350	95113519
S1.80.100.170.4.54H.H.304.G.N.D	H	1.003	572	227	355	437	171	DN150	DN100	380	95113520

With 10 m cable

## Electrical data

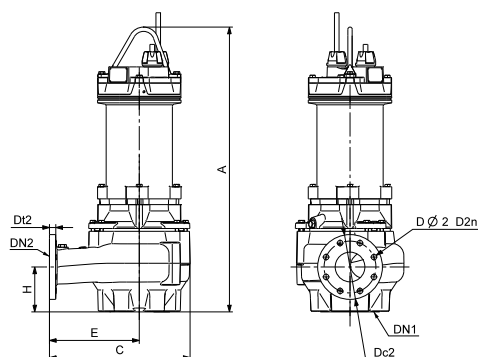
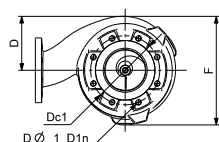
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$I_{start}$			$\eta_{motor}$ [%]			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S1.80.100.135.4.54H.S.277.G.N.D	16	13.5	4	1452	Y/D	26	166	0.78	0.82	0.82	0.50	0.62	0.70	0.3706	289				
S1.80.100.135.4.54H.C.277.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.3706	289				
S1.80.100.135.4.54H.H.277.G.N.D	17	14	4	1452	Y/D	26	166	0.78	0.82	0.82	0.51	0.63	0.71	0.3706	289				
S1.80.100.170.4.54H.S.304.G.N.D	20	17	4	1455	Y/D	19.9	169	0.84	0.86	0.86	0.60	0.73	0.81	0.3943	248				
S1.80.100.170.4.54H.C.304.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.3943	248				
S1.80.100.170.4.54H.H.304.G.N.D	21	18	4	1451	Y/D	19.9	169	0.84	0.86	0.86	0.62	0.75	0.82	0.3943	248				

Note: Enclosure class: IP 68

## Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.80.100.135.4.54H.S.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.C.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.H.277.G.N.D	277	80	10	20
S1.80.100.170.4.54H.S.304.G.N.D	304	80	10	20
S1.80.100.170.4.54H.C.304.G.N.D	304	80	10	20
S1.80.100.170.4.54H.H.304.G.N.D	304	80	10	20

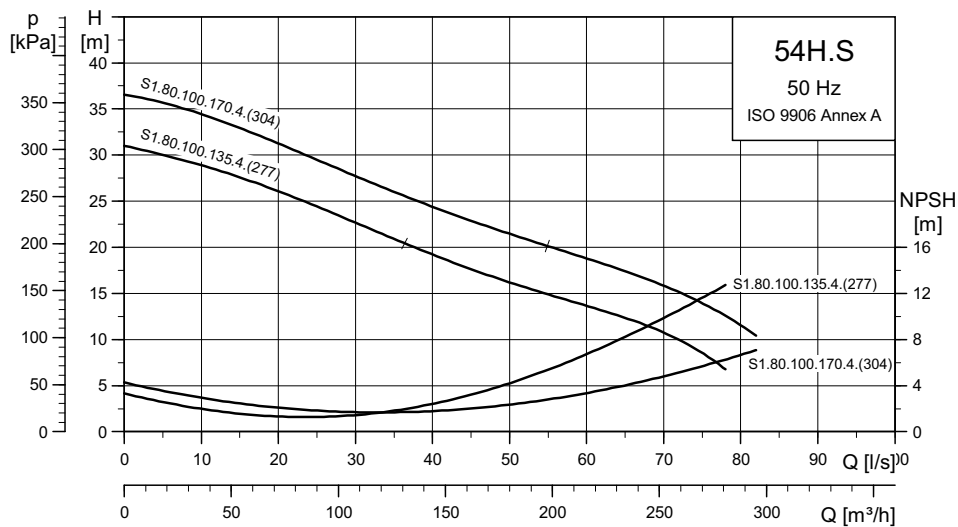
## Dimensional sketches



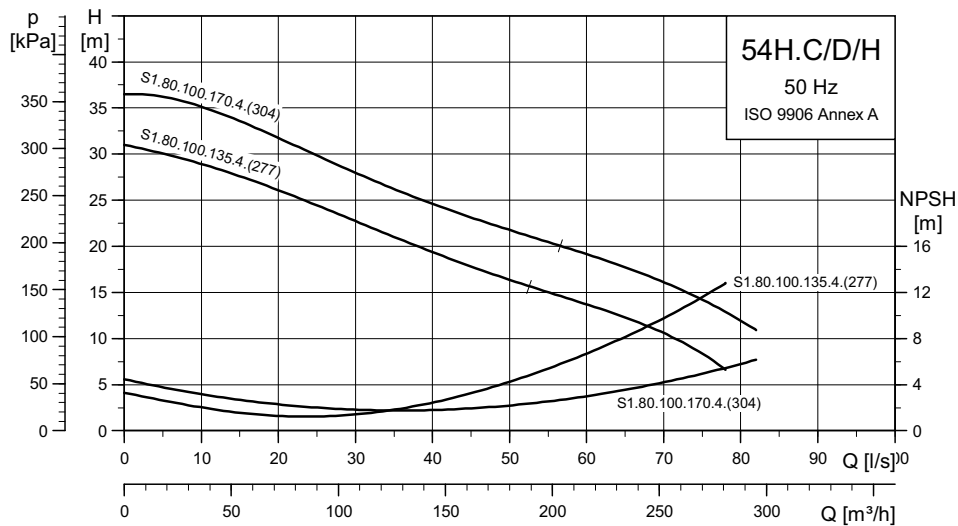
TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

## High pressure - 3x415 V



TM04 0645 0908



TM04 0646 0908

## Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight	Product number
S1.80.100.135.4.54H.S.277.G.N.D	S	994	572	227	355	437	171	DN150	DN100	300	95114386
S1.80.100.135.4.54H.C.277.G.N.D	C	994	572	227	355	437	171	DN150	DN100	330	95114389
S1.80.100.135.4.54H.H.277.G.N.D	H	994	572	227	355	437	171	DN150	DN100	360	95114392
S1.80.100.170.4.54H.S.304.G.N.D	S	1.003	572	227	355	437	171	DN150	DN100	320	95114413
S1.80.100.170.4.54H.C.304.G.N.D	C	1.003	572	227	355	437	171	DN150	DN100	350	95114416
S1.80.100.170.4.54H.H.304.G.N.D	H	1.003	572	227	355	437	171	DN150	DN100	380	95114419

With 10 m cable

## Electrical data

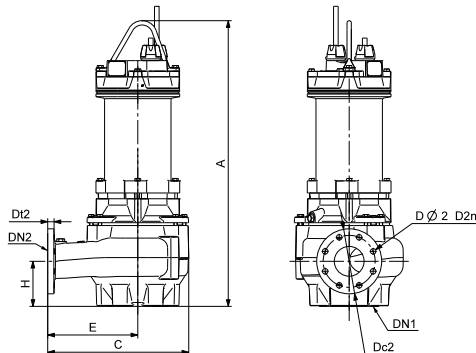
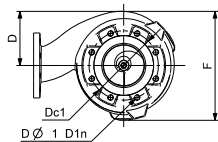
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	$I_N$			$I_{start}$			$\eta_{motor} [\%]$			$\cos \varphi$			Moment of inertia [kgm <sup>2</sup> ]	Breakdown Torque [Nm] $M_{max}$ [Nm]
						[A]	[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S1.80.100.135.4.54H.S.277.G.N.D	16	13.5	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.50	0.62	0.70	0.3706	289				
S1.80.100.135.4.54H.C.277.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.3706	289				
S1.80.100.135.4.54H.H.277.G.N.D	17	14	4	1452	Y/D	25.06	160	0.78	0.82	0.82	0.51	0.63	0.71	0.3706	289				
S1.80.100.170.4.54H.S.304.G.N.D	20	17	4	1455	Y/D	19.7	161	0.83	0.86	0.86	0.59	0.73	0.81	0.3943	248				
S1.80.100.170.4.54H.C.304.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3943	248				
S1.80.100.170.4.54H.H.304.G.N.D	21	18	4	1451	Y/D	19.7	161	0.84	0.86	0.85	0.61	0.75	0.82	0.3943	248				

Note: Enclosure class: IP 68

## Pump data

Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
S1.80.100.135.4.54H.S.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.C.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.H.277.G.N.D	277	80	10	20
S1.80.100.170.4.54H.S.304.G.N.D	304	80	10	20
S1.80.100.170.4.54H.C.304.G.N.D	304	80	10	20
S1.80.100.170.4.54H.H.304.G.N.D	304	80	10	20



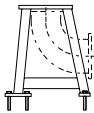
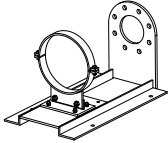
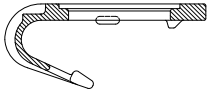
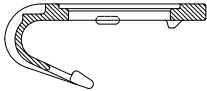
## Dimensional sketches










TM04 2410 2508

Size DN	PN	Dc	Dt	DØ
100	10	180	20	8x18
125	10	210	22	8x18
150	10	240	22	8x22
200	10	295	24	8x22
250	10	350	26	12x22

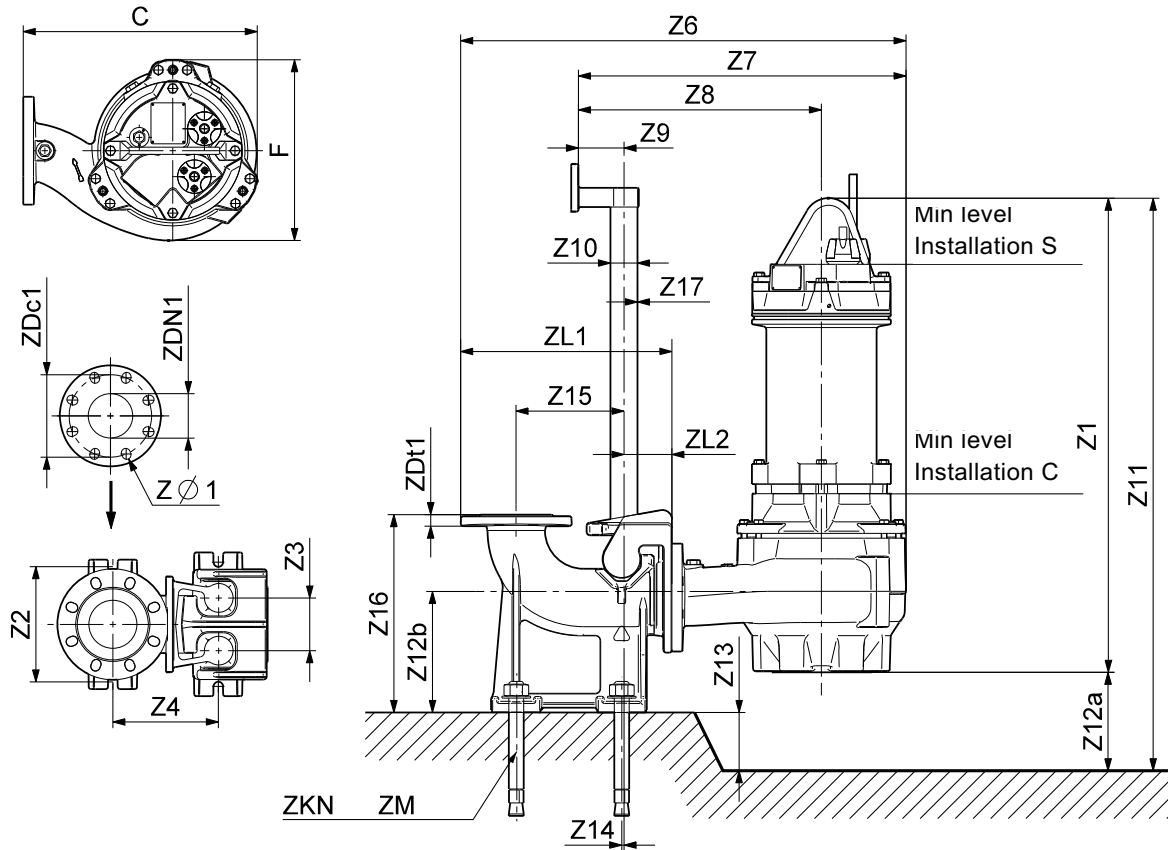
### Installation systems

Pictures	Description	Size	Weight	PN	Product number
	Cast-iron, epoxy-coated auto-coupling system complete with: <ul style="list-style-type: none"> <li>• guide claw</li> <li>• base unit</li> <li>• upper guide rail bracket</li> <li>• gaskets and bolts.</li> </ul>	DN100	54	10	96090994
		DN100/80	57	10	96102240
		DN125/150	95	10	96782145
		DN200	250	10	96641489
		DN250	225	10	96782483
Intermediate guide rail bracket					96046827
Guide rails					Standard pipes. Not delivered by Grundfos
	Cast iron, epoxy-coated ring stand with flanged 90° elbow and hose connection. Supplied with bolts, nuts, gaskets and anchor bolts.	DN150/DN80-3"		10	96790702
		DN100/DN150-6"		10	96789478
		DN125/DN150-6"		10	96789479
		DN200/DN200-8"		10	96789480
		DN250/DN250-10"		10	96799481
	Base stand without bend.	Suction flange size	DN 150		96308238
			DN 200		96094523
			DN 250		96094525
	Galvanized steel bracket for horizontal, dry installation. Supplied with bolts, gaskets and anchor bolts.		DN 150		96776519
			DN 200		96801089
			DN 250		96801090
	10° adapter with lift function for Grundfos base unit UV 35579 (160 mm centre height) incl. guide claw, bolt, nuts and gaskets.		DN80		96572290
			DN100		96294872
			DN80		96572291
	Adapter for Grundfos base unit UV 35586 B (260 mm centre height) incl. guide claw, bolt, nuts and gaskets.		DN100		96572292

### Other accessories

Pictures	Description	Dimensions		Product number
	4 m galvanized lifting chain with lifting link and safety hook. With certificates.			96735550
	6 m galvanized lifting chain with lifting link and safety hook. With certificates.			96735553
	8 m galvanized lifting chain with lifting link and safety hook .With certificates.	800	S 34-58	96735554
	10 m galvanized lifting chain with lifting link and safety hook. With certificates.			96735556
	12 m galvanized lifting chain with lifting link and safety hook. With certificates.			96735557
	4 m stainless steel lifting chain with lifting link and safety hook. With certificates.			96735559
	6 m stainless steel lifting chain with lifting link and safety hook. With certificates.			96735564
	8 m stainless steel lifting chain with lifting link and safety hook. With certificates.	800	S 34-58	96735566
	10 m stainless steel lifting chain with lifting link and safety hook. With certificates.			96735567
	12 m stainless steel lifting chain with lifting link and safety hook. With certificates.			96735569
	AMD.07.18.1410 mixer, 3x400 V, 50 Hz			96113490
	Bracket for wall mounting	2" thread		96115291
	Bracket for floor mounting	2" thread		96115292
	Bracket for suspended mounting	2" thread		96115293
	Tube for suspended mounting, length 3 m	2" thread		96115294
	Float switch with 10 m cable			96003332
	Float switch with 20 m cable			96003695
	Float switch for use in potentially explosive environments. With 10 m cable			96003421
	Float switch for use in potentially explosive environments. With 20 m cable			96003536
	Bracket for two float switches			96003338
		Float switches with bracket, 10 m cable	2 switches, 1 pump without alarm	
3 switches, 1 pump with alarm				
3 switches, 2 pumps with alarm				
4 switches, 2 pumps with alarm				
	Float switches for use in potentially explosive environments. With bracket and 10 m cable.	2 switches, 1 pump without alarm	62500016	
		3 switches, 1 pump with alarm	62500017	
		3 switches, 2 pumps with alarm	62500017	
		4 switches, 2 pumps with alarm	62500018	
	Bracket for level electrodes	For mounting on a 38 mm pipe		91713196

## Auto coupling



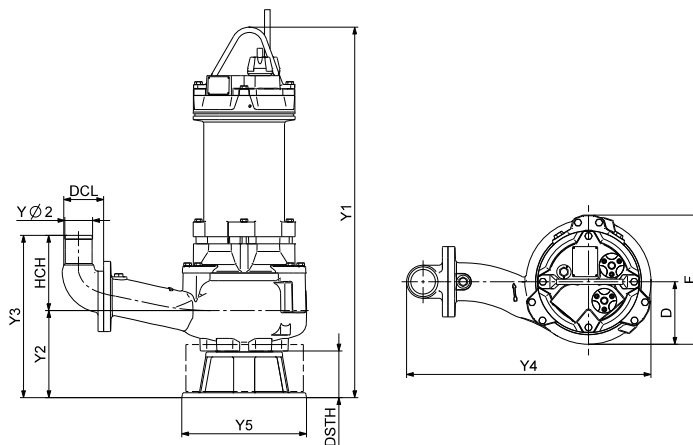
TM04 2416 2508

Fig. 1 Dimension on Auto coupling

Pump type	ZØ1	Z1	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12	Z12A	Z12B
SV.80.80.150.2.54H.S.220	8 X 20	1.004	260	110	270	954	729	545	110	60,3	1.084	80	80	240
SV.80.80.210.2.54H.S.244	8 X 20	1.004	260	110	270	954	729	545	110	60,3	1.084	80	80	240
S1.80.100.135.4.54H.S.277	8 X 20	994	260	110	270	1.010	785	568	110	60,3	1.074	80	80	240
S1.80.100.135.4.54H.C.277	8 X 20	994	260	110	270	1.010	785	568	110	60,3	1.074	80	80	240
S1.80.100.170.4.54H.S.304	8 X 20	1.003	260	110	270	1.010	785	568	110	60,3	1.083	80	80	240
S1.80.100.170.4.54H.C.304	8 X 20	1.003	260	110	270	1.010	785	568	110	60,3	1.083	80	80	240
S1.100.125.135.4.54M.S.259	8 X 23	1.042	300	123	340	1.145	833	616	110	60,3	1.231	189	100	400
S1.100.125.135.4.54M.C.259	8 X 23	1.042	300	123	340	1.145	833	616	110	60,3	1.231	189	100	400
S1.100.200.135.4.54L.S.261	8 X 23	1.045	430	200	535	1.523	1.154	892	170	88,0	1.145	100	100	196
S1.100.200.135.4.54L.C.261	8 X 23	1.045	430	200	535	1.523	1.154	892	170	88,0	1.145	100	100	196
S1.100.125.170.4.54M.S.274	8 X 23	1.051	300	123	340	1.145	833	616	110	60,3	1.240	189	100	400
S1.100.125.170.4.54M.C.274	8 X 23	1.051	300	123	340	1.145	833	616	110	60,3	1.240	189	100	400
S1.100.200.170.4.54L.S.285	8 X 23	1.049	430	200	535	1.523	1.154	892	170	88,0	1.149	100	100	196
S1.100.200.170.4.54L.C.285	8 X 23	1.049	430	200	535	1.523	1.154	892	170	88,0	1.149	100	100	196
S2.100.200.135.4.54L.S.214	8 X 23	1.040	430	200	535	1.523	1.154	892	170	88,0	1.140	100	100	196
S2.100.200.135.4.54L.C.214	8 X 23	1.040	430	200	535	1.523	1.154	892	170	88,0	1.140	100	100	196
S2.100.250.135.4.54E.S.218	12 X 23	1.086	471	200	565	1.934	1.527	1.142	170	88,0	1.186	100	100	224
S2.100.250.135.4.54E.C.218	12 X 23	1.086	471	200	565	1.934	1.527	1.142	170	88,0	1.186	100	100	224
S2.100.200.170.4.54L.S.227	8 X 23	1.049	430	200	535	1.523	1.154	892	170	88,0	1.149	100	100	196
S2.100.200.170.4.54L.C.227	8 X 23	1.049	430	200	535	1.523	1.154	892	170	88,0	1.149	100	100	196
S2.100.250.170.4.54E.S.232	12 X 23	1.095	471	200	565	1.934	1.527	1.142	170	88,0	1.195	100	100	224
S2.100.250.170.4.54E.C.232	12 X 23	1.095	471	200	565	1.934	1.527	1.142	170	88,0	1.195	100	100	224

Pump Type	Z13	Z14	Z15	Z16	Z17G	Z17S	ZDC1	ZDN1	ZDT1	ZL1	ZL2	ZKN	ZM
SV.80.80.150.2.54H.S.220	18	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
SV.80.80.210.2.54H.S.244	18	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
S1.80.100.135.4.54H.S.277	11	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
S1.80.100.135.4.54H.C.277	11	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
S1.80.100.170.4.54H.S.304	11	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
S1.80.100.170.4.54H.C.304	11	0	220	413	3,0	3,0	180	DN100	22	438	103	0	4 X M16
S1.100.125.135.4.54M.S.259	0	0	380	575	3,0	3,0	240	DN150	25	568	146	0	4 X M16
S1.100.125.135.4.54M.C.259	0	0	380	575	3,0	3,0	240	DN150	25	568	146	0	4 X M16
S1.100.200.135.4.54L.S.261	103	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S1.100.200.135.4.54L.C.261	103	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S1.100.125.170.4.54M.S.274	0	0	380	575	3,0	3,0	240	DN150	25	568	146	0	4 X M16
S1.100.125.170.4.54M.C.274	0	0	380	575	3,0	3,0	240	DN150	25	568	146	0	4 X M16
S1.100.200.170.4.54L.S.285	103	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S1.100.200.170.4.54L.C.285	103	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S2.100.200.135.4.54L.S.214	99	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S2.100.200.135.4.54L.C.214	99	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S2.100.250.135.4.54E.S.218	124	86	375	545	3,0	3,0	350	DN250	32	799	222	0	4 X M24
S2.100.250.135.4.54E.C.218	124	86	375	545	3,0	3,0	350	DN250	32	799	222	0	4 X M24
S2.100.200.170.4.54L.S.227	99	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S2.100.200.170.4.54L.C.227	99	86	365	485	3,0	3,0	295	DN200	31	761	222	0	4 X M24
S2.100.250.170.4.54E.S.232	124	86	375	545	3,0	3,0	350	DN250	32	799	222	0	4 X M24
S2.100.250.170.4.54E.C.232	124	86	375	545	3,0	3,0	350	DN250	32	799	222	0	4 X M24

### Ringstand



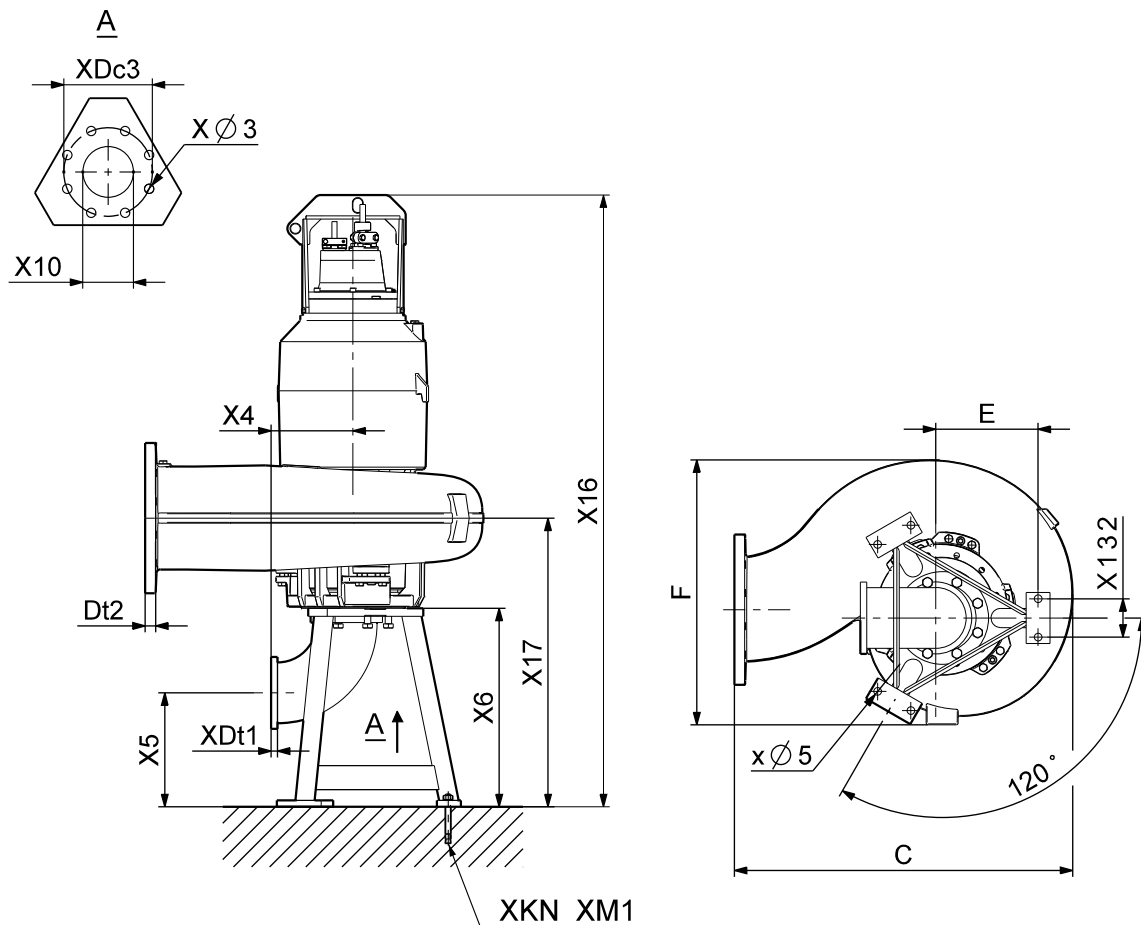
TMD4 2419 2508

**Fig. 2** Dimension on ring stand

Pump type	YØ2	Y1	Y2	Y3	Y4	Y5	HCH	DSTH	D	F
SV.80.80.150.2.54H.S.220	79	1.190	364	506	675	450	142	186	205	421
SV.80.80.210.2.54H.S.244	79	1.190	364	506	675	450	142	186	205	421
S1.80.100.135.4.54H.S.277	105	1.180	357	502	722	450	145	186	227	437
S1.80.100.135.4.54H.C.277	105	1.180	357	502	722	450	145	186	227	437
S1.80.100.170.4.54H.S.304	105	1.189	357	502	722	450	145	186	227	437
S1.80.100.170.4.54H.C.304	105	1.189	357	502	722	450	145	186	227	437
S1.100.125.135.4.54M.S.259	157	1.228	397	677	874	450	280	186	233	446
S1.100.125.135.4.54M.C.259	157	1.228	397	677	874	450	280	186	233	446
S1.100.200.135.4.54L.S.261	205	1.205	359	794	1.218	600	435	160	325	587
S1.100.200.135.4.54L.C.261	205	1.205	359	794	1.218	600	435	160	325	587
S1.100.125.170.4.54M.S.274	157	1.237	397	677	874	450	280	186	233	446
S1.100.125.170.4.54M.C.274	157	1.237	397	677	874	450	280	186	233	446
S1.100.200.170.4.54L.S.285	205	1.209	359	794	1.218	600	435	160	325	587
S1.100.200.170.4.54L.C.285	205	1.209	359	794	1.218	600	435	160	325	587
S2.100.200.135.4.54L.S.214	205	1.200	355	790	1.218	600	435	160	325	587
S2.100.200.135.4.54L.C.214	205	1.200	355	790	1.218	600	435	160	325	587
S2.100.250.135.4.54E.S.218	255	1.246	408	928	1.577	600	520	160	418	747
S2.100.200.170.4.54L.S.227	205	1.209	355	790	1.218	600	435	160	325	587
S2.100.200.170.4.54L.C.227	205	1.209	355	790	1.218	600	435	160	325	587
S2.100.250.170.4.54E.S.232	255	1.255	408	928	1.577	600	520	160	418	747



## Dry vertical

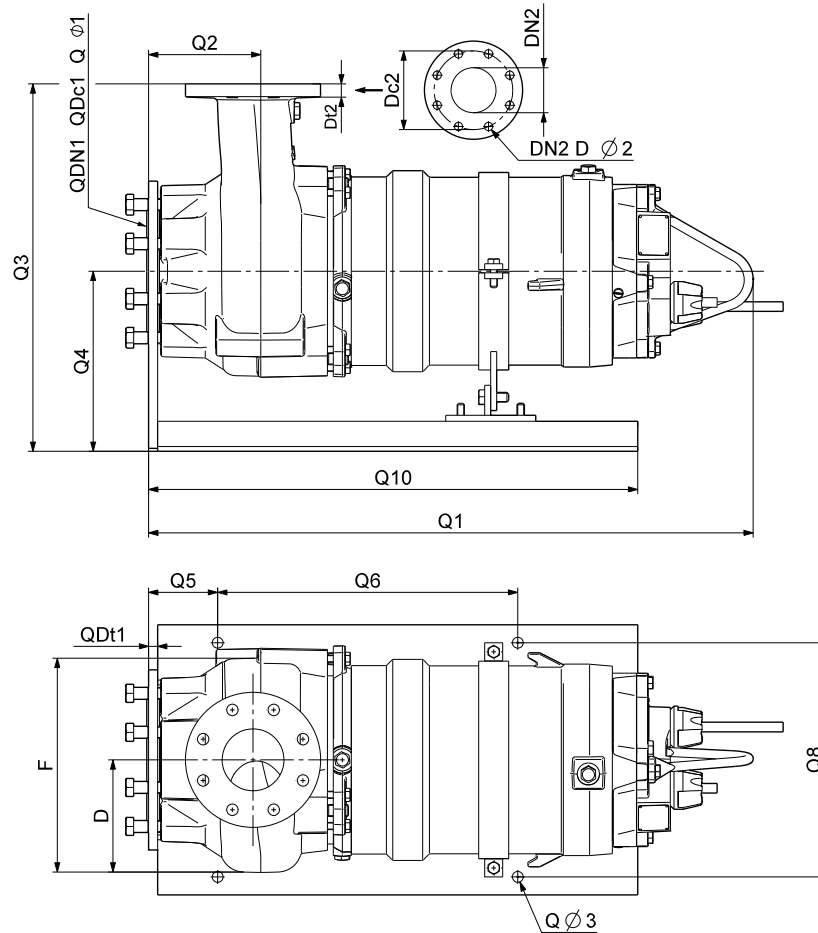


TM04 2422 2508

Fig. 3 Dimension dry vertical

Pump type	XØ1	XØ3	XØ5	X1	X4	X6	X13	X131	X132	X15	X16	XDC1	XDC3	XDT1	XDT2	XM1
S2.100.250.135.4.54E.D.218	23	24	28	1.086	300	854	600	200	150	693	1.940	395	350	28	28	M24X6
S2.100.250.170.4.54E.D.232	23	24	28	1.095	300	854	600	200	150	693	1.949	395	350	28	28	M24X6

## Dry horizontal

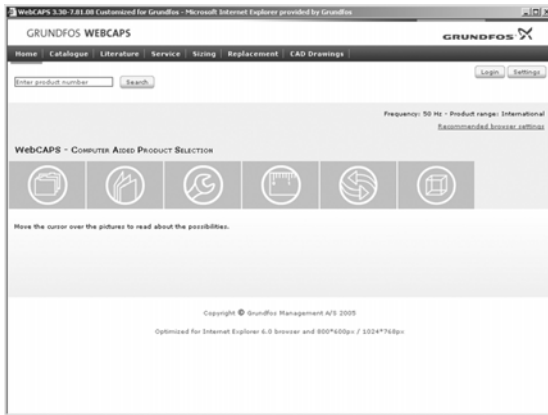


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Fig. 4 Dimension dry horizontal

Pump type	QØ3	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	QD1N	QDC1	QDN1	QØ1	QZ1	QZ4	D1N	D2N	DC0	DT2
S1.80.100.135.4.54H.H.277	18	1.012	189	730	375	115	500	390	815	8	240	DN150	M20	18	115	DN150	DN100	240	20
S1.80.100.170.4.54H.H.304	18	1.021	189	730	375	115	500	390	815	8	240	DN150	M20	18	115	DN150	DN100	240	20
S1.100.125.135.4.54M.H.259	18	1.060	229	735	375	115	500	390	815	8	240	DN150	M20	18	115	DN150	DN125	240	22
S1.100.200.135.4.54L.H.261	18	1.063	217	875	375	115	500	390	815	8	295	DN200	M20	18	115	DN200	DN200	295	26
S1.100.125.170.4.54M.H.274	18	1.069	229	735	375	115	500	390	815	8	240	DN150	M20	18	115	DN150	DN125	240	22
S1.100.200.170.4.54L.H.285	18	1.067	217	875	375	115	500	390	815	8	295	DN200	M20	18	115	DN200	DN200	295	26
S2.100.200.135.4.54L.H.214	18	1.058	213	875	375	115	500	390	815	8	295	DN200	M20	18	115	DN200	DN200	295	26
S2.100.250.135.4.54E.H.218	18	1.104	266	1.250	500	115	500	390	815	12	350	DN250	M20	18	115	DN250	DN250	350	30
S2.100.200.170.4.54L.H.227	18	1.067	213	875	375	115	500	390	815	8	295	DN200	M20	18	115	DN200	DN200	295	26
S2.100.250.170.4.54E.H.232	18	1.113	266	1.250	500	115	500	390	815	12	350	DN250	M20	18	115	DN250	DN250	350	30

## WebCAPS

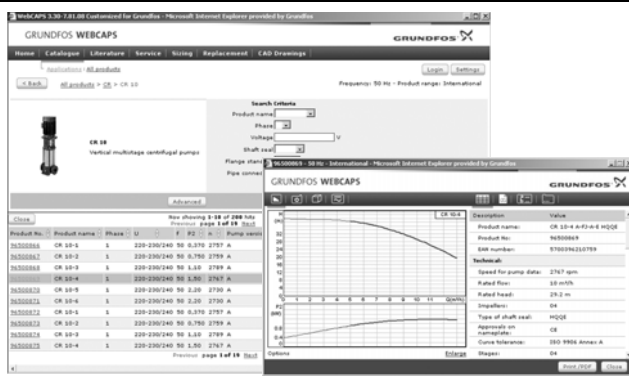


WebCAPS is a **Web-based Computer Aided Product Selection** program available on [www.grundfos.com](http://www.grundfos.com).

WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

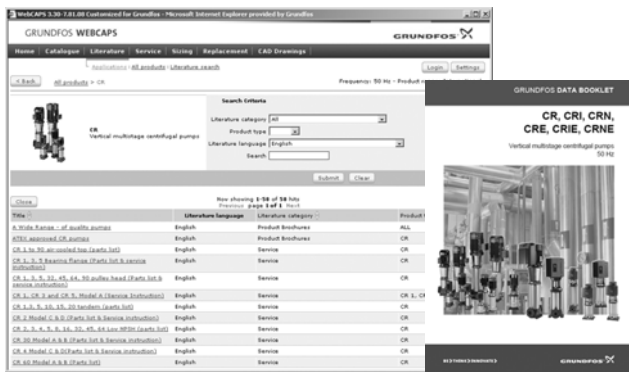
- Catalogue
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.



### Catalogue

This section is based on fields of application and pump types, and contains

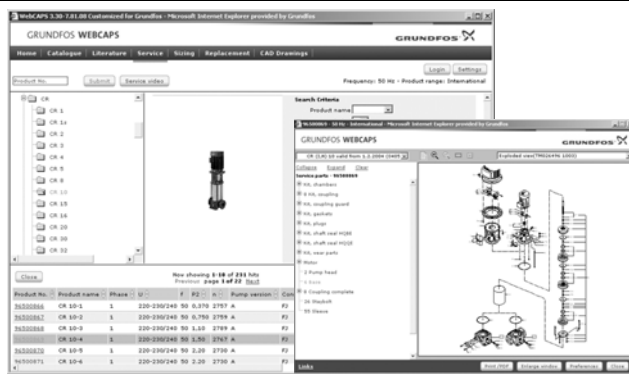
- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



### Literature

In this section you can access all the latest documents of a given pump, such as

- data booklets
- installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures.



### Service

This section contains an easy-to-use interactive service catalogue. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.

Furthermore, this section contains service videos showing you how to replace service parts.



## Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to

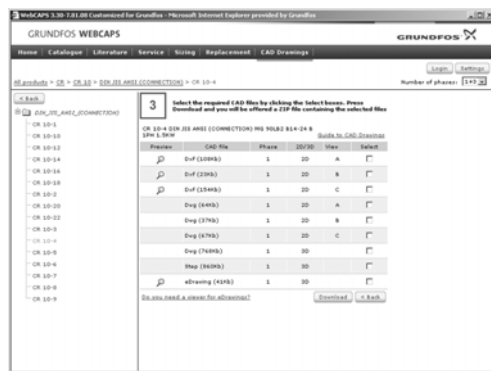
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.



## Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump. The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.



## CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:

- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:

- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

## WinCAPS



Fig. 5 WinCAPS CD-ROM

WinCAPS is a **Windows-based Computer Aided Product Selection** program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.







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Subject to alterations.