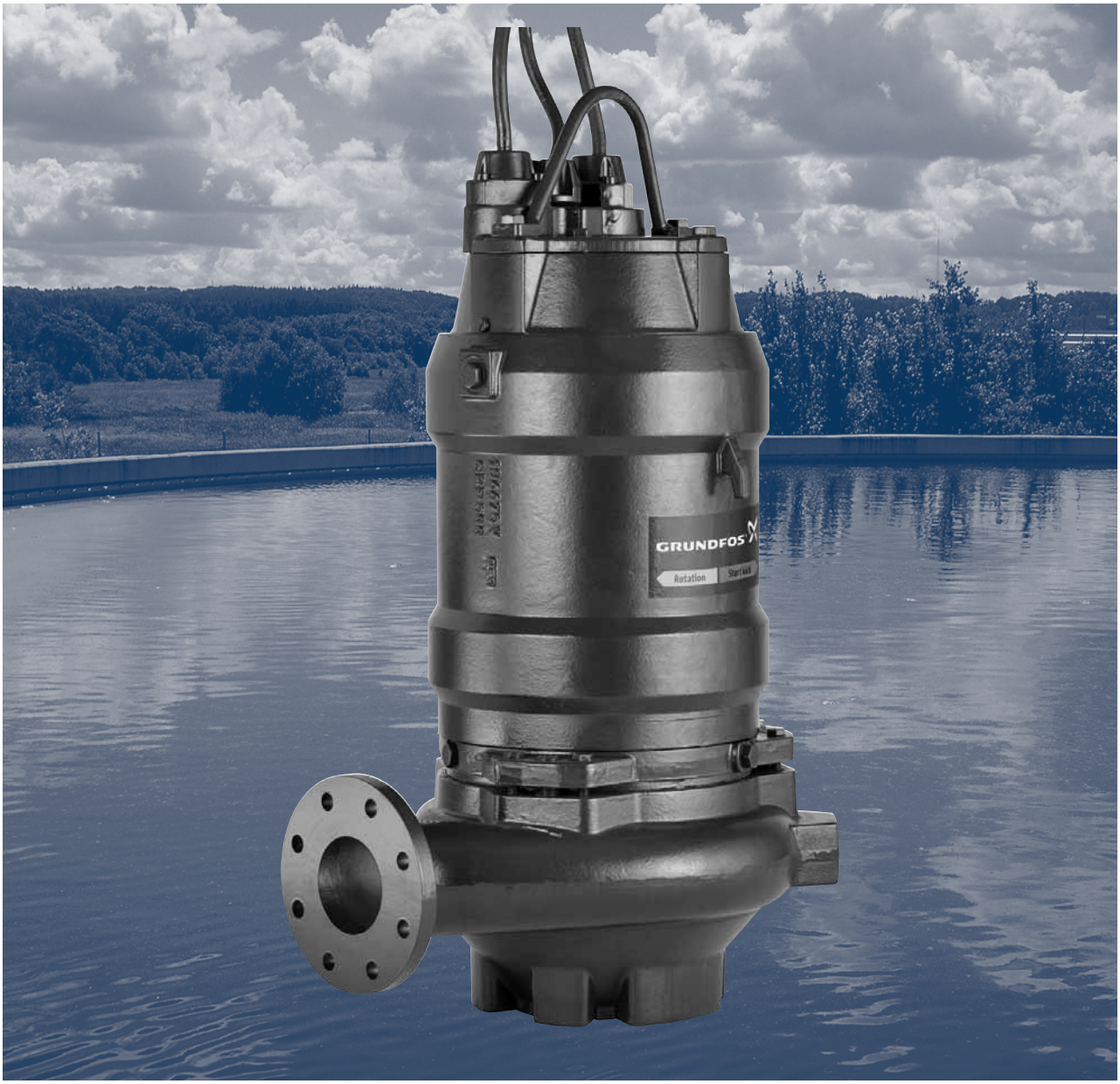
GRUNDFOS **DATA BOOKLET**

S pumps, range 54

Up to 21 kW
50 Hz



Contents

Introduction

Introduction

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

Fig. 1 S pump, range 54

The S pumps, range 54, are a range of free-flow (SuperVortex) and 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
- wastewater treatment plants
- municipal pumping stations
- public buildings
- blocks of flats
- industries
- garages
- underground car parks
- car wash areas
- restaurants and hotels.

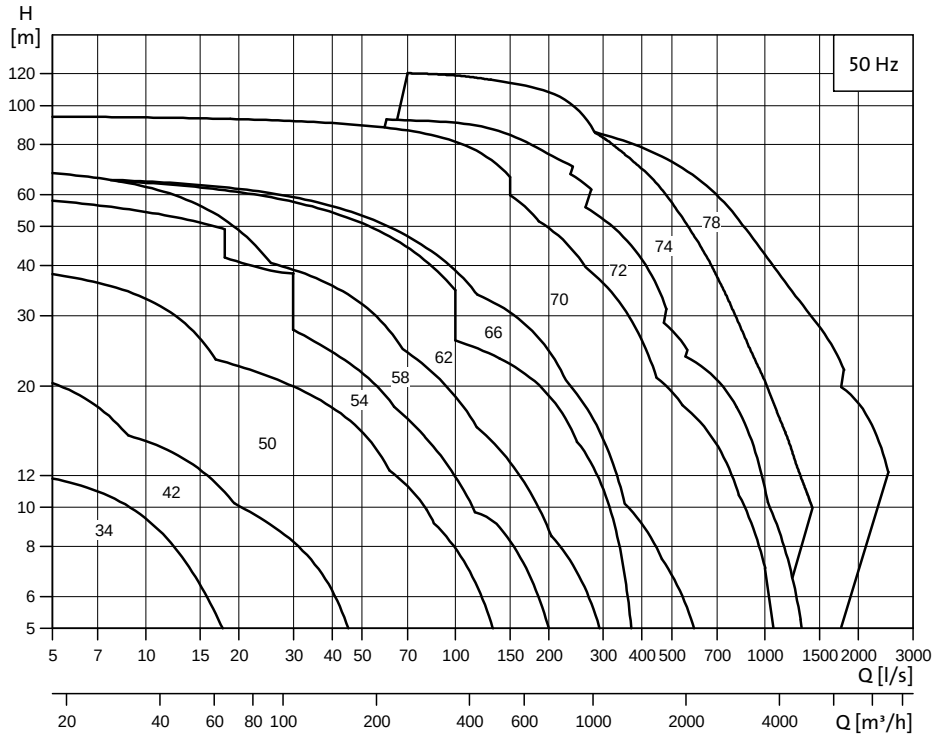
The pumps are suitable for both temporary and permanent installation. The lifting bracket fitted on the pumps facilitates easy transportation to as well as installation at the installation site.

Main constructional 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 switch for continuous monitoring of motor housing and automatic cut-off of power in case liquid penetrates
- self-cleaning channel impeller with long vanes reducing the risk of jamming or clogging, or SuperVortex impeller with high pumping efficency and less downtime
- SmartTrim system allowing easy adjustment of impeller clearance and maintaining maximum pump efficiency over pump lifetime
- motor in insulation class F (155 °C), enclosure class IP68 with three thermal sensors in stator windings
- seal condition monitoring via water-in-oil sensor (optional)
- explosion-proof motors for applications involving high risk of explosion
- three stainless steel versions for use in corrosive or aggressive liquids:
  - stainless steel impeller, cast iron pump and motor housing
  - stainless steel pump housing, flange and impeller, cast iron motor housing
  - made entirely of corrosion-resistant stainless steel.

Performance range

Performance range, S pumps



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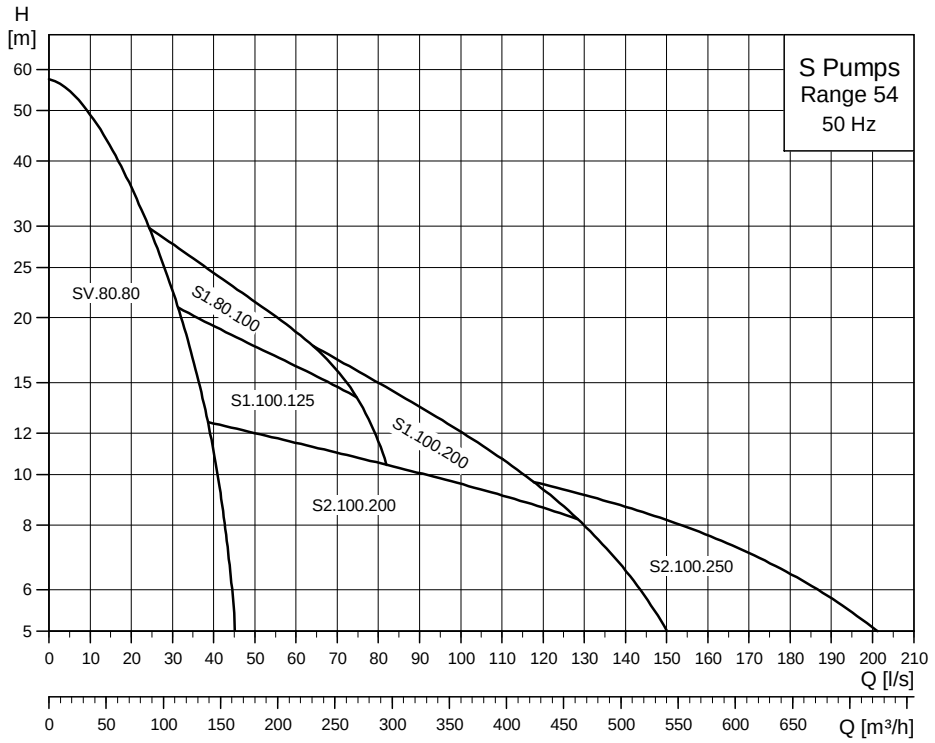
Performance range, S pumps, range 54



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Identification

Type key

Code	Example	S	1	.100	.100	.55	4	.54M	.S	.205	.G	.N	.D	.Z

Pump type:
- S — Grundfos sewage and wastewater pump
- ST — Single-channel impeller pumps installed in a column pipe

Impeller type:
- 1 — Single-channel impeller
- V — SuperVortex (free-flow) impeller

Pump passage:
Maximum solids size [mm]

Pump discharge:
Nominal diameter of pump discharge port [mm]

Output power, P2:
P2 = Code number from type designation/10 [kW]

Number of poles:
- 2 — 2-pole motor
- 4 — 4-pole motor

Pump range / Pressure version:
- 54H — High pressure
- 54M — Medium pressure
- 54L — Low pressure
- 54E — Extra-low pressure

Installation:
- S — Submersible installation without cooling jacket
- C — Submersible installation with cooling jacket
- D — Dry installation, vertical
- H — Dry installation, horizontal.

Actual impeller diameter:
[mm]

Material code for impeller, pump and motor housing:
- 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

Pump version:
- N — Non-explosion-proof pump
- Ex — Explosion-proof pump

Sensor version:
- 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

Identification

Nameplates

Pump nameplate

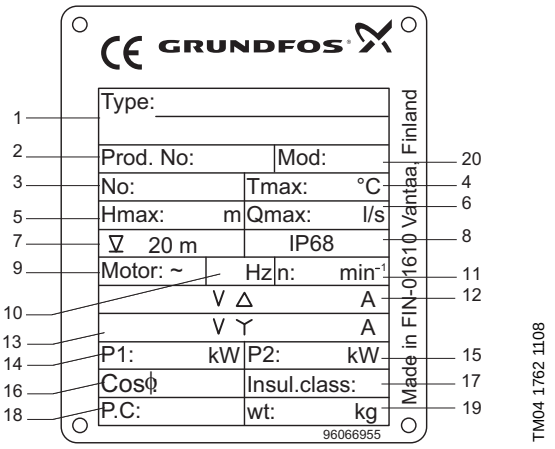

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Fig. 2 Pump nameplate

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 approval plates

TM04 4122 0809

Fig. 3 Ex approval plates

The approval plate gives the following details:

Pos.	Description
Ex	EU ex-symbol
II	Equipment group (II = non-mining)
2	Equipment category (high protection)
G	Type of explosive atmosphere
CE	CE mark
1180	Number of quality assurance notified body
Ex	Motor explosion-proof according to European standard
b	Control of ignition sources
c	Constructional safety
d	Motor withstands explosion pressure
IIB	Gas group (Ethylene)
T3	Maximum surface temperature of the motor is 200 °C
T4	Maximum surface temperature of the motor is 135 °C
Gb	Equipment protection level, zone 1
Baseefa	Certificate number
IECEx	Certificate number

Selection of product

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, or three thermal sensors (PTC)
- One moisture switch below the motor top cover (two moisture switches below the motor top cover on explosion-proof versions)
- Test according to DIN 9906, Annex A.

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.

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 *List of variants* on page 19. For requirements or designs not included in the list, contact Grundfos.

Accessories

Depending on the installation type, you may need to order accessories. See *Accessories* page 62 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, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories			
			*** Horizontal base stand	To be ordered separately		
				Vertical base stand	** Auto-coupling system	* Ring stand for portable use
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			

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Cast iron, 3 x 415 V

Pump type	Cable length [m]	Pump	Accessories			
			*** Horizontal base stand	To be ordered separately		
				Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.G.N.D	10	95114374	-	-	96102240	96790702
SV.80.80.150.2.54H.S.220.G.N.D	15	96810344	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.G.N.D	10	95114371	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.G.N.D	15	96810343	-	-	96102240	96790702
S1.80.100.135.4.54H.S.277.G.N.D	10	95114386	-	-	96090994	96102314
S1.80.100.135.4.54H.S.277.G.N.D	15	96810348	-	-	96090994	96102314
S1.80.100.135.4.54H.C.277.G.N.D	10	95114389	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.G.N.D	10	95114392	96776519	-	-	-
S1.80.100.135.4.54H.C.277.G.N.D	15	96810349	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.G.N.D	15	96810350	96776519	-	-	-
S1.80.100.170.4.54H.S.304.G.N.D	10	95114413	-	-	96090994	96102314
S1.80.100.170.4.54H.S.304.G.N.D	15	96810357	-	-	96090994	96102314
S1.80.100.170.4.54H.C.304.G.N.D	10	95114416	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.G.N.D	10	95114419	96776519	-	-	-
S1.80.100.170.4.54H.C.304.G.N.D	15	96810358	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.G.N.D	15	96810359	96776519	-	-	-
S1.100.125.135.4.54M.S.259.G.N.D	15	91349834	-	-		
S1.100.125.135.4.54M.S.259.G.N.D	10	95114395	-	-	96782145	96789479
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	10	95114398	-	96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.N.D	10	95114401	96776519	-	-	-
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	-	-	-
S1.100.125.170.4.54M.S.274.G.N.D	10	95114422	-	-	96782145	96789479
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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	-	-	-
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	-	-	-
S1.100.200.135.4.54L.S.261.G.N.D	10	95114377	-	-	96641489	96789480
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	10	95114380	-	96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.N.D	10	95114383	96801089	-	-	-
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	-	-	-
S1.100.200.170.4.54L.S.285.G.N.D	10	95114404	-	-	96641489	96789480
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	10	95114407	-	96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.N.D	10	95114410	96801089	-	-	-
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	-	-	-
S2.100.200.135.4.54L.S.214.G.N.D	10	95114440	-	-	96641489	96789480
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	10	95114443	-	96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.N.D	10	95114446	96801089	-	-	-
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	-	-	-
S2.100.200.170.4.54L.S.227.G.N.D	10	95114458	-	-	96641489	96789480
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	10	95114461	-	96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.N.D	10	95114464	96801089	-	-	-
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	-	-	-
S2.100.250.135.4.54E.S.218.G.N.D	10	95114431	-	-	96782483	96789481
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	10	95114434	-	-	96782483	96789481

Pump type	Cable length [m]	Pump	Accessories			
			*** Horizontal base stand	To be ordered separately		
				Vertical base stand	** Auto-coupling system	* Ring stand for portable use
S2.100.250.135.4.54E.D.218.G.N.D	10	95114437	-	96094525	-	96789481
S2.100.250.135.4.54E.H.218.G.N.D	10	96781217	96801090	-	-	-
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
S2.100.250.135.4.54E.H.218.G.N.D	15	96810366	96801090	-	-	-
S2.100.250.170.4.54E.S.232.G.N.D	10	95114449	-	-	96782483	96789481
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	10	95114452	-	-	96782483	96789481
S2.100.250.170.4.54E.D.232.G.N.D	10	95114455	-	96094525	-	96789481
S2.100.250.170.4.54E.H.232.G.N.D	10	96781219	96801090	-	-	-
S2.100.250.170.4.54E.C.232.G.N.D	15	96810371	-	-	96782483	96789481
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	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Pumps with 15 m cable are installed with PTC thermal protection.

Stainless steel impeller, 3 x 400/690 V

Pump type	Pump	Accessories			
			To be ordered separately		
		*** Horizontal base stand	Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.Q.N.D	96811226	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.Q.N.D	96811225	-	-	96102240	96790702
S1.80.100.135.4.54H.S.277.Q.N.D	96811230	-	-	96090994	96102314
S1.80.100.135.4.54H.C.277.Q.N.D	96811231	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.Q.N.D	96811232	96776519	-	-	-
S1.80.100.170.4.54H.S.304.Q.N.D	96811239	-	-	96090994	96102314
S1.80.100.170.4.54H.C.304.Q.N.D	96811240	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.Q.N.D	96811241	96776519	-	-	-
S1.100.125.135.4.54M.S.259.Q.N.D	96811233	-	-	96782145	96789479
S1.100.125.135.4.54M.C.259.Q.N.D	96811234	-	96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.Q.N.D	96811235	96776519	-	-	-
S1.100.125.170.4.54M.S.274.Q.N.D	96811242	-	-	96782145	96789479
S1.100.125.170.4.54M.C.274.Q.N.D	96811243	-	96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.Q.N.D	96811244	96776519	-	-	-
S1.100.200.135.4.54L.S.261.Q.N.D	96811227	-	-	96641489	96789480
S1.100.200.135.4.54L.C.261.Q.N.D	96811228	-	96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.Q.N.D	96811229	96801089	-	-	-
S1.100.200.170.4.54L.S.285.Q.N.D	96811236	-	-	96641489	96789480
S1.100.200.170.4.54L.C.285.Q.N.D	96811237	-	96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.Q.N.D	96811238	96801089	-	-	-
S2.100.200.135.4.54L.S.214.Q.N.D	96811249	-	-	96641489	96789480
S2.100.200.135.4.54L.C.214.Q.N.D	96811250	-	96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.Q.N.D	96811251	96801089	-	-	-
S2.100.200.170.4.54L.S.227.Q.N.D	96811256	-	-	96641489	96789480
S2.100.200.170.4.54L.C.227.Q.N.D	96811257	-	96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.Q.N.D	96811258	96801089	-	-	-
S2.100.250.135.4.54E.S.218.Q.N.D	96811245	-	-	96782483	96789481
S2.100.250.135.4.54E.C.218.Q.N.D	96811246	-	-	96782483	-
S2.100.250.135.4.54E.D.218.Q.N.D	96811247	-	96094525	-	96789481
S2.100.250.135.4.54E.H.218.Q.N.D	96811248	96801090	-	-	-
S2.100.250.170.4.54E.S.232.Q.N.D	96811252	-	-	96782483	96789481
S2.100.250.170.4.54E.C.232.Q.N.D	96811253	-	-	96782483	-
S2.100.250.170.4.54E.D.232.Q.N.D	96811254	-	96094525	-	96789481
S2.100.250.170.4.54E.H.232.Q.N.D	96811255	96801090	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Stainless steel impeller and pump housing, 3 x 400/690 V

Pump type	Pump	Accessories			
		*** Horizontal base stand	To be ordered separately		
			Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.S.N.D	96811260	-	-	96090122	96898273
SV.80.80.210.2.54H.S.244.S.N.D	96811259	-	-	96090122	96898273
S1.80.100.135.4.54H.S.277.S.N.D	96811264	-	-	96090124	96898274
S1.80.100.135.4.54H.C.277.S.N.D	96811265	-	96835614	96090124	96898274
S1.80.100.135.4.54H.H.277.S.N.D	96811266	96830574	-	-	-
S1.80.100.170.4.54H.S.304.S.N.D	96811273	-	-	96090124	96898274
S1.80.100.170.4.54H.C.304.S.N.D	96811274	-	96835614	96090124	96898274
S1.80.100.170.4.54H.H.304.S.N.D	96811275	96830574	-	-	-
S1.100.125.135.4.54M.S.259.S.N.D	96811267	-	-	96090114	96898275
S1.100.125.135.4.54M.C.259.S.N.D	96811268	-	96835614	96090114	96898275
S1.100.125.135.4.54M.H.259.S.N.D	96811269	96830574	-	-	-
S1.100.125.170.4.54M.S.274.S.N.D	96811276	-	-	96090114	96898275
S1.100.125.170.4.54M.C.274.S.N.D	96811277	-	96835614	96090114	96898275
S1.100.125.170.4.54M.H.274.S.N.D	96811278	96830574	-	-	-
S1.100.200.135.4.54L.S.261.S.N.D	96811261	-	-	96090118	96898277
S1.100.200.135.4.54L.C.261.S.N.D	96811262	-	96090119	96090118	96898277
S1.100.200.135.4.54L.H.261.S.N.D	96811263	96830576	-	-	-
S1.100.200.170.4.54L.S.285.S.N.D	96811270	-	-	96090118	96898277
S1.100.200.170.4.54L.C.285.S.N.D	96811271	-	96090119	96090118	96898277
S1.100.200.170.4.54L.H.285.S.N.D	96811272	96830576	-	-	-
S2.100.200.135.4.54L.S.214.S.N.D	96811283	-	-	96090118	96898277
S2.100.200.135.4.54L.C.214.S.N.D	96811284	-	96090119	96090118	96898277
S2.100.200.135.4.54L.H.214.S.N.D	96811285	96830576	-	-	-
S2.100.200.170.4.54L.S.227.S.N.D	96811290	-	-	96090118	96898277
S2.100.200.170.4.54L.C.227.S.N.D	96811291	-	96090119	96090118	96898277
S2.100.200.170.4.54L.H.227.S.N.D	96811292	96830576	-	-	-
S2.100.250.135.4.54E.S.218.S.N.D	96811279	-	-	96090131	-
S2.100.250.135.4.54E.C.218.S.N.D	96811280	-	-	96090131	-
S2.100.250.135.4.54E.D.218.S.N.D	96811281	-	96090132	-	
S2.100.250.135.4.54E.H.218.S.N.D	96811282	96830613	-	-	-
S2.100.250.170.4.54E.S.232.S.N.D	96811286	-	-	96090131	-
S2.100.250.170.4.54E.C.232.S.N.D	96811287	-	-	96090131	-
S2.100.250.170.4.54E.D.232.S.N.D	96811288	-	96090132	-	
S2.100.250.170.4.54E.H.232.S.N.D	96811289	96830613	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Stainless steel impeller pump- and motor housing, 3 x 400/690 V

Pump type	Pump	Accessories			
			To be ordered separately		
		*** Horizontal base stand	Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.R.N.D	96811294	-	-	96090122	96898273
SV.80.80.210.2.54H.S.244.R.N.D	96811293	-	-	96090122	96898273
S1.80.100.135.4.54H.S.277.R.N.D	96811298	-	-	96090124	96898274
S1.80.100.135.4.54H.C.277.R.N.D	96811299	-	96835614	96090124	96898274
S1.80.100.135.4.54H.H.277.R.N.D	96811300	96830574	-	-	-
S1.80.100.170.4.54H.S.304.R.N.D	96811307	-	-	96090124	96898274
S1.80.100.170.4.54H.C.304.R.N.D	96811308	-	96835614	96090124	96898274
S1.80.100.170.4.54H.H.304.R.N.D	96811309	96830574	-	-	-
S1.100.125.135.4.54M.S.259.R.N.D	96811301	-	-	96090114	96898275
S1.100.125.135.4.54M.C.259.R.N.D	96811302	-	96835614	96090114	96898275
S1.100.125.135.4.54M.H.259.R.N.D	96811303	96830574	-	-	-
S1.100.125.170.4.54M.S.274.R.N.D	96811310	-	-	96090114	96898275
S1.100.125.170.4.54M.C.274.R.N.D	96811311	-	96835614	96090114	96898275
S1.100.125.170.4.54M.H.274.R.N.D	96811312	96830574	-	-	-
S1.100.200.135.4.54L.S.261.R.N.D	96811295	-	-	96090118	96898277
S1.100.200.135.4.54L.C.261.R.N.D	96811296	-	96090119	96090118	96898277
S1.100.200.135.4.54L.H.261.R.N.D	96811297	96830576	-	-	-
S1.100.200.170.4.54L.S.285.R.N.D	96811304	-	-	96090118	96898277
S1.100.200.170.4.54L.C.285.R.N.D	96811305	-	96090119	96090118	96898277
S1.100.200.170.4.54L.H.285.R.N.D	96811306	96830576	-	-	-
S2.100.200.135.4.54L.S.214.R.N.D	96811318	-	-	96090118	96898277
S2.100.200.135.4.54L.C.214.R.N.D	96811319	-	96090119	96090118	96898277
S2.100.200.135.4.54L.H.214.R.N.D	96811320	96830576	-	-	-
S2.100.200.170.4.54L.S.227.R.N.D	96811325	-	-	96090118	96898277
S2.100.200.170.4.54L.C.227.R.N.D	96811326	-	96090119	96090118	96898277
S2.100.200.170.4.54L.H.227.R.N.D	96811327	96830576	-	-	-
S2.100.250.135.4.54E.S.218.R.N.D	96811313	-	-	96090131	-
S2.100.250.135.4.54E.C.218.R.N.D	96811314	-	-	96090131	-
S2.100.250.135.4.54E.D.218.R.N.D	96811315	-	96090132	-	
S2.100.250.135.4.54E.H.218.R.N.D	96811317	96830613	-	-	-
S2.100.250.170.4.54E.S.232.R.N.D	96811321	-	-	96090131	-
S2.100.250.170.4.54E.C.232.R.N.D	96811322	-	-	96090131	-
S2.100.250.170.4.54E.D.232.R.N.D	96811323	-	96090132	-	
S2.100.250.170.4.54E.H.232.R.N.D	96811324	96830613	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Explosion-proof pumps

Cast iron, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories			
			*** Horizontal base stand	To be ordered separately		
				Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.G.EX.D	10	95113573	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.G.EX.D	10	95113572	-	-	96102240	96790702
S1.80.100.135.4.54H.S.277.G.EX.D	10	95113542	-	-	96090994	96102314
S1.80.100.135.4.54H.C.277.G.EX.D	10	95113543	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.G.EX.D	10	95113544	96776519	-	-	-
S1.80.100.170.4.54H.S.304.G.EX.D	10	95113551	-	-	96090994	96102314
S1.80.100.170.4.54H.C.304.G.EX.D	10	95113552	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.G.EX.D	10	95113553	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	-	-	-
S1.100.125.170.4.54M.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	-	-	-
S1.100.200.135.4.54L.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	-	-	-
S1.100.200.170.4.54L.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	-	-	-
S2.100.200.135.4.54L.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	-	-	-
S2.100.200.170.4.54L.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	-	-	-
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	96789481
S2.100.250.135.4.54E.D.218.G.EX.D	10	95113562	-	96094525	-	96789481
S2.100.250.135.4.54E.H.218.G.EX.D	10	96781734	96801090	-	-	-
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	96789481
S2.100.250.170.4.54E.D.232.G.EX.D	10	95113568	-	96094525	-	96789481
S2.100.250.170.4.54E.H.232.G.EX.D	10	96781742	96801090	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Cast iron, 3 x 415 V

Pump type	Cable length [m]	Pump	Accessories			
			*** Horizontal base stand	To be ordered separately		
				Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.G.EX.D	10	96781748	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.G.EX.D	10	96781747	-	-	96102240	96790702
S1.80.100.135.4.54H.S.277.G.EX.D	10	96781713	-	-	96090994	96102314
S1.80.100.135.4.54H.C.277.G.EX.D	10	96781714	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.G.EX.D	10	96781715	96776519	-	-	-
S1.80.100.170.4.54H.S.304.G.EX.D	10	96781722	-	-	96090994	96102314
S1.80.100.170.4.54H.C.304.G.EX.D	10	96781723	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.G.EX.D	10	96781724	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	-	-	-
S1.100.125.170.4.54M.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	-	-	-
S1.100.200.135.4.54L.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	-	-	-
S1.100.200.170.4.54L.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	-	-	-
S2.100.200.135.4.54L.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	-	-	-
S2.100.200.170.4.54L.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	-	-	-
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	96789481
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	-	-	-
S2.100.250.170.4.54E.S.232.G.EX.D	10	96781739	-	-	96782483	96789481
S2.100.250.170.4.54E.C.232.G.EX.D	10	96781740	-	-	96782483	96789481
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	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Stainless steel impeller, 3 x 400/690 V

Pump type	Pump	Accessories			
		*** Horizontal base stand	To be ordered separately		
			Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.G.EX.D	96781748	-	-	96102240	96790702
SV.80.80.210.2.54H.S.244.G.EX.D	96781747	-	-	96102240	96790702
S1.80.100.135.4.54H.S.277.G.EX.D	96781713	-	-	96090994	96102314
S1.80.100.135.4.54H.C.277.G.EX.D	96781714	-	96308238	96090994	96102314
S1.80.100.135.4.54H.H.277.G.EX.D	96781715	96776519	-	-	-
S1.80.100.170.4.54H.S.304.G.EX.D	96781722	-	-	96090994	96102314
S1.80.100.170.4.54H.C.304.G.EX.D	96781723	-	96308238	96090994	96102314
S1.80.100.170.4.54H.H.304.G.EX.D	96781724	96776519	-	-	-
S1.100.125.135.4.54M.S.259.G.EX.D	96781716	-	-	96782145	96789479
S1.100.125.135.4.54M.C.259.G.EX.D	96781717	-	96308238	96782145	96789479
S1.100.125.135.4.54M.H.259.G.EX.D	96781718	96776519	-	-	-
S1.100.125.170.4.54M.S.274.G.EX.D	96781725	-	-	96782145	96789479
S1.100.125.170.4.54M.C.274.G.EX.D	96781726	-	96308238	96782145	96789479
S1.100.125.170.4.54M.H.274.G.EX.D	96781727	96776519	-	-	-
S1.100.200.135.4.54L.S.261.G.EX.D	96781719	-	-	96641489	96789480
S1.100.200.135.4.54L.C.261.G.EX.D	96781720	-	96094523	96641489	96789480
S1.100.200.135.4.54L.H.261.G.EX.D	96781721	96801089	-	-	-
S1.100.200.170.4.54L.S.285.G.EX.D	96781728	-	-	96641489	96789480
S1.100.200.170.4.54L.C.285.G.EX.D	96781729	-	96094523	96641489	96789480
S1.100.200.170.4.54L.H.285.G.EX.D	96781730	96801089	-	-	-
S2.100.200.135.4.54L.S.214.G.EX.D	96781736	-	-	96641489	96789480
S2.100.200.135.4.54L.C.214.G.EX.D	96781737	-	96094523	96641489	96789480
S2.100.200.135.4.54L.H.214.G.EX.D	96781738	96801089	-	-	-
S2.100.200.170.4.54L.S.227.G.EX.D	96781744	-	-	96641489	96789480
S2.100.200.170.4.54L.C.227.G.EX.D	96781745	-	96094523	96641489	96789480
S2.100.200.170.4.54L.H.227.G.EX.D	96781746	96801089	-	-	-
S2.100.250.135.4.54E.S.218.G.EX.D	96781731	-	-	96782483	96789481
S2.100.250.135.4.54E.C.218.G.EX.D	96781732	-	-	96782483	96789481
S2.100.250.135.4.54E.D.218.G.EX.D	96781733	-	96094525	-	96789481
S2.100.250.135.4.54E.H.218.G.EX.D	96781735	96801090	-	-	-
S2.100.250.170.4.54E.S.232.G.EX.D	96781739	-	-	96782483	96789481
S2.100.250.170.4.54E.C.232.G.EX.D	96781740	-	-	96782483	96789481
S2.100.250.170.4.54E.D.232.G.EX.D	96781741	-	96094525	-	96789481
S2.100.250.170.4.54E.H.232.G.EX.D	96781743	96801090	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Stainless steel impeller and pump housing, 3 x 400/690 V

Pump type	Pump	Accessories			
		*** Horizontal base stand	To be ordered separately		
			Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.S.EX.D	96811365	-	-	96090122	96898273
SV.80.80.210.2.54H.S.244.S.EX.D	96811364	-	-	96090122	96898273
S1.80.100.135.4.54H.S.277.S.EX.D	96811369	-	-	96090124	96898274
S1.80.100.135.4.54H.C.277.S.EX.D	96811370	-	96835614	96090124	96898274
S1.80.100.135.4.54H.H.277.S.EX.D	96811371	96830574	-	-	-
S1.80.100.170.4.54H.S.304.S.EX.D	96811378	-	-	96090124	96898274
S1.80.100.170.4.54H.C.304.S.EX.D	96811379	-	96835614	96090124	96898274
S1.80.100.170.4.54H.H.304.S.EX.D	96811380	96830574	-	-	-
S1.100.125.135.4.54M.S.259.S.EX.D	96811372	-	-	96090114	96898275
S1.100.125.135.4.54M.C.259.S.EX.D	96811373	-	96835614	96090114	96898275
S1.100.125.135.4.54M.H.259.S.EX.D	96811374	96830574	-	-	-
S1.100.125.170.4.54M.S.274.S.EX.D	96811381	-	-	96090114	96898275
S1.100.125.170.4.54M.C.274.S.EX.D	96811382	-	96835614	96090114	96898275
S1.100.125.170.4.54M.H.274.S.EX.D	96811383	96830574	-	-	-
S1.100.200.135.4.54L.S.261.S.EX.D	96811366	-	-	96090118	96898277
S1.100.200.135.4.54L.C.261.S.EX.D	96811367	-	96090119	96090118	96898277
S1.100.200.135.4.54L.H.261.S.EX.D	96811368	96830576	-	-	-
S1.100.200.170.4.54L.S.285.S.EX.D	96811375	-	-	96090118	96898277
S1.100.200.170.4.54L.C.285.S.EX.D	96811376	-	96090119	96090118	96898277
S1.100.200.170.4.54L.H.285.S.EX.D	96811377	96830576	-	-	-
S2.100.200.135.4.54L.S.214.S.EX.D	96811388	-	-	96090118	96898277
S2.100.200.135.4.54L.C.214.S.EX.D	96811389	-	96090119	96090118	96898277
S2.100.200.135.4.54L.H.214.S.EX.D	96811390	96830576	-	-	-
S2.100.200.170.4.54L.S.227.S.EX.D	96811395	-	-	96090118	96898277
S2.100.200.170.4.54L.C.227.S.EX.D	96811396	-	96090119	96090118	96898277
S2.100.200.170.4.54L.H.227.S.EX.D	96811397	96830576	-	-	-
S2.100.250.135.4.54E.S.218.S.EX.D	96811384	-	-	96090131	-
S2.100.250.135.4.54E.C.218.S.EX.D	96811385	-	-	96090131	-
S2.100.250.135.4.54E.D.218.S.EX.D	96811386	-	96090132	-	
S2.100.250.135.4.54E.H.218.S.EX.D	96811387	96830613	-	-	-
S2.100.250.170.4.54E.S.232.S.EX.D	96811391	-	-	96090131	-
S2.100.250.170.4.54E.C.232.S.EX.D	96811392	-	-	96090131	-
S2.100.250.170.4.54E.D.232.S.EX.D	96811393	-	96090132	-	
S2.100.250.170.4.54E.H.232.S.EX.D	96811394	96830613	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

Stainless steel impeller pump- and motor housing, 3 x 400/690 V

Pump type	Pump	Accessories			
		*** Horizontal base stand	To be ordered separately		
			Vertical base stand	** Auto-coupling system	* Ring stand for portable use
SV.80.80.150.2.54H.S.220.R.EX.D	96811431	-	-	96090122	96898273
SV.80.80.210.2.54H.S.244.R.EX.D	96811430	-	-	96090122	96898273
S1.80.100.135.4.54H.S.277.R.EX.D	96811398	-	-	96090124	96898274
S1.80.100.135.4.54H.C.277.R.EX.D	96811399	-	96835614	96090124	96898274
S1.80.100.135.4.54H.H.277.R.EX.D	96811400	96830574	-	-	-
S1.80.100.170.4.54H.S.304.R.EX.D	96811407	-	-	96090124	96898274
S1.80.100.170.4.54H.C.304.R.EX.D	96811408	-	96835614	96090124	96898274
S1.80.100.170.4.54H.H.304.R.EX.D	96811409	96830574	-	-	-
S1.100.125.135.4.54M.S.259.R.EX.D	96811401	-	-	96090114	96898275
S1.100.125.135.4.54M.C.259.R.EX.D	96811402	-	96835614	96090114	96898275
S1.100.125.135.4.54M.H.259.R.EX.D	96811403	96830574	-	-	-
S1.100.125.170.4.54M.S.274.R.EX.D	96811410	-	-	96090114	96898275
S1.100.125.170.4.54M.C.274.R.EX.D	96811411	-	96835614	96090114	96898275
S1.100.125.170.4.54M.H.274.R.EX.D	96811412	96830574	-	-	-
S1.100.200.135.4.54L.S.261.R.EX.D	96811404	-	-	96090118	96898277
S1.100.200.135.4.54L.C.261.R.EX.D	96811405	-	96090119	96090118	96898277
S1.100.200.135.4.54L.H.261.R.EX.D	96811406	96830576	-	-	-
S1.100.200.170.4.54L.S.285.R.EX.D	96811413	-	-	96090118	96898277
S1.100.200.170.4.54L.C.285.R.EX.D	96811414	-	96090119	96090118	96898277
S1.100.200.170.4.54L.H.285.R.EX.D	96811415	96830576	-	-	-
S2.100.200.135.4.54L.S.214.R.EX.D	96811420	-	-	96090118	96898277
S2.100.200.135.4.54L.C.214.R.EX.D	96811421	-	96090119	96090118	96898277
S2.100.200.135.4.54L.H.214.R.EX.D	96811422	96830576	-	-	-
S2.100.200.170.4.54L.S.227.R.EX.D	96811427	-	-	96090118	96898277
S2.100.200.170.4.54L.C.227.R.EX.D	96811428	-	96090119	96090118	96898277
S2.100.200.170.4.54L.H.227.R.EX.D	96811429	96830613	-	-	-
S2.100.250.135.4.54E.S.218.R.EX.D	96811416	-	-	96090131	-
S2.100.250.135.4.54E.C.218.R.EX.D	96811417	-	-	96090131	-
S2.100.250.135.4.54E.D.218.R.EX.D	96811418	-	96090132	-	
S2.100.250.135.4.54E.H.218.R.EX.D	96811419	96830613	-	-	-
S2.100.250.170.4.54E.S.232.R.EX.D	96811423	-	-	96090131	-
S2.100.250.170.4.54E.C.232.R.EX.D	96811424	-	-	96090131	-
S2.100.250.170.4.54E.D.232.R.EX.D	96811425	-	96090132	-	
S2.100.250.170.4.54E.H.232.R.EX.D	96811426	96830613	-	-	-

* Without hose connection.

** Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

*** The horizontal base stand is included in the pump product number.

List of variants

Motor		
Various cable lengths		15 m
		25 m
		50 m
EMC power cables	Screened power cables for variable speed drives	10 m
		15 m
		25 m
		50 m
Special motor		Insulation class H
		Special voltage
PTC thermistors in windings		
Special oil	Non-toxic Shell Ondina 917	
Motor protection		
PTC + moisture switch		FPV1
Klixon + moisture switch + WIO		FPV2a
PTC + moisture switch + WIO		FPV2b
Klixon + moisture switch + WIO + PT100 at lower bearing		FPV3a
PTC + moisture switch + WIO + PT100 at lower bearing		FPV3b
Materials		
Stainless steel lifting bracket	AISI 316	
Stainless steel shaft		
Tests		
Test at specified duty on standard 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	
Miscellaneous		
Special packaging	Contact Grundfos	
Special nameplate	Contact Grundfos	
Other variants	Contact Grundfos	

Sectional drawings, motors

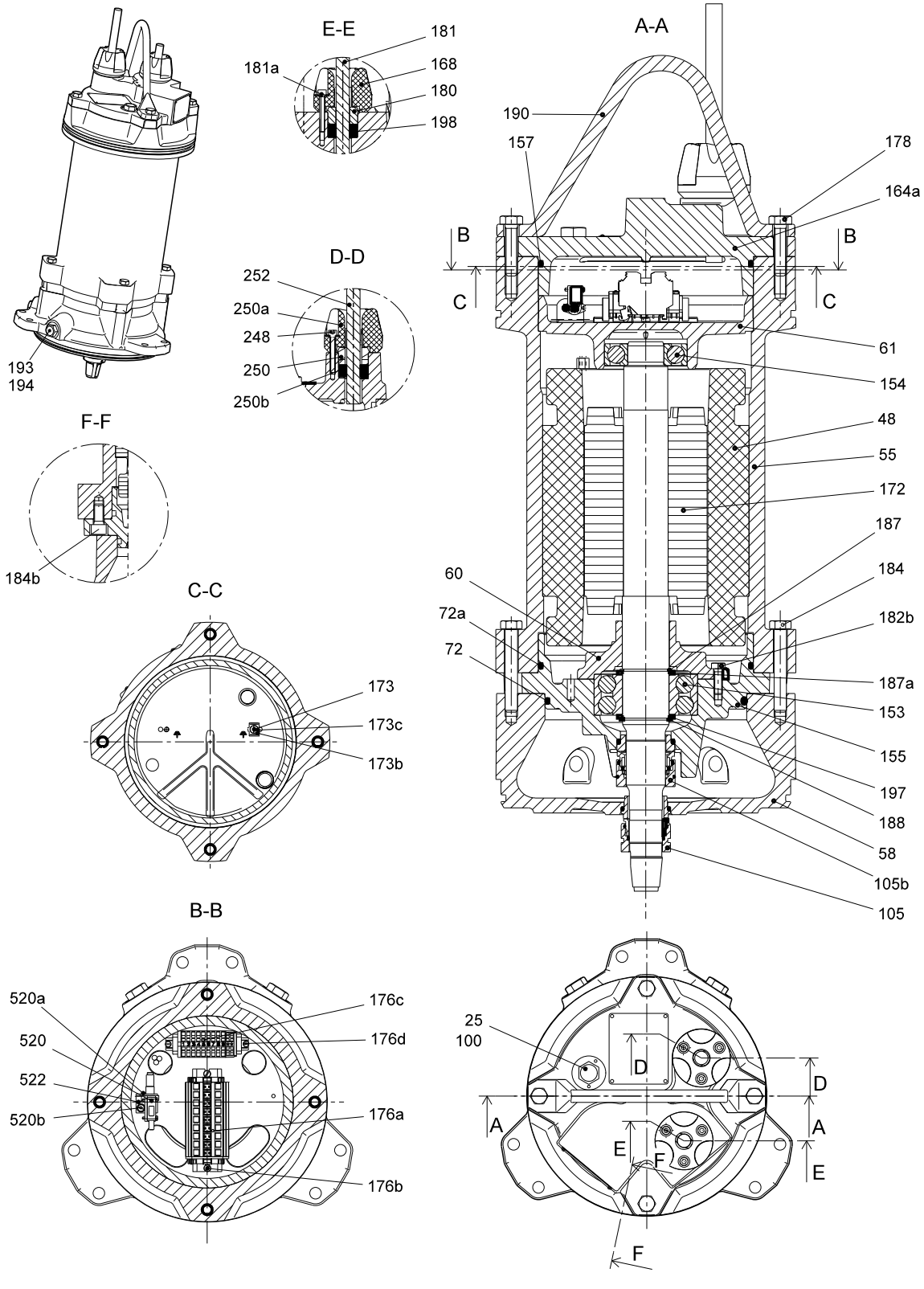


Fig. 4 Non-explosion-proof motor without cooling jacket

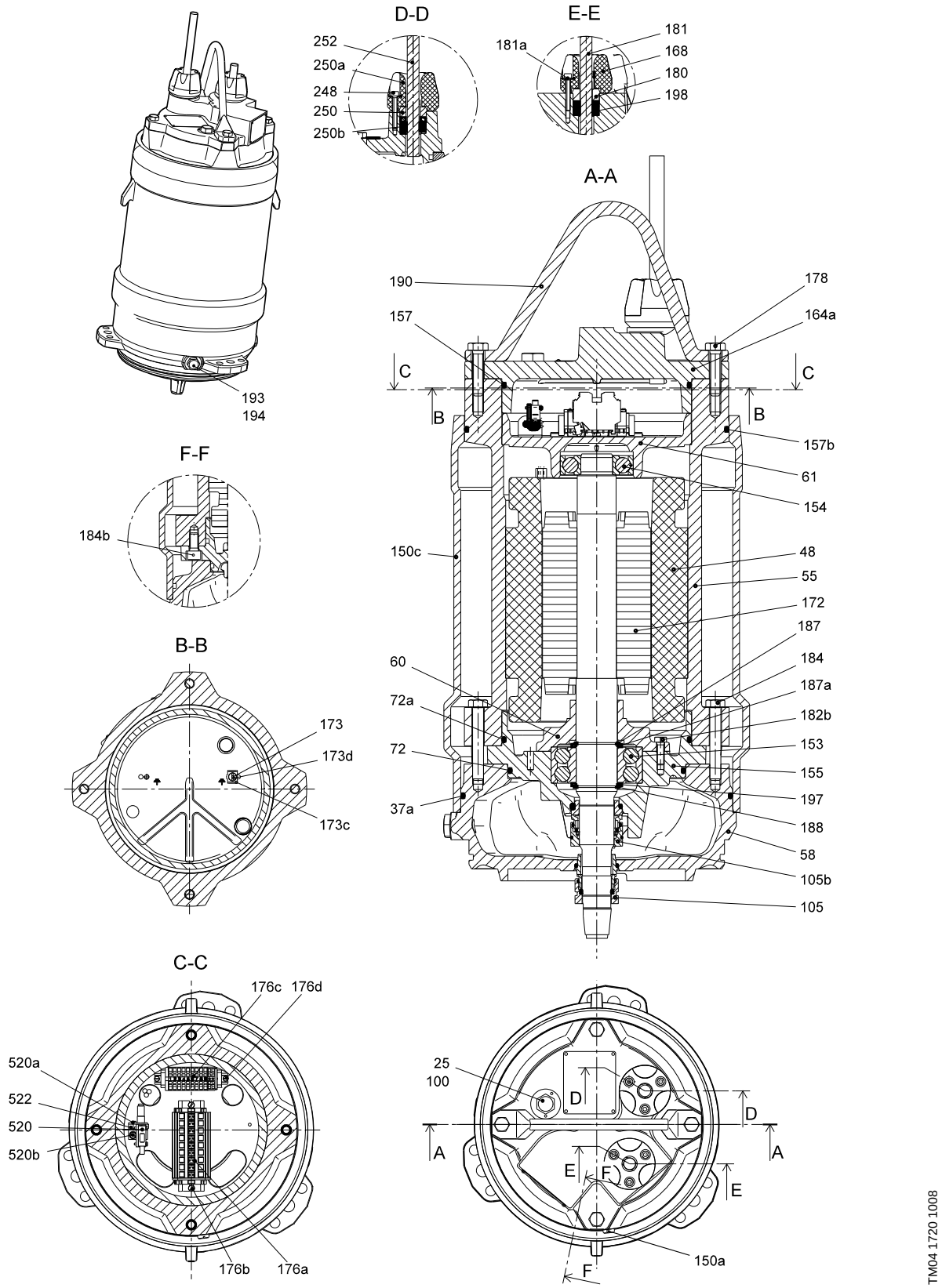


Fig. 5 Non-explosion-proof motor with cooling jacket

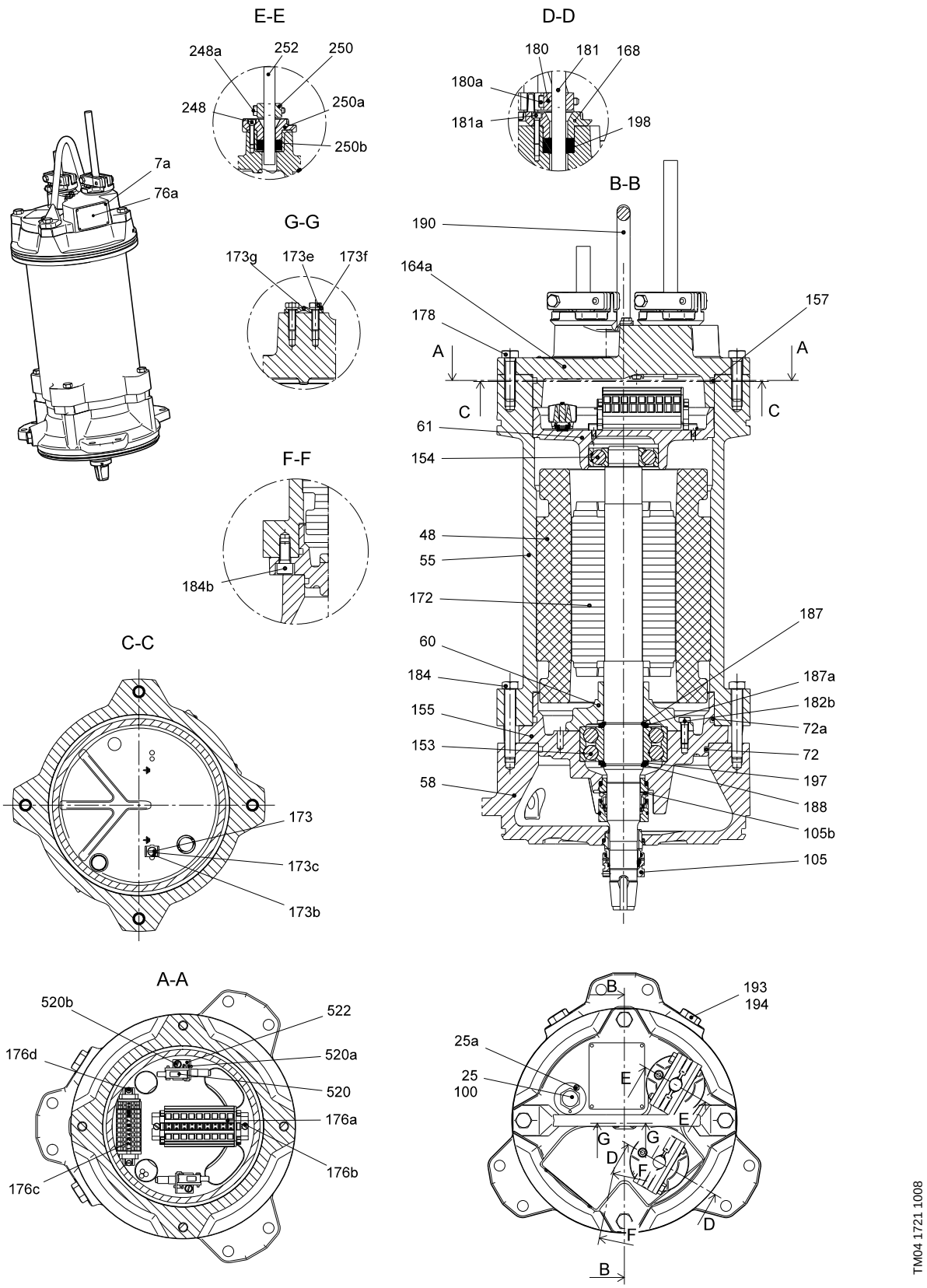


Fig. 6 Explosion-proof motor without cooling jacket

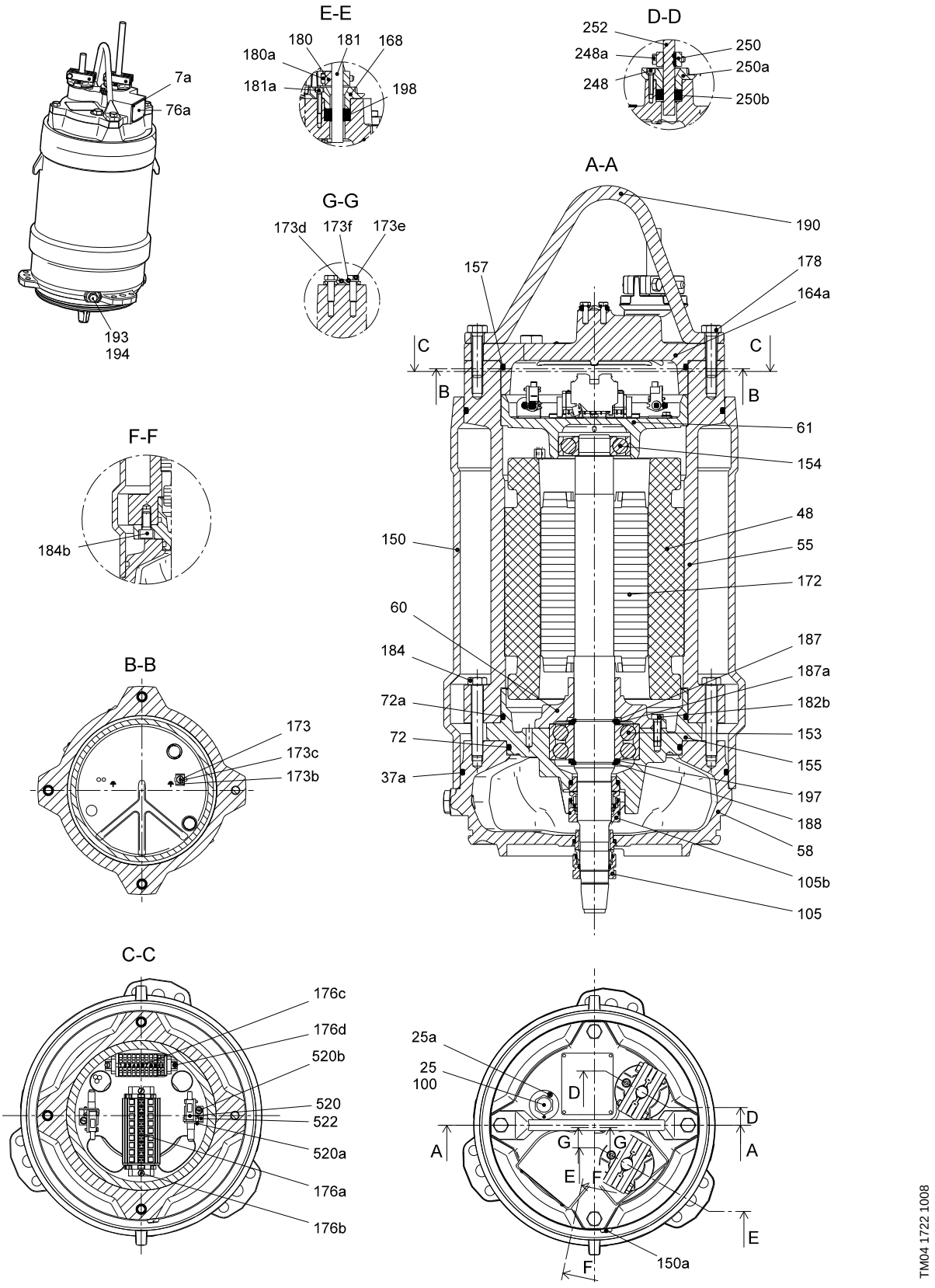


Fig. 7 Explosion-proof motor with cooling jacket

Sectional drawings, pumps

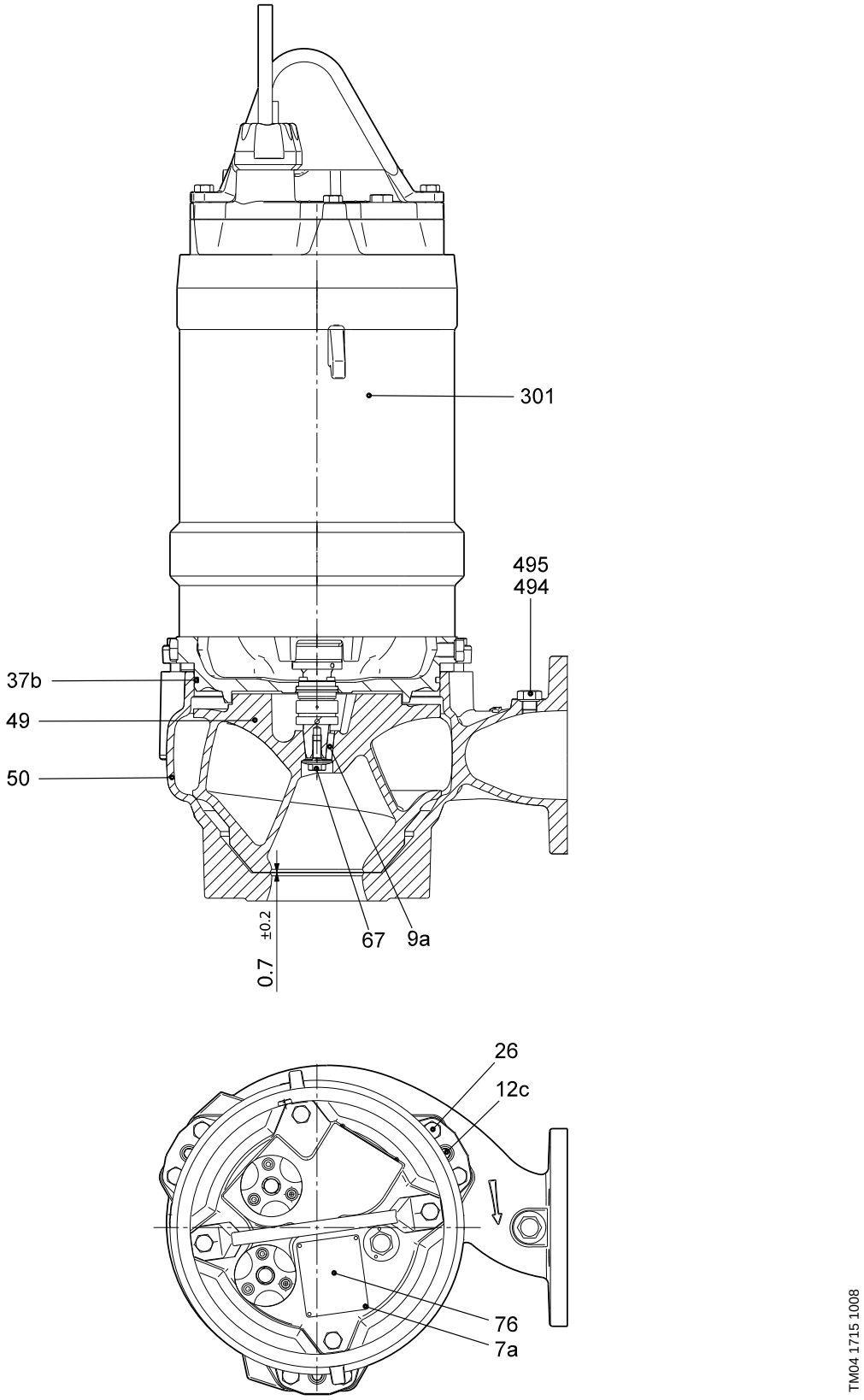


Fig. 8 S1 pump

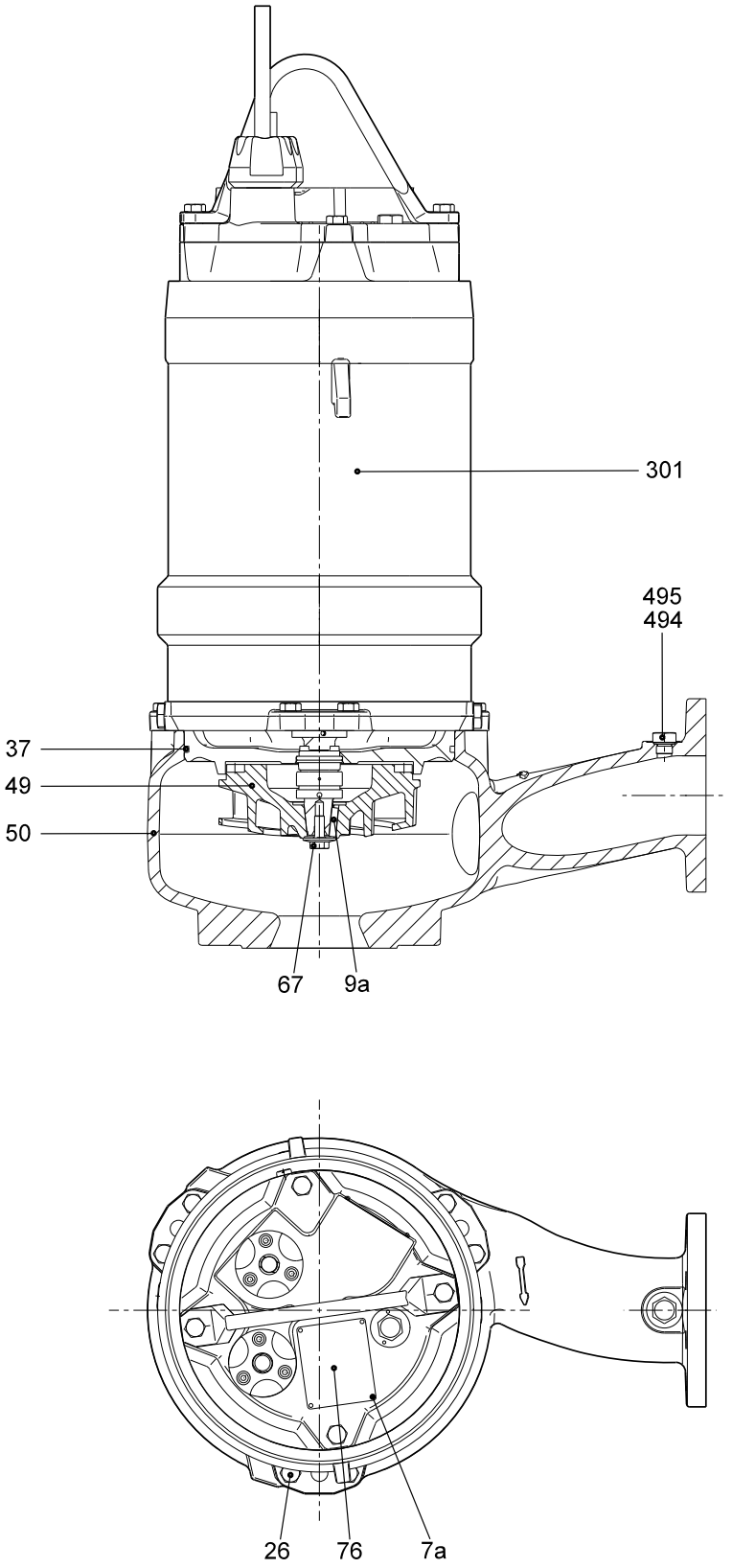


Fig. 9 SV pump

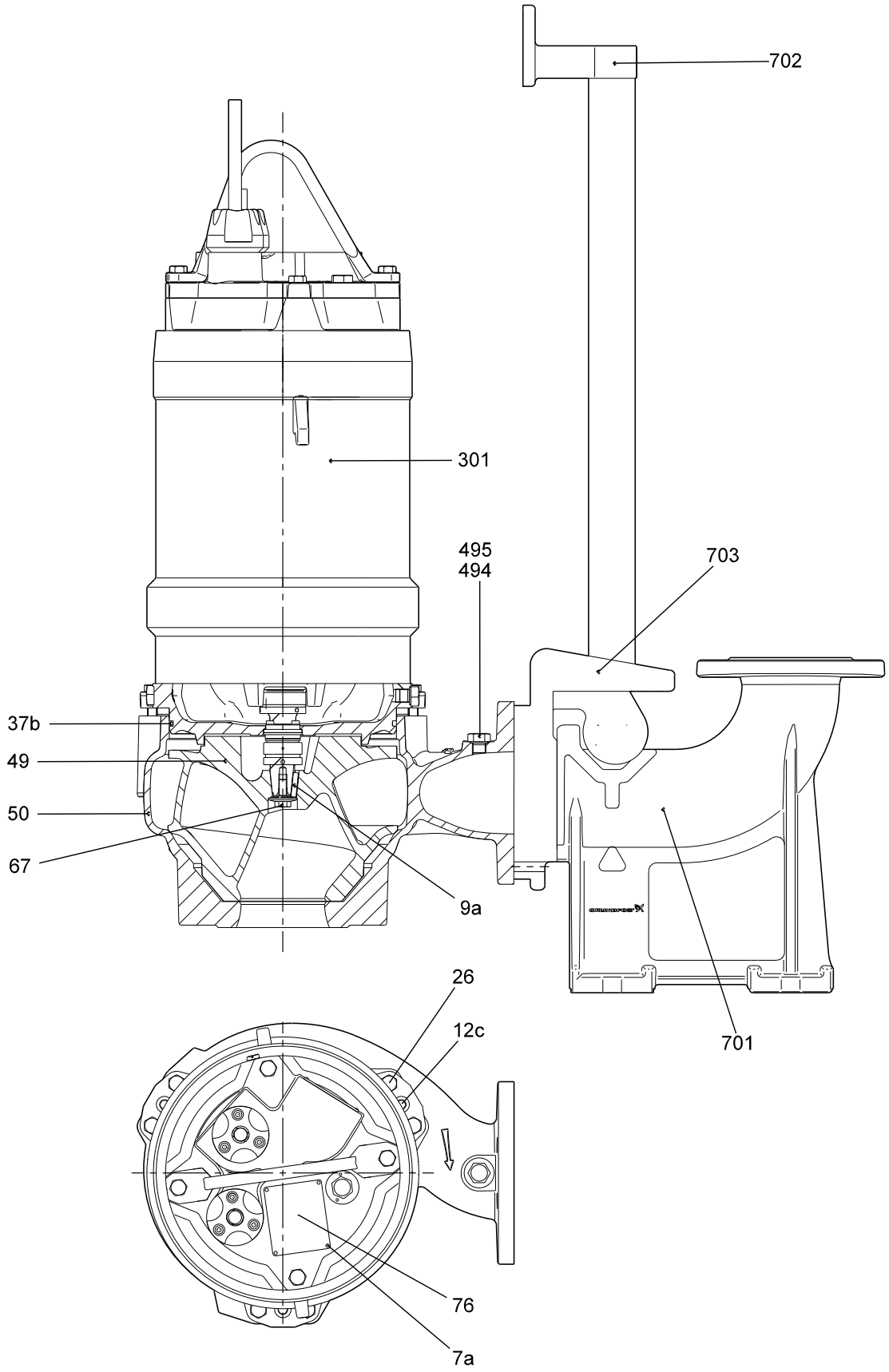


Fig. 10 Installation types S and C pump on auto coupling

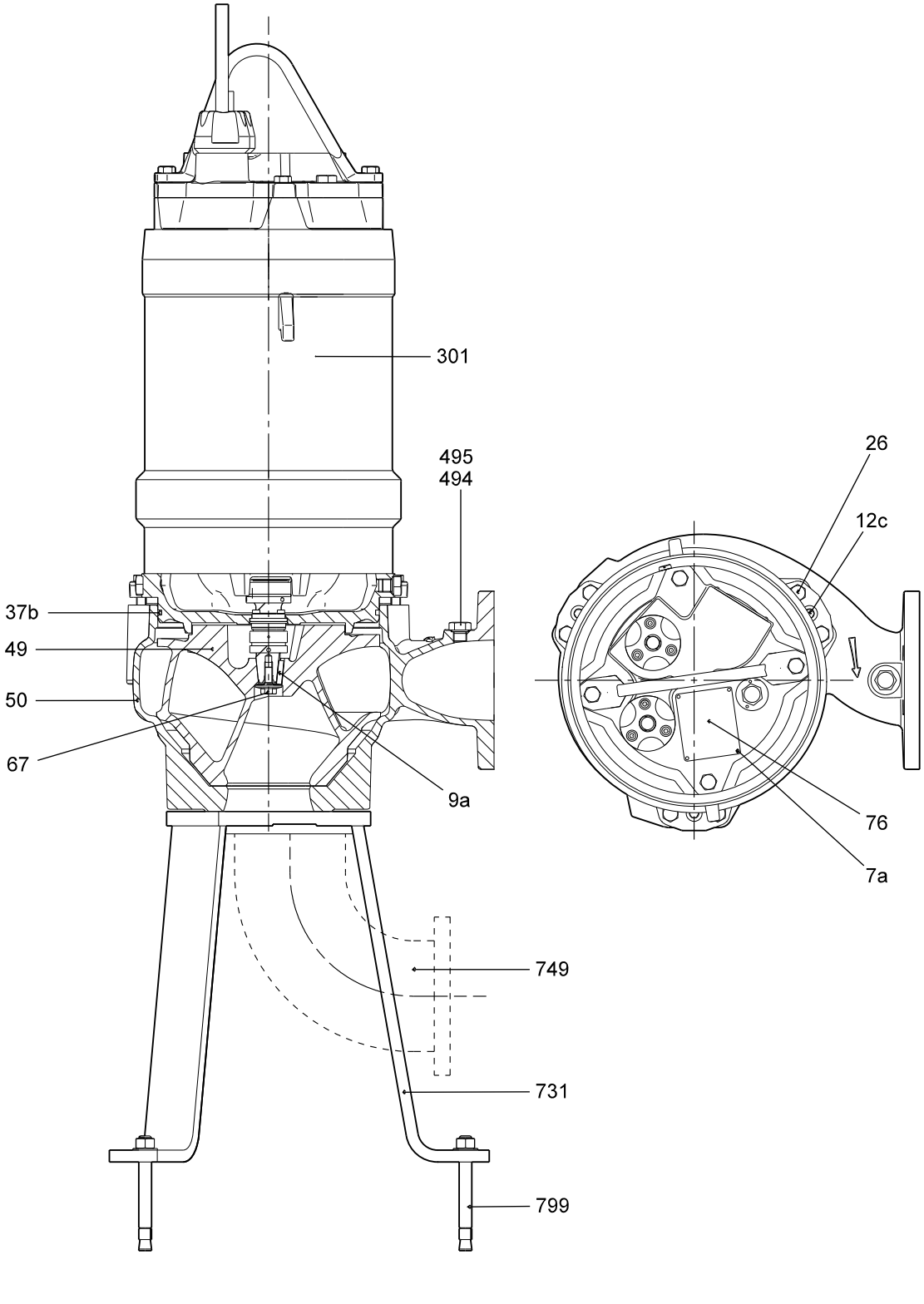


Fig. 11 Installtion type D pump

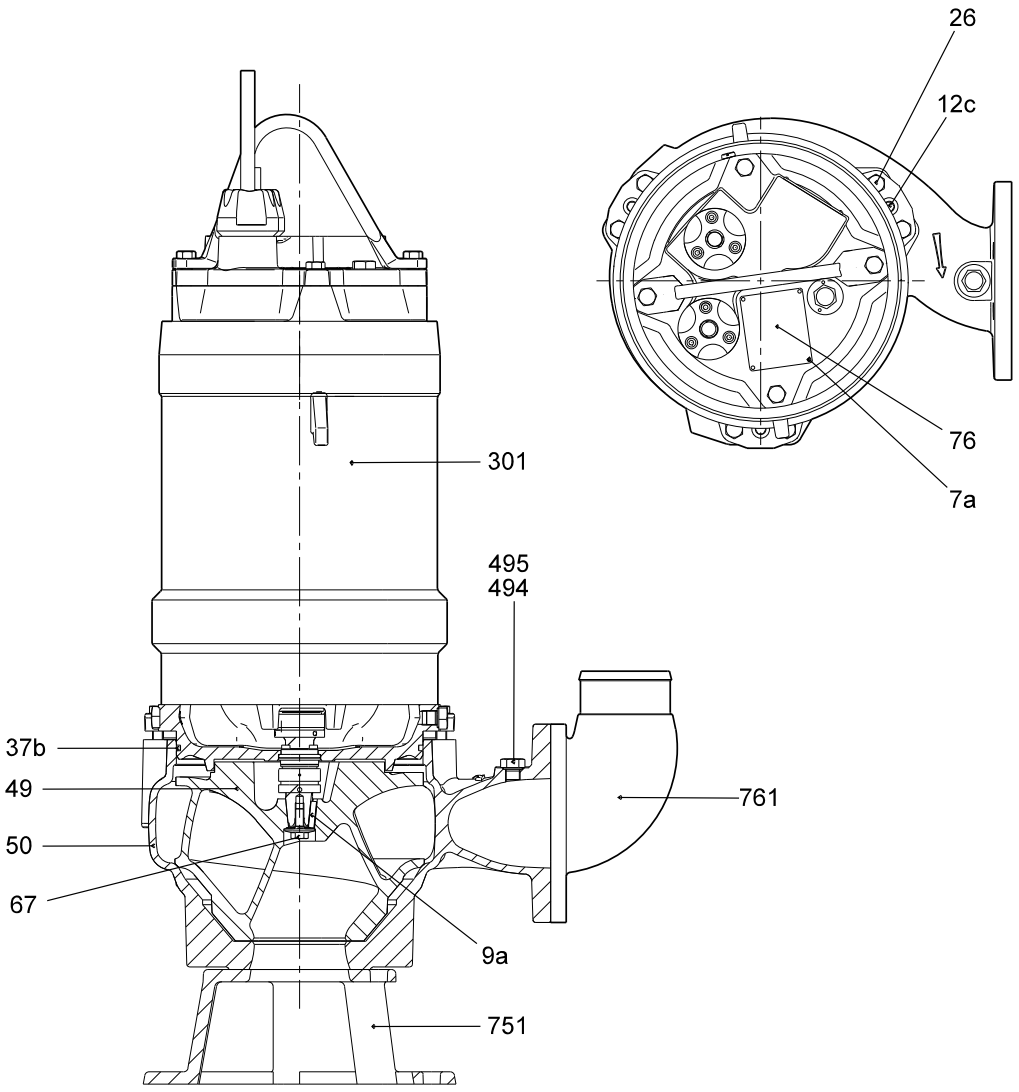


Fig. 12 Installation types S and C pump, free-standing installation

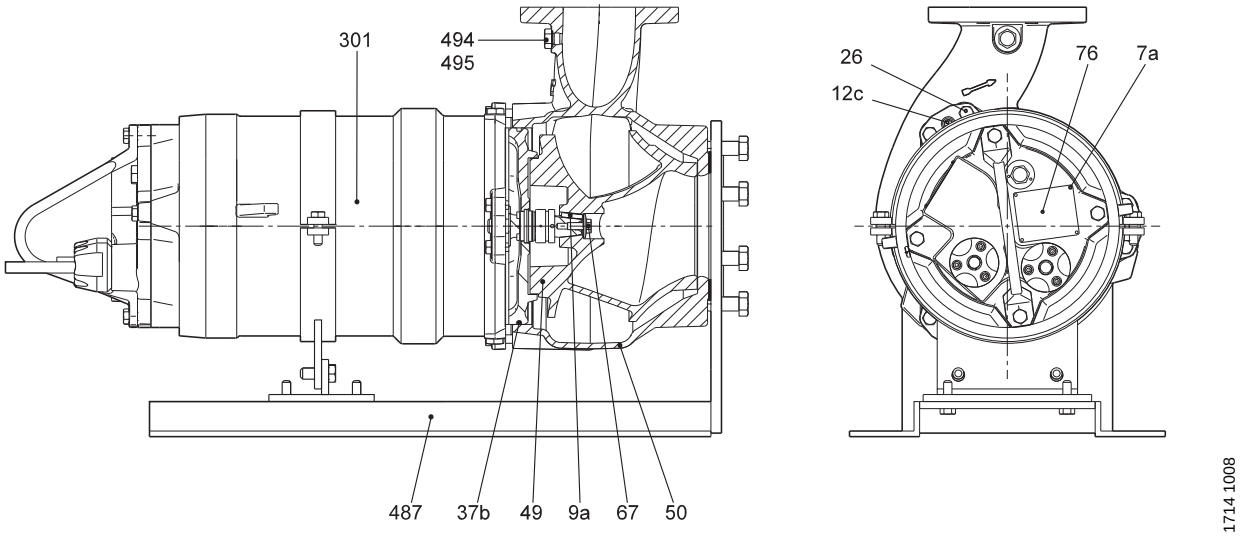


Fig. 13 S1 pump, installation type H

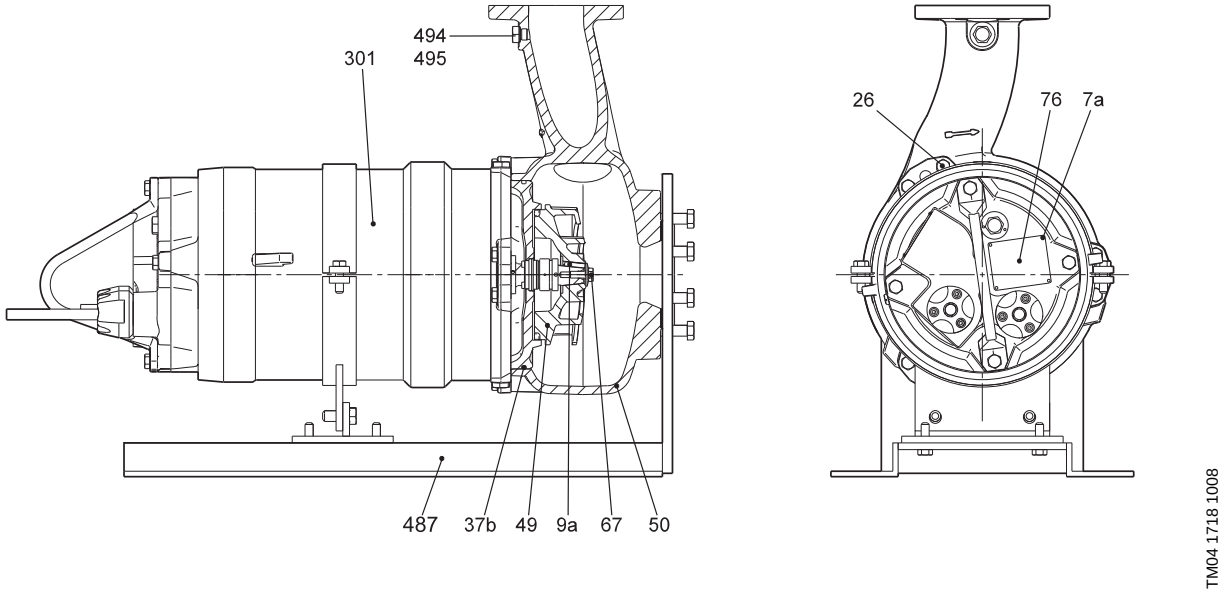


Fig. 14 SV pump, installation type H

Components and material specification

Motor

Pos.	Component	Material
7a	Rivet	Stainless steel (1.4436/316)
25a	Screw	Stainless steel (1.4436/316)
25	Pressure test plug	Stainless steel (1.4436/316)
48	Stator lamination	
**55	Stator housing	Cast iron (EN-JL 1040/A48 30)
58	Seal housing	Cast iron
60	Bearing bracket cover	Cast iron
61c	Upper bearing bracket	Cast iron
72a	O-ring	NBR rubber
72	O-ring	NBR rubber
76a	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 entry	PA or cast iron
172	Shaft with rotor	Stainless steel (1.4462/329)
173b	Earth terminal	
173c	Washer	Stainless steel (1.4436/316)
173e	Screw	Stainless steel (1.4436/316)
173f	Spring washer	Stainless steel (1.4436/316)
173g	Earth connector	
173	Screw	Stainless steel (1.4436/316)
176a	Terminal block	
176b	Screw	Stainless steel (1.4436/316)
176c	Terminal block	
176d	Terminal block	
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	Hexagon socket head cap 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 bracket	Stainless steel (1.4408/316)
193	Plug	Stainless steel (1.4408/316)
194	O-ring	NBR rubber
197	Washer	Stainless steel (1.4436/316)
198	Rubber seal	
248	Screw	Stainless steel (1.4436/316)
250a	Cable entry	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	Rivet	
9a	Key (for keyway)	Stainless steel (1.4436/316)
12c	Adjusting screw	Stainless steel (1.4436/316)
26	Screw	Stainless steel (1.4436/316)
37	O-ring	NBR rubber
37b	O-ring	NBR rubber
**49	Impeller	Cast iron EN-JL 1050
**50	Volute casing	Cast iron EN-JS 1050
67	Impeller screw	Stainless steel (1.4436/316)
76	Nameplate	
301	Motor housing	
494	Plug	Stainless steel (1.4436/316)
495	O-ring	NBR rubber

Accessories

Pos.	Component	Material
**701	Auto-coupling base unit	Cast iron
**702	Guide rail bracket	Cast iron
**703	Guide claw	Cast iron
731	Base stand, vertical	Galvanized steel
749	Bend	Cast iron
751	Ring stand	Galvanized steel
**761	Hose connector	Cast iron or stainless steel
487	Base stand, horiontal	Galvanized steel
799	Anchor bolt	

* Ex versions have cast iron cable entry and two moisture switches.

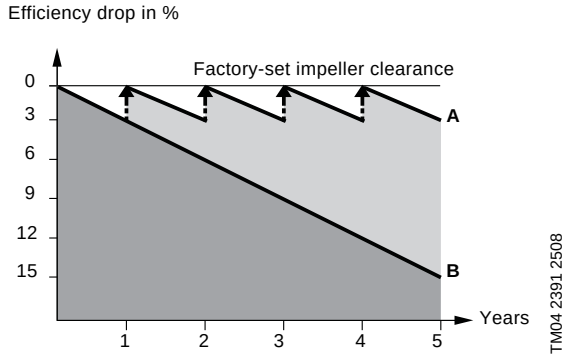
** Available of stainless steel (custom-built option).

Features

SmartTrim

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

SmartSeal

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 bearings: Single-row deep-groove ball bearing.

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 mateial 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 watertight, totally encapsulated motor with:

- insulation class F (155 °C)
- temperature rise class F (105 °C)
- enclosure class IP68.

For motor protection and sensors, see *Sensors* below.

Power cables

Standard cable

Cable type [mm^2]	Outer cable diameter [mm]		Bending radius
	min.	max.	[cm]
4 x 6	15.7	17.2	11
4 x 10	20.9	23.4	14

EMC cable

Cable type [mm^2]	Outer cable diameter [mm]		Bending radius
	min.	max.	[cm]
3 x 6	13.6	15.2	7.6
3 x 10	17.8	19.8	9.9

Control cable

Cable type [mm^2]		Outer cable diameter [mm]		Bending radius
		min.	max.	[cm]
ATHON H07RN-F	7 x 1.5	14.4	16.4	10
Lyniflex	7 x 1.5	14.4	16.0	10

The cables are 10 m long as standard. Other cable lengths are available on request. See *List of variants* on page 19.

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

Cable entry

Watertight 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 phase.
- One moisture switch in terminal block.

Customised sensor options

1. WIO (water-in-oil) sensor
   The WIO sensor measures the water content in the oil and converts the value into an analogue current signal. The two sensor conductors are for power supply as well as for carrying the signal to the measuring device or controller. The sensor measures the water content from 0 to 20 %. It also sends a signal if the water content is outside the normal range (warning), or if there is air in the oil chamber (alarm). The sensor is fitted in a stainless steel tube for mechanical protection.
   The WIO sensor is connected to the Grundfos IO 111 module.
2. PVS 3 (pump vibration sensor)
   The vibration sensor monitors the vibration level of the pump. A change in the vibration level indicates an abnormal situation. The cause of this can be a clogged impeller, worn bearings, closed discharge valve, etc., indicating that service inspection should be carried out now in order to protect the pump or the pipe system from being 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* on page 19.

Operating conditions

Pumps without cooling jacket in submerged installation:

- Continuous operation when pump is fully submerged to top of motor.
- Intermittent operation with max. 20 starts per hour when pump is submerged to middle of motor and with short periods of operation down to the top of the pump housing
  Note: Explosion proof pumps must always be fully submerged

Pumps with cooling jacket in submerged and dry installation:

- Continuous and intermittent operation with max. 20 starts per hour with water level down to the top of the pump housing.

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

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

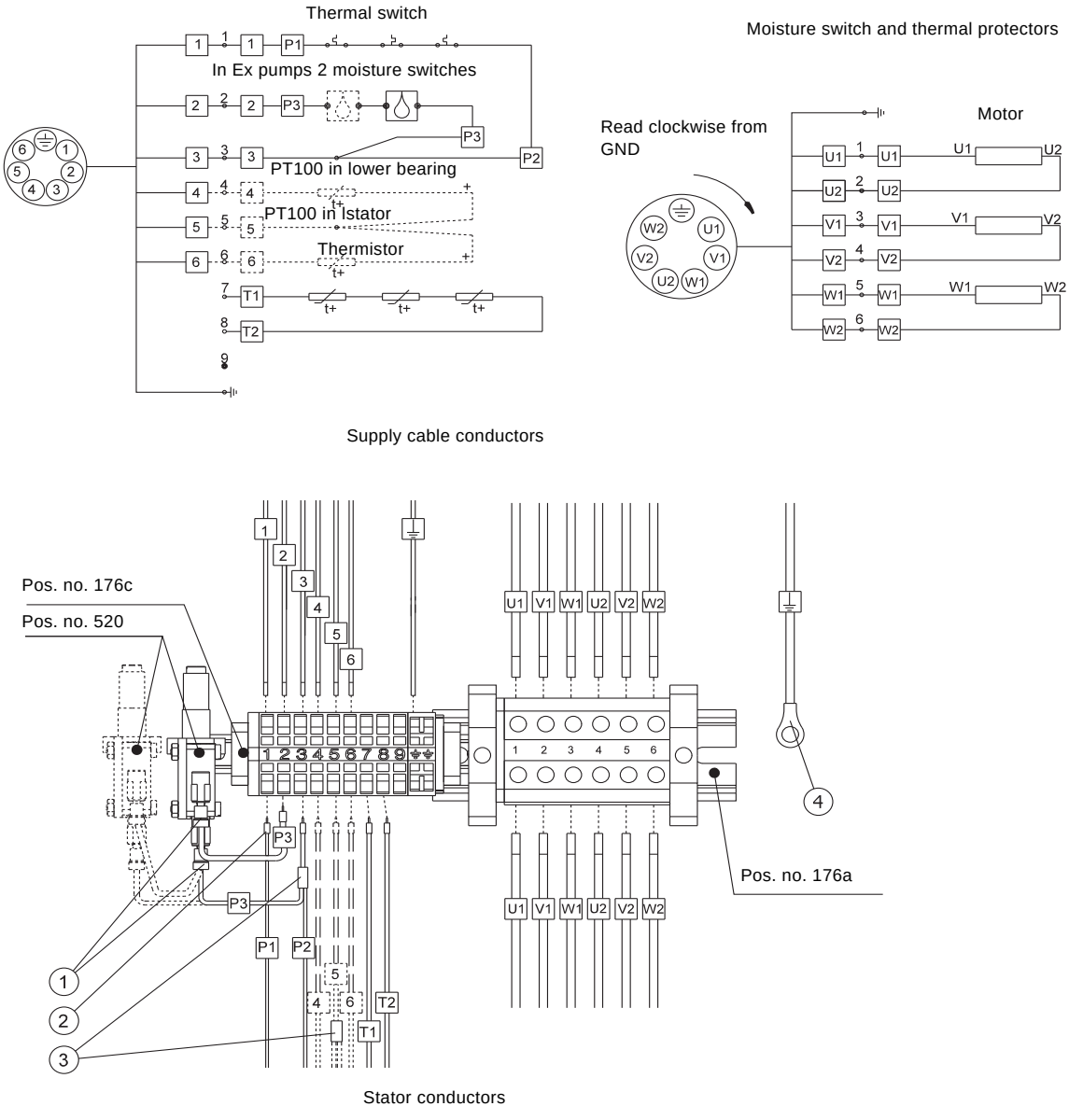
In the following description, “level switch” means level pickup, float switch or level electrode, depending on the pump controller selected.

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: Two for start of the pumps and one for common stop. The fourth - optional - level switch, is for high-level alarm.

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

Wiring diagrams

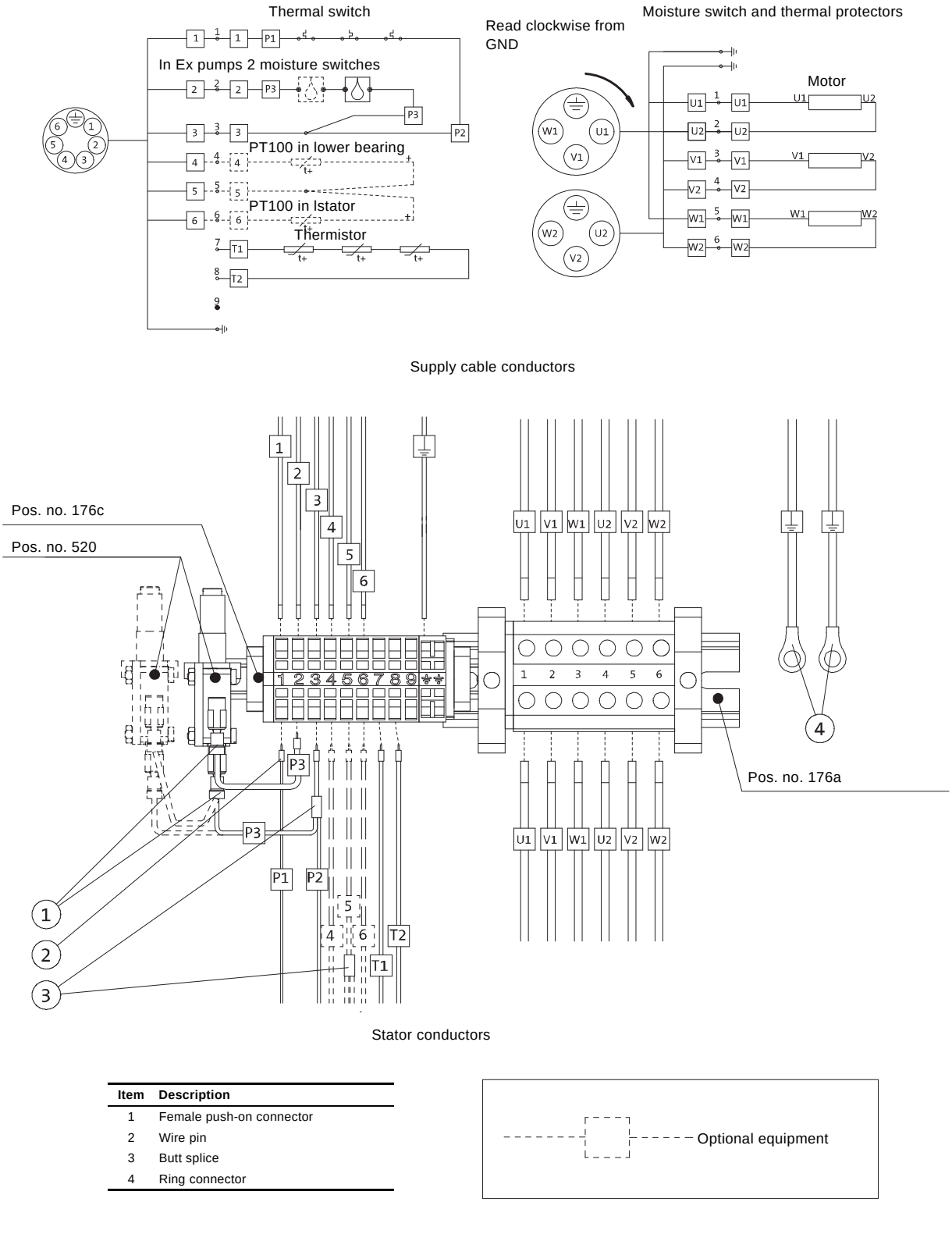


Item	Description
1	Female push-on connector
2	Wire pin
3	Butt splice
4	Ring connector

Optional equipment

TM043729 5008

Fig. 15 Wiring diagrams, pumps with one power cable



Item	Description
1	Female push-on connector
2	Wire pin
3	Butt splice
4	Ring connector

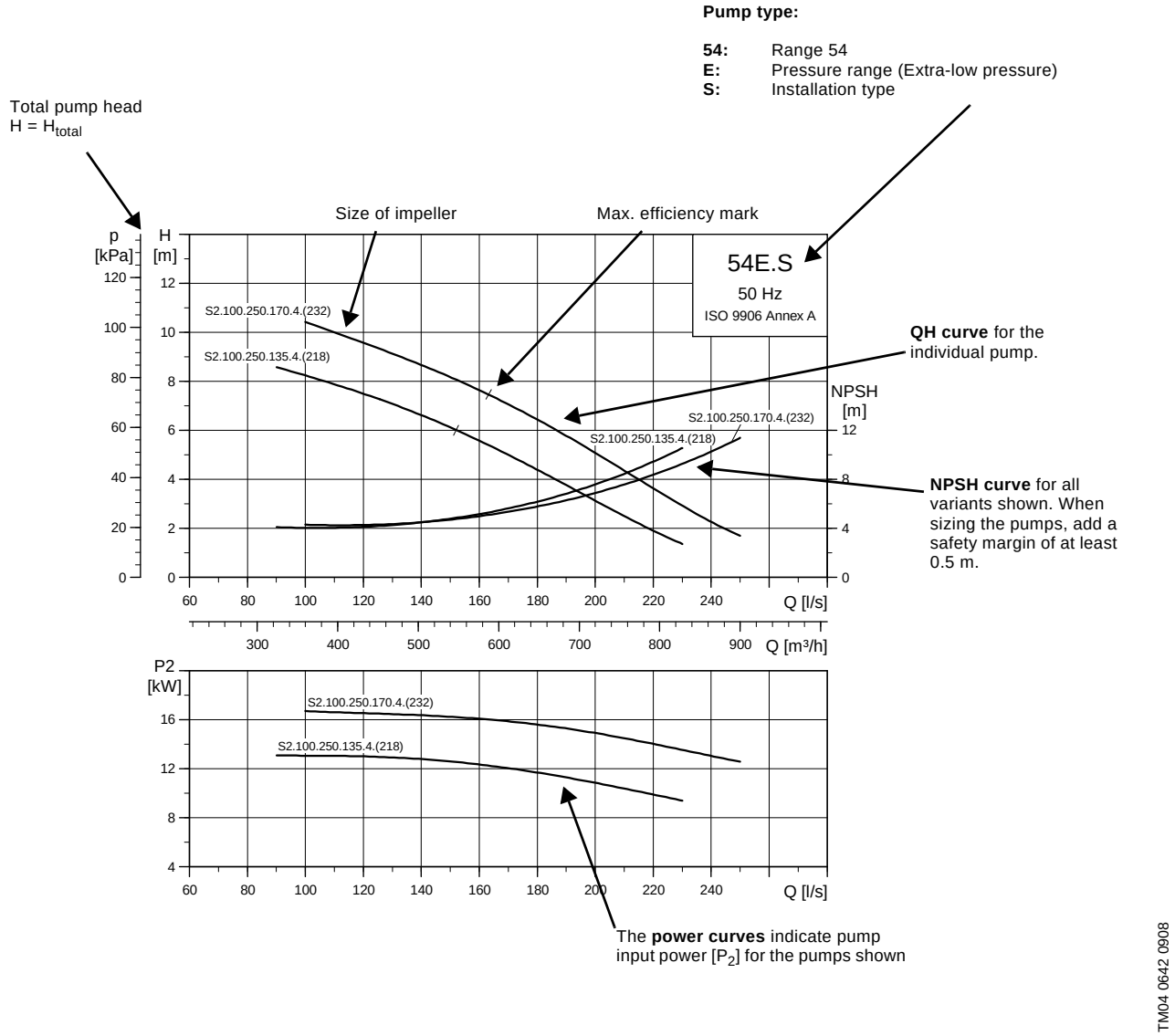
Fig. 16 Wiring diagrams, pumps with two power cables

The following many pages are divided into sections:

Pages 36 and 37	A brief explanation of how to read the curve charts, the curve conditions, etc.

Performance curves and technical data:

How to read the curve charts



Curve conditions

The guidelines below apply to the curves shown in the performance charts on page 38 to page 56.

- Tolerances according to: ISO 9906, Annex A.
- The curves show pump performance with different impeller diameters at rated 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^2/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^3, the discharge pressure is proportional to the density.
- When pumping liquids with a density higher than 1000 kg/m^3, 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.

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

H_{geo}: Height difference between measuring points.

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

H_{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

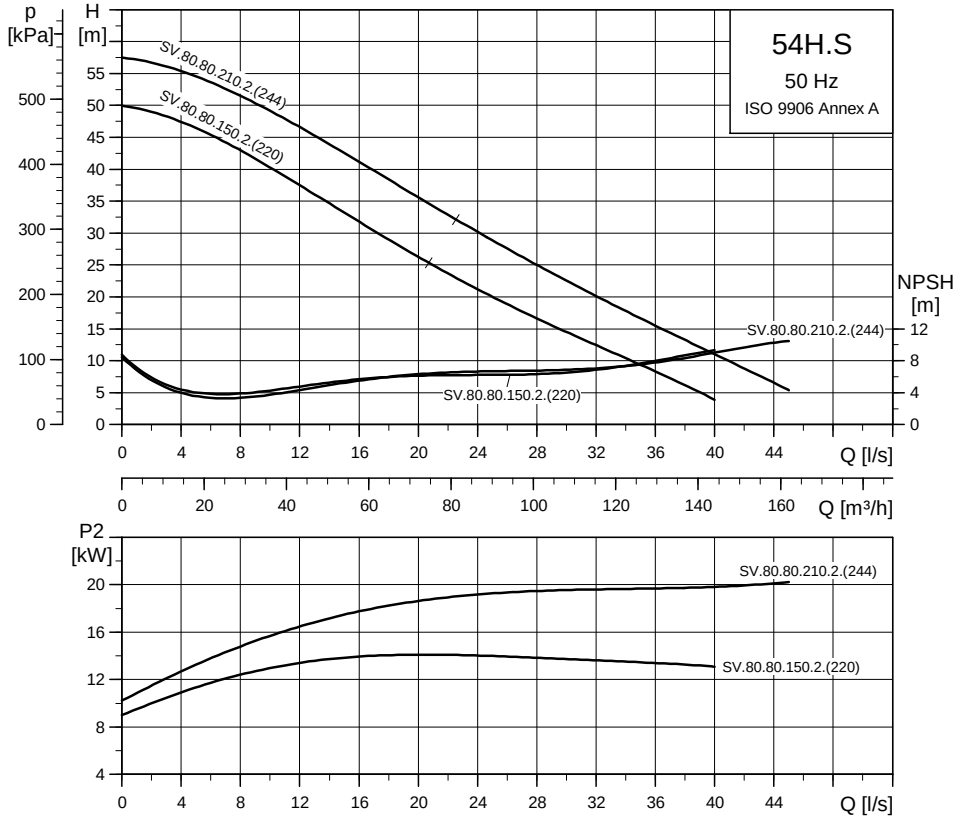
When the pumps are being tested or are tested with a certification it is possible for the customer to witness the testing procedure according to ISO 9906.

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

SuperVortex - 3 x 400/690 V



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Technical data

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
SV.80.80.150.2.54H.S.220.G.N.D	S	1004	516	205	332	421	178	DN 150	80	300	95113505
SV.80.80.210.2.54H.S.244.G.N.D	S	1004	516	205	332	421	178	DN 150	80	300	95113504

With 10 m cable

Electrical data

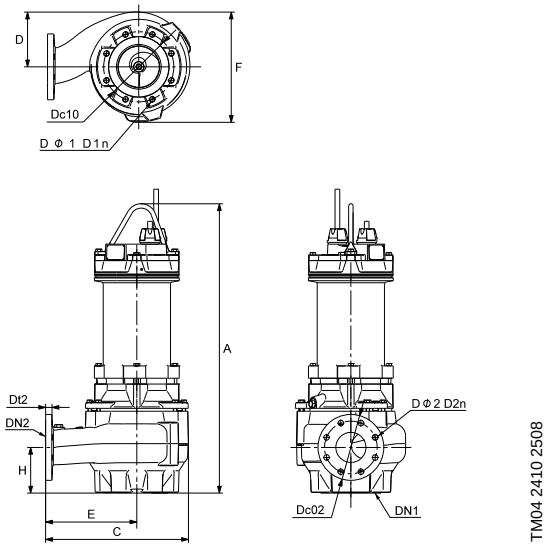
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
SV.80.80.150.2.54H.S.220.G.N.D	17	15	2	2780	Y/D	31	277	85	86	87	0.70	0.77	0.82	0.117	214
SV.80.80.210.2.54H.S.244.G.N.D	24	21	2	2780	Y/D	41	277	86	87	87	0.75	0.83	0.86	0.14	214

Note: Enclosure class: IP68

Pump data

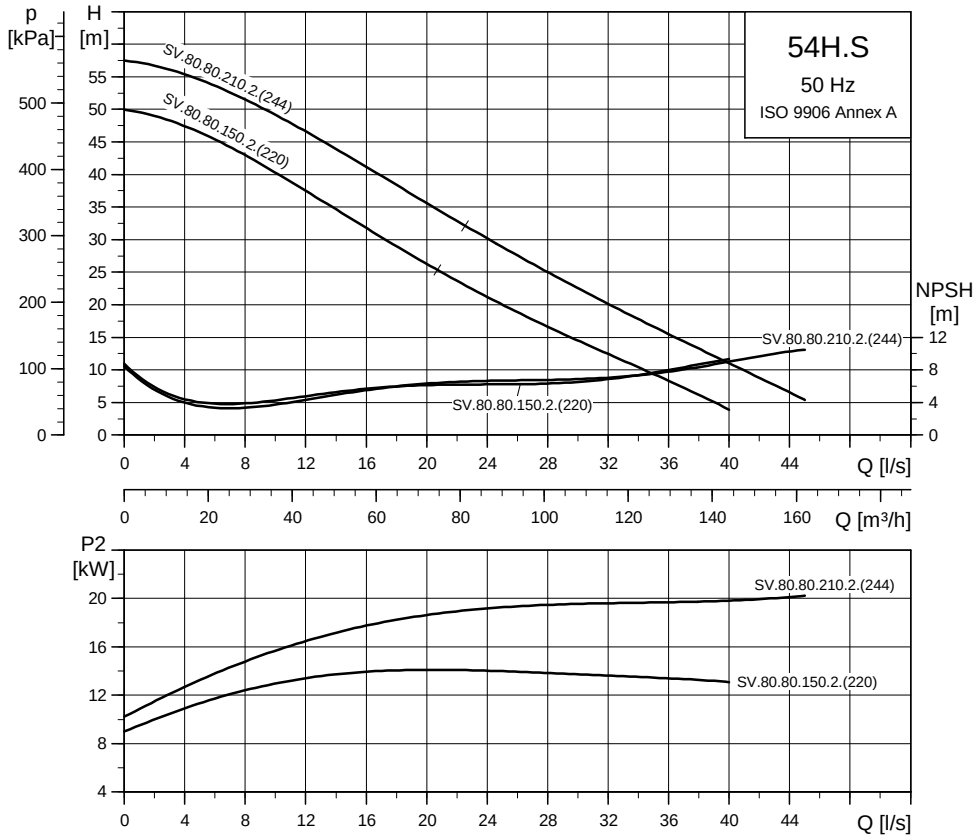
Pump type	Impeller diameter	Max. solids size	Pump housing pressure	Max. installation depth
	[mm]	[mm]	PN	[m]
SV.80.80.150.2.54H.S.220.G.N.D	220	80	10	20
SV.80.80.210.2.54H.S.244.G.N.D	244	80	10	20

Dimensional sketches



Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

SuperVortex - 3 x 415 V



TM04 0644 0908

Technical data

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
SV.80.80.150.2.54H.S.220.G.N.D	S	1004	516	205	332	421	178	DN 150	80	300	95114374
SV.80.80.210.2.54H.S.244.G.N.D	S	1004	516	205	332	421	178	DN 150	80	300	95114371

With 10 m cable

Electrical data

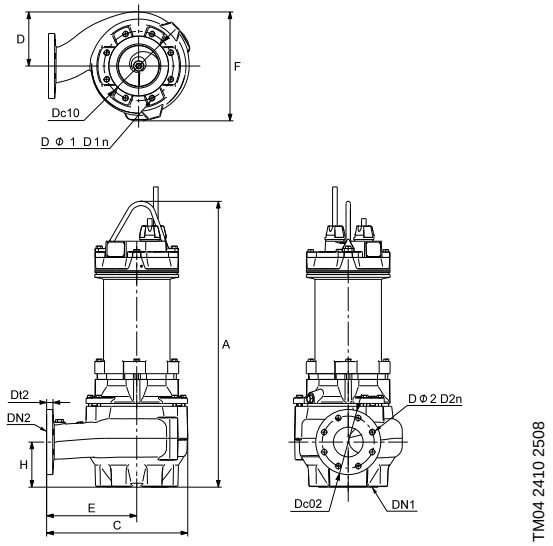
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
SV.80.80.150.2.54H.S.220.G.N.D	17	15	2	2780	Y/D	30	267	85	86	87	0.70	0.77	0.82	0.117	214
SV.80.80.210.2.54H.S.244.G.N.D	24	21	2	2780	Y/D	39	267	86	87	87	0.75	0.83	0.86	0.14	214

Note: Enclosure class: IP68

Pump data

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

Dimensional sketches



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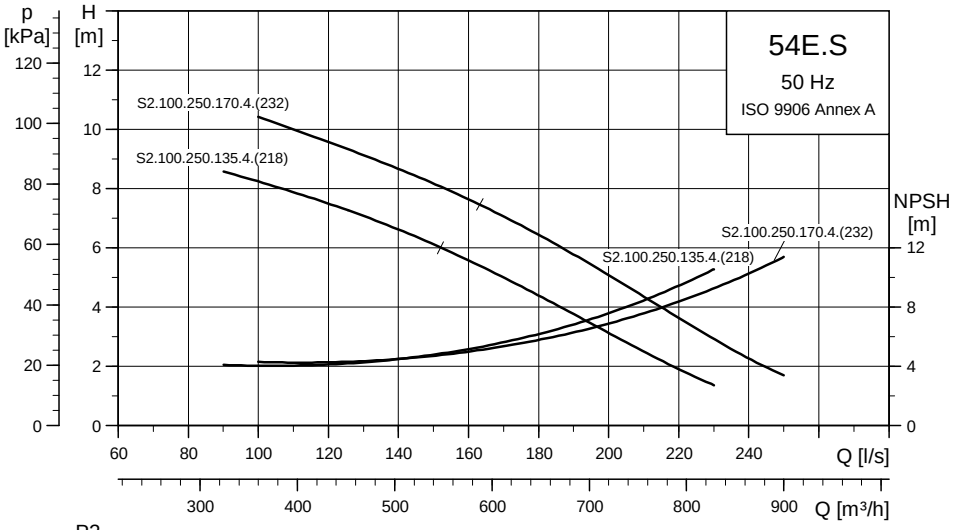
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Extra-low pressure - 3 x 400/690 V



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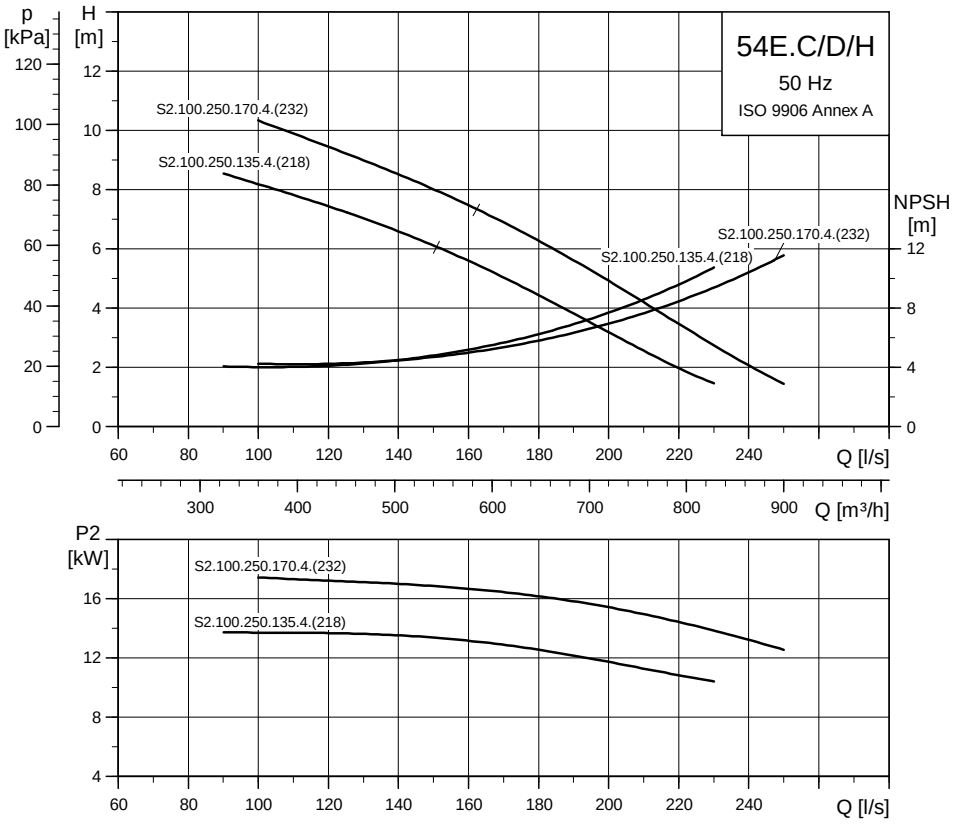


TM04 0643 0908

Technical data

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S2.100.250.135.4.54E.S.218.G.N.D	S	1095	1135	418	750	747	248	DN 250	250	450	95113526
S2.100.250.135.4.54E.C.218.G.N.D	C	1095	1135	418	750	747	248	DN 250	250	500	95113527
S2.100.250.135.4.54E.D.218.G.N.D	D	1095	1135	418	750	747	248	DN 250	250	450	95113528
S2.100.250.135.4.54E.H.218.G.N.D	H	1095	1135	418	750	747	248	DN 250	250	500	96781216
S2.100.250.170.4.54E.S.232.G.N.D	S	1095	1135	418	750	747	248	DN 250	250	470	95113532
S2.100.250.170.4.54E.C.232.G.N.D	C	1095	1135	418	750	747	248	DN 250	250	520	95113533
S2.100.250.170.4.54E.D.232.G.N.D	D	1095	1135	418	750	747	248	DN 250	250	470	95113534
S2.100.250.170.4.54E.H.232.G.N.D	H	1095	1135	418	750	747	248	DN 250	250	520	96781218

With 10 m cable

Electrical data

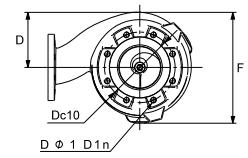
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S2.100.250.135.4.54E.S.218.G.N.D	16	13.5	4	1452	Y/D	34	166	78	82	82	0.50	0.62	0.70	0.233	289
S2.100.250.135.4.54E.C.218.G.N.D	17	14	4	1452	Y/D	35	166	78	82	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	35	166	78	82	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	35	166	78	82	82	0.51	0.63	0.71	0.233	289
S2.100.250.170.4.54E.S.232.G.N.D	20	17	4	1455	Y/D	36	169	84	86	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	37	169	84	86	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	37	169	84	86	86	0.62	0.75	0.82	0.247	248
S2.100.250.170.4.54E.H.232.G.N.D	21	18	4	1451	Y/D	37	169	84	86	86	0.62	0.75	0.82	0.247	248

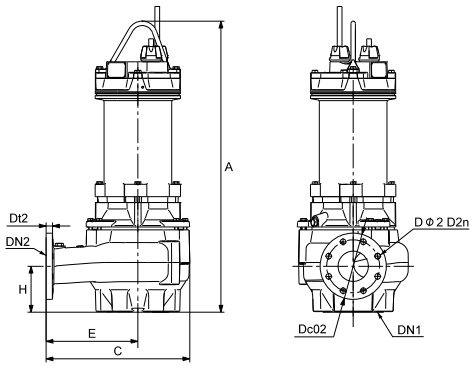
Note: Enclosure class: IP68

Pump data

Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [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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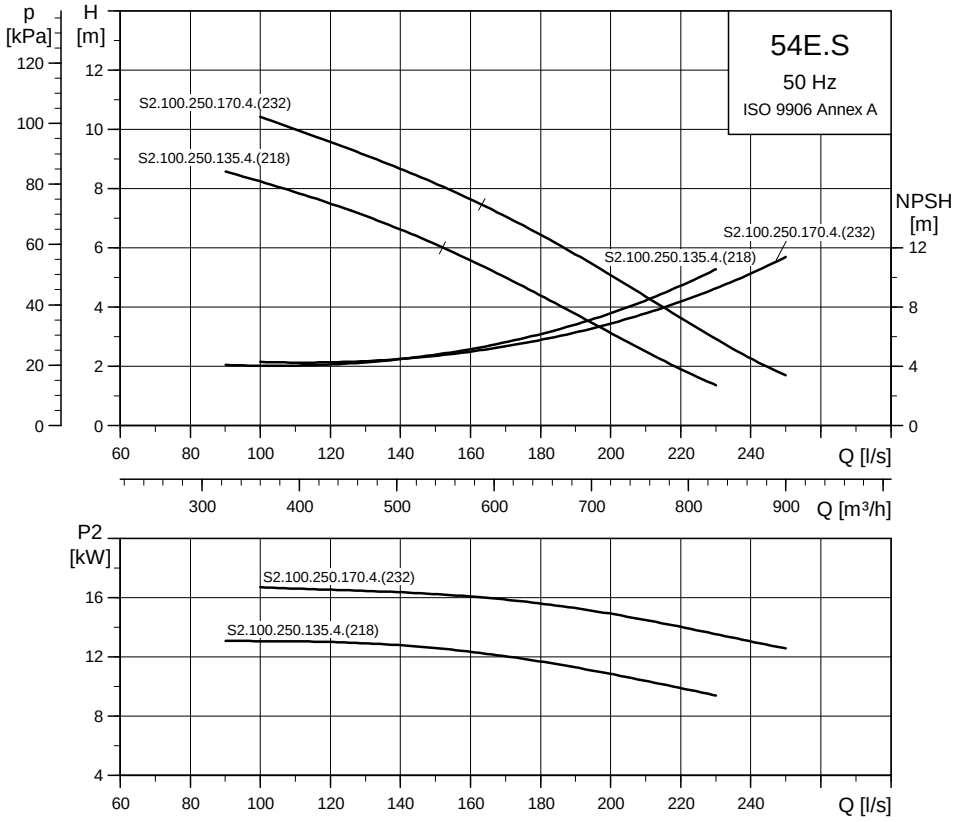
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Extra-low pressure - 3 x 415 V



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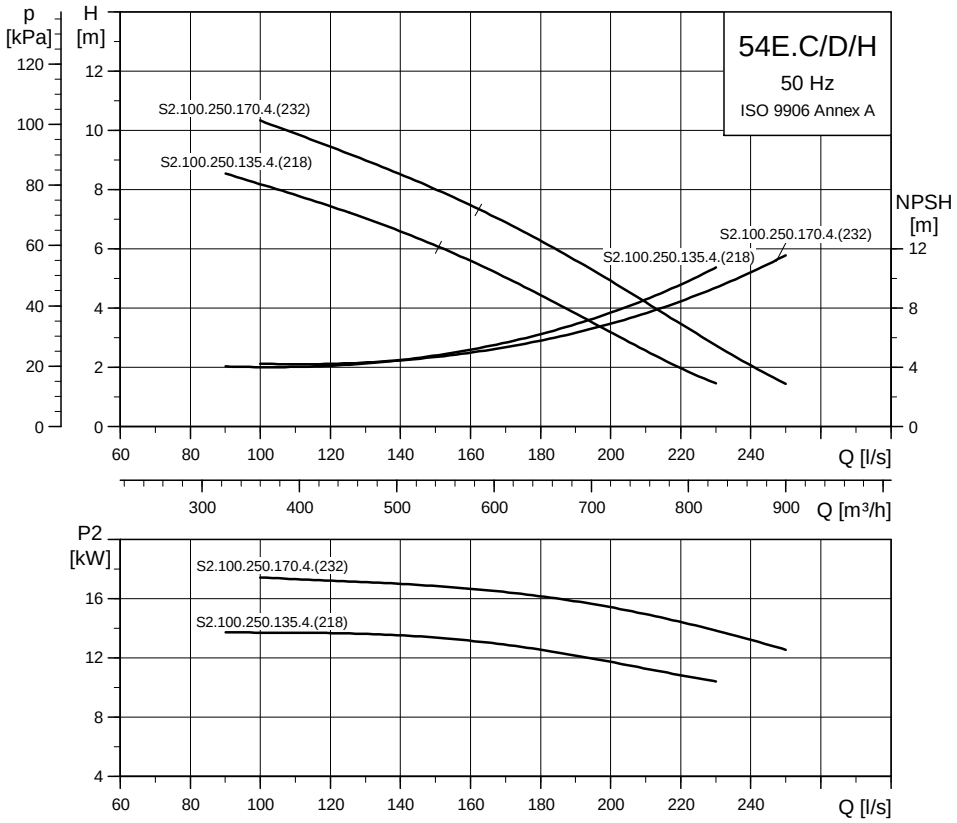


TM04 0643 0908

Technical data

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S2.100.250.135.4.54E.S.218.G.N.D	S	1095	1135	418	750	747	248	DN 250	250	450	95114431
S2.100.250.135.4.54E.C.218.G.N.D	C	1095	1135	418	750	747	248	DN 250	250	500	95114434
S2.100.250.135.4.54E.D.218.G.N.D	D	1095	1135	418	750	747	248	DN 250	250	450	95114437
S2.100.250.135.4.54E.H.218.G.N.D	H	1095	1135	418	750	747	248	DN 250	250	500	96781217
S2.100.250.170.4.54E.S.232.G.N.D	S	1095	1135	418	750	747	248	DN 250	250	470	95114449
S2.100.250.170.4.54E.C.232.G.N.D	C	1095	1135	418	750	747	248	DN 250	250	520	95114452
S2.100.250.170.4.54E.D.232.G.N.D	D	1095	1135	418	750	747	248	DN 250	250	470	95114455
S2.100.250.170.4.54E.H.232.G.N.D	H	1095	1135	418	750	747	248	DN 250	250	520	96781219

With 10 m cable

Electrical data

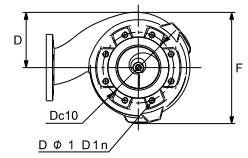
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S2.100.250.135.4.54E.S.218.G.N.D	16	13.5	4	1452	Y/D	33	160	78	82	82	0.50	0.62	0.70	0.233	289
S2.100.250.135.4.54E.C.218.G.N.D	17	14	4	1452	Y/D	34	160	78	82	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	34	160	78	82	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	34	160	78	82	82	0.51	0.63	0.71	0.233	289
S2.100.250.170.4.54E.S.232.G.N.D	20	17	4	1455	Y/D	35	161	83	86	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	36	161	84	86	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	36	161	84	86	85	0.61	0.75	0.82	0.247	248
S2.100.250.170.4.54E.H.232.G.N.D	21	18	4	1451	Y/D	36	161	84	86	85	0.61	0.75	0.82	0.247	248

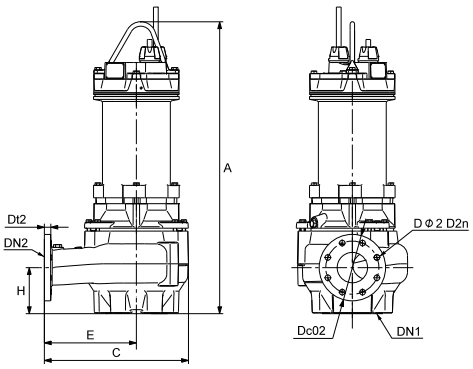
Note: Enclosure class: IP68

Pump data

Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [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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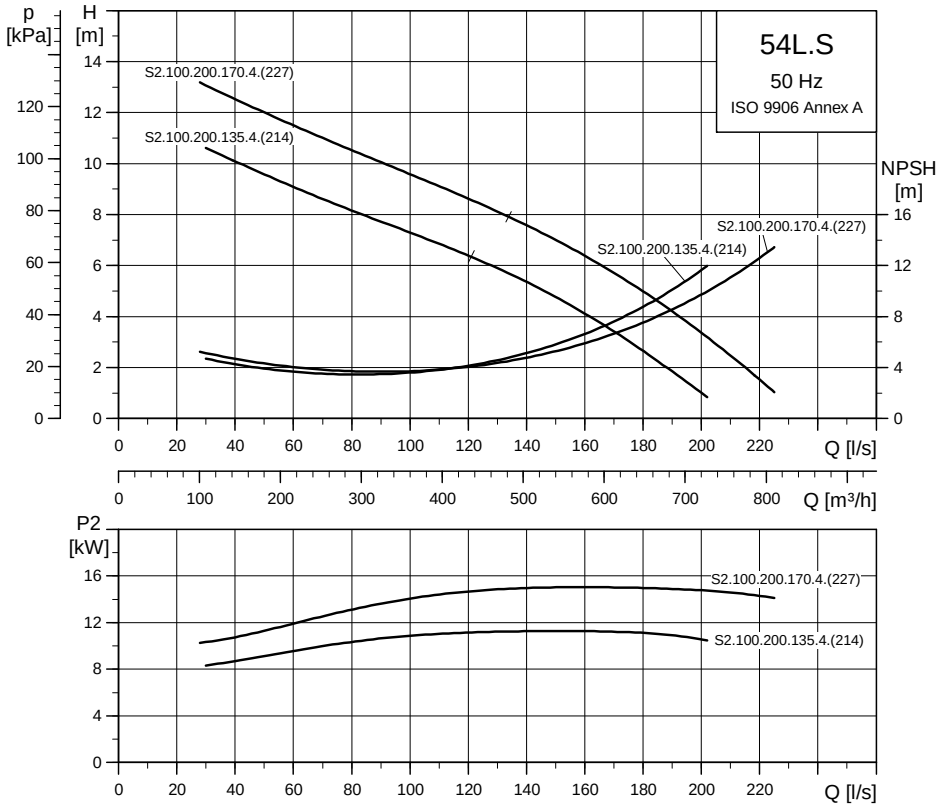
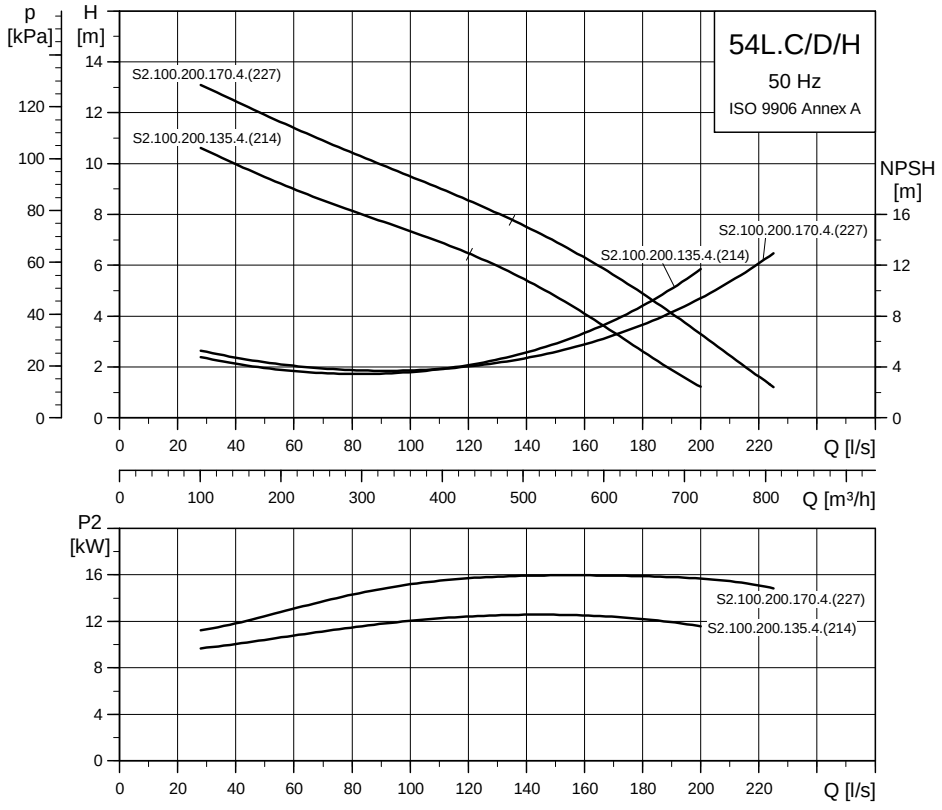
Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Low pressure - 3 x 400/690 V

Impeller diameter 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 [kg]	Product number
S2.100.200.135.4.54L.S.214.G.N.D	S	1049	762	325	500	587	199	DN 200	200	360	95113529
S2.100.200.135.4.54L.C.214.G.N.D	C	1049	762	325	500	587	199	DN 200	200	390	95113530
S2.100.200.135.4.54L.H.214.G.N.D	H	1049	762	325	500	587	199	DN 200	200	430	95113531
S2.100.200.170.4.54L.S.227.G.N.D	S	1049	762	325	500	587	199	DN 200	200	380	95113535
S2.100.200.170.4.54L.C.227.G.N.D	C	1049	762	325	500	587	199	DN 200	200	410	95113536
S2.100.200.170.4.54L.H.227.G.N.D	H	1049	762	325	500	587	199	DN 200	200	450	95113537

With 10 m cable

Electrical data

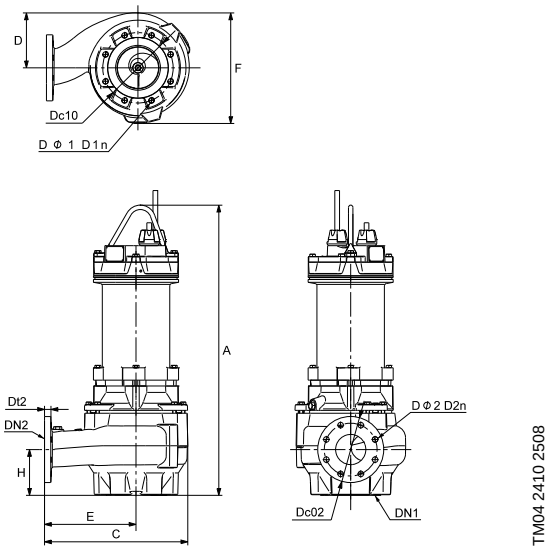
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N [A]	I_{start} [A]	η_{motor} [%] 1/2	3/4	1/1	Cos φ 1/2	3/4	1/1	Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
S2.100.200.135.4.54L.S.214.G.N.D	16	13.5	4	1452	Y/D	34	166	78	82	82	0.50	0.62	0.70	0.1964	289
S2.100.200.135.4.54L.C.214.G.N.D	17	14	4	1452	Y/D	35	166	78	82	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	35	166	78	82	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	36	169	84	86	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	37	169	84	86	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	37	169	84	86	86	0.62	0.75	0.82	0.1892	248

Note: Enclosure class: IP68

Pump data

Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [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

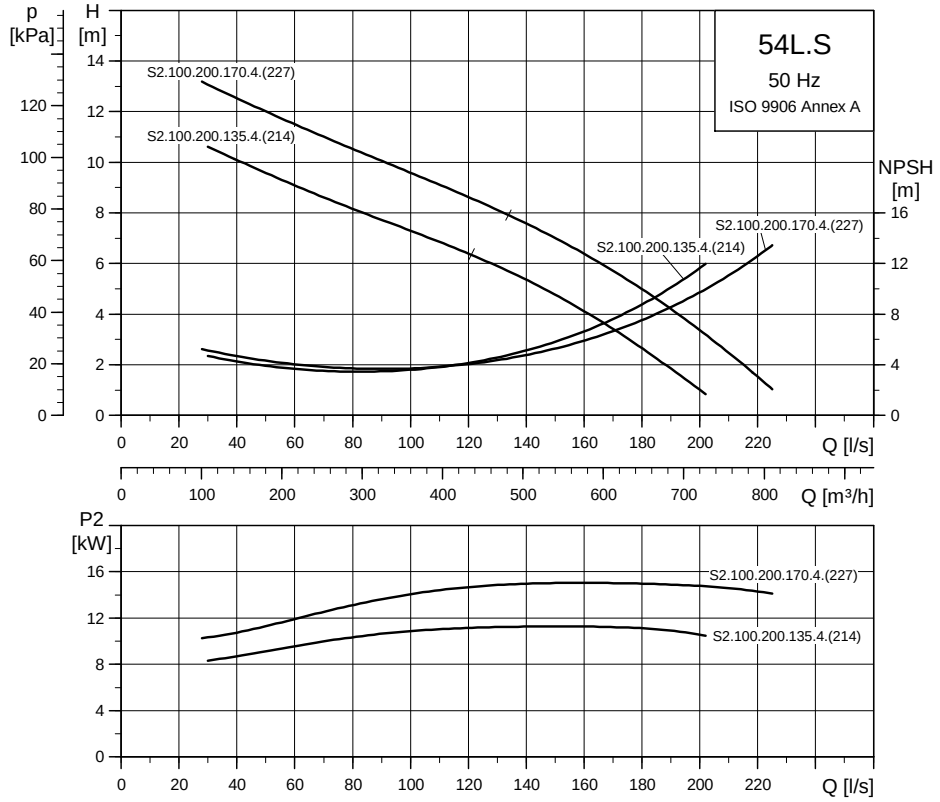
Dimensional sketches



Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Low pressure - 3 x 415 V

Impeller diameter 214 and 227



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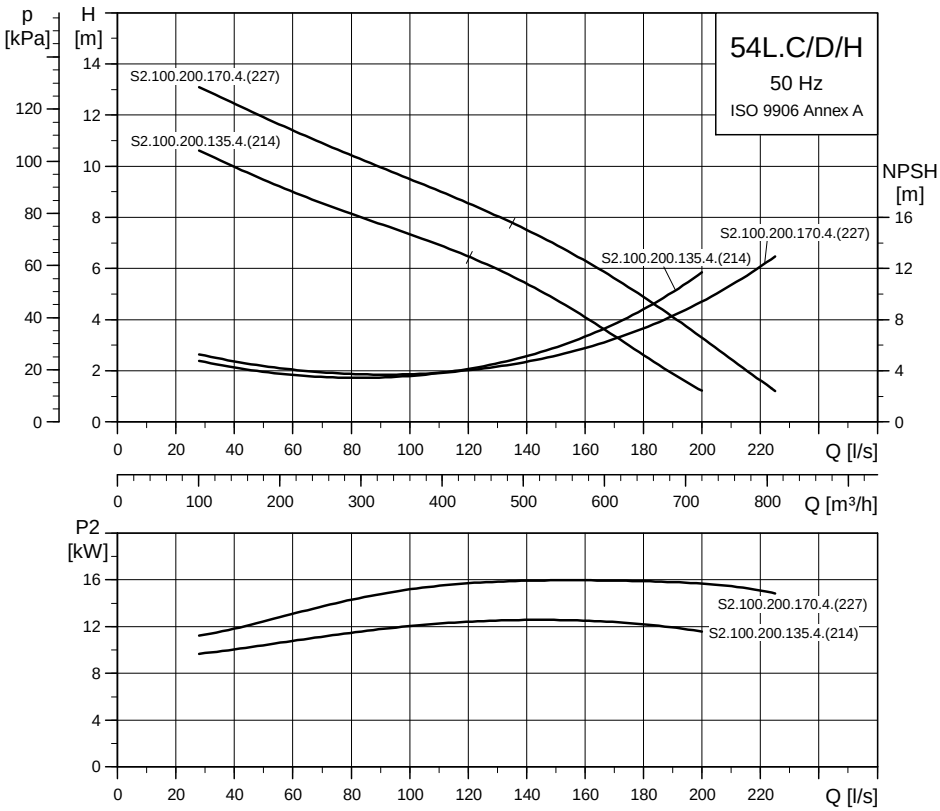


TM04 0650 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S2.100.200.135.4.54L.S.214.G.N.D	S	1049	762	325	500	587	199	DN 200	200	360	95114440
S2.100.200.135.4.54L.C.214.G.N.D	C	1049	762	325	500	587	199	DN 200	200	390	95114443
S2.100.200.135.4.54L.H.214.G.N.D	H	1049	762	325	500	587	199	DN 200	200	430	95114446
S2.100.200.170.4.54L.S.227.G.N.D	S	1049	762	325	500	587	199	DN 200	200	380	95114458
S2.100.200.170.4.54L.C.227.G.N.D	C	1049	762	325	500	587	199	DN 200	200	410	95114461
S2.100.200.170.4.54L.H.227.G.N.D	H	1049	762	325	500	587	199	DN 200	200	450	95114464

With 10 m cable

Electrical data

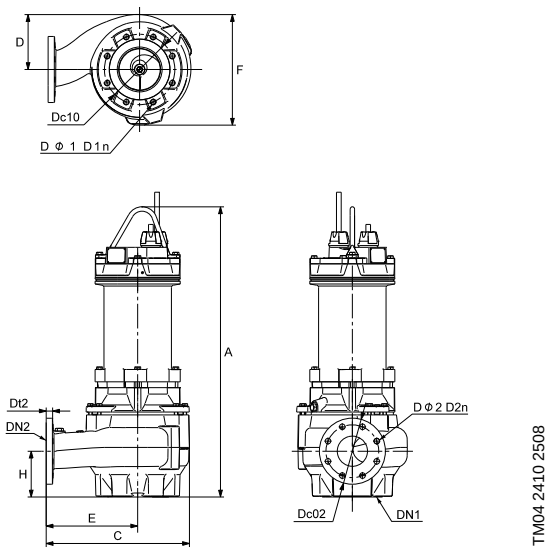
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia	Breakdown torque [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	[kgm^2]	M_{max} [Nm]
S2.100.200.135.4.54L.S.214.G.N.D	16	13.5	4	1452	Y/D	33	160	78	82	82	0.50	0.62	0.70	0.1964	289
S2.100.200.135.4.54L.C.214.G.N.D	17	14	4	1452	Y/D	34	160	78	82	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	34	160	78	82	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	35	161	83	86	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	36	161	84	86	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	36	161	84	86	85	0.61	0.75	0.82	0.1892	248

Note: Enclosure class: IP68

Pump data

Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [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

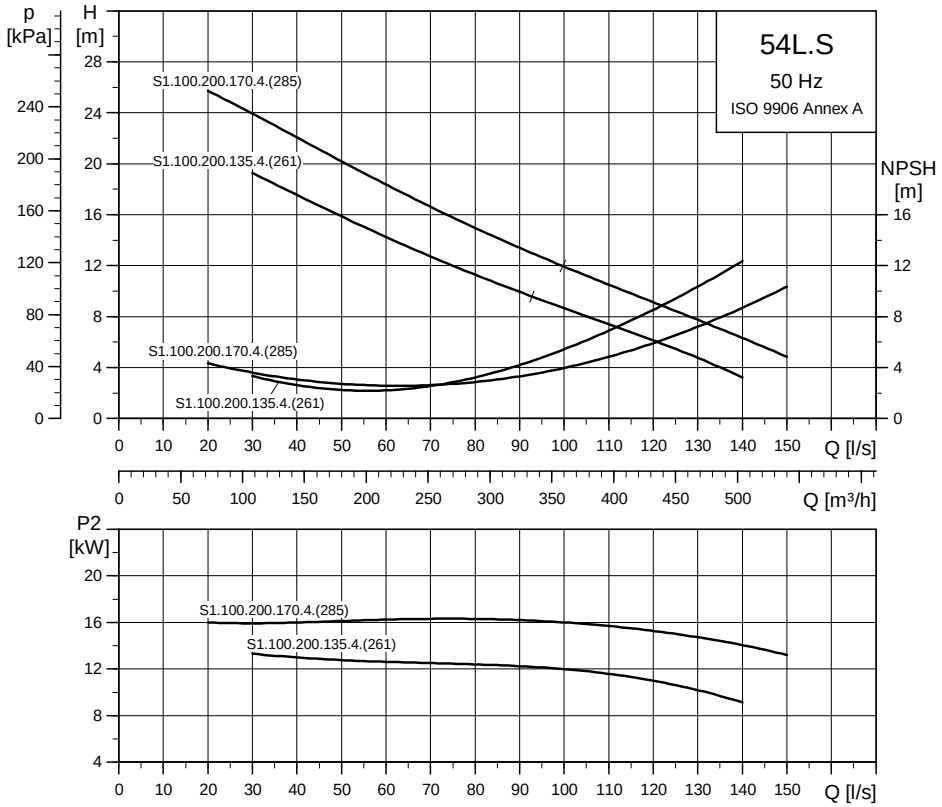
Dimensional sketches



Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Low pressure - 3 x 400/690 V

Impeller diameter 261 and 285



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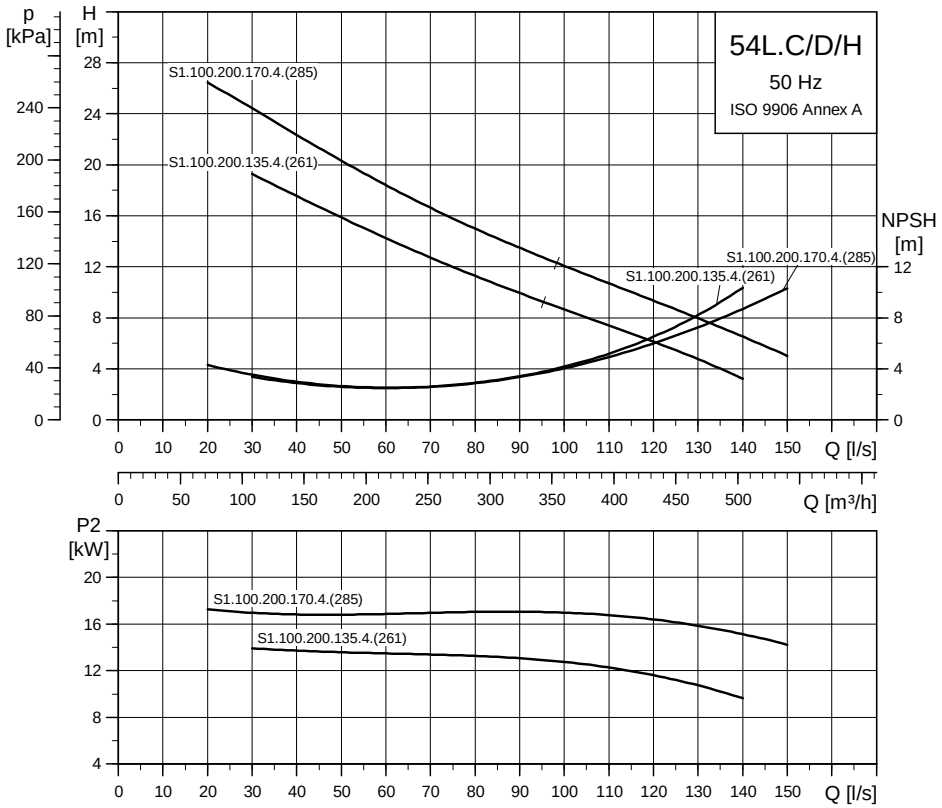


TM04 0648 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.100.200.135.4.54L.S.261.G.N.D	S	1049	762	325	500	587	199	DN 200	200	360	95113506
S1.100.200.135.4.54L.C.261.G.N.D	C	1049	762	325	500	587	199	DN 200	200	390	95113507
S1.100.200.135.4.54L.H.261.G.N.D	H	1049	762	325	500	587	199	DN 200	200	430	95113508
S1.100.200.170.4.54L.S.285.G.N.D	S	1049	762	325	500	587	199	DN 200	200	370	95113515
S1.100.200.170.4.54L.C.285.G.N.D	C	1049	762	325	500	587	199	DN 200	200	410	95113516
S1.100.200.170.4.54L.H.285.G.N.D	H	1049	762	325	500	587	199	DN 200	200	440	95113517

With 10 m cable

Electrical data

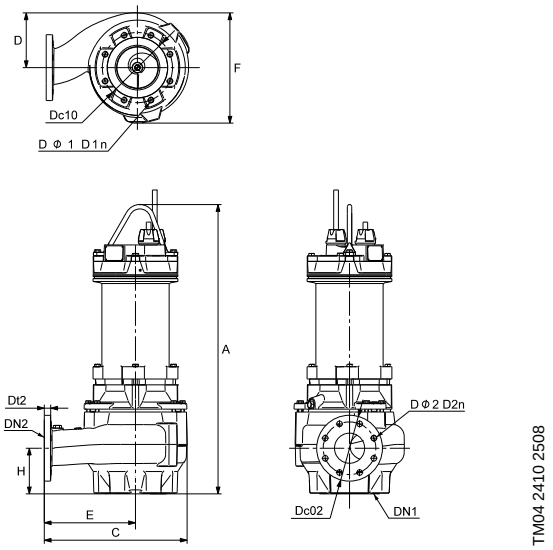
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia	Breakdown torque [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	[kgm^2]	M_{max} [Nm]
S1.100.200.135.4.54L.S.261.G.N.D	16	13.5	4	1452	Y/D	34	166	78	82	82	0.50	0.62	0.70	0.315	289
S1.100.200.135.4.54L.C.261.G.N.D	17	14	4	1452	Y/D	35	166	78	82	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	35	166	78	82	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	36	169	84	86	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	37	169	84	86	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	37	169	84	86	86	0.62	0.75	0.82	0.3657	248

Note: Enclosure class: IP68

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

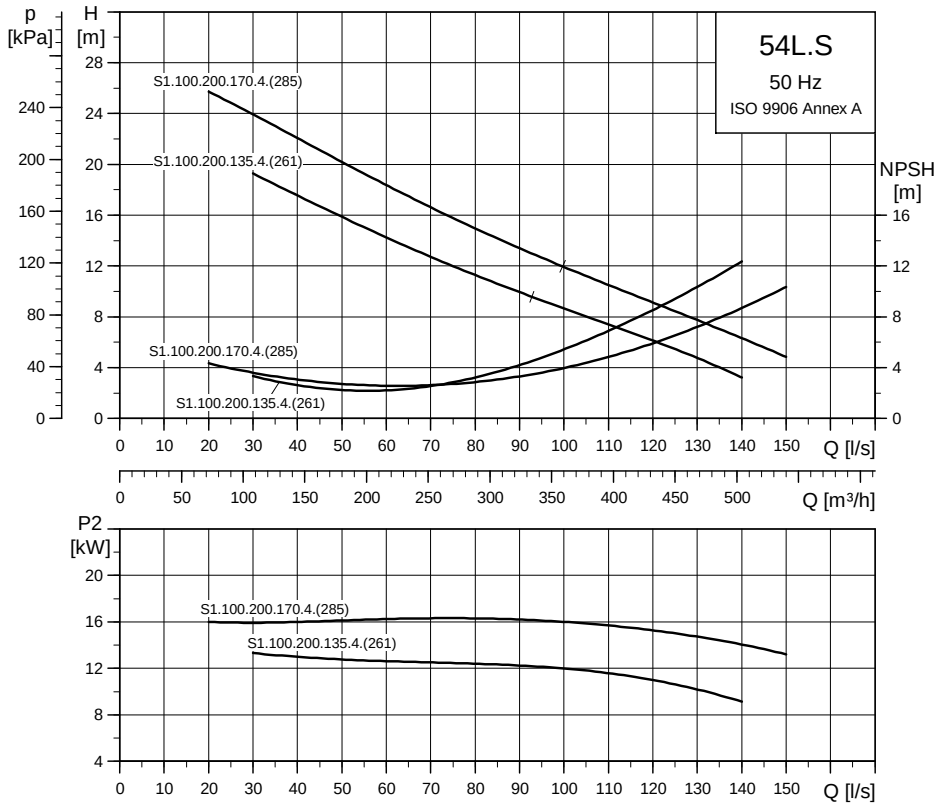
Dimensional sketches



Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Low pressure - 3 x 415 V

Impeller diameter 261 and 285



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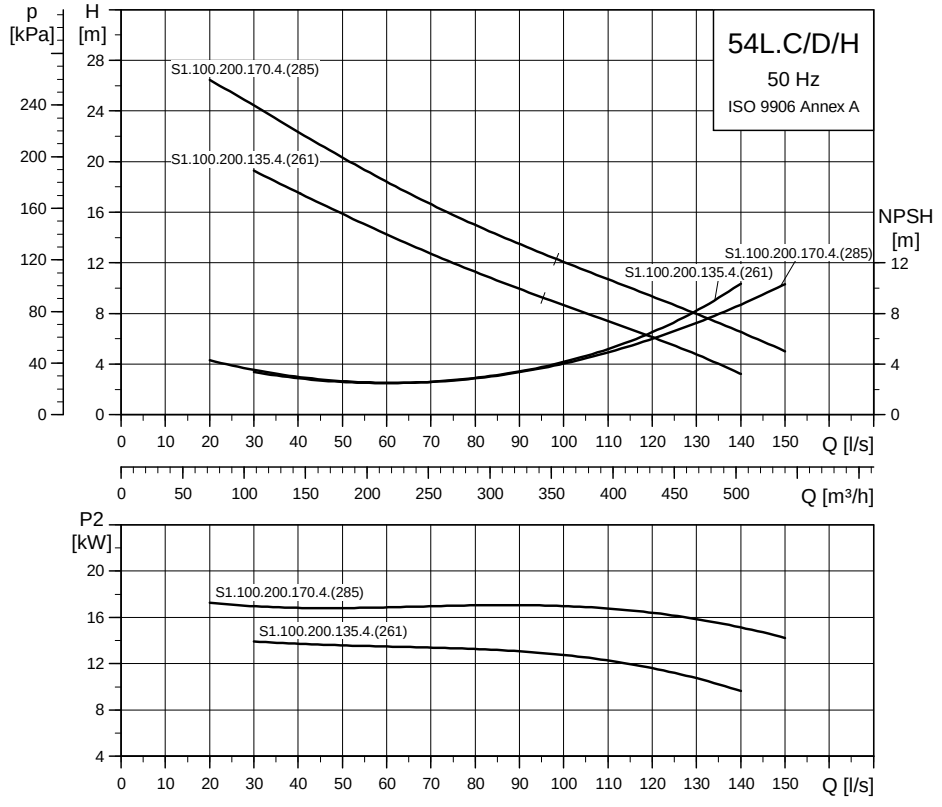


TM04 0648 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.100.200.135.4.54L.S.261.G.N.D	S	1049	762	325	500	587	199	DN 200	200	360	95114377
S1.100.200.135.4.54L.C.261.G.N.D	C	1049	762	325	500	587	199	DN 200	200	390	95114380
S1.100.200.135.4.54L.H.261.G.N.D	H	1049	762	325	500	587	199	DN 200	200	430	95114383
S1.100.200.170.4.54L.S.285.G.N.D	S	1049	762	325	500	587	199	DN 200	200	370	95114404
S1.100.200.170.4.54L.C.285.G.N.D	C	1049	762	325	500	587	199	DN 200	200	410	95114407
S1.100.200.170.4.54L.H.285.G.N.D	H	1049	762	325	500	587	199	DN 200	200	440	95114410

With 10 m cable

Electrical data

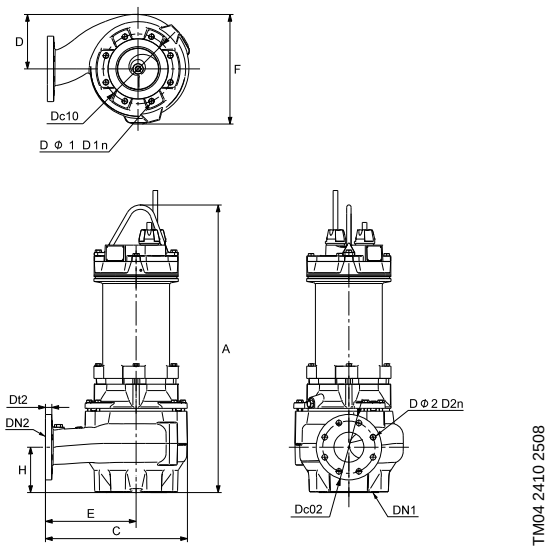
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S1.100.200.135.4.54L.S.261.G.N.D	16	13.5	4	1452	Y/D	33	160	78	82	82	0.50	0.62	0.70	0.315	289
S1.100.200.135.4.54L.C.261.G.N.D	17	14	4	1452	Y/D	34	160	78	82	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	34	160	78	82	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	35	161	83	86	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	36	161	84	86	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	36	161	84	86	85	0.61	0.75	0.82	0.3657	248

Note: Enclosure class: IP68

Pump data

Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [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

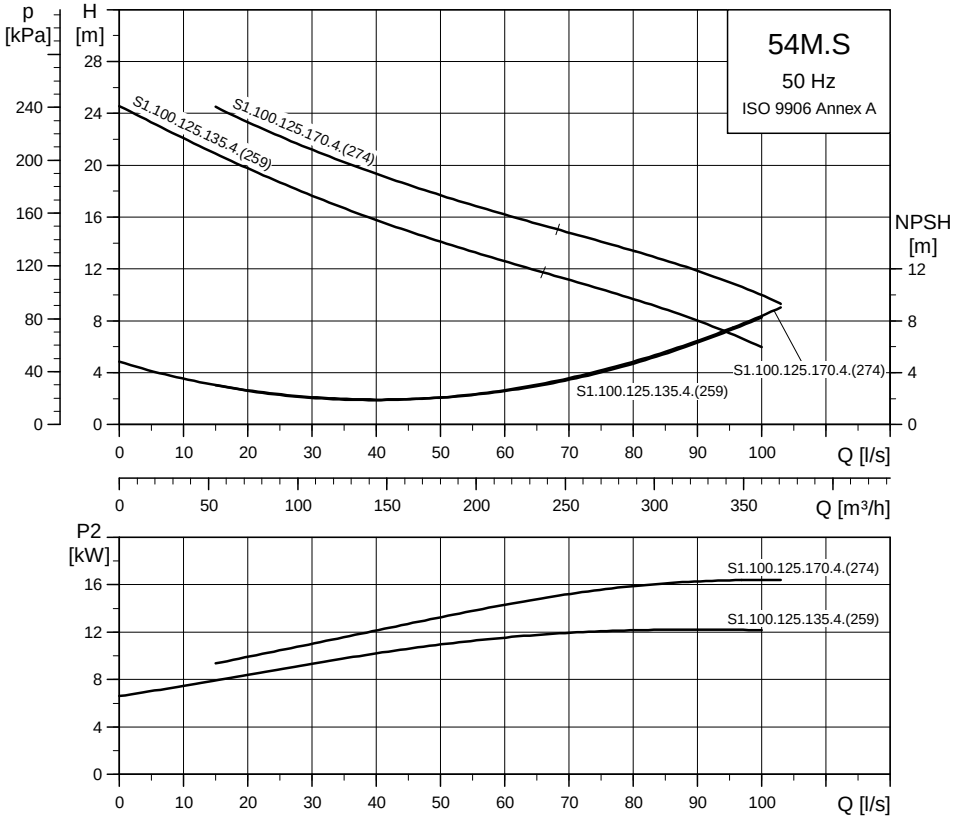
Dimensional sketches



Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Performance curves

Medium pressure - 3 x 400/690 V



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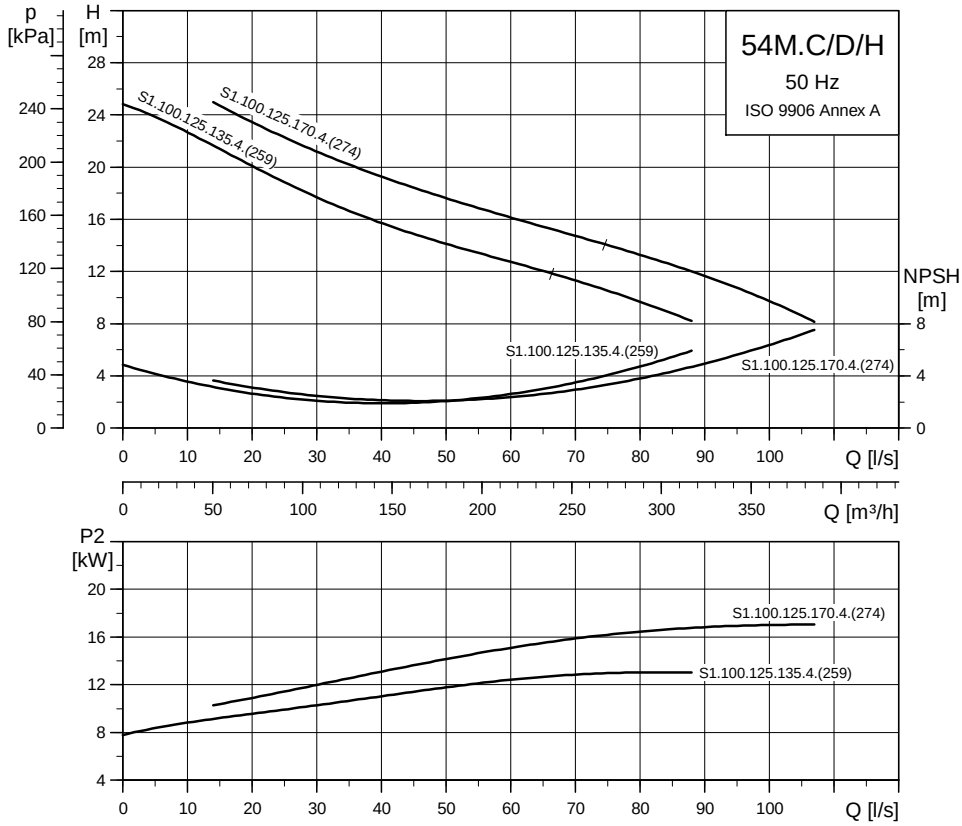


TM04 0652 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.100.125.135.4.54M.S.259.G.N.D	S	1051	577	233	360	446	211	DN 150	125	300	95113512
S1.100.125.135.4.54M.C.259.G.N.D	C	1051	577	233	360	446	211	DN 150	125	330	95113513
S1.100.125.135.4.54M.H.259.G.N.D	H	1051	577	233	360	446	211	DN 150	125	360	95113514
S1.100.125.170.4.54M.S.274.G.N.D	S	1051	577	233	360	446	211	DN 150	125	320	95113521
S1.100.125.170.4.54M.C.274.G.N.D	C	1051	577	233	360	446	211	DN 150	125	350	95113522
S1.100.125.170.4.54M.H.274.G.N.D	H	1051	577	233	360	446	211	DN 150	125	380	95113523

With 10 m cable

Electrical data

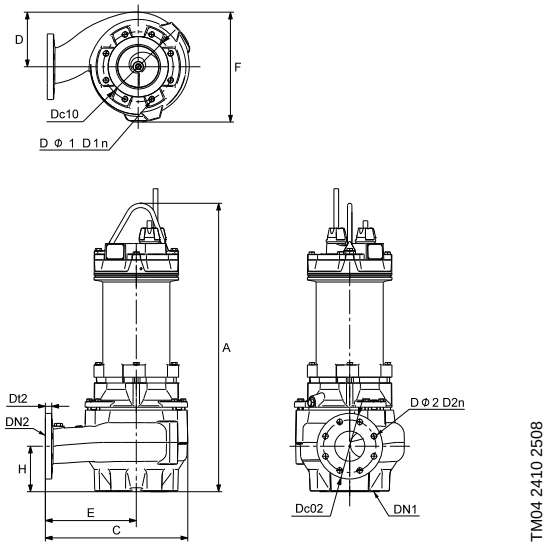
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N [A]	I_{start} [A]	η_{motor} [%] 1/2	3/4	1/1	Cos φ 1/2	3/4	1/1	Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
S1.100.125.135.4.54M.S.259.G.N.D	16	13.5	4	1452	Y/D	34	166	78	82	82	0.50	0.62	0.70	0.3393	289
S1.100.125.135.4.54M.C.259.G.N.D	17	14	4	1452	Y/D	35	166	78	82	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	35	166	78	82	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	36	169	84	86	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	37	169	84	86	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	37	169	84	86	86	0.62	0.75	0.82	0.3048	248

Note: Enclosure class: IP68

Pump data

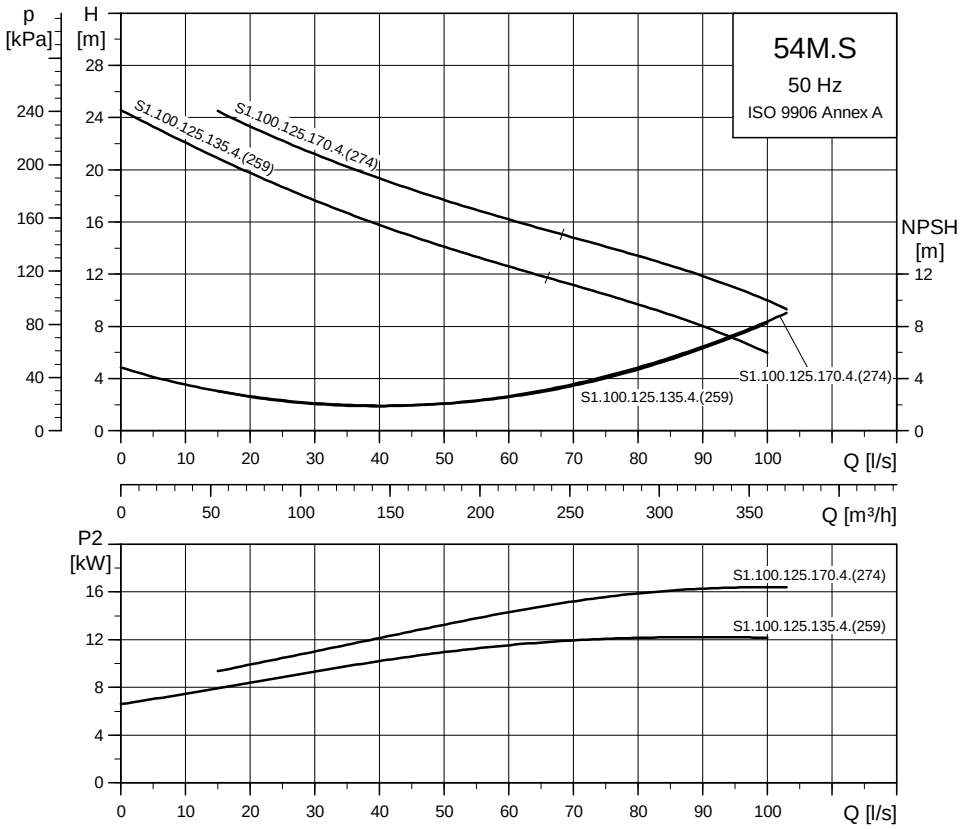
Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [m]
S1.100.125.135.4.54M.S.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.C.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.H.259.G.N.D	259	100	10	20
S1.100.125.170.4.54M.S.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.C.274.G.N.D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

Dimensional sketches

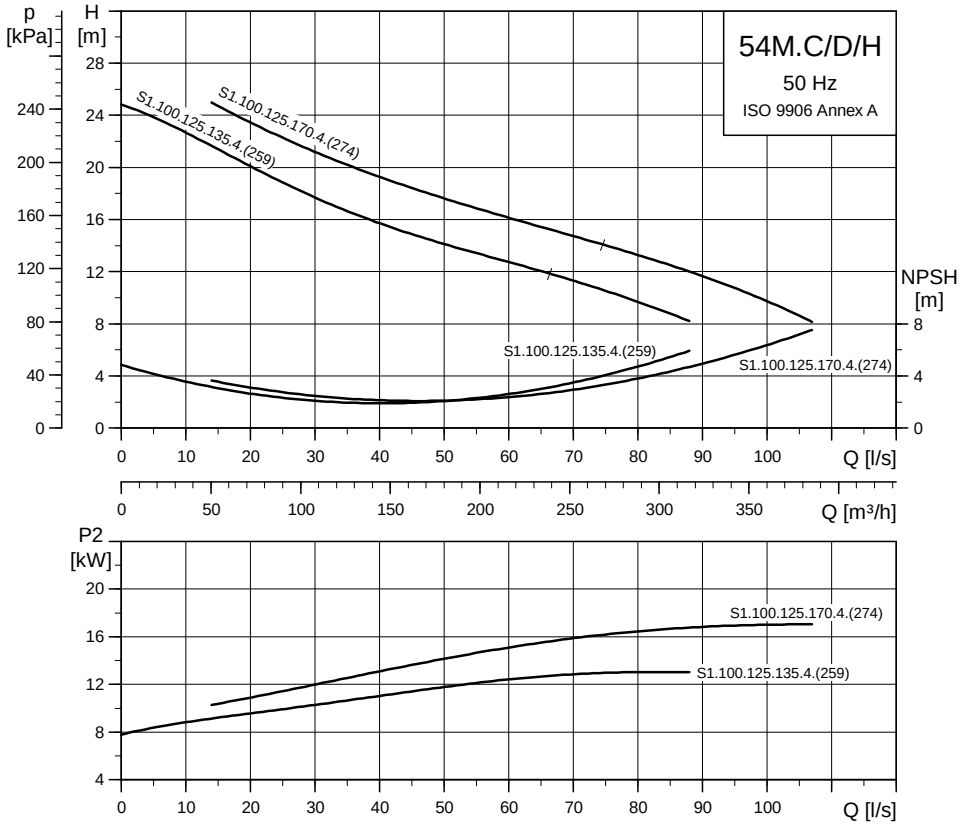


Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Medium pressure - 3 x 415 V



TM04 0451 0808



TM04 0652 0908

Technical data

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.100.125.135.4.54M.S.259.G.N.D	S	1051	577	233	360	446	211	DN 150	125	300	95114395
S1.100.125.135.4.54M.C.259.G.N.D	C	1051	577	233	360	446	211	DN 150	125	330	95114398
S1.100.125.135.4.54M.H.259.G.N.D	H	1051	577	233	360	446	211	DN 150	125	360	95114401
S1.100.125.170.4.54M.S.274.G.N.D	S	1051	577	233	360	446	211	DN 150	125	320	95114422
S1.100.125.170.4.54M.C.274.G.N.D	C	1051	577	233	360	446	211	DN 150	125	350	95114425
S1.100.125.170.4.54M.H.274.G.N.D	H	1051	577	233	360	446	211	DN 150	125	380	95114428

With 10 m cable

Electrical data

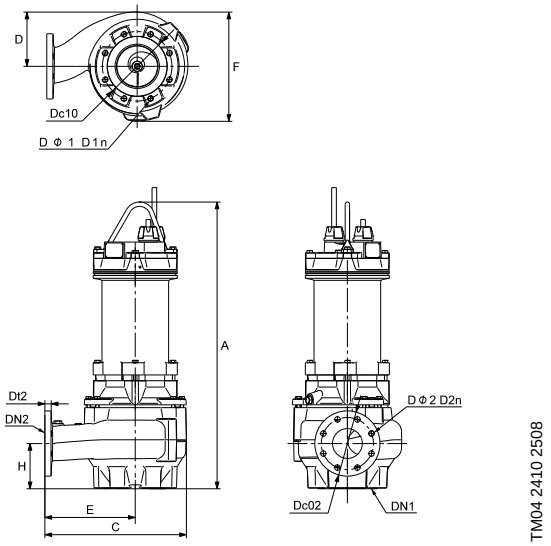
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S1.100.125.135.4.54M.S.259.G.N.D	16	13.5	4	1452	Y/D	33	160	78	82	82	0.50	0.62	0.70	0.3393	289
S1.100.125.135.4.54M.C.259.G.N.D	17	14	4	1452	Y/D	34	160	78	82	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	34	160	78	82	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	35	161	83	86	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	36	161	84	86	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	36	161	84	86	85	0.61	0.75	0.82	0.3048	248

Note: Enclosure class: IP68

Pump data

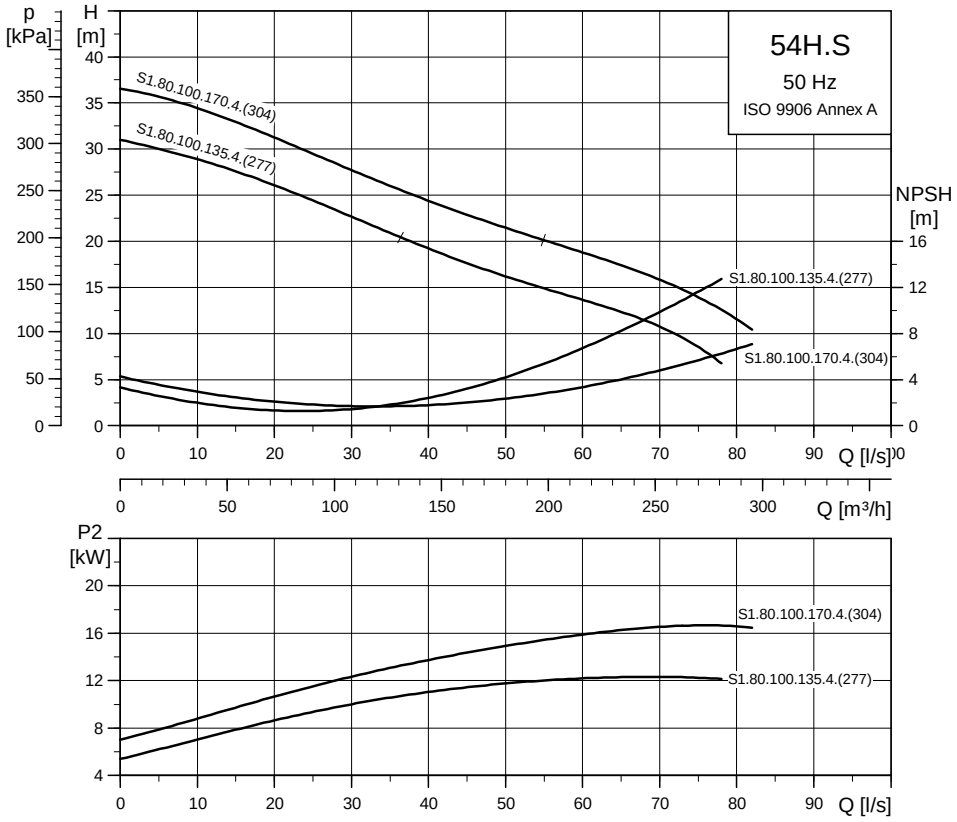
Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [m]
S1.100.125.135.4.54M.S.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.C.259.G.N.D	259	100	10	20
S1.100.125.135.4.54M.H.259.G.N.D	259	100	10	20
S1.100.125.170.4.54M.S.274.G.N.D	274	100	10	20
S1.100.125.170.4.54M.C.274.G.N.D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

Dimensional sketches

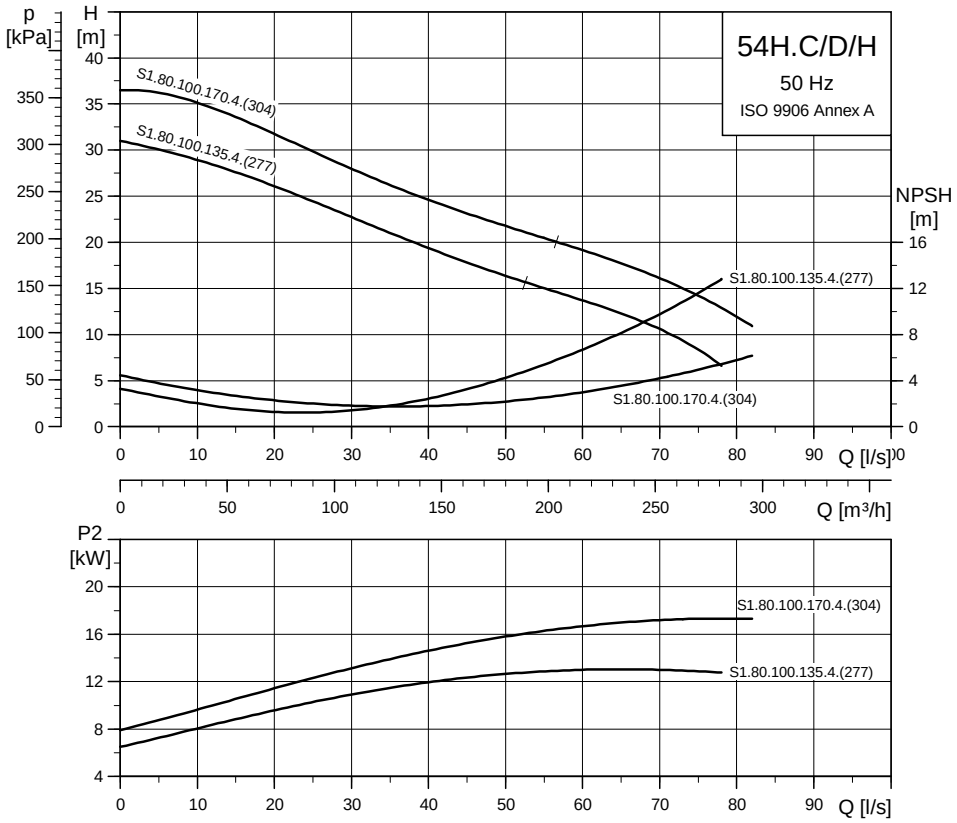


Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

High pressure - 3 x 400/690 V



TM04 0645 0908



TM04 0646 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.80.100.135.4.54H.S.277.G.N.D	S	1003	572	227	355	437	171	DN 150	100	300	95113509
S1.80.100.135.4.54H.C.277.G.N.D	C	1003	572	227	355	437	171	DN 150	100	330	95113510
S1.80.100.135.4.54H.H.277.G.N.D	H	1003	572	227	355	437	171	DN 150	100	360	95113511
S1.80.100.170.4.54H.S.304.G.N.D	S	1003	572	227	355	437	171	DN 150	100	320	95113518
S1.80.100.170.4.54H.C.304.G.N.D	C	1003	572	227	355	437	171	DN 150	100	350	95113519
S1.80.100.170.4.54H.H.304.G.N.D	H	1003	572	227	355	437	171	DN 150	100	380	95113520

With 10 m cable

Electrical data

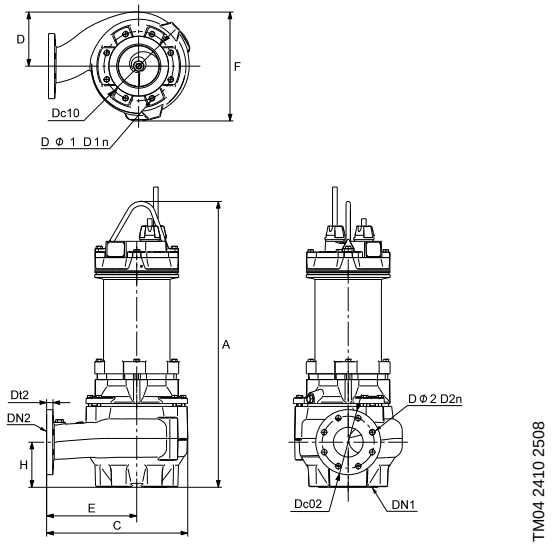
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N [A]	I_{start} [A]	η_{motor} [%] 1/2	3/4	1/1	Cos φ 1/2	3/4	1/1	Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
S1.80.100.135.4.54H.S.277.G.N.D	16	13.5	4	1452	Y/D	34	166	78	82	82	0.50	0.62	0.70	0.3706	289
S1.80.100.135.4.54H.C.277.G.N.D	17	14	4	1452	Y/D	35	166	78	82	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	35	166	78	82	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	36	169	84	86	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	37	169	84	86	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	37	169	84	86	86	0.62	0.75	0.82	0.3943	248

Note: Enclosure class: IP68

Pump data

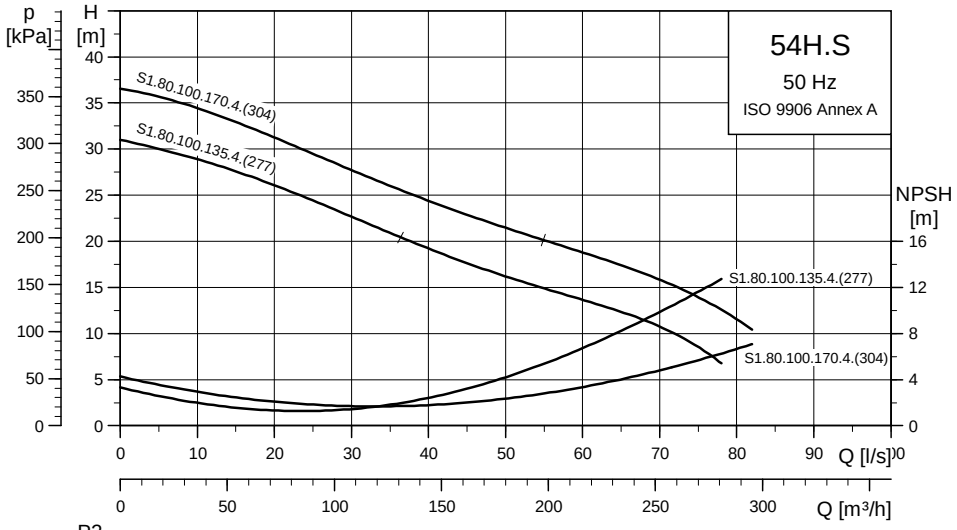
Pump type	Impeller diameter [mm]	Max. solids size [mm]	Pump housing pressure PN	Max. installation depth [m]
S1.80.100.135.4.54H.S.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.C.277.G.N.D	277	80	10	20
S1.80.100.135.4.54H.H.277.G.N.D	277	80	10	20
S1.80.100.170.4.54H.S.304.G.N.D	304	80	10	20
S1.80.100.170.4.54H.C.304.G.N.D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

Dimensional sketches

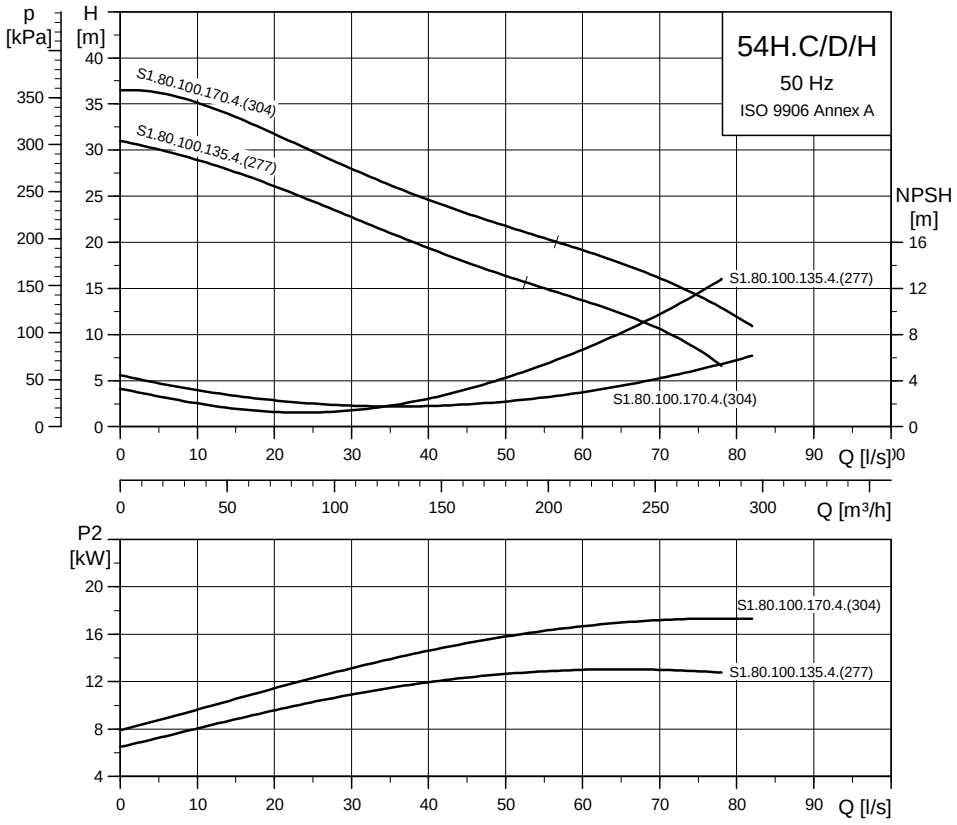


Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

High pressure - 3 x 415 V



TM04 0645 0908



TM04 0646 0908

Product range and dimensions

Pump type	Installation type	A	C	D	E	F	H	DN1	DN2	Weight [kg]	Product number
S1.80.100.135.4.54H.S.277.G.N.D	S	1003	572	227	355	437	171	DN 150	100	300	95114386
S1.80.100.135.4.54H.C.277.G.N.D	C	1003	572	227	355	437	171	DN 150	100	330	95114389
S1.80.100.135.4.54H.H.277.G.N.D	H	1003	572	227	355	437	171	DN 150	100	360	95114392
S1.80.100.170.4.54H.S.304.G.N.D	S	1003	572	227	355	437	171	DN 150	100	320	95114413
S1.80.100.170.4.54H.C.304.G.N.D	C	1003	572	227	355	437	171	DN 150	100	350	95114416
S1.80.100.170.4.54H.H.304.G.N.D	H	1003	572	227	355	437	171	DN 150	100	380	95114419

With 10 m cable

Electrical data

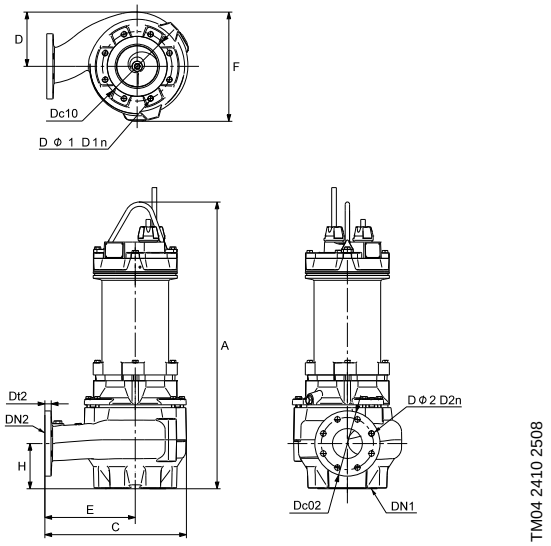
Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			Moment of inertia [kgm^2]	Breakdown torque [Nm] M_{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S1.80.100.135.4.54H.S.277.G.N.D	16	13.5	4	1452	Y/D	33	160	78	82	82	0.50	0.62	0.70	0.3706	289
S1.80.100.135.4.54H.C.277.G.N.D	17	14	4	1452	Y/D	34	160	78	82	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	34	160	78	82	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	35	161	83	86	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	36	161	84	86	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	36	161	84	86	85	0.61	0.75	0.82	0.3943	248

Note: Enclosure class: IP68

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

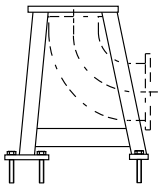
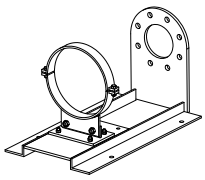
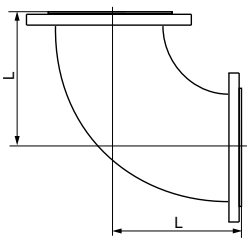
Dimensional sketches

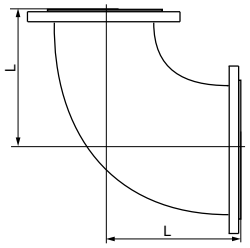
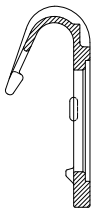


Size DN	PN	Dc	Dt	DØ
100	10	180	20	8 x 18
125	10	210	22	8 x 18
150	10	240	22	8 x 22
200	10	295	24	8 x 22
250	10	350	26	12 x 22

Accessories (for installation)

Pump type	Installation accessories
S 50-70 S and C	DN 80-200 without guide claw (guide claw included in auto-coupling kit)
S 50-70 S and C	DN 250-600 with guide claw mounted on the pump
S 50-70 D	Pump without installation accessories (accessories as separate kit)
S 50-70 H	Base stand for horizontal, dry installation supplied together with the pump

Pictures		Description		Size	Weight [kg]	PN	Product number
	GR8126	Cast-iron, epoxy-coated auto-coupling system complete with: • guide claw * • base unit • upper guide rail bracket • gaskets and bolts.	Discharge flange	DN 100	54	10	96090994
				DN 100/80	49	10	96102240
				DN 125/150	95	10	96782145
				DN 200	250	10	96641489
				DN 250	225	10	96782483
Intermediate guide rail bracket		For guide rails longer than 6 m		DN 100	3		96825161
				DN 125/150	3		96829331
				DN 200-600	8		96255842
Guide rails		Standard pipes. Not supplied by Grundfos					
	TM02 8856 0904 - TM02 8857 0904	Cast iron, epoxy-coated ring stand. Supplied with bolts, nuts, gaskets and anchor bolts.		**Stand/pump discharge - hose**			
				DN 100/DN 80-3”		10	96898273
				DN 150/DN80-3”		10	96790702
				DN 150/DN 125-6”		10	96789479
				DN 150/DN100-4”		10	96898274
				DN 150/DN125-6”		10	96898275
				DN 200/DN 200-8”		10	96789480
				DN 200/DN 200-8”		10	96898277
				DN 250/DN 250-10”		10	96789481
	TM04 4035 0509	Vertical base stand (without bend).	Suction flange	DN 150			96308238
				DN 200			96094523
				DN 250			96094525
	TM04 4156 0909	Base stand for horizontal, dry installation. Supplied with bolts, gaskets and anchor bolts. Material: * = galvanised steel ** = stainless steel		DN 150	51*		96776519
				DN 150	51**		96830574
				DN 200	50*		96801089
				DN 200	50**		96830576
				DN 250	58*		96801090
				DN 250	58**		96830613
	TM04 4033 0509	Equal bend L = 250 mm		DN 150	34	10	96060934
		Equal bend L = 300 mm		DN 200	40	10	96060938
		Equal bend L = 350 mm		DN 250		10	96060942

Pictures	Description	Size	Weight [kg]	PN	Product number
 TM04 4034 0509	Reducing bend L = 250	DN 125 / DN 150		10	96060933
	Reducing bend L = 300	DN 150 / DN 200		10	96060935
	Reducing bend L = 350	DN 200 / DN 250		10	96090776
	Reducing bend L = 400	DN 200 / DN 300		10	96060940
	Reducing bend L = 500	DN 200 / DN 400		10	96605615
	Reducing bend L = 400	DN 250 / DN 300		10	96060943
	Reducing bend L = 450	DN 250 / DN 350		10	96060944
	Reducing bend L = 500	DN 250 / DN 400		10	96060945
	10 ° adapter with lift function for Grundfos base unit UV 35579 (160 mm centre height) incl. guide claw, bolt, nuts and gaskets.	DN 80			96572290
		DN 100			96294872
 TM04 4157 0909	Adapter for Grundfos base unit UV 35586 B (260 mm centre height) incl. guide claw, bolt, nuts and gaskets.	DN 80			96572291
		DN 100			96572292

* Installation type S and C pumps with discharge flange size DN 250 and higher are supplied with guide claw mounted on the flange.

Other accessories

Pictures		Description	Dimensions		Product number
	TM02 6126 5102	4 m galvanized lifting chain with lifting link and safety hook. With certificates.	800	S 34-58	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.			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.	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
	GR7871	AMD.07.18.1410 mixer, 3 x 400 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
	TM01 6982 3999	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
	TM02 8862 0904	Bracket for two float switches			96003338
	TM02 0670 5000	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		
	TM02 0670 5000	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
	TM02 8860 0904	Bracket for level electrodes	For mounting on a 38 mm pipe		91713196

Installation on auto coupling

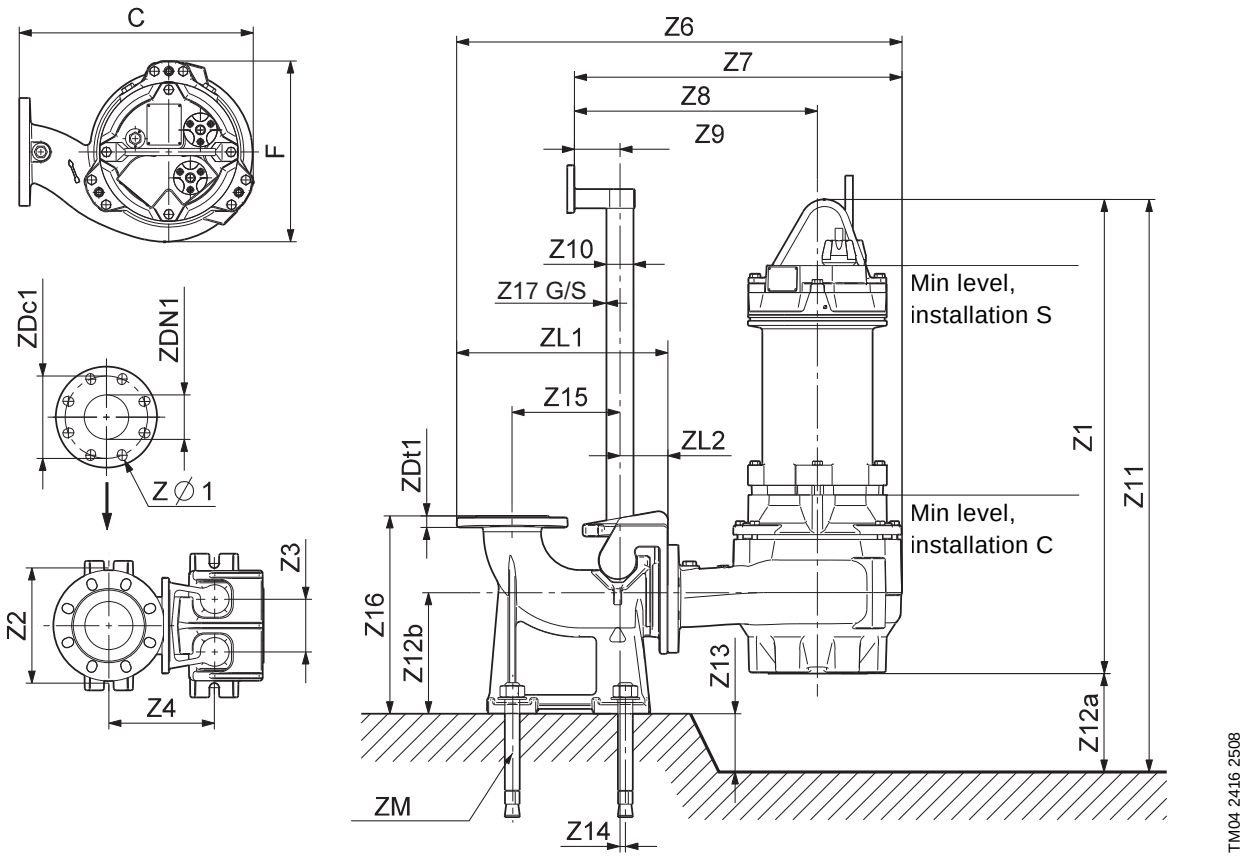


Fig. 17 Dimensional sketches, installation on auto-coupling system

Dimensions

Pump type	C	F	ZØ1	Z1	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z12b
SV.80.80.150.2.54H.S.220	516	421	8 x 20	1004	260	110	220	954	729	545	110	60.3	1084	80	240
SV.80.80.210.2.54H.S.244	516	421	8 x 20	1004	260	110	220	954	729	545	110	60.3	1084	80	240
S1.80.100.135.4.54H.S.277	572	437	8 x 20	1003	260	110	220	1010	785	568	110	60.3	1083	80	240
S1.80.100.135.4.54H.C.277	572	437	8 x 20	1003	260	110	220	1010	785	568	110	60.3	1083	80	240
S1.80.100.170.4.54H.S.304	572	437	8 x 20	1003	260	110	220	1010	785	568	110	60.3	1083	80	240
S1.80.100.170.4.54H.C.304	572	437	8 x 20	1003	260	110	220	1010	785	568	110	60.3	1083	80	240
S1.100.200.135.4.54L.S.261	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S1.100.200.135.4.54L.C.261	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S1.100.200.170.4.54L.S.285	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S1.100.200.170.4.54L.C.285	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S2.100.200.135.4.54L.S.214	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S2.100.200.135.4.54L.C.214	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S2.100.200.170.4.54L.S.227	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S2.100.200.170.4.54L.C.227	762	587	8 x 23	1049	430	200	535	1523	1154	892	170	88.0	1149	100	196
S2.100.250.135.4.54E.S.218	1135	747	12 x 23	1095	471	200	565	1934	1527	1142	170	88.0	1195	100	224
S2.100.250.135.4.54E.C.218	1135	747	12 x 23	1095	471	200	565	1934	1527	1142	170	88.0	1195	100	224
S2.100.250.170.4.54E.S.232	1135	747	12 x 23	1095	471	200	565	1934	1527	1142	170	88.0	1195	100	224
S2.100.250.170.4.54E.C.232	1135	747	12 x 23	1095	471	200	565	1934	1527	1142	170	88.0	1195	100	224

Pump type	Z13	Z14	Z15	Z16	Z17G	Z17S	ZDc1	ZDN1	ZDt1	ZL1	ZL2	ZM
SV.80.80.150.2.54H.S.220	18	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
SV.80.80.210.2.54H.S.244	18	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
S1.80.100.135.4.54H.S.277	11	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
S1.80.100.135.4.54H.C.277	11	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
S1.80.100.170.4.54H.S.304	11	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
S1.80.100.170.4.54H.C.304	11	0	220	413	3.0	3.0	180	DN 100	22	438	103	4 x M16
S1.100.200.135.4.54L.S.261	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S1.100.200.135.4.54L.C.261	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S1.100.200.170.4.54L.S.285	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S1.100.200.170.4.54L.C.285	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S2.100.200.135.4.54L.S.214	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S2.100.200.135.4.54L.C.214	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S2.100.200.170.4.54L.S.227	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S2.100.200.170.4.54L.C.227	103	86	365	485	3.0	3.0	295	DN 200	31	761	222	4 x M24
S2.100.250.135.4.54E.S.218	124	86	375	545	3.0	3.0	350	DN 250	32	799	222	4 x M24
S2.100.250.135.4.54E.C.218	124	86	375	545	3.0	3.0	350	DN 250	32	799	222	4 x M24
S2.100.250.170.4.54E.S.232	124	86	375	545	3.0	3.0	350	DN 250	32	799	222	4 x M24
S2.100.250.170.4.54E.C.232	124	86	375	545	3.0	3.0	350	DN 250	32	799	222	4 x M24

Dimensions

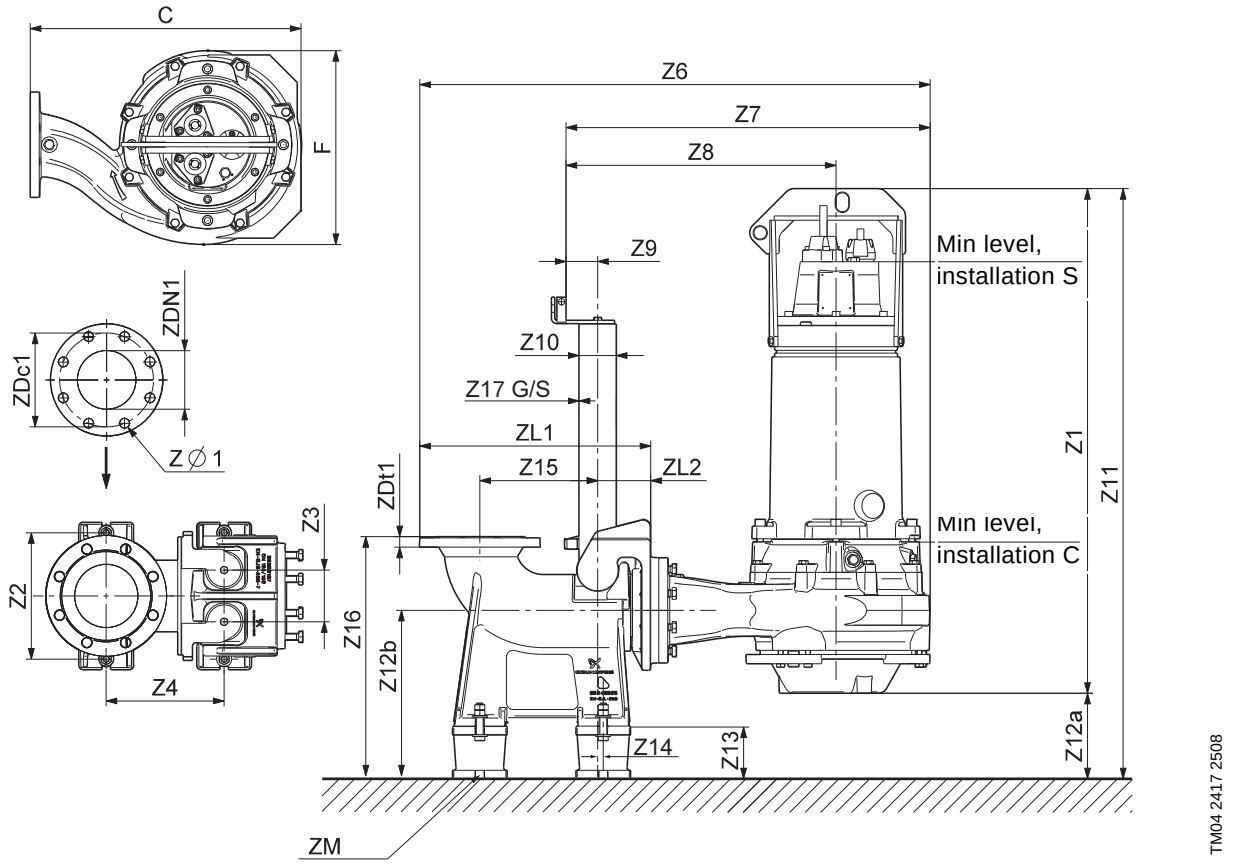


Fig. 18 Dimensional sketches, installation on auto-coupling system

Pump type	C	F	ZØ1	Z1	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z12b
S1.100.125.135.4.54M.S.259	577	446	8 x 23	1051	300	123	280	1148	834	617	110	88.0	1240	100	400
S1.100.125.135.4.54M.C.259	577	446	8 x 23	1051	300	123	280	1148	834	617	110	88.0	1240	100	400
S1.100.125.170.4.54M.S.274	577	446	8 x 23	1051	300	123	280	1148	834	617	110	88.0	1240	100	400
S1.100.125.170.4.54M.C.274	577	446	8 x 23	1051	300	123	280	1148	834	617	110	88.0	1240	100	400

Pump type	Z13	Z14	Z15	Z16	Z17G	Z17S	ZDc1	ZDN1	ZDt1	ZL1	ZL2	ZM
S1.100.125.135.4.54M.S.259	125		280	575	3.0	3.0	240	DN 150	25	571	147	4 x M16
S1.100.125.135.4.54M.C.259	125		280	575	3.0	3.0	240	DN 150	25	571	147	4 x M16
S1.100.125.170.4.54M.S.274	125		280	575	3.0	3.0	240	DN 150	25	571	147	4 x M16
S1.100.125.170.4.54M.C.274	125		280	575	3.0	3.0	240	DN 150	25	571	147	4 x M16

Installation on ring stand

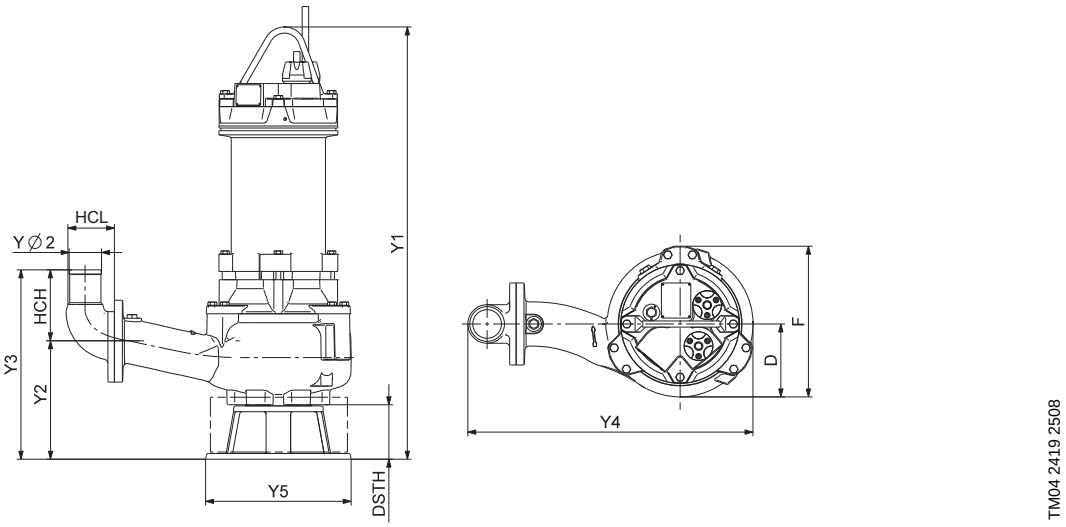


Fig. 19 Dimensional sketches, installation on ring stand

Pump type	YØ2	Y1	Y2	Y3	Y4	Y5	HCH	HCL	DSTH	D	F
SV.80.80.150.2.54H.S.220	79	1190	364	506	675	450	142	118	186	205	421
SV.80.80.210.2.54H.S.244	79	1190	364	506	675	450	142	118	186	205	421
S1.80.100.135.4.54H.S.277	105	1189	357	502	722	450	145	142	186	227	437
S1.80.100.135.4.54H.C.277	105	1189	357	502	722	450	145	142	186	227	437
S1.80.100.170.4.54H.S.304	105	1189	357	502	722	450	145	142	186	227	437
S1.80.100.170.4.54H.C.304	105	1189	357	502	722	450	145	142	186	227	437
S1.100.125.135.4.54M.S.259	157	1237	397	677	874	450	280	289	186	233	446
S1.100.125.135.4.54M.C.259	157	1237	397	677	874	450	280	289	186	233	446
S1.100.125.170.4.54M.S.274	157	1237	397	677	874	450	280	289	186	233	446
S1.100.125.170.4.54M.C.274	157	1237	397	677	874	450	280	289	186	233	446
S1.100.200.135.4.54L.S.261	205	1209	359	794	1193	550	435	418	160	325	587
S1.100.200.135.4.54L.C.261	205	1209	359	794	1193	550	435	418	160	325	587
S1.100.200.170.4.54L.S.285	205	1209	359	794	1193	550	435	418	160	325	587
S1.100.200.170.4.54L.C.285	205	1209	359	794	1193	550	435	418	160	325	587
S2.100.200.135.4.54L.S.214	205	1209	359	794	1193	550	435	418	160	325	587
S2.100.200.135.4.54L.C.214	205	1209	359	794	1193	550	435	418	160	325	587
S2.100.200.170.4.54L.S.227	205	1209	359	794	1193	550	435	418	160	325	587
S2.100.200.170.4.54L.C.227	205	1209	359	794	1193	550	435	418	160	325	587
S2.100.250.135.4.54E.S.218	255	1255	408	928	1552	550	520	527	160	418	747
S2.100.250.135.4.54E.C.218	255	1255	408	928	1552	550	520	527	160	418	747
S2.100.250.170.4.54E.S.232	255	1255	408	928	1552	550	520	527	160	418	747
S2.100.250.170.4.54E.C.232	255	1255	408	928	1552	550	520	527	160	418	747

Dry, vertical installation on base stand

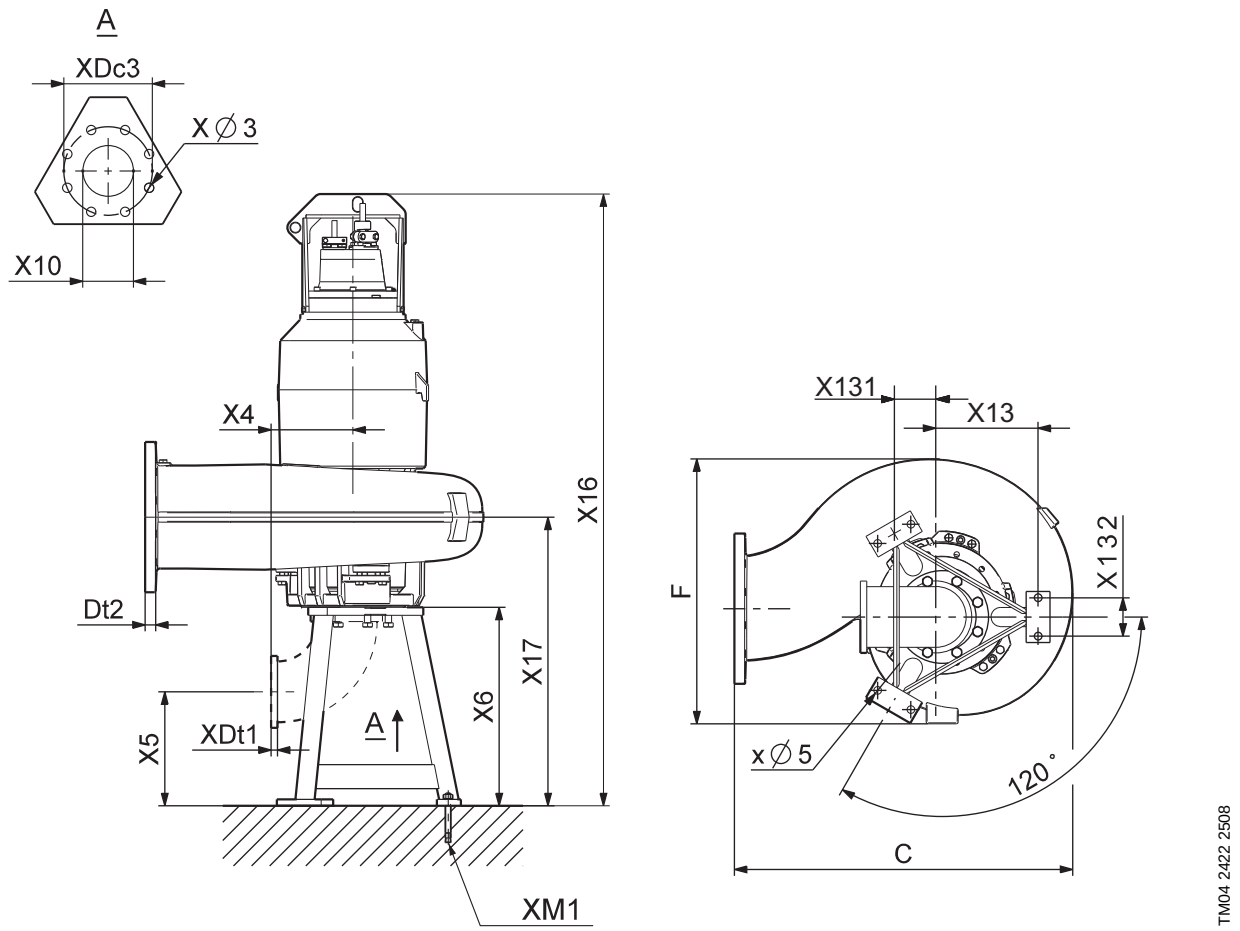


Fig. 20 Dimensional sketches, dry, vertical installation on base stand

Pump type	C	E	F	Xø3	Xø5	X4	X5	X6	X10	X13	X131	X132	X15	X16	X17	XDc3	XDt1	Dt2	XM1
S1.80.100.135.4.54H.C.277	572	355	437	24	24	200	421	621	150	440	140	120	520	1624	792	240	24	24	M20 x 6
S1.80.100.170.4.54H.C.304	572	355	437	24	24	200	421	621	150	440	140	120	520	1624	792	240	24	24	M20 x 6
S1.100.125.135.4.54M.C.259	577	360	446	24	24	200	421	621	150	440	140	120	520	1672	832	240	24	24	M20 x 6
S1.100.125.170.4.54M.C.274	577	360	446	24	24	200	421	621	150	440	140	120	520	1672	832	240	24	24	M20 x 6
S1.100.200.135.4.54L.C.261	762	500	587	24	24	250	469	719	200	520	170	120	606	1768	918	295	26	26	M20 x 6
S1.100.200.170.4.54L.C.285	762	500	587	24	24	250	469	719	200	520	170	120	606	1768	918	295	26	26	M20 x 6
S2.100.200.135.4.54L.C.214	762	500	587	24	24	250	469	719	200	520	170	120	606	1768	918	295	26	26	M20 x 6
S2.100.200.170.4.54L.C.227	762	500	587	24	24	250	469	719	200	520	170	120	606	1768	918	295	26	26	M20 x 6
S2.100.250.135.4.54E.D.218	1135	750	747	24	28	300	554	854	250	600	200	150	693	1949	1102	350	28	28	M24 x 6
S2.100.250.170.4.54E.D.232	1135	750	747	24	28	300	554	854	250	600	200	150	693	1949	1102	350	28	28	M24 x 6

Dry, horisontal installation on base stand

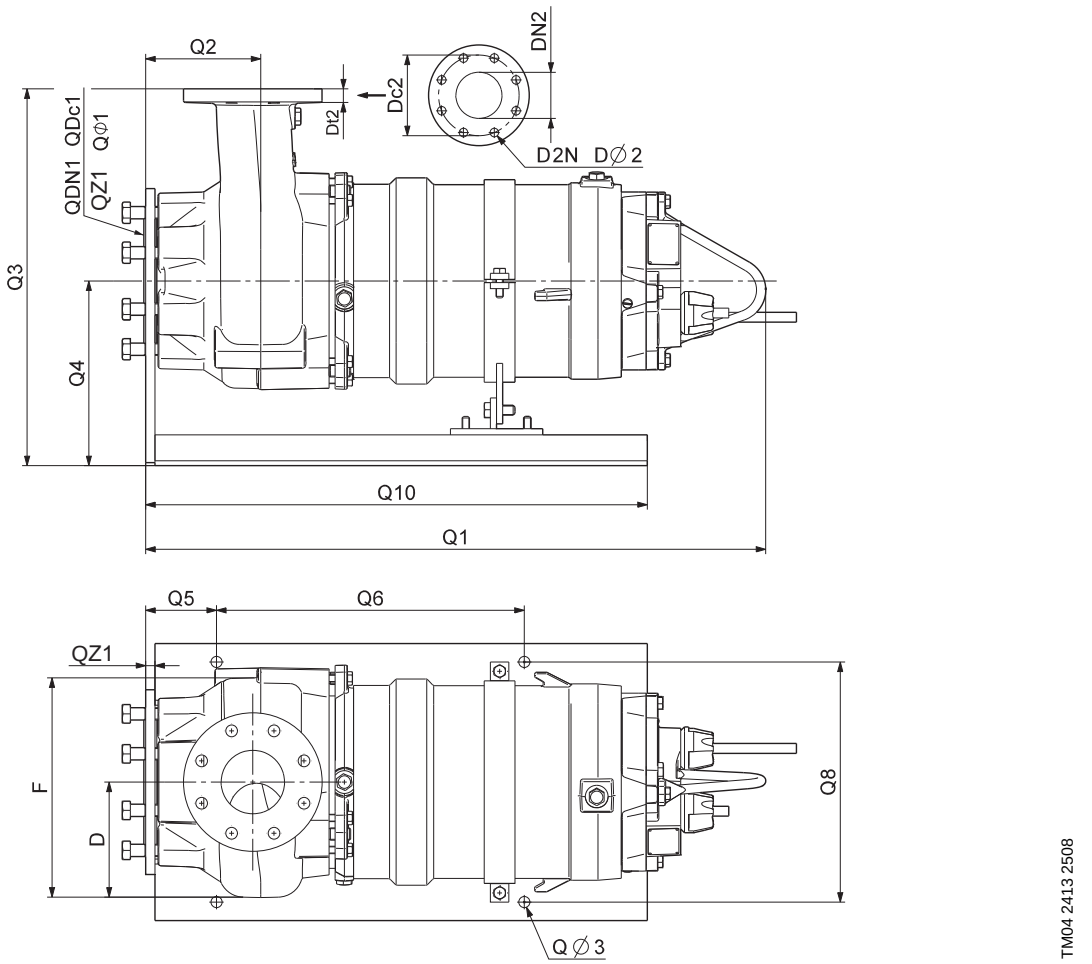
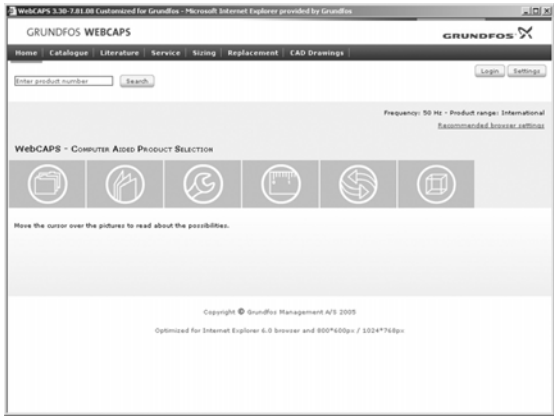


Fig. 21 Dimensional sketches, dry, horisontal installation on base stand

Pump type	D	F	Qø3	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	QDc1	QDN1	Qø1	QZ1	DN2	D2N	Dø2	Dc2	Dt2
S1.80.100.135.4.54H.H.277	227	437	18	1021	189	730	375	115	500	390	815	240	150	M20	18	100	8	19	180	20
S1.80.100.170.4.54H.H.304	227	437	18	1021	189	730	375	115	500	390	815	240	150	M20	18	100	8	19	180	20
S1.100.125.135.4.54M.H.259	233	446	18	1069	229	735	375	115	500	390	815	240	150	M20	18	125	8	19	210	22
S1.100.125.170.4.54M.H.274	233	446	18	1069	229	735	375	115	500	390	815	240	150	M20	18	125	8	19	210	22
S1.100.200.135.4.54L.H.261	325	587	18	1067	217	875	375	115	500	390	815	295	200	M20	18	200	8	24	295	26
S1.100.200.170.4.54L.H.285	325	587	18	1067	217	875	375	115	500	390	815	295	200	M20	18	200	8	24	295	26
S2.100.200.135.4.54L.H.214	325	587	18	1067	217	875	375	115	500	390	815	295	200	M20	18	200	8	24	295	26
S2.100.200.170.4.54L.H.227	325	587	18	1067	217	875	375	115	500	390	815	295	200	M20	18	200	8	24	295	26
S2.100.250.135.4.54E.H.218	418	747	18	1113	266	1250	500	115	500	390	815	350	250	M20	18	250	12	24	350	30
S2.100.250.170.4.54E.H.232	418	747	18	1113	266	1250	500	115	500	390	815	350	250	M20	18	250	12	24	350	30

Further product documentation

WebCAPS



WebCAPS is a **Web**-based **C**omputer **A**ided **P**roduct **S**election program available on www.grundfos.com.

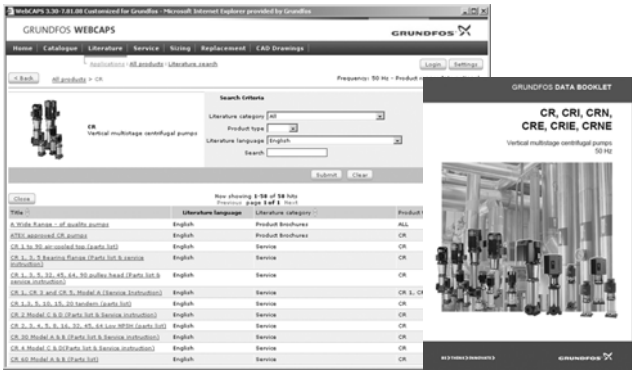
WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

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

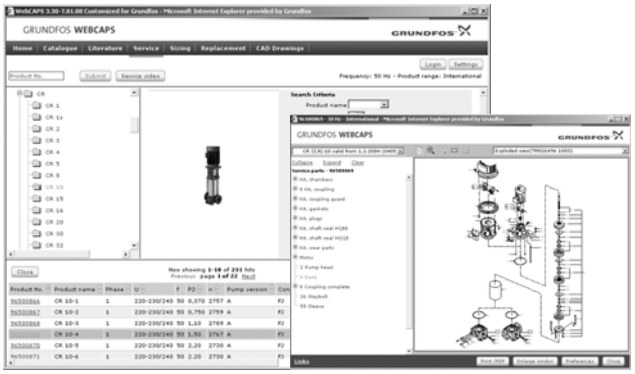
Catalogue

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

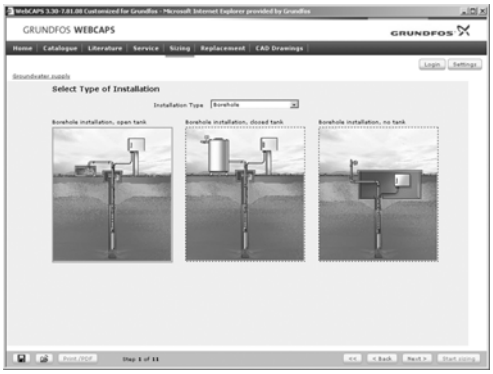
In this section you can access all the latest documents of a given pump, such as
- data booklets
- installation and operating instructions
- service documentation, such as Service kit catalogue and Service kit instructions
- quick guides
- product brochures.



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.

Further product documentation



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. 22 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election 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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