

S pumps, range 70

65 to 160 kW; 50 Hz



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1. Introduction

Introduction

This data booklet deals with Grundfos heavy-duty sewage pumps type S, range 70.



S pump, range 70

S pumps, range 70, are a range of free-flow 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 65 to 160 kW. The motors are either 4-, 6- or 8-pole motors, depending on the motor size.

The free passage in the pumps is 90 to 120 mm.

The pumps are available for these types of installation:

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

Applications

S pumps are designed for applications, such as these:

- 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.

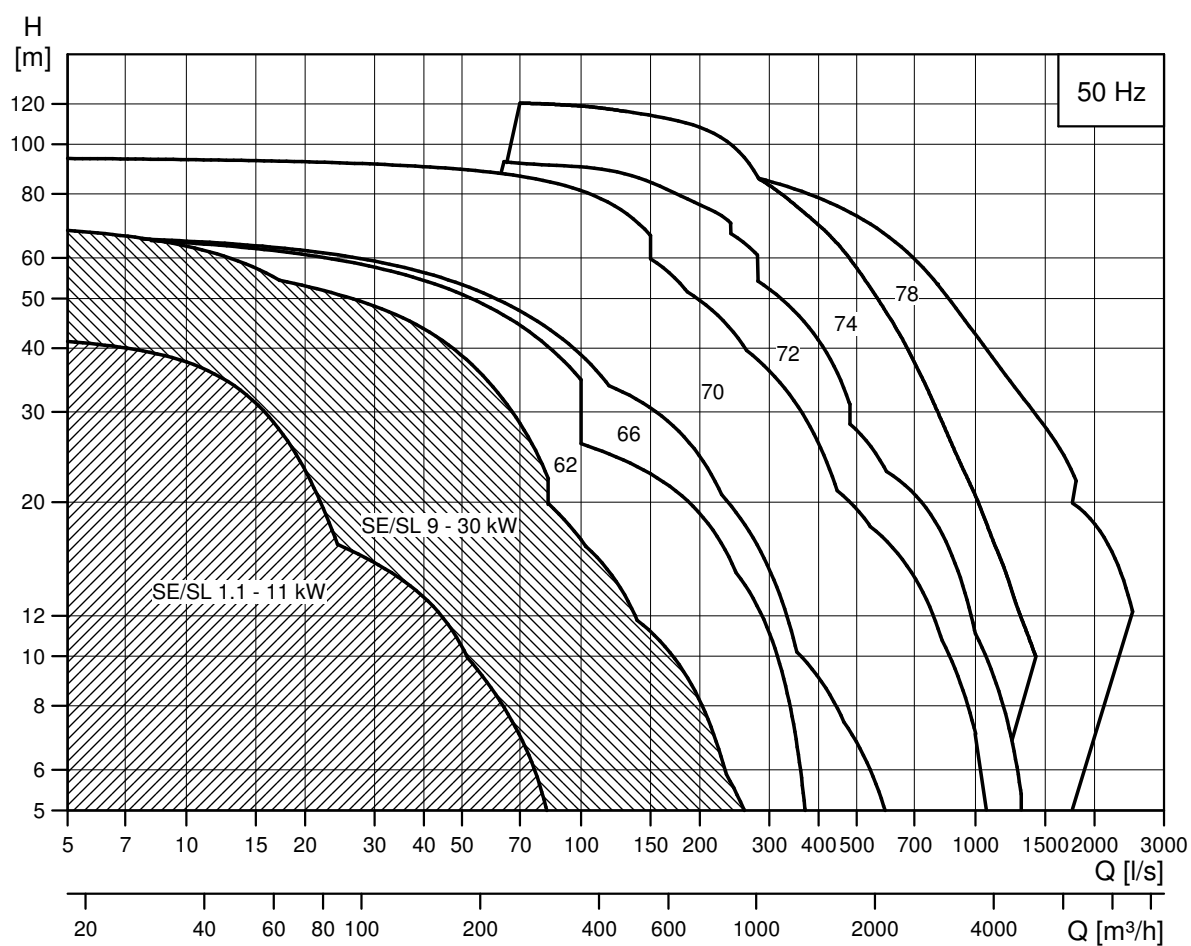
The pumps are suitable for both temporary and permanent installation. The lifting bracket fitted on the pumps facilitates easy transportation as well as installation at the installation site.

Main constructional features

- Leak-proof connection on auto coupling via the Grundfos SmartSeal sealing system
- double mechanical shaft seal system for reliable sealing between pumped liquid and motor
- watertight cable entry
- moisture switch for continuous monitoring of motor housing and terminal box ensuring automatic cut-off of power in case of ingress of liquid
- self-cleaning channel impeller with long vanes reducing the risk of jamming or clogging, or SuperVortex impeller with high pumping efficiency 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
- shaft seal condition monitoring via water-in-oil sensor (optional)
- explosion-proof motors for applications involving potential 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.

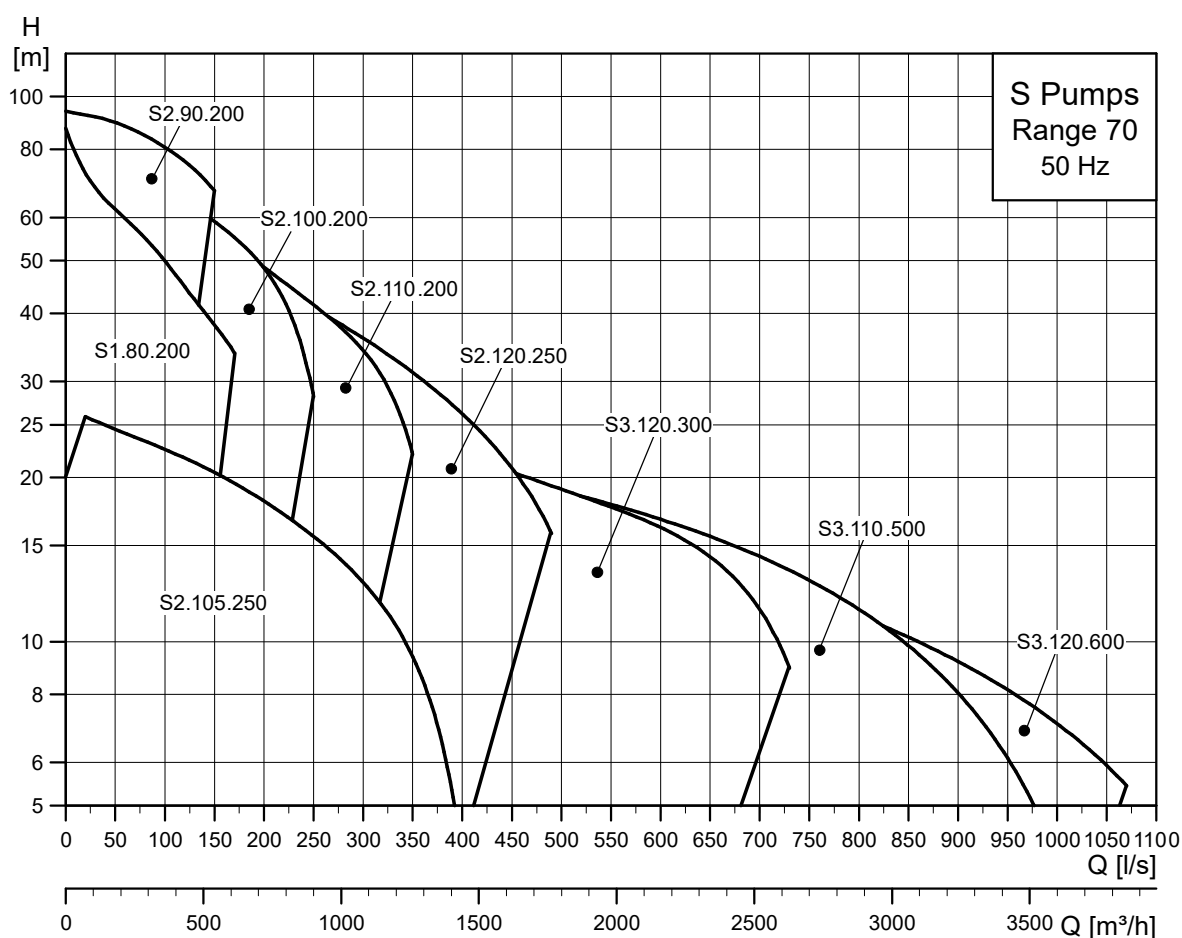
2. Performance range

Performance range overview, S pumps



TM053391

Performance range, S pumps, range 70



TM041878

List of pump curves

3 x 400/690 V

Pump type	Pressure range	Curve chart
S3.120.600.650.8.70E	Extra low	S3.120.600.650.8,
		S3.120.600.1000.6 and
S3.120.600.1000/1300.6.70E		S3.120.600.1300.6
S2.120.250.1600.4.70L	Low	S2.120.250.1600.4
S3.110.500.650.8.70L		S3.110.500.650.8 and
S3.110.500.800.6.70L		S3.110.500.800.6
		S3.110.500.1000.6 and
S3.110.500.1000/1300.6.70L		S3.110.500.1300.6

Pump type	Pressure range	Curve chart
S2.110.200.850/1150/1600.4.70M	Medium	S2.110.200.850.4,
		S2.110.200.1150.4 and
S3.120.300.650.8.70M		S2.110.200.1600.4
S3.120.300.800.6.70M	Medium	S3.120.300.650.8 and
		S3.120.300.800.6
S3.120.300.1000/1600.6.70M		S3.120.300.1000.6 and
	High	S3.120.300.1300.6
S1.80.200.850.4.70H		S1.80.200.850.4,
		S2.100.200.1150.4 and
S2.100.200.1150/1600.4.70H		S2.100.200.1600.4
S1.105.250.650.8.70H		S2.120.250.650.8 and
S1.120.250.800.6.70H		S2.120.250.800.6
	Super high	S2.120.250.1000.6 and
S2.120.250.1000/1300.6.70H		S2.120.250.1300.6
		S2.90.200.1150.4 and
S2.90.200.1150/1600.4.70S		S2.90.200.1600.4

3 x 415 V

Pump type	Pressure range	Curve chart
S3.120.600.650.8.70E	Extra low	S3.120.600.650.8,
S3.120.600.1000/1300.6.70E		S3.120.600.1000.6 and
		S3.120.600.1300.6
S2.120.250.1600.4.70L	Low	S2.120.250.1600.4
S3.110.500.650.8.70L		S3.110.500.650.8 and
S3.110.500.800.6.70L		S3.110.500.800.6
S3.110.500.1000/1300.6.70L		
	Medium	S2.110.200.850.4,
S2.110.200.850/1150/1600.4.70M		S2.110.200.1150.4 and
		S2.110.200.1600.4
S3.120.300.650.8.70M		S3.120.300.650.8 and
S3.120.300.800.6.70M		S3.120.300.800.6
	High	S3.120.300.1000.6 and
S3.120.300.1000/1600.6.70M		S3.120.300.1300.6
S1.80.200.850.4.70H		S1.80.200.850.4,
S2.100.200.1150/1600.4.70H		S2.100.200.1150.4 and
		S2.100.200.1600.4
S1.105.250.650.8.70H		S2.105.250.650.8 and
S1.120.250.800.6.70H		S2.120.250.800.6
	Super high	S2.120.250.1000.6 and
S2.120.250.1000/1300.6.70H		S2.120.250.1300.6
S2.90.200.1150/1600.4.70S		S2.90.200.1150.4 and
		S2.90.200.1600.4

3. Identification

Type key

Please note that the pump type described in this booklet is not necessarily available in all variants.

Example: **S1.100.100.55.4.50M.S.205.G.N.D.511.Z**

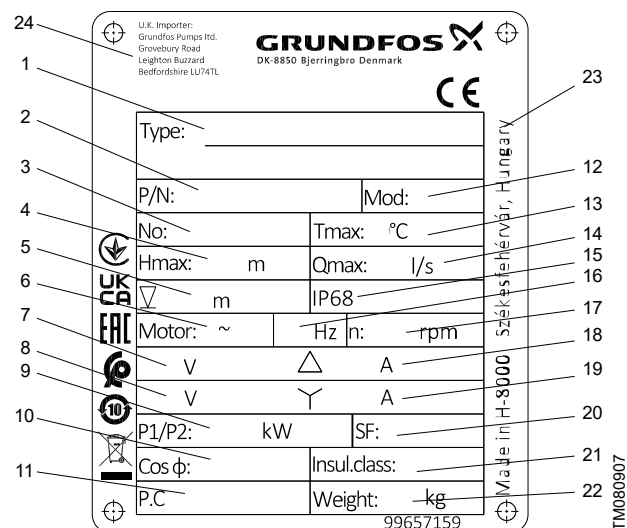
Code	Explanation	Designation
S	Grundfos sewage and wastewater pump	Pump type
1	Single-channel impeller	Impeller type
2	Two-channel impeller	
3	Three-channel impeller	
V	SuperVortex impeller	
100	Maximum solid size [mm]	Pump passage
100	Nominal diameter of pump outlet port [mm]	Pump outlet, S-type
55	P2 = Code number from type designation / 10	Power output [kW] ¹
2	2-pole motor	Number of poles
4	4-pole motor	
6	6-pole motor	
8	8-pole motor	
10	10-pole motor	
12	12-pole motor	
50	Range 50	Pump range
54	Range 54	
58	Range 58	
62	Range 62	
66	Range 66	
70	Range 70	
S	Super-high	Pressure version
H	High	
M	Medium	
L	Low	
E	Extra-low	
F	Super-low	
S	Submersible installation without cooling jacket	Installation type
C	Submersible installation with cooling jacket	
D	Dry installation, vertical	
H	Dry installation, horizontal	
205	Impeller diameter [mm]	Impeller diameter (mean)
G	Cast iron impeller, pump housing, and stator housing	Material code for impeller, pump housing and stator housing
Q	Stainless steel impeller, DIN W.-Nr. 1.4408	
S	Stainless steel impeller and pump housing, DIN W.-Nr. 1.4408	
R	Stainless steel impeller, pump housing, and stator housing, DIN W.-Nr. 1.4408	
N	Non-explosion-proof pump	Pump version
Ex	Pump with explosion-proof motor	
B	Pump with built-in SM 113 ²	Sensor version
C	Not in use	
D	S pump without built-in SM 113.	

Code	Explanation	Designation
5	50 Hz	Frequency [Hz]
6	60 Hz	
11	3 x 400 / 690 V, Y/D (50 Hz only)	Voltage code and connection
	3 x 460 V, Y/D (60 Hz only)	
13	3 x 415 V, Y/D (50 Hz only)	
15	3 x 380 / 660 V, Y/D (60 Hz only)	
GPA	Pumps only for Australia	Customisation
Z	Custom-built products	

¹ The power output (P2) indicated in the type key, which is used to indicate the motor size, can deviate from the actual power output. Please refer to the nameplate or the chapter for the exact power output.

² PTC sensors are connected directly to IO 113 or other PTC relay.

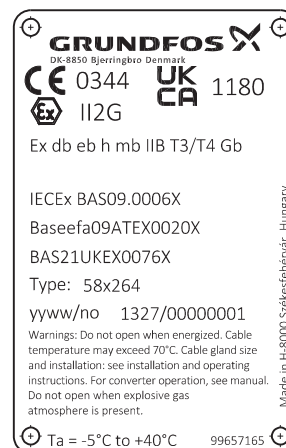
Pump nameplate



Pump nameplate

Pos.	Description
1	Type designation
2	Product number
3	Serial number
4	Maximum head [m]
5	Maximum installation depth [m]
6	Number of phases
7	Voltage, delta connection
8	Voltage, star connection
9	Rated power input / output [kW]
10	Cos φ, 1/1 load
11	Production code (YYWW)
12	Production number
13	Maximum liquid temperature [°C]
14	Maximum flow rate [l/s]
15	Ingress Protection class
16	Frequency [Hz]
17	Rated speed
18	Current, delta connection
19	Current, star connection
20	Safety factor
21	Insulation class
22	Net weight [kg]
23	Place of production
24	UK importer address for UK market

Ex approval plates

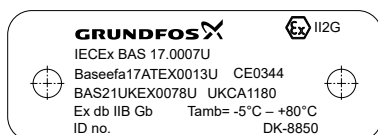


Approval plate of explosion-proof pumps, T3 and T4 classification

The approval plate provides the following details:

Ex	The equipment conforms to harmonised European standard.
II	Equipment group (II = non-mining)
2	Equipment category (high protection)
G	Type of explosive atmosphere (gas)
CE	CE mark
UKCA	UKCA mark
0344	Number of quality assurance notified body
1180	Number of quality assurance notified body
Ex	Marking of explosion protection
db	Flameproof enclosure, Zone 1
eb	WIO sensor protection by increased safety
h	Constructional safety "c", Control of ignition sources "b" and Liquid immersion "k", according to EN ISO 80079-36:2016 and EN ISO 80079-37:2016
mb	WIO sensor protection by encapsulation
IIB	Gas group (ethylene)
T3	The maximum surface temperature of the motor is 200 °C*.
T4	The maximum surface temperature of the motor is 135 °C.
Gb	Equipment protection level, zone 1

Cable entry approval plate



TM080590

Cable entry approval plate

The cable entry approval plate provides the following details:

Pos.	Description
0344	Number of quality assurance notified body
	The equipment conforms to harmonised European standard.
II	Equipment group (II = non-mining)
2	Equipment category (high protection)
G	Type of explosive atmosphere (gas)
CE	CE mark
UKCA	UKCA mark
0344	Number of quality assurance notified body
1180	Number of quality assurance notified body
Ex	Marking of explosion protection
db	Flameproof, Zone 1
IIB	Gas group (Ethylene)
Gb	Equipment protection level, zone 1
T _{amb}	Ambient temperature
ID no	Cable entry identification number
DK-8850	Country and postcode (Bjerringbro, Denmark)

4. Selection of product

Ordering the product

When ordering the product you need to take the following four aspects into consideration:

1. pump
2. custom-built variation (option)
3. accessories
4. controller.

Pump

Use [Product range](#) and [Type key](#) 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
S1.100.200.850.4.70H.S.432.G.N.D.511	95112897

- Pump as specified in the type key
- 10 m cable
- Paint: black, NCS 9000N/RAL 9005, gloss 30, thickness 150 µm
- Three thermal switches (Klixon) or three thermal sensors (PTC) in stator windings
- One moisture switch below the motor top cover (two moisture switches in explosion-proof versions; one below the motor top cover and one in the stator housing in the bottom of the motor)
- Test according to ISO 9906:2012, grade 3B.

See [Performance curves and technical data](#) for selection of a standard pump.

Note: Product specific data for the pump can also be found in Grundfos Product Center using the product number 95112897.

Related information

[Type key](#)

[Standard pumps - cast iron, 3 x 400/690 V](#)

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. For requirements or designs not included in the list, contact Grundfos.

Related information

[List of variants](#)

[List of variants](#)

Accessories

Depending on the installation type, you may need to order accessories.

Note: Ordered accessories are not fitted from factory.

Controller

Grundfos Dedicated Controls are available.



Grundfos Dedicated Controls

Grundfos Dedicated Controls is a control system designed for installation in either commercial buildings or network pumping stations with one to six pumps.

As standard, the system is supplied with application-optimised software and can be configured to meet your specific pumping needs.

For more information about Grundfos Dedicated Controls, see [Level controllers](#).

Related information

[Level controllers](#)

5. Product range

Standard pumps - cast iron, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.80.200.850.4.70H.S.448...	10	99442139			96641489
S1.80.200.850.4.70H.C.448...	10	99442140			96641489
S1.80.200.850.4.70H.H.448...	10	99442142	96308212		
S1.80.200.850.4.70H.D.448...	10	99442141		96308240	
S2.90.200.1150.4.70S.S.462...	10	95112909			96641489
S2.90.200.1150.4.70S.C.462...	10	95112910			96641489
S2.90.200.1150.4.70S.H.462...	10	95112911	96308192		
S2.90.200.1150.4.70S.D.462...	10	96797017		96308240	
S2.90.200.1600.4.70S.S.480...	10	95112924			96641489
S2.90.200.1600.4.70S.C.480...	10	95112925			96641489
S2.90.200.1600.4.70S.H.480...	10	95112926	96308192		
S2.90.200.1600.4.70S.D.480...	10	96797037		96308240	
S2.100.200.1150.4.70H.S.404...	10	95112903			96641489
S2.100.200.1150.4.70H.C.404...	10	95112904			96641489
S2.100.200.1150.4.70H.H.404...	10	95112905	96308212		
S2.100.200.1150.4.70H.D.404...	10	96797007		96308240	
S2.100.200.1600.4.70H.S.430...	10	95112915			96641489
S2.100.200.1600.4.70H.C.430...	10	95112916			96641489
S2.100.200.1600.4.70H.H.430...	10	95112917	96308212		
S2.100.200.1600.4.70H.D.430...	10	96797022		96308240	
S2.110.200.850.4.70M.S.375...	10	95112933			96641489
S2.110.200.850.4.70M.C.375...	10	95112934			96641489
S2.110.200.850.4.70M.H.375...	10	95112935	96308212		
S2.110.200.850.4.70M.D.375...	10	96796927		96308240	
S2.110.200.1150.4.70M.S.416...	10	95112906			96641489
S2.110.200.1150.4.70M.C.416...	10	95112907			96641489
S2.110.200.1150.4.70M.H.416...	10	95112908	96308212		
S2.110.200.1150.4.70M.D.416...	10	96797012		96308240	
S2.110.200.1600.4.70M.S.441...	10	95112921			96641489
S2.110.200.1600.4.70M.C.441...	10	95112922			96641489
S2.110.200.1600.4.70M.H.441...	10	95112923	96308212		
S2.110.200.1600.4.70M.D.441...	10	96797032		96308240	
S2.105.250.650.8.70H.S.538...	10	99442957			96782483
S2.105.250.650.8.70H.C.538...	10	99442958			96782483
S2.105.250.650.8.70H.D.538...	10	99442959		96308241	
S2.105.250.650.8.70H.H.538...	10	99442960	96308192		
S2.120.250.800.6.70H.S.465...	10	95112930			96782483
S2.120.250.800.6.70H.C.465...	10	95112931			96782483
S2.120.250.800.6.70H.D.465...	10	95112932		96308241	
S2.120.250.800.6.70H.H.465...	10	96796953	96308192		
S2.120.250.1000.6.70H.S.500...	10	95112900			96782483
S2.120.250.1000.6.70H.C.500...	10	95112901			96782483
S2.120.250.1000.6.70H.D.500...	10	95112902		96308241	
S2.120.250.1000.6.70H.H.500...	10	96796968	96308192		
S2.120.250.1300.6.70H.S.528...	10	95112912			96782483

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S2.120.250.1300.6.70H.C.528...	10	95112913			96782483
S2.120.250.1300.6.70H.D.528...	10	95112914		96308241	
S2.120.250.1300.6.70H.H.528...	10	96796988	96308192		
S2.120.250.1600.4.70L.S.402...	10	95112918			96782483
S2.120.250.1600.4.70L.C.402...	10	95112919			96782483
S2.120.250.1600.4.70L.D.402...	10	95112920		96308241	
S2.120.250.1600.4.70L.H.402...	10	96797028	96308212		
S3.110.500.650.8.70L.S.464...	10	95112936			96782485
S3.110.500.650.8.70L.C.464...	10	95112937			96782485
S3.110.500.650.8.70L.D.464...	10	95112938		96308244	
S3.110.500.650.8.70L.H.464...	10	96796938	96308192		
S3.110.500.800.6.70L.S.370...	10	95112945			96782485
S3.110.500.800.6.70L.C.370...	10	95112946			96782485
S3.110.500.800.6.70L.D.370...	10	95112947		96308244	
S3.110.500.800.6.70L.H.370...	10	96796958	96308192		
S3.110.500.1000.6.70L.S.402...	10	95112951			96782485
S3.110.500.1000.6.70L.C.402...	10	95112952			96782485
S3.110.500.1000.6.70L.D.402...	10	95112953		96308244	
S3.110.500.1000.6.70L.H.402...	10	96796973	96308192		
S3.110.500.1300.6.70L.S.442...	10	95112960			96782485
S3.110.500.1300.6.70L.C.442...	10	95112961			96782485
S3.110.500.1300.6.70L.D.442...	10	95112962		96308244	
S3.110.500.1300.6.70L.H.442...	10	96796993	96308192		
S3.120.300.650.8.70M.S.464...	10	95112939			96782484
S3.120.300.650.8.70M.C.464...	10	95112940			96782484
S3.120.300.650.8.70M.D.464...	10	95112941		96308241	
S3.120.300.650.8.70M.H.464...	10	96796943	96308192		
S3.120.300.800.6.70M.S.407...	10	95112948			96782484
S3.120.300.800.6.70M.C.407...	10	95112949			96782484
S3.120.300.800.6.70M.D.407...	10	95112950		96308241	
S3.120.300.800.6.70M.H.407...	10	96796963	96308255		
S3.120.300.1000.6.70M.S.428...	10	95112954			96782484
S3.120.300.1000.6.70M.C.428...	10	95112955			96782484
S3.120.300.1000.6.70M.D.428...	10	95112956		96308241	
S3.120.300.1000.6.70M.H.428...	10	96796978	96308255		
S3.120.300.1300.6.70M.S.456...	10	95112963			96782484
S3.120.300.1300.6.70M.C.456...	10	95112964			96782484
S3.120.300.1300.6.70M.D.456...	10	95112965		96308241	
S3.120.300.1300.6.70M.H.456...	10	96796998	96308192		
S3.120.600.650.8.70E.S.459...	10	95112942			96782486
S3.120.600.650.8.70E.C.459...	10	95112943			96782486
S3.120.600.650.8.70E.D.459...	10	95112944		96308245	
S3.120.600.650.8.70E.H.459...	10	96796948	96308192		
S3.120.600.1000.6.70E.S.402...	10	95112957			96782486
S3.120.600.1000.6.70E.C.402...	10	95112958			96782486
S3.120.600.1000.6.70E.D.402...	10	95112959		96308245	
S3.120.600.1000.6.70E.H.402...	10	96796983	96308192		
S3.120.600.1300.6.70E.S.426...	10	95112966			96782486
S3.120.600.1300.6.70E.C.426...	10	95112967			96782486
S3.120.600.1300.6.70E.D.426...	10	95112968		96308245	
S3.120.600.1300.6.70E.H.426...	10	96797003	96308192		

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Cast iron, 3 x 415 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.80.200.850.4.70H.S.448...	10	99442147			96641489
S1.80.200.850.4.70H.C.448...	10	99442148			96641489
S1.80.200.850.4.70H.H.448...	10	99442149		96308240	
S1.80.200.850.4.70H.D.448...	10	99442150	96308212		
S2.90.200.1150.4.70S.S.462...	10	96797015			96641489
S2.90.200.1150.4.70S.C.462...	10	96797016			96641489
S2.90.200.1150.4.70S.D.462...	10	96797018		96308240	
S2.90.200.1150.4.70S.H.462...	10	96797019	96308192		
S2.90.200.1600.4.70S.S.480...	10	96797035			96641489
S2.90.200.1600.4.70S.C.480...	10	96797036			96641489
S2.90.200.1600.4.70S.D.480...	10	96797038		96308240	
S2.90.200.1600.4.70S.H.480...	10	96797039	96308192		
S2.100.200.1150.4.70H.S.404...	10	96797005			96641489
S2.100.200.1150.4.70H.C.404...	10	96797006			96641489
S2.100.200.1150.4.70H.D.404...	10	96797008		96308240	
S2.100.200.1150.4.70H.H.404...	10	96797009	96308212		
S2.100.200.1600.4.70H.S.430...	10	96797020			96641489
S2.100.200.1600.4.70H.C.430...	10	96797021			96641489
S2.100.200.1600.4.70H.D.430...	10	96797023		96308240	
S2.100.200.1600.4.70H.H.430...	10	96797024	96308212		
S2.110.200.850.4.70M.S.375...	10	96796925			96641489
S2.110.200.850.4.70M.C.375...	10	96796926			96641489
S2.110.200.850.4.70M.D.375...	10	96796928		96308240	
S2.110.200.850.4.70M.H.375...	10	96796929	96308212		
S2.110.200.1150.4.70M.S.416...	10	96797010			96641489
S2.110.200.1150.4.70M.C.416...	10	96797011			96641489
S2.110.200.1150.4.70M.D.416...	10	96797013		96308240	
S2.110.200.1150.4.70M.H.416...	10	96797014	96308212		
S2.110.200.1600.4.70M.S.441...	10	96797030			96641489
S2.110.200.1600.4.70M.C.441...	10	96797031			96641489
S2.110.200.1600.4.70M.D.441...	10	96797033		96308240	
S2.110.200.1600.4.70M.H.441...	10	96797034	96308212		
S2.105.250.650.8.70H.S.538...	10	99442961			96782483
S2.105.250.650.8.70H.C.538...	10	99442962			96782483
S2.105.250.650.8.70H.D.538...	10	99442963		96308241	
S2.105.250.650.8.70H.H.538...	10	99442964	96308192		
S2.120.250.800.6.70H.S.465...	10	96796950			96782483
S2.120.250.800.6.70H.C.465...	10	96796951			96782483
S2.120.250.800.6.70H.D.465...	10	96796952		96308241	
S2.120.250.800.6.70H.H.465...	10	96796954	96308192		
S2.120.250.1000.6.70H.S.500...	10	96796965			96782483
S2.120.250.1000.6.70H.C.500...	10	96796966			96782483
S2.120.250.1000.6.70H.D.500...	10	96796967		96308241	
S2.120.250.1000.6.70H.H.500...	10	96796969	96308192		
S2.120.250.1300.6.70H.S.528...	10	96796985			96782483
S2.120.250.1300.6.70H.C.528...	10	96796986			96782483
S2.120.250.1300.6.70H.D.528...	10	96796987		96308241	
S2.120.250.1300.6.70H.H.528...	10	96796989	96308192		
S2.120.250.1600.4.70L.S.402...	10	96797025			96782483
S2.120.250.1600.4.70L.C.402...	10	96797026			96782483

Pump type	Cable length [m]	Pump	Accessories	
			Horizontal base stand ¹	To be ordered separately
				Vertical base plate Auto-coupling system ²
S2.120.250.1600.4.70L.D.402...	10	96797027		96308241
S2.120.250.1600.4.70L.H.402...	10	96797029	96308212	
S3.110.500.650.8.70L.S.464...	10	96796935		96782485
S3.110.500.650.8.70L.C.464...	10	96796936		96782485
S3.110.500.650.8.70L.D.464...	10	96796937		96308244
S3.110.500.650.8.70L.H.464...	10	96796939	96308192	
S3.110.500.800.6.70L.S.370...	10	96796955		96782485
S3.110.500.800.6.70L.C.370...	10	96796956		96782485
S3.110.500.800.6.70L.D.370...	10	96796957		96308244
S3.110.500.800.6.70L.H.370...	10	96796959	96308192	
S3.110.500.1000.6.70L.S.402...	10	96796970		96782485
S3.110.500.1000.6.70L.C.402...	10	96796971		96782485
S3.110.500.1000.6.70L.D.402...	10	96796972		96308244
S3.110.500.1000.6.70L.H.402...	10	96796974	96308192	
S3.110.500.1300.6.70L.S.442...	10	96796990		96782485
S3.110.500.1300.6.70L.C.442...	10	96796991		96782485
S3.110.500.1300.6.70L.D.442...	10	96796992		96308244
S3.110.500.1300.6.70L.H.442...	10	96796994	96308192	
S3.120.300.650.8.70M.S.464...	10	96796940		96782484
S3.120.300.650.8.70M.C.464...	10	96796941		96782484
S3.120.300.650.8.70M.D.464...	10	96796942		96308241
S3.120.300.650.8.70M.H.464...	10	96796944	96308192	
S3.120.300.800.6.70M.S.407...	10	96796960		96782484
S3.120.300.800.6.70M.C.407...	10	96796961		96782484
S3.120.300.800.6.70M.D.407...	10	96796962		96308241
S3.120.300.800.6.70M.H.407...	10	96796964	96308255	
S3.120.300.1000.6.70M.S.428...	10	96796975		96782484
S3.120.300.1000.6.70M.C.428...	10	96796976		96782484
S3.120.300.1000.6.70M.D.428...	10	96796977		96308241
S3.120.300.1000.6.70M.H.428...	10	96796979	96308255	
S3.120.300.1300.6.70M.S.456...	10	96796995		96782484
S3.120.300.1300.6.70M.C.456...	10	96796996		96782484
S3.120.300.1300.6.70M.D.456...	10	96796997		96308241
S3.120.300.1300.6.70M.H.456...	10	96796999	96308192	
S3.120.600.650.8.70E.S.459...	10	96796945		96782486
S3.120.600.650.8.70E.C.459...	10	96796946		96782486
S3.120.600.650.8.70E.D.459...	10	96796947		96308245
S3.120.600.650.8.70E.H.459...	10	96796949	96308192	
S3.120.600.1000.6.70E.S.402...	10	96796980		96782486
S3.120.600.1000.6.70E.C.402...	10	96796981		96782486
S3.120.600.1000.6.70E.D.402...	10	96796982		96308245
S3.120.600.1000.6.70E.H.402...	10	96796984	96308192	
S3.120.600.1300.6.70E.S.426...	10	96797000		96782486
S3.120.600.1300.6.70E.C.426...	10	96797001		96782486
S3.120.600.1300.6.70E.D.426...	10	96797002		96308245
S3.120.600.1300.6.70E.H.426...	10	96797004	96308192	

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Cast iron, 3 x 415 V - Australia**Note:** Pumps with 15 m cable are installed with PTC thermal protection.

Pump type	Cable length [m]	Pump	Accessories	
			Horizontal base stand ¹	To be ordered separately
				Vertical base plate Auto-coupling system ²
S1.80.200.850.4.70H.S.448...	15	99442155		96641489
S1.80.200.850.4.70H.C.448...	15	99442156		96641489
S1.80.200.850.4.70H.D.448...	15	99442157		96308240
S1.80.200.850.4.70H.H.448...	15	99442158	96308212	
S2.90.200.1150.4.70S.S.462...	15	96810602		96641489
S2.90.200.1150.4.70S.C.462...	15	96810603		96641489
S2.90.200.1150.4.70S.D.462...	15	96810604		96308240
S2.90.200.1150.4.70S.H.462...	15	96810605	96308192	
S2.90.200.1600.4.70S.S.480...	15	96810618		96641489
S2.90.200.1600.4.70S.C.480...	15	96810619		96641489
S2.90.200.1600.4.70S.D.480...	15	96810620		96308240
S2.90.200.1600.4.70S.H.480...	15	96810621	96308192	
S2.100.200.1150.4.70H.S.404...	15	96810594		96641489
S2.100.200.1150.4.70H.C.404...	15	96810595		96641489
S2.100.200.1150.4.70H.D.404...	15	96810596		96308240
S2.100.200.1150.4.70H.H.404...	15	96810597	96308212	
S2.100.200.1600.4.70H.S.430...	15	96810606		96641489
S2.100.200.1600.4.70H.C.430...	15	96810607		96641489
S2.100.200.1600.4.70H.D.430...	15	96810608		96308240
S2.100.200.1600.4.70H.H.430...	15	96810609	96308212	
S2.110.200.850.4.70M.S.375...	15	96810390		96641489
S2.110.200.850.4.70M.C.375...	15	96810391		96641489
S2.110.200.850.4.70M.D.375...	15	96810532		96308240
S2.110.200.850.4.70M.H.375...	15	96810533	96308212	
S2.110.200.1150.4.70M.S.416...	15	96810598		96641489
S2.110.200.1150.4.70M.C.416...	15	96810599		96641489
S2.110.200.1150.4.70M.D.416...	15	96810600		96308240
S2.110.200.1150.4.70M.H.416...	15	96810601	96308212	
S2.110.200.1600.4.70M.S.441...	15	96810614		96641489
S2.110.200.1600.4.70M.C.441...	15	96810615		96641489
S2.110.200.1600.4.70M.D.441...	15	96810616		96308240
S2.110.200.1600.4.70M.H.441...	15	96810617	96308212	
S2.105.250.650.8.70H.S.538...	15	99442965		96782483
S2.105.250.650.8.70H.C.538...	15	99442966		96782483
S2.105.250.650.8.70H.D.538...	15	99442967		96308241
S2.105.250.650.8.70H.H.538...	15	99442968	96308192	
S2.120.250.800.6.70H.S.465...	15	96810550		96782483
S2.120.250.800.6.70H.C.465...	15	96810551		96782483
S2.120.250.800.6.70H.D.465...	15	96810552		96308241
S2.120.250.800.6.70H.H.465...	15	96810553	96308192	
S2.120.250.1000.6.70H.S.500...	15	96810562		96782483
S2.120.250.1000.6.70H.C.500...	15	96810563		96782483
S2.120.250.1000.6.70H.D.500...	15	96810564		96308241
S2.120.250.1000.6.70H.H.500...	15	96810565	96308192	
S2.120.250.1300.6.70H.S.528...	15	96810578		96782483
S2.120.250.1300.6.70H.C.528...	15	96810579		96782483
S2.120.250.1300.6.70H.D.528...	15	96810580		96308241
S2.120.250.1300.6.70H.H.528...	15	96810581	96308192	
S2.120.250.1600.4.70L.S.402...	15	96810610		96782483

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S2.120.250.1600.4.70L.C.402...	15	96810611			96782483
S2.120.250.1600.4.70L.D.402...	15	96810612		96308241	
S2.120.250.1600.4.70L.H.402...	15	96810613	96308212		
S3.110.500.650.8.70L.S.464...	15	96810538			96782485
S3.110.500.650.8.70L.C.464...	15	96810539			96782485
S3.110.500.650.8.70L.D.464...	15	96810540		96308244	
S3.110.500.650.8.70L.H.464...	15	96810541	96308192		
S3.110.500.800.6.70L.S.370...	15	96810554			96782485
S3.110.500.800.6.70L.C.370...	15	96810555			96782485
S3.110.500.800.6.70L.D.370...	15	96810556		96308244	
S3.110.500.800.6.70L.H.370...	15	96810557	96308192		
S3.110.500.1000.6.70L.S.402...	15	96810566			96782485
S3.110.500.1000.6.70L.C.402...	15	96810567			96782485
S3.110.500.1000.6.70L.D.402...	15	96810568		96308244	
S3.110.500.1000.6.70L.H.402...	15	96810569	96308192		
S3.110.500.1300.6.70L.S.442...	15	96810582			96782485
S3.110.500.1300.6.70L.C.442...	15	96810583			96782485
S3.110.500.1300.6.70L.D.442...	15	96810584		96308244	
S3.110.500.1300.6.70L.H.442...	15	96810585	96308192		
S3.120.300.650.8.70M.S.464...	15	96810542			96782484
S3.120.300.650.8.70M.C.464...	15	96810543			96782484
S3.120.300.650.8.70M.D.464...	15	96810544		96308241	
S3.120.300.650.8.70M.H.464...	15	96810545	96308192		
S3.120.300.800.6.70M.S.407...	15	96810558			96782484
S3.120.300.800.6.70M.C.407...	15	96810559			96782484
S3.120.300.800.6.70M.D.407...	15	96810560		96308241	
S3.120.300.800.6.70M.H.407...	15	96810561	96308255		
S3.120.300.1000.6.70M.S.428...	15	96810570			96782484
S3.120.300.1000.6.70M.C.428...	15	96810571			96782484
S3.120.300.1000.6.70M.D.428...	15	96810572		96308241	
S3.120.300.1000.6.70M.H.428...	15	96810573	96308255		
S3.120.300.1300.6.70M.S.456...	15	96810586			96782484
S3.120.300.1300.6.70M.C.456...	15	96810587			96782484
S3.120.300.1300.6.70M.D.456...	15	96810588		96308241	
S3.120.300.1300.6.70M.H.456...	15	96810589	96308192		
S3.120.600.650.8.70E.S.459...	15	96810546			96782486
S3.120.600.650.8.70E.C.459...	15	96810547			96782486
S3.120.600.650.8.70E.D.459...	15	96810548		96308245	
S3.120.600.650.8.70E.H.459...	15	96810549	96308192		
S3.120.600.1000.6.70E.S.402...	15	96810574			96782486
S3.120.600.1000.6.70E.C.402...	15	96810575			96782486
S3.120.600.1000.6.70E.D.402...	15	96810576		96308245	
S3.120.600.1000.6.70E.H.402...	15	96810577	96308192		
S3.120.600.1300.6.70E.S.426...	15	96810590			96782486
S3.120.600.1300.6.70E.C.426...	15	96810591			96782486
S3.120.600.1300.6.70E.D.426...	15	96810592		96308245	
S3.120.600.1300.6.70E.H.426...	15	96810593	96308192		

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Stainless steel impeller, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.100.200.850.4.70H.S.432.Q.N.D...	10	96811767			96641489
S1.100.200.850.4.70H.C.432.Q.N.D...	10	96811768			96641489
S1.100.200.850.4.70H.D.432.Q.N.D...	10	96811769		96308240	
S1.100.200.850.4.70H.H.432.Q.N.D...	10	96811770	96308212		
S2.90.200.1150.4.70S.S.462.Q.N.D...	10	96811843			96641489
S2.90.200.1150.4.70S.C.462.Q.N.D...	10	96811844			96641489
S2.90.200.1150.4.70S.D.462.Q.N.D...	10	96811845		96308240	
S2.90.200.1150.4.70S.H.462.Q.N.D...	10	96811846	96308192		
S2.90.200.1600.4.70S.S.480.Q.N.D...	10	96811859			96641489
S2.90.200.1600.4.70S.C.480.Q.N.D...	10	96811860			96641489
S2.90.200.1600.4.70S.D.480.Q.N.D...	10	96811861		96308240	
S2.90.200.1600.4.70S.H.480.Q.N.D...	10	96811862	96308192		
S2.100.200.1150.4.70H.S.404.Q.N.D...	10	96811835			96641489
S2.100.200.1150.4.70H.C.404.Q.N.D...	10	96811836			96641489
S2.100.200.1150.4.70H.D.404.Q.N.D...	10	96811837		96308240	
S2.100.200.1150.4.70H.H.404.Q.N.D...	10	96811838	96308212		
S2.100.200.1600.4.70H.S.430.Q.N.D...	10	96811847			96641489
S2.100.200.1600.4.70H.C.430.Q.N.D...	10	96811848			96641489
S2.100.200.1600.4.70H.D.430.Q.N.D...	10	96811849		96308240	
S2.100.200.1600.4.70H.H.430.Q.N.D...	10	96811850	96308212		
S2.110.200.850.4.70M.S.375.Q.N.D...	10	96811771			96641489
S2.110.200.850.4.70M.C.375.Q.N.D...	10	96811772			96641489
S2.110.200.850.4.70M.D.375.Q.N.D...	10	96811773		96308240	
S2.110.200.850.4.70M.H.375.Q.N.D...	10	96811774	96308212		
S2.110.200.1150.4.70M.S.416.Q.N.D...	10	96811839			96641489
S2.110.200.1150.4.70M.C.416.Q.N.D...	10	96811840			96641489
S2.110.200.1150.4.70M.D.416.Q.N.D...	10	96811841		96308240	
S2.110.200.1150.4.70M.H.416.Q.N.D...	10	96811842	96308212		
S2.110.200.1600.4.70M.S.441.Q.N.D...	10	96811855			96641489
S2.110.200.1600.4.70M.C.441.Q.N.D...	10	96811856			96641489
S2.110.200.1600.4.70M.D.441.Q.N.D...	10	96811857		96308240	
S2.110.200.1600.4.70M.H.441.Q.N.D...	10	96811858	96308212		
S2.120.250.650.8.70H.S.534.Q.N.D...	10	96811775			96782483
S2.120.250.650.8.70H.C.534.Q.N.D...	10	96811776			96782483
S2.120.250.650.8.70H.D.534.Q.N.D...	10	96811777		96308241	
S2.120.250.650.8.70H.H.534.Q.N.D...	10	96811778	96308192		
S2.120.250.800.6.70H.S.465.Q.N.D...	10	96811791			96782483
S2.120.250.800.6.70H.C.465.Q.N.D...	10	96811792			96782483
S2.120.250.800.6.70H.D.465.Q.N.D...	10	96811793		96308241	
S2.120.250.800.6.70H.H.465.Q.N.D...	10	96811794	96308192		
S2.120.250.1000.6.70H.S.500.Q.N.D...	10	96811803			96782483
S2.120.250.1000.6.70H.C.500.Q.N.D...	10	96811804			96782483
S2.120.250.1000.6.70H.D.500.Q.N.D...	10	96811805		96308241	
S2.120.250.1000.6.70H.H.500.Q.N.D...	10	96811806	96308192		
S2.120.250.1300.6.70H.S.528.Q.N.D...	10	96811819			96782483
S2.120.250.1300.6.70H.C.528.Q.N.D...	10	96811820			96782483
S2.120.250.1300.6.70H.D.528.Q.N.D...	10	96811821		96308241	
S2.120.250.1300.6.70H.H.528.Q.N.D...	10	96811822	96308192		
S2.120.250.1600.4.70L.S.402.Q.N.D...	10	96811851			96782483
S2.120.250.1600.4.70L.C.402.Q.N.D...	10	96811852			96782483

Pump type	Cable length [m]	Pump	Accessories	
			Horizontal base stand ¹	To be ordered separately
				Vertical base plate Auto-coupling system ²
S2.120.250.1600.4.70L.D.402.Q.N.D...	10	96811853		96308241
S2.120.250.1600.4.70L.H.402.Q.N.D...	10	96811854	96308212	
S3.110.500.650.8.70L.S.464.Q.N.D...	10	96811779		96782485
S3.110.500.650.8.70L.C.464.Q.N.D...	10	96811780		96782485
S3.110.500.650.8.70L.D.464.Q.N.D...	10	96811781		96308244
S3.110.500.650.8.70L.H.464.Q.N.D...	10	96811782	96308192	
S3.110.500.800.6.70L.S.370.Q.N.D...	10	96811795		96782485
S3.110.500.800.6.70L.C.370.Q.N.D...	10	96811796		96782485
S3.110.500.800.6.70L.D.370.Q.N.D...	10	96811797		96308244
S3.110.500.800.6.70L.H.370.Q.N.D...	10	96811798	96308192	
S3.110.500.1000.6.70L.S.402.Q.N.D...	10	96811807		96782485
S3.110.500.1000.6.70L.C.402.Q.N.D...	10	96811808		96782485
S3.110.500.1000.6.70L.D.402.Q.N.D...	10	96811809		96308244
S3.110.500.1000.6.70L.H.402.Q.N.D...	10	96811810	96308192	
S3.110.500.1300.6.70L.S.442.Q.N.D...	10	96811823		96782485
S3.110.500.1300.6.70L.C.442.Q.N.D...	10	96811824		96782485
S3.110.500.1300.6.70L.D.442.Q.N.D...	10	96811825		96308244
S3.110.500.1300.6.70L.H.442.Q.N.D...	10	96811826	96308192	
S3.120.300.650.8.70M.S.464.Q.N.D...	10	96811783		96782484
S3.120.300.650.8.70M.C.464.Q.N.D...	10	96811784		96782484
S3.120.300.650.8.70M.D.464.Q.N.D...	10	96811785		96308241
S3.120.300.650.8.70M.H.464.Q.N.D...	10	96811786	96308192	
S3.120.300.800.6.70M.S.407.Q.N.D...	10	96811799		96782484
S3.120.300.800.6.70M.C.407.Q.N.D...	10	96811800		96782484
S3.120.300.800.6.70M.D.407.Q.N.D...	10	96811801		96308241
S3.120.300.800.6.70M.H.407.Q.N.D...	10	96811802	96308255	
S3.120.300.1000.6.70M.S.428.Q.N.D...	10	96811811		96782484
S3.120.300.1000.6.70M.C.428.Q.N.D...	10	96811812		96782484
S3.120.300.1000.6.70M.D.428.Q.N.D...	10	96811813		96308241
S3.120.300.1000.6.70M.H.428.Q.N.D...	10	96811814	96308255	
S3.120.300.1300.6.70M.S.456.Q.N.D...	10	96811827		96782484
S3.120.300.1300.6.70M.C.456.Q.N.D...	10	96811828		96782484
S3.120.300.1300.6.70M.D.456.Q.N.D...	10	96811829		96308241
S3.120.300.1300.6.70M.H.456.Q.N.D...	10	96811830	96308192	
S3.120.600.650.8.70E.S.459.Q.N.D...	10	96811787		96782486
S3.120.600.650.8.70E.C.459.Q.N.D...	10	96811788		96782486
S3.120.600.650.8.70E.D.459.Q.N.D...	10	96811789		96308245
S3.120.600.650.8.70E.H.459.Q.N.D...	10	96811790	96308192	
S3.120.600.1000.6.70E.S.402.Q.N.D...	10	96811815		96782486
S3.120.600.1000.6.70E.C.402.Q.N.D...	10	96811816		96782486
S3.120.600.1000.6.70E.D.402.Q.N.D...	10	96811817		96308245
S3.120.600.1000.6.70E.H.402.Q.N.D...	10	96811818	96308192	
S3.120.600.1300.6.70E.S.426.Q.N.D...	10	96811831		96782486
S3.120.600.1300.6.70E.C.426.Q.N.D...	10	96811832		96782486
S3.120.600.1300.6.70E.D.426.Q.N.D...	10	96811833		96308245
S3.120.600.1300.6.70E.H.426.Q.N.D...	10	96811834	96308192	

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Explosion-proof pumps

Cast iron, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.80.200.850.4.70H.S.448.G.EX.D...	10	99442143			96641489
S1.80.200.850.4.70H.C.448.G.EX.D...	10	99442144			96641489
S1.80.200.850.4.70H.H.448.G.EX.D...	10	99442146	96308212		
S1.80.200.850.4.70H.D.448.G.EX.D...	10	99442145		96308240	
S2.90.200.1150.4.70S.S.462.G.EX.D...	10	95112993			96641489
S2.90.200.1150.4.70S.C.462.G.EX.D...	10	95112994			96641489
S2.90.200.1150.4.70S.H.462.G.EX.D...	10	95112995	96308192		
S2.90.200.1150.4.70S.D.462.G.EX.D...	10	96797794		96308240	
S2.90.200.1600.4.70S.S.480.G.EX.D...	10	95112999			96641489
S2.90.200.1600.4.70S.C.480.G.EX.D...	10	95113000			96641489
S2.90.200.1600.4.70S.H.480.G.EX.D...	10	95113001	96308192		
S2.90.200.1600.4.70S.D.480.G.EX.D...	10	96797804		96308240	
S2.100.200.1150.4.70H.S.404.G.EX.D...	10	95112987			96641489
S2.100.200.1150.4.70H.C.404.G.EX.D...	10	95112988			96641489
S2.100.200.1150.4.70H.H.404.G.EX.D...	10	95112989	96308212		
S2.100.200.1150.4.70H.D.404.G.EX.D...	10	96797784		96308240	
S2.100.200.1600.4.70H.S.430.G.EX.D...	10	95113002			96641489
S2.100.200.1600.4.70H.C.430.G.EX.D...	10	95113003			96641489
S2.100.200.1600.4.70H.H.430.G.EX.D...	10	95113004	96308212		
S2.100.200.1600.4.70H.D.430.G.EX.D...	10	96797809		96308240	
S2.110.200.850.4.70M.S.375.G.EX.D...	10	95113017			96641489
S2.110.200.850.4.70M.C.375.G.EX.D...	10	95113018			96641489
S2.110.200.850.4.70M.H.375.G.EX.D...	10	95113019	96308212		
S2.110.200.850.4.70M.D.375.G.EX.D...	10	96797834		96308240	
S2.110.200.1150.4.70M.S.416.G.EX.D...	10	95112990			96641489
S2.110.200.1150.4.70M.C.416.G.EX.D...	10	95112991			96641489
S2.110.200.1150.4.70M.H.416.G.EX.D...	10	95112992	96308212		
S2.110.200.1150.4.70M.D.416.G.EX.D...	10	96797789		96308240	
S2.110.200.1600.4.70M.S.441.G.EX.D...	10	95113008			96641489
S2.110.200.1600.4.70M.C.441.G.EX.D...	10	95113009			96641489
S2.110.200.1600.4.70M.H.441.G.EX.D...	10	95113010	96308212		
S2.110.200.1600.4.70M.D.441.G.EX.D...	10	96797819		96308240	
S2.105.250.650.8.70H.S.538.G.EX.D...	10	99442969			96782483
S2.105.250.650.8.70H.C.538.G.EX.D...	10	99442970			96782483
S2.105.250.650.8.70H.D.538.G.EX.D...	10	99442971		96308241	
S2.105.250.650.8.70H.H.538.G.EX.D...	10	99442972	96308192		
S2.120.250.800.6.70H.S.465.G.EX.D...	10	95113014			96782483
S2.120.250.800.6.70H.C.465.G.EX.D...	10	95113015			96782483
S2.120.250.800.6.70H.D.465.G.EX.D...	10	95113016		96308241	
S2.120.250.800.6.70H.H.465.G.EX.D...	10	96797830	96308192		
S2.120.250.1000.6.70H.S.500.G.EX.D...	10	95112984			96782483
S2.120.250.1000.6.70H.C.500.G.EX.D...	10	95112985			96782483
S2.120.250.1000.6.70H.H.500.G.EX.D...	10	95112986	96308192		
S2.120.250.1000.6.70H.D.500.G.EX.D...	10	96797779		96308241	
S2.120.250.1300.6.70H.S.528.G.EX.D...	10	95112996			96782483
S2.120.250.1300.6.70H.C.528.G.EX.D...	10	95112997			96782483

Pump type	Cable length [m]	Pump	Accessories	
			Horizontal base stand ¹	To be ordered separately
				Vertical base plate Auto-coupling system ²
S2.120.250.1300.6.70H.D.528.G.EX.D...	10	95112998		96308241
S2.120.250.1300.6.70H.H.528.G.EX.D...	10	96797800	96308192	
S2.120.250.1600.4.70L.S.402.G.EX.D...	10	95113005		96782483
S2.120.250.1600.4.70L.C.402.G.EX.D...	10	95113006		96782483
S2.120.250.1600.4.70L.D.402.G.EX.D...	10	95113007		96308241
S2.120.250.1600.4.70L.H.402.G.EX.D...	10	96797815	96308212	
S3.110.500.650.8.70L.S.464.G.EX.D...	10	95113041		96782485
S3.110.500.650.8.70L.C.464.G.EX.D...	10	95113042		96782485
S3.110.500.650.8.70L.D.464.G.EX.D...	10	95113043		96308244
S3.110.500.650.8.70L.H.464.G.EX.D...	10	96797875	96308192	
S3.110.500.800.6.70L.S.370.G.EX.D...	10	95113047		96782485
S3.110.500.800.6.70L.C.370.G.EX.D...	10	95113048		96782485
S3.110.500.800.6.70L.D.370.G.EX.D...	10	95113049		96308244
S3.110.500.800.6.70L.H.370.G.EX.D...	10	96797885	96308192	
S3.110.500.1000.6.70L.S.402.G.EX.D...	10	95113020		96782485
S3.110.500.1000.6.70L.C.402.G.EX.D...	10	95113021		96782485
S3.110.500.1000.6.70L.D.402.G.EX.D...	10	95113022		96308244
S3.110.500.1000.6.70L.H.402.G.EX.D...	10	96797840	96308192	
S3.110.500.1300.6.70L.S.442.G.EX.D...	10	95113032		96782485
S3.110.500.1300.6.70L.C.442.G.EX.D...	10	95113033		96782485
S3.110.500.1300.6.70L.D.442.G.EX.D...	10	95113034		96308244
S3.110.500.1300.6.70L.H.442.G.EX.D...	10	96797860	96308192	
S3.120.300.650.8.70M.S.464.G.EX.D...	10	95113044		96782484
S3.120.300.650.8.70M.C.464.G.EX.D...	10	95113045		96782484
S3.120.300.650.8.70M.D.464.G.EX.D...	10	95113046		96308241
S3.120.300.650.8.70M.H.464.G.EX.D...	10	96797880	96308192	
S3.120.300.800.6.70M.S.407.G.EX.D...	10	95113050		96782484
S3.120.300.800.6.70M.C.407.G.EX.D...	10	95113051		96782484
S3.120.300.800.6.70M.D.407.G.EX.D...	10	95113052		96308241
S3.120.300.800.6.70M.H.407.G.EX.D...	10	96797890	96308255	
S3.120.300.1000.6.70M.S.428.G.EX.D...	10	95113023		96782484
S3.120.300.1000.6.70M.C.428.G.EX.D...	10	95113024		96782484
S3.120.300.1000.6.70M.D.428.G.EX.D...	10	95113025		96308241
S3.120.300.1000.6.70M.H.428.G.EX.D...	10	96797845	96308255	
S3.120.300.1300.6.70M.S.456.G.EX.D...	10	95113035		96782484
S3.120.300.1300.6.70M.C.456.G.EX.D...	10	95113036		96782484
S3.120.300.1300.6.70M.D.456.G.EX.D...	10	95113037		96308241
S3.120.300.1300.6.70M.H.456.G.EX.D...	10	96797865	96308192	
S3.120.600.650.8.70E.S.459.G.EX.D...	10	95113038		96782486
S3.120.600.650.8.70E.C.459.G.EX.D...	10	95113039		96782486
S3.120.600.650.8.70E.D.459.G.EX.D...	10	95113040		96308245
S3.120.600.650.8.70E.H.459.G.EX.D...	10	96797870	96308192	
S3.120.600.1000.6.70E.S.402.G.EX.D...	10	95113026		96782486
S3.120.600.1000.6.70E.C.402.G.EX.D...	10	95113027		96782486
S3.120.600.1000.6.70E.D.402.G.EX.D...	10	95113028		96308245
S3.120.600.1000.6.70E.H.402.G.EX.D...	10	96797850	96308192	
S3.120.600.1300.6.70E.S.426.G.EX.D...	10	95113029		96782486
S3.120.600.1300.6.70E.C.426.G.EX.D...	10	95113030		96782486
S3.120.600.1300.6.70E.D.426.G.EX.D...	10	95113031		96308245
S3.120.600.1300.6.70E.H.426.G.EX.D...	10	96797855	96308192	

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Cast iron, 3 x 415 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.80.200.850.4.70H.S.448.G.EX.D...	10	99442151			96641489
S1.80.200.850.4.70H.C.448.G.EX.D...	10	99442152			96641489
S1.80.200.850.4.70H.H.448.G.EX.D...	10	99442153		96308240	
S1.80.200.850.4.70H.D.448.G.EX.D...	10	99442154	96308212		
S2.90.200.1150.4.70S.S.462.G.EX.D...	10	96797792			96641489
S2.90.200.1150.4.70S.C.462.G.EX.D...	10	96797793			96641489
S2.90.200.1150.4.70S.D.462.G.EX.D...	10	96797795		96308240	
S2.90.200.1150.4.70S.H.462.G.EX.D...	10	96797796	96308192		
S2.90.200.1600.4.70S.S.480.G.EX.D...	10	96797802			96641489
S2.90.200.1600.4.70S.C.480.G.EX.D...	10	96797803			96641489
S2.90.200.1600.4.70S.D.480.G.EX.D...	10	96797805		96308240	
S2.90.200.1600.4.70S.H.480.G.EX.D...	10	96797806	96308192		
S2.100.200.1150.4.70H.S.404.G.EX.D...	10	96797782			96641489
S2.100.200.1150.4.70H.C.404.G.EX.D...	10	96797783			96641489
S2.100.200.1150.4.70H.D.404.G.EX.D...	10	96797785		96308240	
S2.100.200.1150.4.70H.H.404.G.EX.D...	10	96797786	96308212		
S2.100.200.1600.4.70H.S.430.G.EX.D...	10	96797807			96641489
S2.100.200.1600.4.70H.C.430.G.EX.D...	10	96797808			96641489
S2.100.200.1600.4.70H.D.430.G.EX.D...	10	96797810		96308240	
S2.100.200.1600.4.70H.H.430.G.EX.D...	10	96797811	96308212		
S2.110.200.850.4.70M.S.375.G.EX.D...	10	96797832			96641489
S2.110.200.850.4.70M.C.375.G.EX.D...	10	96797833			96641489
S2.110.200.850.4.70M.D.375.G.EX.D...	10	96797835		96308240	
S2.110.200.850.4.70M.H.375.G.EX.D...	10	96797836	96308212		
S2.110.200.1150.4.70M.S.416.G.EX.D...	10	96797787			96641489
S2.110.200.1150.4.70M.C.416.G.EX.D...	10	96797788			96641489
S2.110.200.1150.4.70M.D.416.G.EX.D...	10	96797790		96308240	
S2.110.200.1150.4.70M.H.416.G.EX.D...	10	96797791	96308212		
S2.110.200.1600.4.70M.S.441.G.EX.D...	10	96797817			96641489
S2.110.200.1600.4.70M.C.441.G.EX.D...	10	96797818			96641489
S2.110.200.1600.4.70M.D.441.G.EX.D...	10	96797820		96308240	
S2.110.200.1600.4.70M.H.441.G.EX.D...	10	96797821	96308212		
S2.105.250.650.8.70H.S.538.G.EX.D...	10	99442973			96782483
S2.105.250.650.8.70H.C.538.G.EX.D...	10	99442974			96782483
S2.105.250.650.8.70H.D.538.G.EX.D...	10	99442975		96308241	
S2.105.250.650.8.70H.H.538.G.EX.D...	10	99442976	96308192		
S2.120.250.800.6.70H.S.465.G.EX.D...	10	96797827			96782483
S2.120.250.800.6.70H.C.465.G.EX.D...	10	96797828			96782483
S2.120.250.800.6.70H.D.465.G.EX.D...	10	96797829		96308241	
S2.120.250.800.6.70H.H.465.G.EX.D...	10	96797831	96308192		
S2.120.250.1000.6.70H.S.500.G.EX.D...	10	96797777			96782483
S2.120.250.1000.6.70H.C.500.G.EX.D...	10	96797778			96782483
S2.120.250.1000.6.70H.D.500.G.EX.D...	10	96797780		96308241	
S2.120.250.1000.6.70H.H.500.G.EX.D...	10	96797781	96308192		
S2.120.250.1300.6.70H.S.528.G.EX.D...	10	96797797			96782483
S2.120.250.1300.6.70H.C.528.G.EX.D...	10	96797798			96782483
S2.120.250.1300.6.70H.D.528.G.EX.D...	10	96797799		96308241	
S2.120.250.1300.6.70H.H.528.G.EX.D...	10	96797801	96308192		
S2.120.250.1600.4.70L.S.402.G.EX.D...	10	96797812			96782483
S2.120.250.1600.4.70L.C.402.G.EX.D...	10	96797813			96782483

Pump type	Cable length [m]	Pump	Accessories	
			Horizontal base stand ¹	To be ordered separately
				Vertical base plate Auto-coupling system ²
S2.120.250.1600.4.70L.D.402.G.EX.D...	10	96797814		96308241
S2.120.250.1600.4.70L.H.402.G.EX.D...	10	96797816	96308212	
S3.110.500.650.8.70L.S.464.G.EX.D...	10	96797872		96782485
S3.110.500.650.8.70L.C.464.G.EX.D...	10	96797873		96782485
S3.110.500.650.8.70L.D.464.G.EX.D...	10	96797874		96308244
S3.110.500.650.8.70L.H.464.G.EX.D...	10	96797876	96308192	
S3.110.500.800.6.70L.S.370.G.EX.D...	10	96797882		96782485
S3.110.500.800.6.70L.C.370.G.EX.D...	10	96797883		96782485
S3.110.500.800.6.70L.D.370.G.EX.D...	10	96797884		96308244
S3.110.500.800.6.70L.H.370.G.EX.D...	10	96797886	96308192	
S3.110.500.1000.6.70L.S.402.G.EX.D...	10	96797837		96782485
S3.110.500.1000.6.70L.C.402.G.EX.D...	10	96797838		96782485
S3.110.500.1000.6.70L.D.402.G.EX.D...	10	96797839		96308244
S3.110.500.1000.6.70L.H.402.G.EX.D...	10	96797841	96308192	
S3.110.500.1300.6.70L.S.442.G.EX.D...	10	96797857		96782485
S3.110.500.1300.6.70L.C.442.G.EX.D...	10	96797858		96782485
S3.110.500.1300.6.70L.D.442.G.EX.D...	10	96797859		96308244
S3.110.500.1300.6.70L.H.442.G.EX.D...	10	96797861	96308192	
S3.120.300.650.8.70M.S.464.G.EX.D...	10	96797877		96782484
S3.120.300.650.8.70M.C.464.G.EX.D...	10	96797878		96782484
S3.120.300.650.8.70M.D.464.G.EX.D...	10	96797879		96308241
S3.120.300.650.8.70M.H.464.G.EX.D...	10	96797881	96308192	
S3.120.300.800.6.70M.S.407.G.EX.D...	10	96797887		96782484
S3.120.300.800.6.70M.C.407.G.EX.D...	10	96797888		96782484
S3.120.300.800.6.70M.D.407.G.EX.D...	10	96797889		96308241
S3.120.300.800.6.70M.H.407.G.EX.D...	10	96797891	96308255	
S3.120.300.1000.6.70M.S.428.G.EX.D...	10	96797842		96782484
S3.120.300.1000.6.70M.C.428.G.EX.D...	10	96797843		96782484
S3.120.300.1000.6.70M.D.428.G.EX.D...	10	96797844		96308241
S3.120.300.1000.6.70M.H.428.G.EX.D...	10	96797846	96308255	
S3.120.300.1300.6.70M.S.456.G.EX.D...	10	96797862		96782484
S3.120.300.1300.6.70M.C.456.G.EX.D...	10	96797863		96782484
S3.120.300.1300.6.70M.D.456.G.EX.D...	10	96797864		96308241
S3.120.300.1300.6.70M.H.456.G.EX.D...	10	96797866	96308192	
S3.120.600.650.8.70E.S.459.G.EX.D...	10	96797867		96782486
S3.120.600.650.8.70E.C.459.G.EX.D...	10	96797868		96782486
S3.120.600.650.8.70E.D.459.G.EX.D...	10	96797869		96308245
S3.120.600.650.8.70E.H.459.G.EX.D...	10	96797871	96308192	
S3.120.600.1000.6.70E.S.402.G.EX.D...	10	96797847		96782486
S3.120.600.1000.6.70E.C.402.G.EX.D...	10	96797848		96782486
S3.120.600.1000.6.70E.D.402.G.EX.D...	10	96797849		96308245
S3.120.600.1000.6.70E.H.402.G.EX.D...	10	96797851	96308192	
S3.120.600.1300.6.70E.S.426.G.EX.D...	10	96797852		96782486
S3.120.600.1300.6.70E.C.426.G.EX.D...	10	96797853		96782486
S3.120.600.1300.6.70E.D.426.G.EX.D...	10	96797854		96308245
S3.120.600.1300.6.70E.H.426.G.EX.D...	10	96797856	96308192	

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

Stainless steel impeller, 3 x 400/690 V

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S1.100.200.850.4.70H.S.432.Q.EX.D...	10	96811863			96641489
S1.100.200.850.4.70H.C.432.Q.EX.D...	10	96811864			96641489
S1.100.200.850.4.70H.D.432.Q.EX.D...	10	96811865		96308240	
S1.100.200.850.4.70H.H.432.Q.EX.D...	10	96811866	96308212		
S2.90.200.1150.4.70S.S.462.Q.EX.D...	10	96811879			96641489
S2.90.200.1150.4.70S.C.462.Q.EX.D...	10	96811880			96641489
S2.90.200.1150.4.70S.D.462.Q.EX.D...	10	96811881		96308240	
S2.90.200.1150.4.70S.H.462.Q.EX.D...	10	96811882	96308192		
S2.90.200.1600.4.70S.S.480.Q.EX.D...	10	96811887			96641489
S2.90.200.1600.4.70S.C.480.Q.EX.D...	10	96811888			96641489
S2.90.200.1600.4.70S.D.480.Q.EX.D...	10	96811889		96308240	
S2.90.200.1600.4.70S.H.480.Q.EX.D...	10	96811890	96308192		
S2.100.200.1150.4.70H.S.404.Q.EX.D...	10	96811871			96641489
S2.100.200.1150.4.70H.C.404.Q.EX.D...	10	96811872			96641489
S2.100.200.1150.4.70H.D.404.Q.EX.D...	10	96811873		96308240	
S2.100.200.1150.4.70H.H.404.Q.EX.D...	10	96811874	96308212		
S2.100.200.1600.4.70H.S.430.Q.EX.D...	10	96811891			96641489
S2.100.200.1600.4.70H.C.430.Q.EX.D...	10	96811892			96641489
S2.100.200.1600.4.70H.D.430.Q.EX.D...	10	96811893		96308240	
S2.100.200.1600.4.70H.H.430.Q.EX.D...	10	96811894	96308212		
S2.110.200.850.4.70M.S.375.Q.EX.D...	10	96811911			96641489
S2.110.200.850.4.70M.C.375.Q.EX.D...	10	96811912			96641489
S2.110.200.850.4.70M.D.375.Q.EX.D...	10	96811913		96308240	
S2.110.200.850.4.70M.H.375.Q.EX.D...	10	96811914	96308212		
S2.110.200.1150.4.70M.S.416.Q.EX.D...	10	96811875			96641489
S2.110.200.1150.4.70M.C.416.Q.EX.D...	10	96811876			96641489
S2.110.200.1150.4.70M.D.416.Q.EX.D...	10	96811877		96308240	
S2.110.200.1150.4.70M.H.416.Q.EX.D...	10	96811878	96308212		
S2.110.200.1600.4.70M.S.441.Q.EX.D...	10	96811899			96641489
S2.110.200.1600.4.70M.C.441.Q.EX.D...	10	96811900			96641489
S2.110.200.1600.4.70M.D.441.Q.EX.D...	10	96811901		96308240	
S2.110.200.1600.4.70M.H.441.Q.EX.D...	10	96811902	96308212		
S2.120.250.650.8.70H.S.534.Q.EX.D...	10	96811903			96782483
S2.120.250.650.8.70H.C.534.Q.EX.D...	10	96811904			96782483
S2.120.250.650.8.70H.D.534.Q.EX.D...	10	96811905		96308241	
S2.120.250.650.8.70H.H.534.Q.EX.D...	10	96811906	96308192		
S2.120.250.800.6.70H.S.465.Q.EX.D...	10	96811907			96782483
S2.120.250.800.6.70H.C.465.Q.EX.D...	10	96811908			96782483
S2.120.250.800.6.70H.D.465.Q.EX.D...	10	96811909		96308241	
S2.120.250.800.6.70H.H.465.Q.EX.D...	10	96811910	96308192		
S2.120.250.1000.6.70H.S.500.Q.EX.D...	10	96811867			96782483
S2.120.250.1000.6.70H.C.500.Q.EX.D...	10	96811868			96782483
S2.120.250.1000.6.70H.D.500.Q.EX.D...	10	96811869		96308241	
S2.120.250.1000.6.70H.H.500.Q.EX.D...	10	96811870	96308192		
S2.120.250.1300.6.70H.S.528.Q.EX.D...	10	96811883			96782483
S2.120.250.1300.6.70H.C.528.Q.EX.D...	10	96811884			96782483
S2.120.250.1300.6.70H.D.528.Q.EX.D...	10	96811885		96308241	
S2.120.250.1300.6.70H.H.528.Q.EX.D...	10	96811886	96308192		
S2.120.250.1600.4.70L.S.402.Q.EX.D...	10	96811895			96782483
S2.120.250.1600.4.70L.C.402.Q.EX.D...	10	96811896			96782483

Pump type	Cable length [m]	Pump	Accessories		
			Horizontal base stand ¹	To be ordered separately	
				Vertical base plate	Auto-coupling system ²
S2.120.250.1600.4.70L.D.402.Q.EX.D...	10	96811897		96308241	
S2.120.250.1600.4.70L.H.402.Q.EX.D...	10	96811898	96308212		
S3.110.500.650.8.70L.S.464.Q.EX.D...	10	96811943			96782485
S3.110.500.650.8.70L.C.464.Q.EX.D...	10	96811944			96782485
S3.110.500.650.8.70L.D.464.Q.EX.D...	10	96811945		96308244	
S3.110.500.650.8.70L.H.464.Q.EX.D...	10	96811946	96308192		
S3.110.500.800.6.70L.S.370.Q.EX.D...	10	96811951			96782485
S3.110.500.800.6.70L.C.370.Q.EX.D...	10	96811952			96782485
S3.110.500.800.6.70L.D.370.Q.EX.D...	10	96811953		96308244	
S3.110.500.800.6.70L.H.370.Q.EX.D...	10	96811954	96308192		
S3.110.500.1000.6.70L.S.402.Q.EX.D...	10	96811915			96782485
S3.110.500.1000.6.70L.C.402.Q.EX.D...	10	96811916			96782485
S3.110.500.1000.6.70L.D.402.Q.EX.D...	10	96811917		96308244	
S3.110.500.1000.6.70L.H.402.Q.EX.D...	10	96811918	96308192		
S3.110.500.1300.6.70L.S.442.Q.EX.D...	10	96811931			96782485
S3.110.500.1300.6.70L.C.442.Q.EX.D...	10	96811932			96782485
S3.110.500.1300.6.70L.D.442.Q.EX.D...	10	96811933		96308244	
S3.110.500.1300.6.70L.H.442.Q.EX.D...	10	96811934	96308192		
S3.120.300.650.8.70M.S.464.Q.EX.D...	10	96811947			96782484
S3.120.300.650.8.70M.C.464.Q.EX.D...	10	96811948			96782484
S3.120.300.650.8.70M.D.464.Q.EX.D...	10	96811949		96308241	
S3.120.300.650.8.70M.H.464.Q.EX.D...	10	96811950	96308192		
S3.120.300.800.6.70M.S.407.Q.EX.D...	10	96811955			96782484
S3.120.300.800.6.70M.C.407.Q.EX.D...	10	96811956			96782484
S3.120.300.800.6.70M.D.407.Q.EX.D...	10	96811957		96308241	
S3.120.300.800.6.70M.H.407.Q.EX.D...	10	96811958	96308255		
S3.120.300.1000.6.70M.S.428.Q.EX.D...	10	96811919			96782484
S3.120.300.1000.6.70M.C.428.Q.EX.D...	10	96811920			96782484
S3.120.300.1000.6.70M.D.428.Q.EX.D...	10	96811921		96308241	
S3.120.300.1000.6.70M.H.428.Q.EX.D...	10	96811922	96308255		
S3.120.300.1300.6.70M.S.456.Q.EX.D...	10	96811935			96782484
S3.120.300.1300.6.70M.C.456.Q.EX.D...	10	96811936			96782484
S3.120.300.1300.6.70M.D.456.Q.EX.D...	10	96811937		96308241	
S3.120.300.1300.6.70M.H.456.Q.EX.D...	10	96811938	96308192		
S3.120.600.650.8.70E.S.459.Q.EX.D...	10	96811939			96782486
S3.120.600.650.8.70E.C.459.Q.EX.D...	10	96811940			96782486
S3.120.600.650.8.70E.D.459.Q.EX.D...	10	96811941		96308245	
S3.120.600.650.8.70E.H.459.Q.EX.D...	10	96811942	96308192		
S3.120.600.1000.6.70E.S.402.Q.EX.D...	10	96811923			96782486
S3.120.600.1000.6.70E.C.402.Q.EX.D...	10	96811924			96782486
S3.120.600.1000.6.70E.D.402.Q.EX.D...	10	96811925		96308245	
S3.120.600.1000.6.70E.H.402.Q.EX.D...	10	96811926	96308192		
S3.120.600.1300.6.70E.S.426.Q.EX.D...	10	96811927			96782486
S3.120.600.1300.6.70E.C.426.Q.EX.D...	10	96811928			96782486
S3.120.600.1300.6.70E.D.426.Q.EX.D...	10	96811929		96308245	
S3.120.600.1300.6.70E.H.426.Q.EX.D...	10	96811930	96308192		

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

6. Variants

List of variants

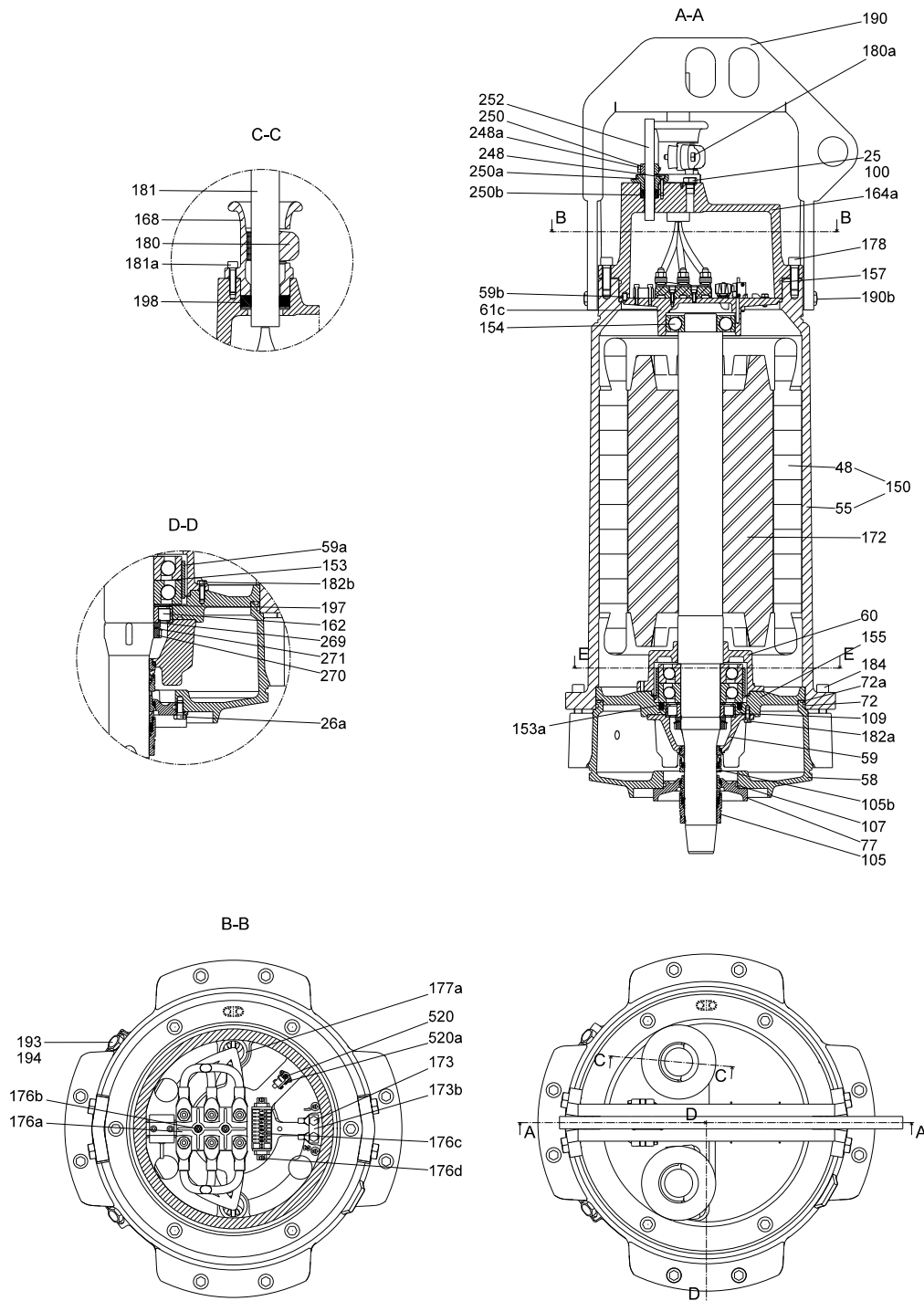
Motor			
Various cable lengths		15 m	
		25 m	
		50 m	
		10 m	
EMC power cables	Screened power cables for variable-speed drives	15 m	
		25 m	
		50 m	
Special motor			Insulation class H
		Special voltage	
Special oil	Non-toxic Shell Ondina X420 ¹		
Motor protection			
Pt100 on lower bearing + Pt100 on upper bearing + Pt100 on windings			Sensor set 2
Pt100 on lower bearing + Pt100 on upper bearing + Pt100 on windings + PVS3 vibration sensor			Sensor set 3
External water-in-oil sensor			WIO
Coating			
Special paint thickness	300 µm (painted twice)		
	450 µm (painted three times)		
Impeller (external surface)	Epoxy coating (NCS 900N/RAL 9005 gloss 30, black)		
	Belzona 1321 coating (brush painted, blue)		
Impeller (internal surface)	Chesterton ARC 855 ceramic coating (grey)		
Pump housing (internal)	Epoxy coating (NCS 900N/RAL 9005 gloss 30, black)		
	Belzona 1321 coating (brush painted, blue)		
	Chesterton ARC 855 ceramic coating (grey)		
Inlet cover	Epoxy coating (NCS 900N/RAL 9005 gloss 30, black)		
	Belzona 1321 coating (brush painted, blue)		
	Chesterton ARC 855 ceramic coating (grey)		
Zinc anodes (outside of inlet cover / pump housing)		3 pcs.	
Materials			
Stainless steel lifting bracket		AISI 316	
Stainless steel shaft		AISI 329	
Impeller		Duplex stainless steel ASTM A890 Grade 3A	
Shaft seals			
Standard	Seal rings: RBSC/RBSC	Rubber parts: FKM	Metal parts: AISI316L
FPV option 1	Seal rings: NiTC/NiTC	Rubber parts: FKM	Metal parts: AISI316L
FPV option 2	Seal rings: SSiC/SSiC	Rubber parts: FKM	Metal parts: Duplex
Tests			
Test at specified duty on standard impeller curve			
Trimmed impeller for specified duty test			
Additional test of entire QH curve (including report)		5-10 points on the pump performance curve	

Tests		
Different test standard	Efficiency guaranteed by Grundfos	ISO 9906:2012 grade 1E tolerances
		ISO 9906:2012 grade 1B/1U tolerances
		ISO 9906:2012 grade 2B/2U tolerances
Vibration test (including report)	According to Grundfos factory quality standard	
Performance test on dry test stand	Contact Grundfos	
NPSHr test	Contact Grundfos	
String test	Contact Grundfos	
Witness test	Contact Grundfos	
Miscellaneous		
Special packaging	Contact Grundfos	
Special nameplate	Contact Grundfos	
Old UK-guide shoe	Contact Grundfos / order guide shoe installation kit	
Other variants	Contact Grundfos	

¹ For pumps with WIO sensor Shell Ondina is not an option.

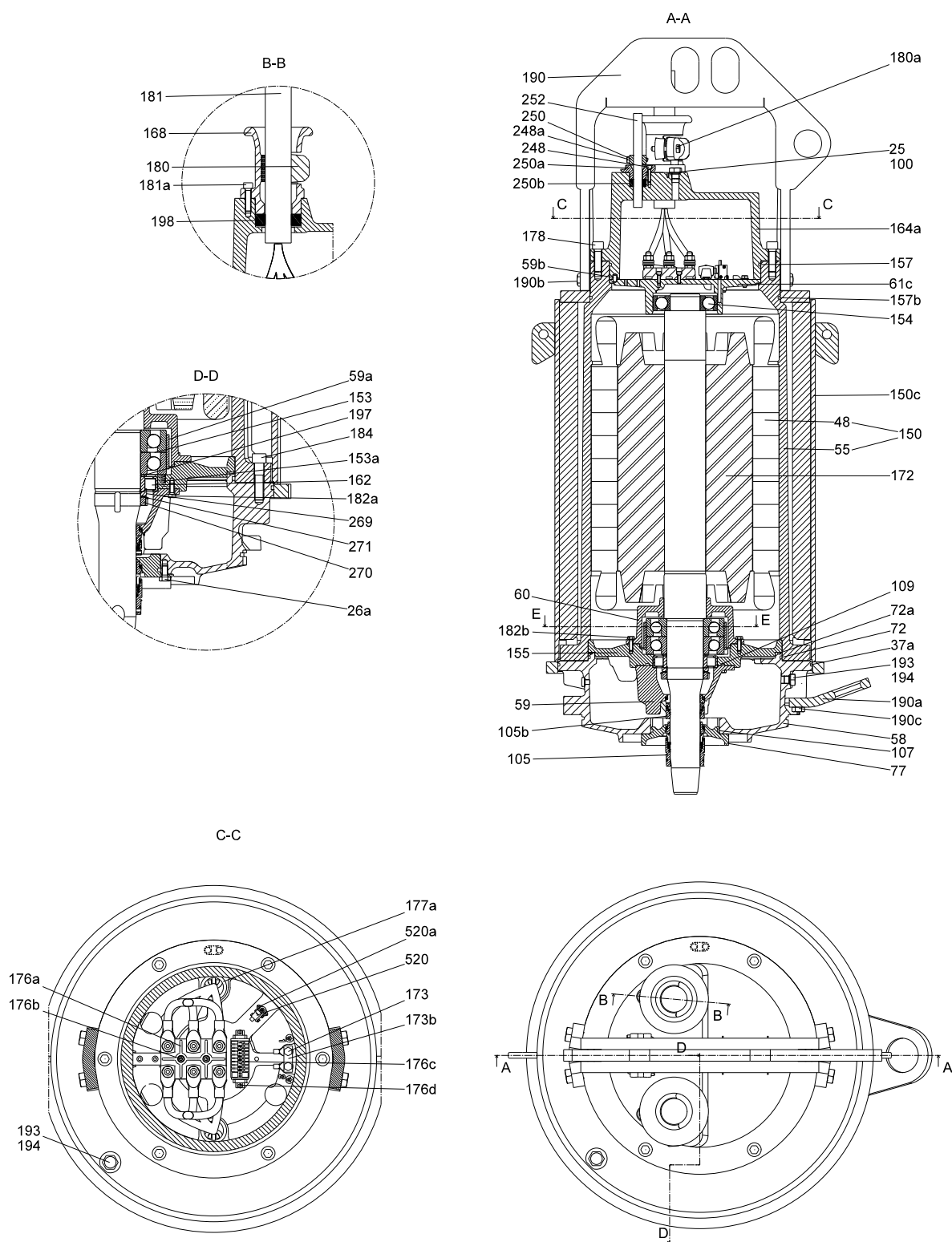
7. Construction

Sectional drawings, motors



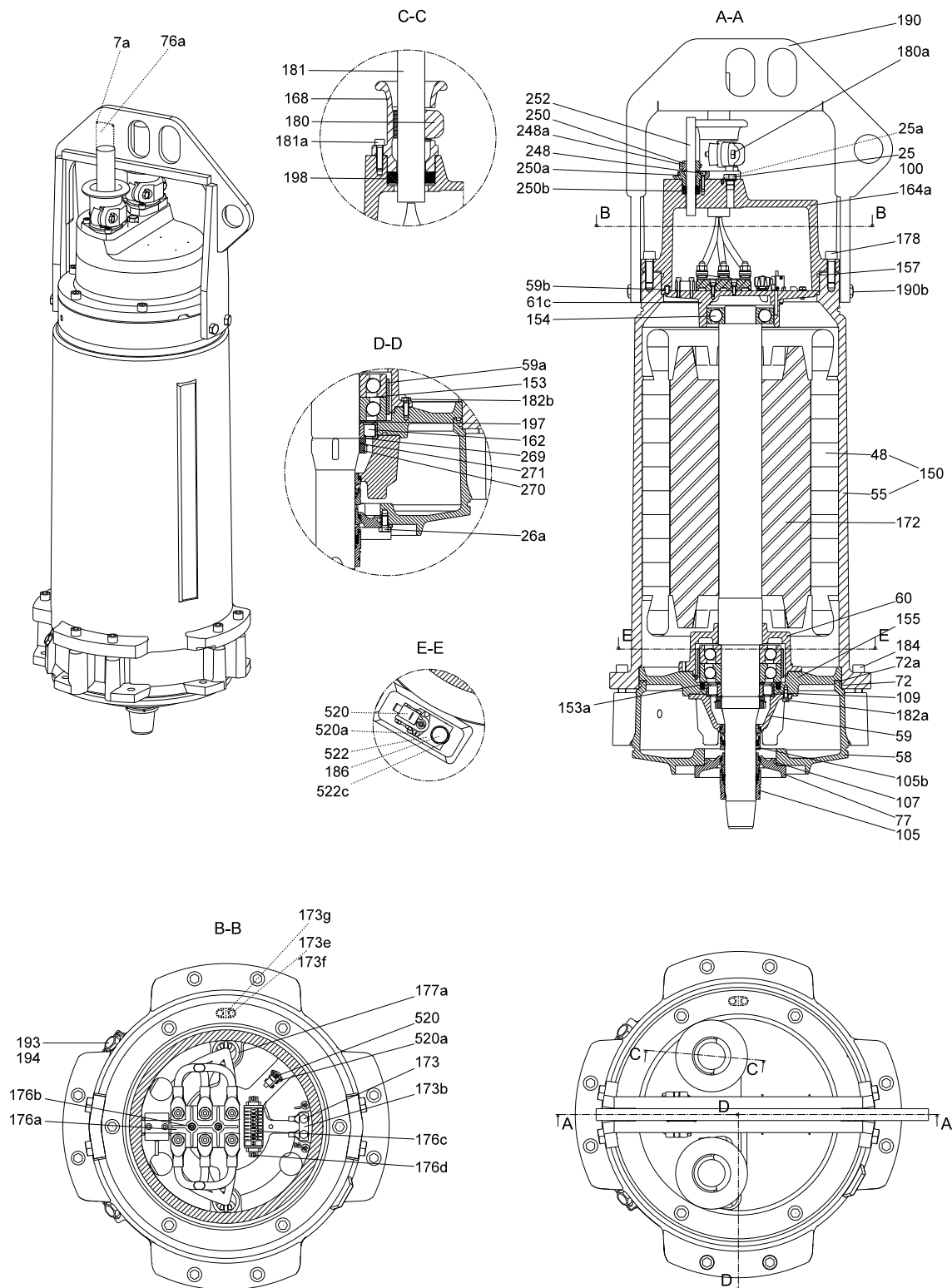
TM063962

Non-explosion-proof motor without cooling jacket (installation type S)



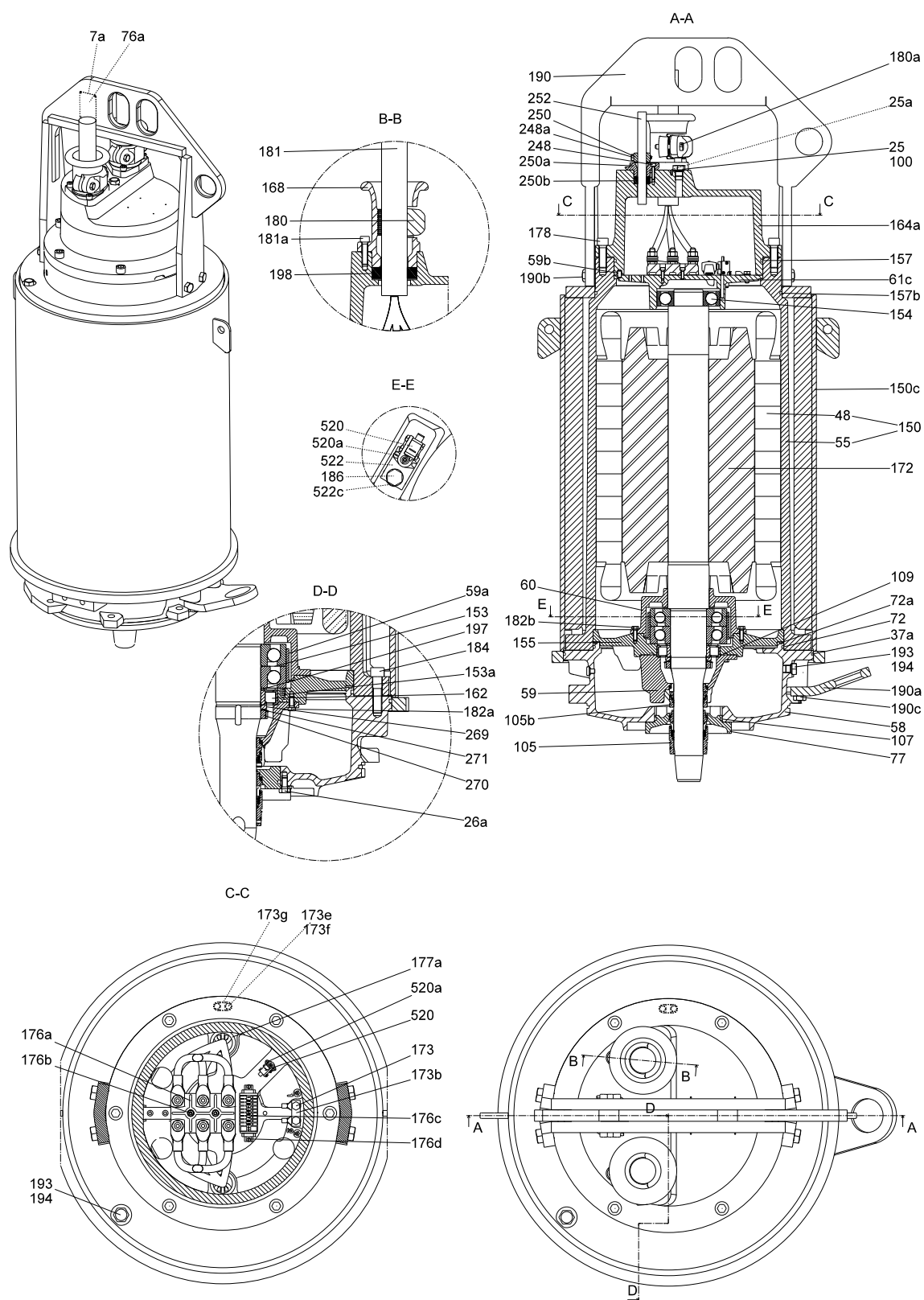
TM063964

Non-explosion-proof motor with cooling jacket (installation types C, D and H)



TM063963

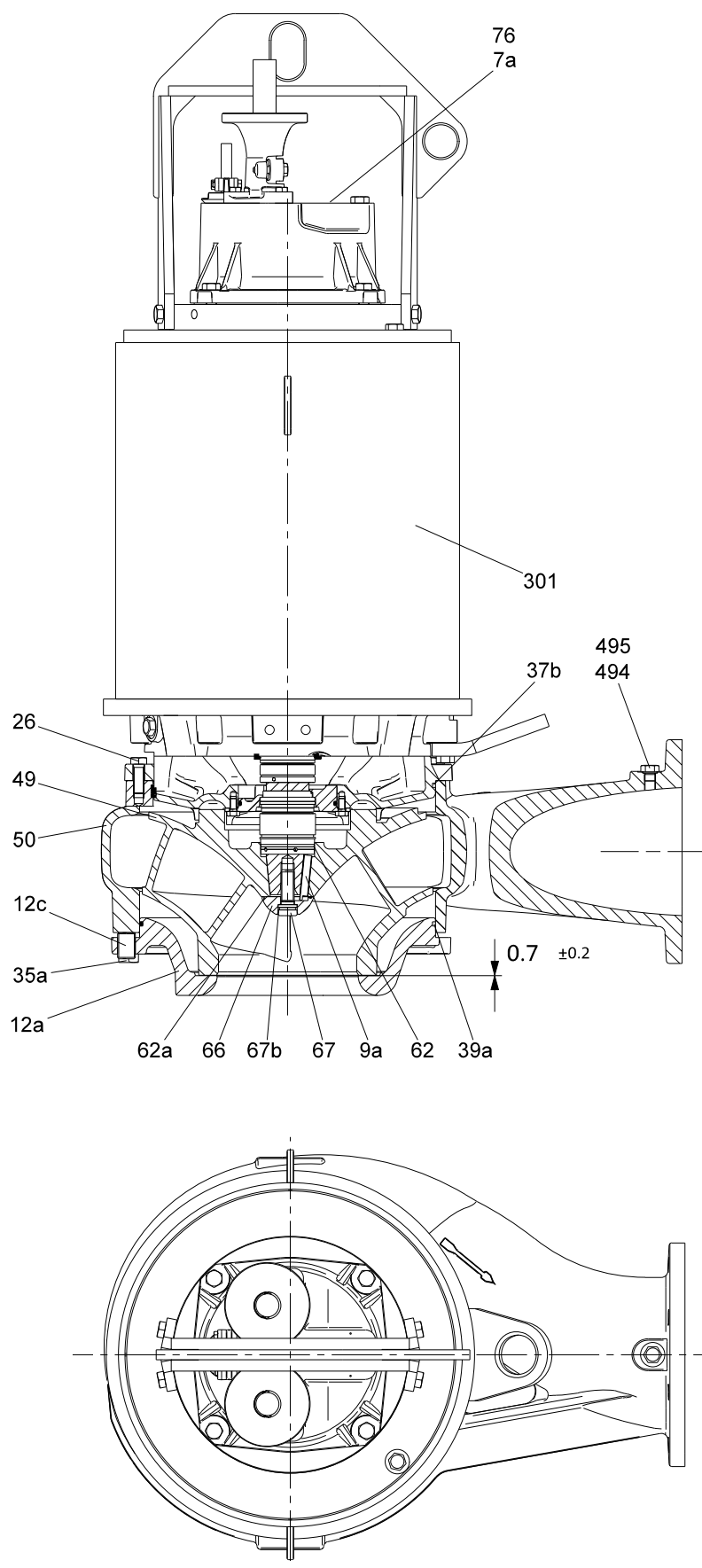
Explosion-proof motor without cooling jacket (installation type S)



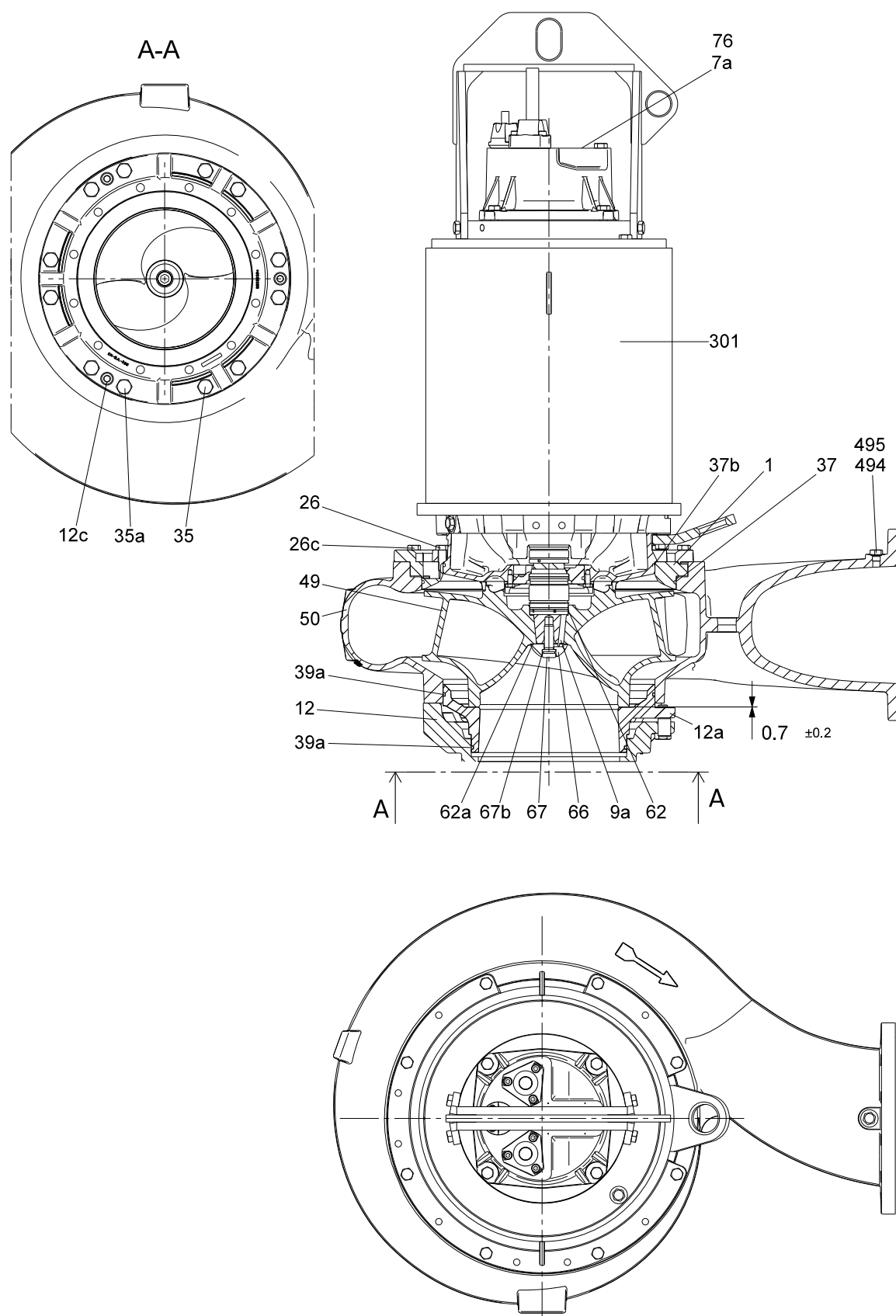
Explosion-proof motor with cooling jacket (installation types C, D and H)

TM063965

Pump

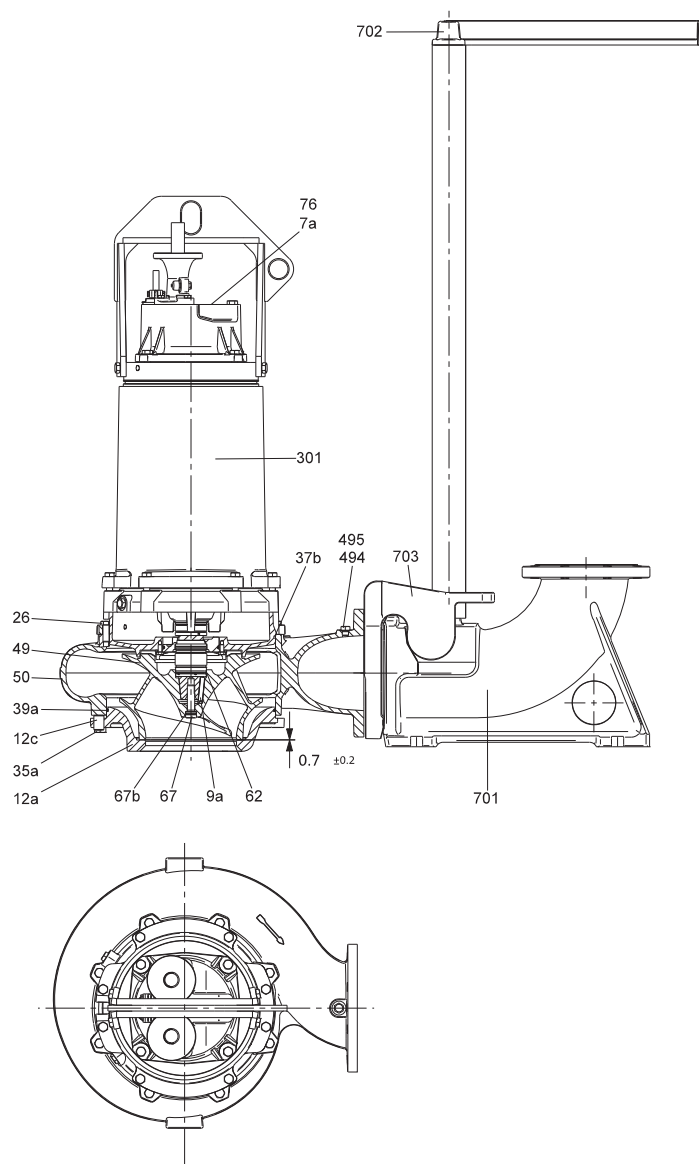


TM042589



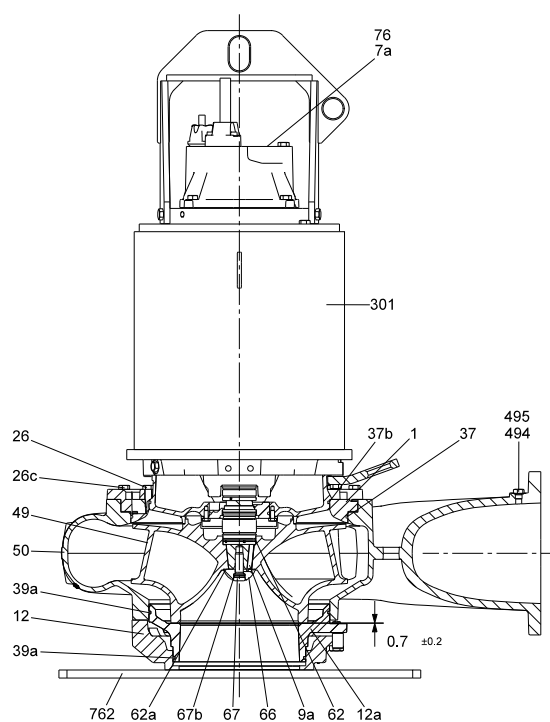
Basic pump, installation types D and H

TW042707



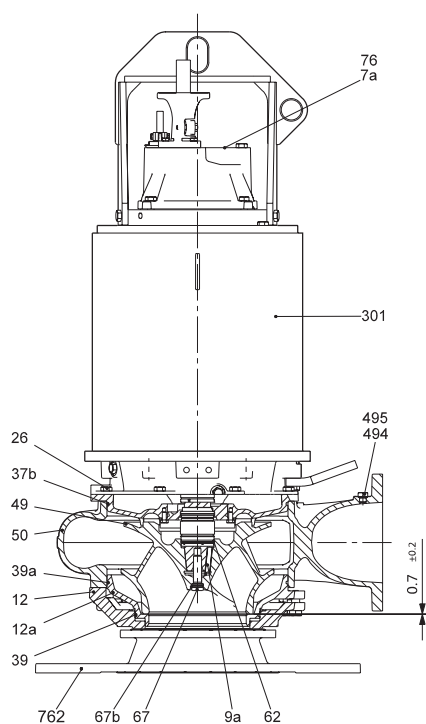
TM042708

Installation types S and C pump on auto coupling



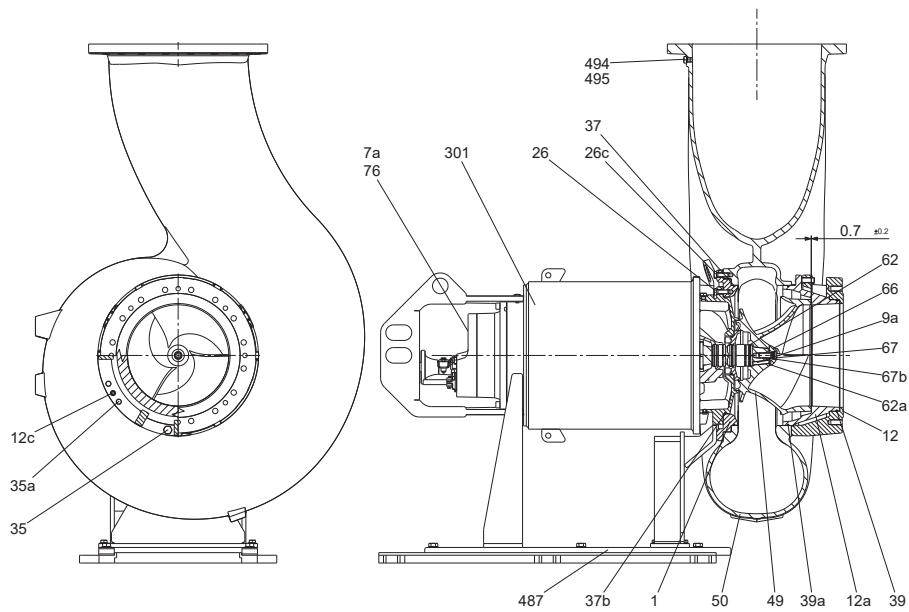
TM042585

Installation type D, dry, vertical pump on base plate - version 1



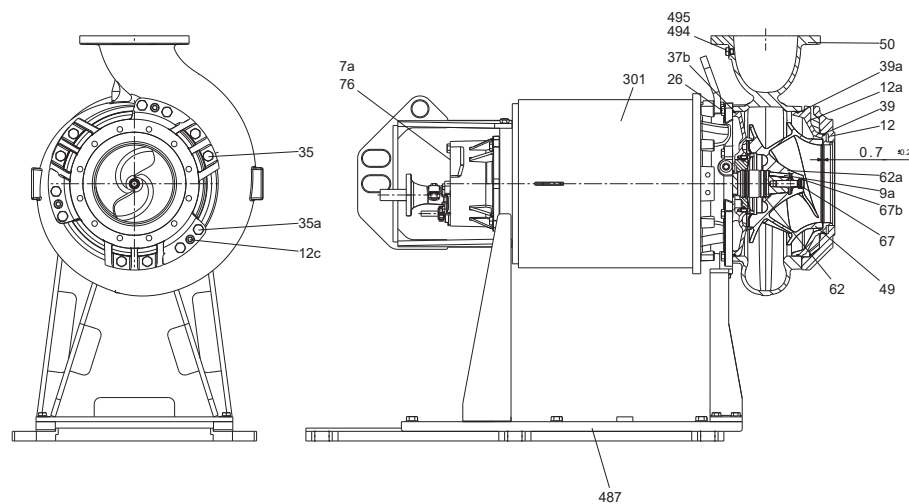
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Installation type D, dry, vertical pump on base plate - version 2



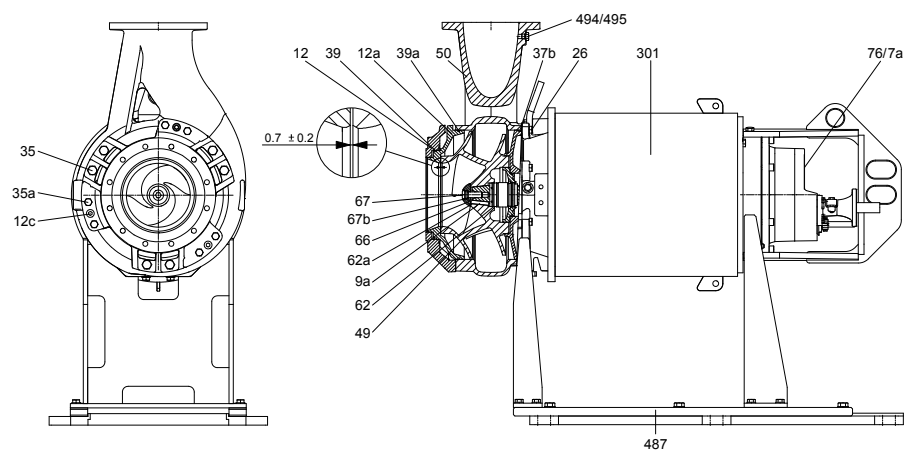
TM042590

Installation type H, dry, horizontal installation on base stand - version 1



TM042591

Installation type H, dry, horizontal installation on base stand - version 2



TM070974

Installation type H, dry, horizontal installation on base stand - versions 3

Components and material specification

Motor

Pos.	Component	Material	DIN W.Nr./ EN standard	AISI/ASTM
7a	Rivet	Stainless steel	1.4436	316
25	Pressure test plug	Stainless steel	1.4436	316
25a	Screw	Stainless steel	1.4436	316
26a	Screw	Stainless steel	1.4436	316
37a	O-ring	NBR rubber		
48	Stator package			
55	Stator housing	Cast iron ¹	EN-JL 1040	A48 30
58	Seal housing	Cast iron		
59	Bearing bracket cover	Cast iron		
59a	Locking ring	Aluminium		
59b	Pin	Steel		
60	Lower bearing bracket cover	Cast iron		
61c	Upper bearing bracket	Cast iron		
72	O-ring	NBR rubber		
72a	O-ring	NBR rubber		
76a	Approval plate (pump)	Stainless steel		
76b	Approval plate (cable)	Stainless steel		
77	Seal housing cover	Cast iron		
100	O-ring	NBR rubber		
105	Primary shaft seal	SiC/SiC or SiC/carbon		
105b	Secondary shaft seal	SiC/SiC or SiC/carbon		
107	O-ring	NBR rubber		
109	O-ring	Viton rubber		
150	Stator housing comp.			
150c	Cooling jacket	Galvanized steel		
153	Ball bearing	Stainless steel		
153a	Spring	Steel		
154	Ball bearing	Stainless steel		
155	Lower bearing bracket	Cast iron ¹		
157	O-ring	NBR rubber		
157b	O-ring	NBR rubber		
162	Roller bearing	Steel, brass or steel cage		
164a	Motor top cover	Cast iron ¹		
168	Cable entry	PA or cast iron ²		
172	Shaft with rotor	High tensile steel	1.7225	
173	Screw	Stainless steel	1.4436	316
173b	Earth terminal			
173e	Screw	Stainless steel	1.4436	316
173f	Spring washer	Stainless steel	1.4436	316
173g	Earth connector			
176a	Terminal block			
176b	Screw	Stainless steel	1.4436	316
176c	Terminal block			
176d	Terminal block			
177a	Protection sleeve	Rubber or plastic		
178	Screw	Stainless steel	1.4436	316
180	Cable clamp	PA or cast iron		
180a	Screw	Stainless steel	1.4436	316
181	Cable	ATON		
181a	Screw	Stainless steel	1.4436	316
182a	Screw	Stainless steel	1.4436	316
182b	Screw	Stainless steel	1.4436	316

Pos.	Component	Material	DIN W.Nr./ EN standard	AISI/ASTM
184	Screw	Stainless steel	1.4436	316
186	Screw	Stainless steel	1.4436	316
190	Lifting handle	Steel		
190a	Screw	Stainless steel		
190b	Screw	Stainless steel		
190c	Lifting bracket	Galvanized steel		
193	Plug	Stainless steel	1.4436	316
194	O-ring	NBR rubber		
197	Washer	Stainless steel	1.4436	316
198	Rubber seal			
248	Screw	Stainless steel	1.4436	316
248a	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		
269	Angle ring	Steel		
270	Lock nut	Steel		
271	Lock washer	Steel		
520	Moisture switch ³			
520a	Screw	Stainless steel	1.4436	316
522	Holder			
522c	Spring washer			

¹ Available in stainless steel (custom-built option).

² Ex versions have cast iron cable entry.

³ Ex versions have two moisture switches.

Pump

Pos.	Component	Material	DIN W.Nr./ EN standard	AISI/ASTM
1	Intermediate ring	Cast iron		
7a	Rivet	Stainless steel	1.4436	316
9a	Key (for keyway)	Stainless steel	1.4436	316
12	Flange	Cast iron		
12a	Inlet cover	Cast iron		
12c	Adjusting screw	Stainless steel	1.4436	316
26	Screw	Stainless steel	1.4436	316
26c	Screw	Stainless steel	1.4436	316
35	Screw	Stainless steel		
35a	Screw	Stainless steel		
37	O-ring	NBR rubber		
37b	O-ring	NBR rubber		
39	O-ring	NBR rubber		
39a	O-ring	NBR rubber		
49	Impeller	Cast iron ¹	EN-JL 1050	
50	Volute casing	Cast iron ¹	EN-JL 1050	
62	O-ring	NBR rubber		
62a	O-ring	NBR rubber		
66	Cap	Cast iron or stainless steel		
67	Impeller screw	Stainless steel	1.4436	316
67b	O-ring	NBR rubber		
76	Nameplate			
301	Motor housing			

Pos.	Component	Material	DIN W.Nr./ EN standard	AISI/ ASTM
487	Base stand, horizontal	Steel		
487a	Base plate			
494	Plug	Stainless steel	1.4436	316
495	O-ring	NBR rubber		
762	Stand			

¹ Available in stainless steel (custom-built option).

Accessories

Pos.	Component	Material
487	Base stand, horizontal ¹	Steel
701	Auto-coupling base unit	Cast iron ²
702	Upper guide rail bracket	Cast iron ²
703	Guide claw ³	Cast iron ²
762	Base plate, vertical	Cast iron or steel

¹ Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

² Available in stainless steel (custom-built option).

³ Guide claws for DN 250 outlets or bigger are factory fitted.

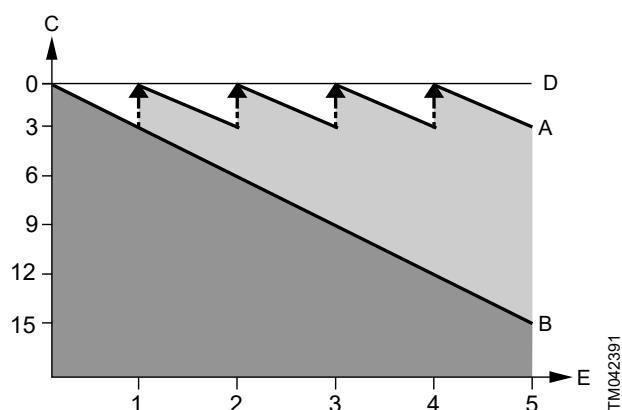
8. Product description

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 pipes 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.



Pos.	Description
A	With Grundfos SmartTrim impeller clearance adjustment system
B	Without impeller clearance adjustment system
C	Efficiency drop in %
D	Factory-set impeller clearance
E	Years

SmartSeal

For pumps with DN 250 outlet or larger, the Grundfos SmartSeal auto-coupling sealing mounted on the pump outlet 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.

Bearings

The bearings are greased for life.

Main bearings: Double-row angular contact ball bearing. Single or pair mounted angular contact ball bearings for axial forces and cylindrical roller bearing for radial forces.

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

Shaft seals

The pumps have a primary and a secondary shaft seal.

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

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

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

Motor

The motor is a watertight, totally encapsulated motor with:

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

For motor protection and sensors, see [Sensors](#).

Cables

The pumps have H07RN-F AT power cables as standard or screened ATON EMC VSCCB cables on request.

The pumps have H07RN-F 450/750 V control cables as standard or screened ATON VSCB 450/750 V control cables on request.

All cables are 10 m long as standard. Other cable lengths are available on request. See [List of variants](#).

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

Motor power [kW]	Voltage	Cable size [power + control]
50		
58		2 x 4 x 25 mm ² +
65		7 x 1.5 mm ²
85		
80		2 x 4 x 35 mm ² +
100	3 x 415 V 3 x 400/690 V	7 x 1.5 mm ²
115		2 x 4 x 50 mm ² +
		7 x 1.5 mm ²
130		
140		2 x 4 x 70 mm ² +
155		7 x 1.5 mm ²

Power cable

Cable type [mm ²]	Outer cable diameter [mm]	Weight [kg/m]	Bending radius [cm]
4 x 25	28.9 - 31.4	1.88	19
4 x 35	32.5 - 34.7	2.43	21
4 x 50	37.7 - 40.4	3.24	25
4 x 70	42.7 - 45.4	4.30	28

Control cable

Cable type [mm ²]	Outer cable diameter [mm]	Weight [kg/m]	Bending radius [cm]
7 x 1.5	14.4 - 16.4	0.35	10

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 these switches and sensors:

- Three thermal switches (Klixon) or three thermal sensors in the stator housing.
- One moisture switch under the motor top cover.

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 analog 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 sensor is either built-in with the motor (Ex) or installed as an accessory. If the sensor is installed externally, it is fitted in a plastic hose for mechanical protection. The WIO sensor is connected to Grundfos IO 113.
2. PVS3 (pump vibration sensor)
The vibration sensor monitors the vibration level of the pump by using measurements of three axes and combining them into a single measurement outputted in an analog current signal. The sensor acts only as a general indicator of changes in the vibration levels. PVS3 is to be connected to Grundfos IO 113 and SM 113. A substantial increase in vibration will trigger a warning or an alarm. An increase in vibrations can be caused by a clogged impeller, worn bearings, closed force main valves, etc. indicating that service inspection should be carried out quickly in order to protect the pump or the pipe system from being damaged.
3. Bearing temperature sensor
Pt100 bearing temperature sensor installed within the motor housing. Sensors to be connected using a SM 113 and IO 113.

Testing

All pumps are tested before leaving the factory. The factory test report is based on ISO 9906:2012, grade 3B. 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 [6.1 List of variants](#).

Related information

[List of variants](#)

Operating conditions

Pumps without cooling jacket in submerged installation (type S):

- Continuous operation when the pump is fully submerged to the top of the motor.
- Intermittent operation with maximum 20 starts per hour when the pump is submerged to the middle of the motor and with short periods of operation down to the top of the pump housing. **Warning:** A motor protection device must be used to cut off power supply in case of overheating.

Note: Explosion proof pumps without cooling jacket must always be fully submerged

Pumps with cooling jacket in submerged and dry installation (types C, D and H):

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

Pumped liquids

pH value: 6-12

Liquid temperature: 0-40 °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 Machinery Directive, 2006/42/EC.

Motor range

Motor power [kW]	Number of poles
65	8
80	6
85	4
100	6
115	4
130	6
160	4

Explosion-proof pumps

Use explosion-proof pumps in potentially explosive environments.

Note: All installations must be approved by the local authorities.

Relevant standards/regulations

- EN ISO 80079-36
- EN ISO 80079-37
- EN 60079-0, EN 60079-1
- IEC 60079-0
- IEC 60079-1

Explosion protection classification (IECEx & ATEX/UKEX)

- Group II, Category 2, Gas or vapor environment
- Ex db eb h mb IIB T3 or T4 Gb ($T_{amb} = -5\text{ °C to }+40\text{ °C}$)

Operation with frequency converter

Only temperature class T3.

Notified body

SGS Baseefa for UKEX and IECEx.

SGS Fimko for ATEX.

Level controllers

Grundfos offers dedicated pump controllers for monitoring liquid levels in the wastewater collecting tanks to ensure correct operation and protection of the pumps.

Grundfos pump controllers are ideally suited to Grundfos S pumps, and include:

- Grundfos Dedicated Controls (DC)
- Grundfos LC controllers

Grundfos DC Controllers



Grundfos Dedicated Controls control cabinet

Grundfos Dedicated Controls (DC) is a control system designed for installation in municipal wastewater transport, commercial buildings or network pumping stations with up to six wastewater pumps and an optional mixer or a flush valve.

Advanced control and data communication are also possible with the Grundfos Dedicated Controls system. The control cabinets are delivered with a built-in main switch and thermal magnetic circuit breaker.

Features and benefits:

- advanced flow calculation
- automatic energy optimisation
- easy installation and configuration
- configuration wizard
- electrical overview
- advanced data communication
- advanced alarm and warning priority
- supports several languages
- daily emptying
- mixer control or flush valve
- user-defined functions
- anti-blocking
- start level variation
- advanced pump alternation with pump groups
- SMS scheduling
- communication to SCADA, BMS, GRM or cell phone.

Dedicated Controls is ordered either with or without a built-in communication interface module (CIM).

The communication module enables the possibility for fieldbus protocol (e.g. PROFIBUS DP, Modbus RTU and PROFINET IO/Modbus TCP) and the communication line.

For further information, see the Grundfos Product Center:

- Grundfos Dedicated Controls, brochure <http://net.grundfos.com/qr/i/96925597>
- Grundfos iSolutions, brochure <http://net.grundfos.com/qr/i/99249771>
- Grundfos Controls Guide, product guide <http://net.grundfos.com/qr/i/97954965>

Additional features, CUE or VFD

The CUE/VFD (optional), which is either a Grundfos variable frequency drive or a general variable frequency drive, offers better pump protection and a steadier flow through the pipe system.

Features and benefits:

- anti-blocking
- automatic energy optimisation
- specific-energy test
- output frequency
- monitoring of:
 - voltage¹⁾
 - current¹⁾
 - phase sequence¹⁾
 - power¹⁾
 - energy¹⁾
 - torque¹⁾
- reverse start²⁾
- run flushing
- stop flushing
- PID control.

¹⁾ These functions are only available with a Grundfos CUE.

²⁾ Do not reverse at full speed at any time. When reduced reverse operation settings are set, make sure that constant torque is enabled in Variable Frequency Drive (VFD) (i.e. Grundfos CUE, Siemens Simatic, ABB, Schneider Electric or similar brands) to have maximum torque available when reversing.

Grundfos LC controllers

The LC 231 pump controller is designed for level control, monitoring and protection of Grundfos pumping stations featuring one pump or two pumps, starting direct-on-line. The LC 231 controller is integrated in a polymer cabinet.

The LC 241 is a modular pump controller that has a metal or polymer cabinet and can be customised according to your needs.

It is designed for level control, monitoring and protection of Grundfos pumping stations featuring one pump or two pumps, starting direct-on-line with 0-23 A, star-delta with 0-59 A or soft starter with 0-72 A.

IO 113

The IO 113 module is a protection module for Grundfos wastewater pumps.

IO 113 has inputs for digital and analog pump sensors and can stop the pump if a sensor indicates a pump fault.

IO 113 can be connected to the Grundfos Dedicated Controls system and allows advanced monitoring functions:

- motor temperature
- moisture in motor
- water in oil
- insulation resistance.

SM 113

The SM 113 module is used for collection and transfer of sensor data in pumps and includes a large number of sensors.

SM 113 can be placed either inside the pump (allowing fewer sensor conductors out of the pump) or in the control cabinet next to the pump installation.

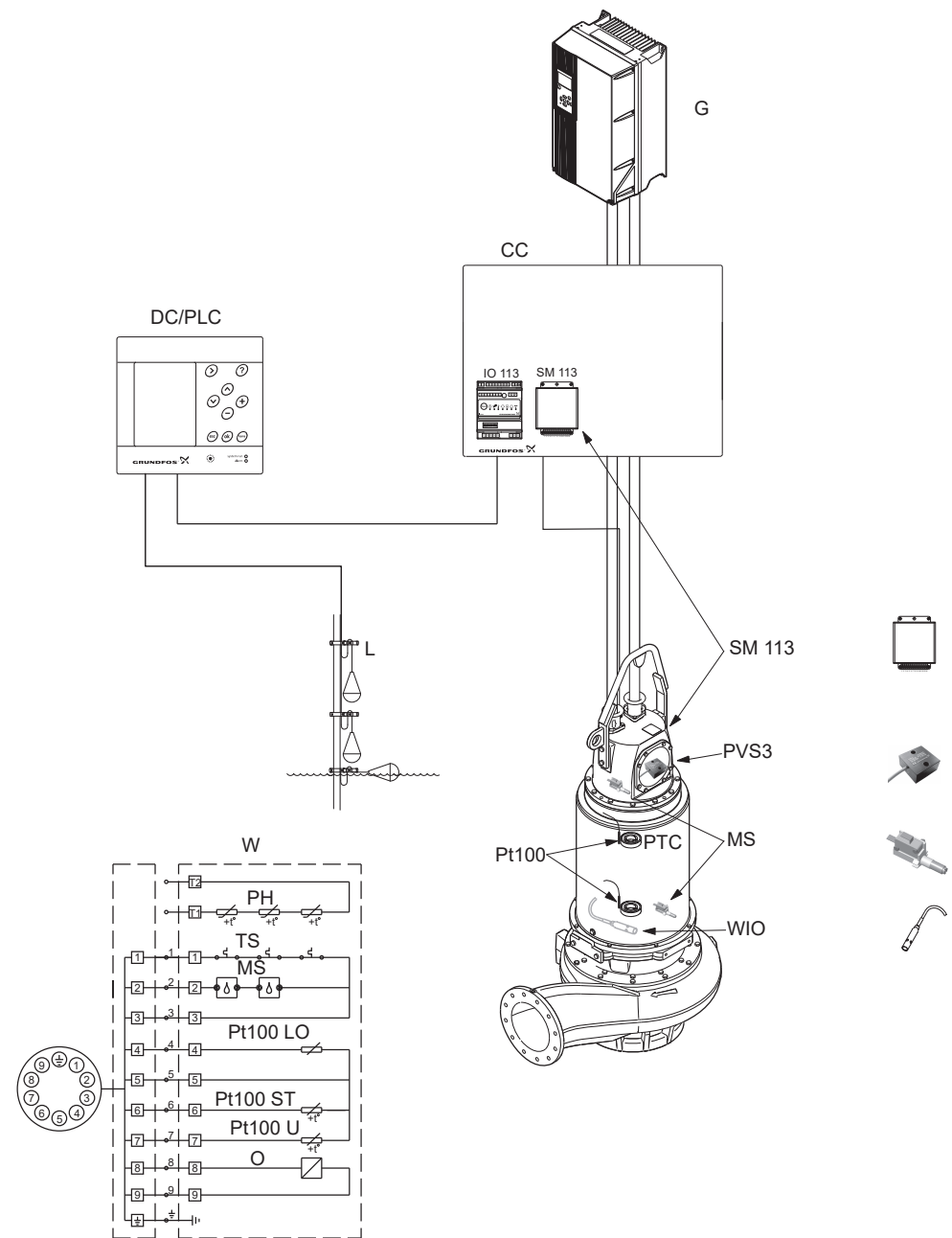
SM 113 works together with IO 113 through a power-line communication using the Grundfos GENIbus protocol.

SM 113 can collect data from:

- 3 current sensors, 4-20 mA
- 3 Pt100 thermal sensors or 3 Pt1000 thermal sensors
- 1 PTC thermal sensor
- 1 digital input.

MP 204

The MP 204 control cabinet can be used as a stand-alone motor protector. MP 204 may also be incorporated in a Grundfos Dedicated Controls system in which it functions as a motor protector. The pump is protected secondarily by measuring the temperature with a Pt100 sensor and a PTC sensor or thermal switch.

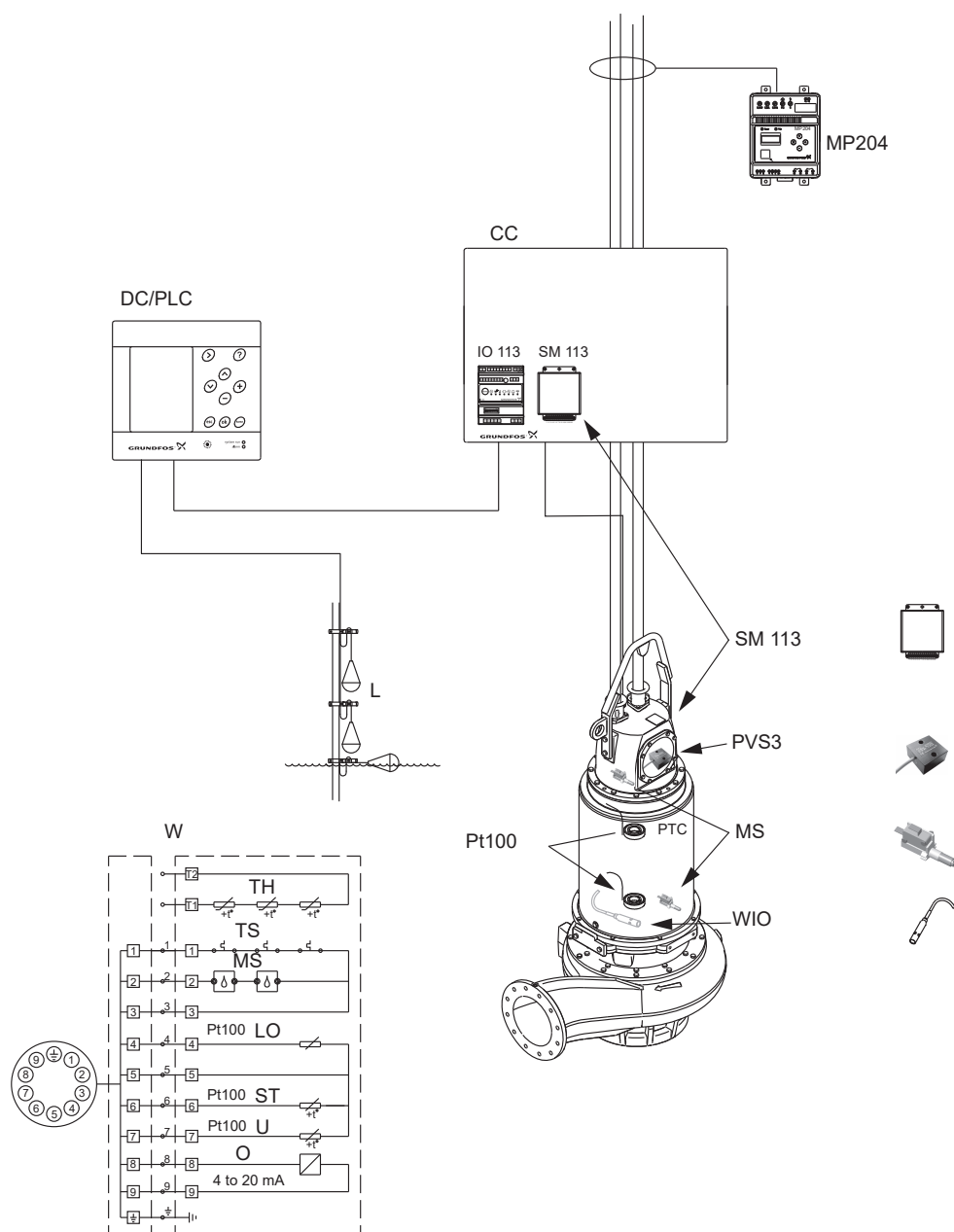


Pump with frequency converter operation

Pos.	Description
G	Grundfos CUE, < 250 kW, or another frequency converter.
CC	Control cabinet
DC/PLC	Dedicated Controls or PLC
L	Level sensor
SM 113	SM 113, optional
PVS3	PVS3 sensor, optional
MS	Moisture switches
WIO	WIO sensor, optional

Pos.	Description
Pt100	Pt100 sensor, optional
W	Wiring diagram
PH	Thermistor
TS	Thermal switches
Pt100 LO	Pt100 in lower bearing
Pt100 ST	Pt100 in stator
Pt100 U	Pt100 in upper bearing
O	Oil indicator 4 to 20 mA

TM068753



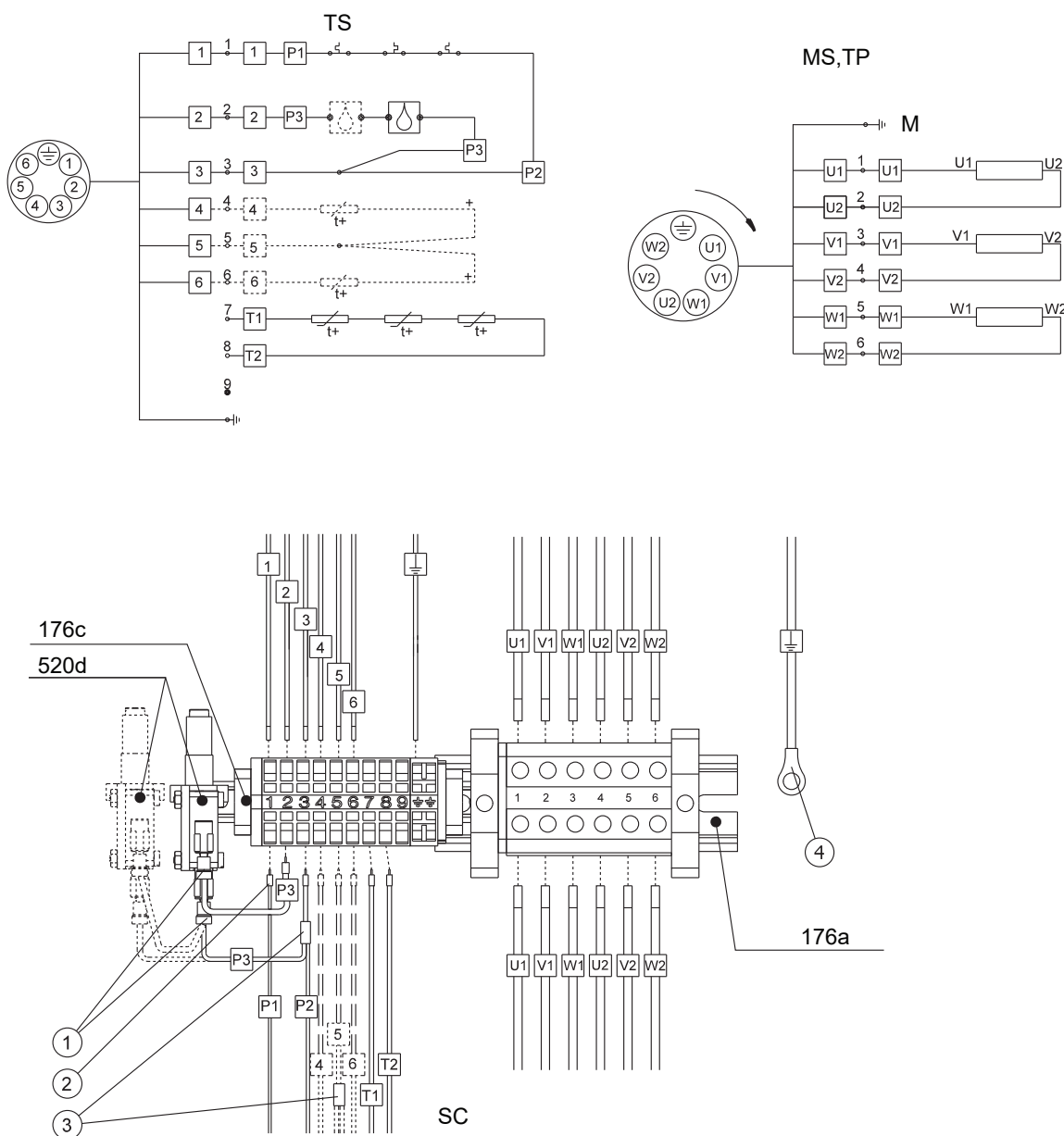
TM068754

Pump with MP 204 motor protector

Pos.	Description
CC	Control cabinet
DC/PLC	Dedicated Controls or PLC
L	Level sensor
SM 113	SM 113, optional
PVS3	PVS3 sensor, optional
MS	Moisture switches
WIO	WIO sensor, optional
Pt100	Pt100 sensor, optional
W	Wiring diagram
TH	Thermistor
TS	Thermal switches
Pt100 LO	Pt100 in lower bearing

Pos.	Description
Pt100 ST	Pt100 in stator
Pt100 U	Pt100 in upper bearing
O	Oil indicator 4 to 20 mA

Wiring diagrams



TM043729

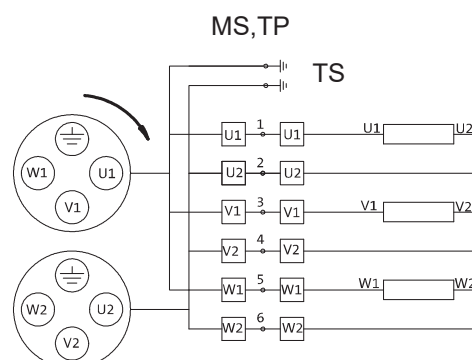
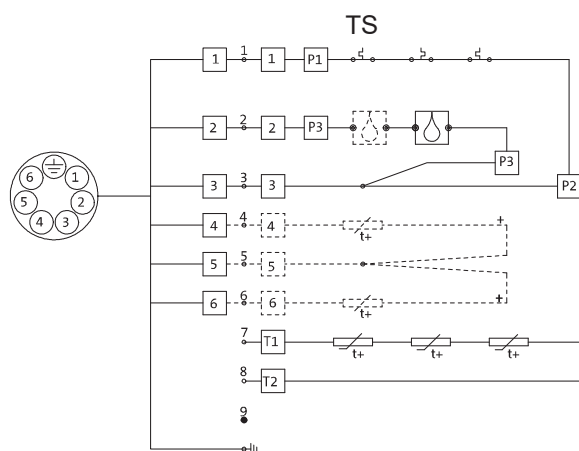
Wiring diagrams, pumps with one power cable

Pos.	Description
TS	Thermal switch
MS	In Ex pumps 2 moisture switches
PtL	Pt100 in lower bearing
PtS	Pt100 in stator
TH	Thermistor
M	Motor

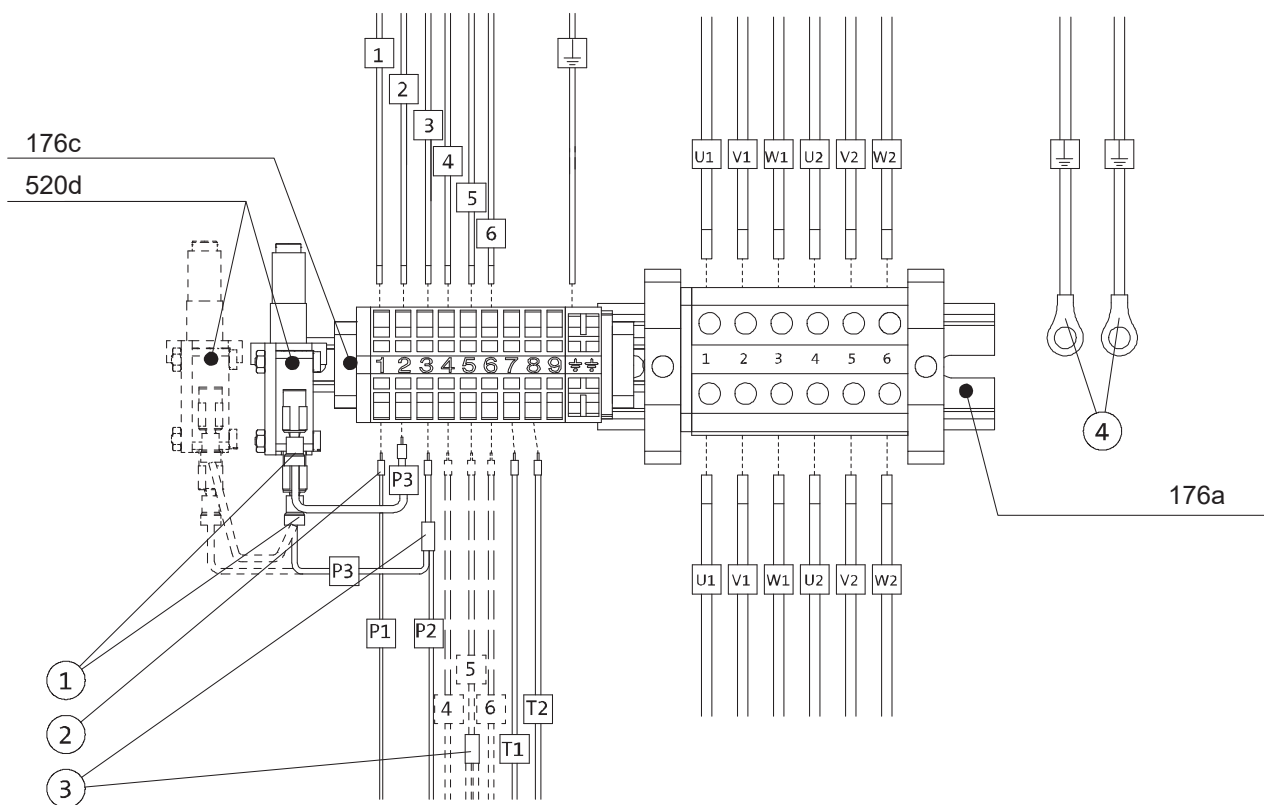
Pos.	Description
MS, TP	Moisture switch and thermal protectors
C	Read clockwise from GND
SCC	Supply cable conductors
O	Optional equipment
SC	Stator conductors
1	Female push-on connector

Pos.	Description
2	Wire pin
3	Butt splice
4	Ring connector

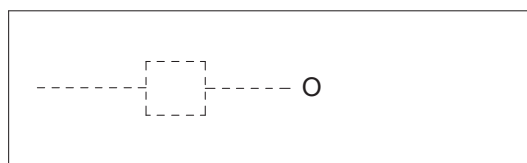
Pos.	Description
176a	Terminal block (power cable connections)
176c	Terminal block (sensor connections)
520	Moisture sensor



SCC



STC



Wiring diagrams, pumps with two power cables

TM043274

Pos.	Description
TS	Thermal switch
MS	In Ex pumps 2 moisture switches
TH	Thermistor
PtL	Pt100 in lower bearing
PtS	Pt100 in stator
MS, TP	Moisture switch and thermal protectors
C	Read clockwise from GND
M	Motor
SCC	Supply cable conductors
SC	Stator conductors
O	Optional equipment
1	Female push-on connector
2	Wire pin
3	Butt splice
4	Ring connector
176a	Terminal block (power cable connections)
176c	Terminal block (sensor connections)
520	Moisture sensor

9. Curve charts and technical data

The following many pages are divided into sections.

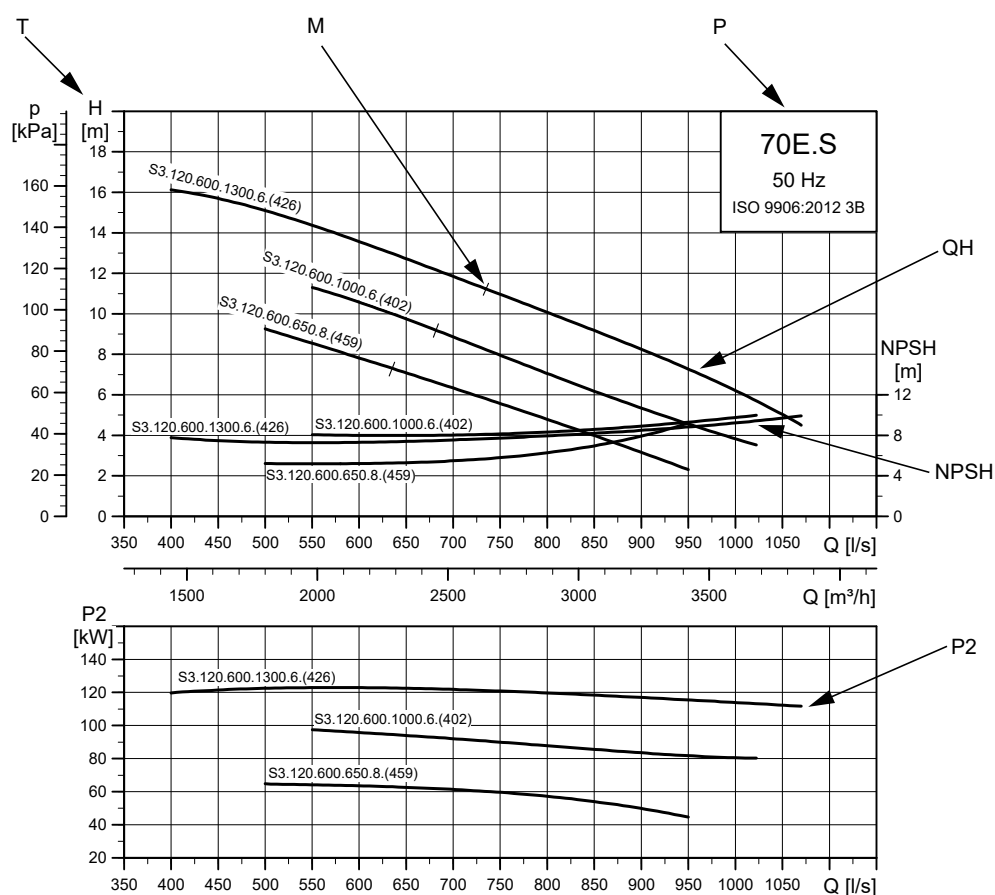
See How to read the curve charts for a brief explanation of how to read the curve charts and curve conditions.

Related information

[How to read the curve charts](#)

[Witness test](#)

How to read the curve charts



TM079770

Pos.	Description
T	Total pump head $H = H_{\text{total}}$
M	Maximum efficiency mark
P	Pump type 70: Range 70 E: Pressure range (Extra-low pressure) S: Installation type
QH	QH curve for the individual pumps
NPSH	NPSH curve for all variants shown. When sizing the pumps add a safety margin of at least 0.5 m.
P2	The power curves indicate the pump shaft power [P_2] of the pumps shown.

Note: The pumps are tested according to ISO 9906:2012 grade 3B tolerance. Testing equipment and measuring instruments are designed and calibrated according to the standards mentioned. The pumps are approved according to tolerances for entire curves, specified in grade 3B.

Curve conditions

The guidelines below apply to the curves shown in the performance charts in [10. Performance curves and technical data](#).

- Tolerances according to ISO 9906:2012, grade 3B.
- The curves show pump performance with different impeller diameters at rated speed.
- The curves apply to the pumping of airless water at a temperature of 20 °C and a kinematic viscosity of 1 mm²/s (1 cSt).
- **NPSH:** The curves show average values measured under the same conditions as the performance curves. When sizing the pump, add a safety margin of at least 0.5 m.
- In case of densities other than 1000 kg/m³, the outlet pressure is proportional to the density.
- When pumping liquids with a density higher than 1000 kg/m³, motors with correspondingly higher outputs must be used.

Calculation of total head

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

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

H_{geo} : Height difference between measuring points.

H_{stat} : Differential head between the inlet and the outlet side of the pump.

H_{dyn} : Calculated values based on the velocity of the pumped liquid on the inlet and the outlet side of the pump.

Pump performance testing

S pump testers are all capable of performing hydraulic performance tests according to ISO 9906:2012 requirements.

ISO 9906:2012 sets standards for "rotodynamic pumps, Hydraulic performance acceptance tests, Grades 1, 2 and 3".

Performance acceptance grades

Six-pump-performance-test acceptance grades, 3B, 2B, 2U, 1B, 1E and 1U are defined in ISO 9906:2012.

Acceptance grade	Mandatory measurements		Optional measurements	
	Q	H	P1	Eta-tot
3B	± 9 %	± 7 %	+ 9 %	- 7 %
2B	± 8 %	± 5 %	+ 8 %	- 5 %
2U	+ 16 %	+ 10 %	+ 16 %	
1B	± 5 %	± 3 %	+ 4 %	- 3 %
1E	± 5 %	± 3 %	+ 4 %	
1U	+ 10 %	+ 6 %	+ 10 %	≥ 0 %

Q: Flow

H: Head

P1: Total consumed power

Eta-tot: Total efficiency

These tolerance grades can be used in the contract between the pump manufacturer and the customer, or they can be used as part of a default tolerance factor for cases in which no specific tolerance grade has been agreed between the manufacturer and the customer.

Related information

[Specifying acceptance grades](#)

[Acceptance grades and tolerances](#)

The guarantee point

According to ISO 9906:2012 the acceptance-grade tolerance applies to one guarantee point.

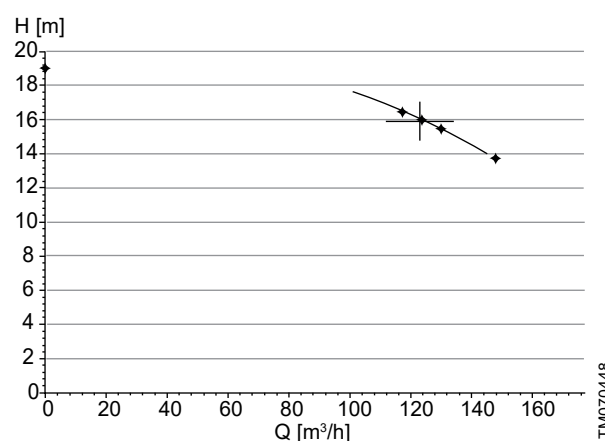
A guarantee point is defined by a guaranteed flow rate and a guaranteed head. In addition, either minimum total efficiency or maximum total input power may be guaranteed at the specified conditions.

This means that the standard sets guidelines for a duty point guaranteed for the following:

- Q and H, or
- Q, H and total efficiency (Eta-total), or
- Q, H and total consumed power (P1).

The guarantee point is defined by a minimum of five measured test points.

Example of a duty point test living up to ISO 9906:2012 requirements.

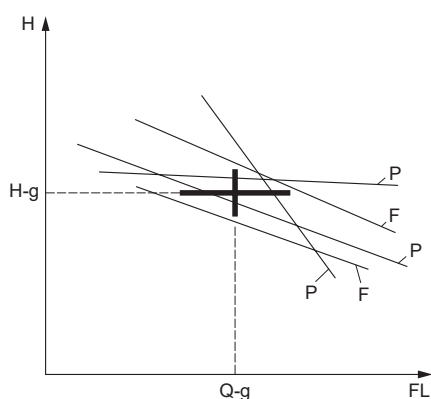


Five measured test points are used to verify one guarantee point

Evaluation of performance

The test must show that the measured pump curve touches or passes through a tolerance surrounding the guarantee point, as defined by the selected acceptance grade.

Guarantee-point evaluation must be made at the rated speed, which for S pumps means 50 Hz or 60 Hz.



TM071544

Pump curves that either pass or fail to cross the tolerance cross of the guarantee point

Pos.	Description
H	Head
H-g	H-guaranteed
P	Pass
F	Fail
Q-g	Q-guaranteed
FL	Flow

Performance-test types for end-suction pumps

Two types of performance tests are available for S pumps:

- duty-point-verification test
- curve test.

Tests carried out on S pumps

- Tests are saved for at least five years and can be traced using the pump's unique serial number.
- It is not possible to change acceptance grade on an already tested and supplied pump; – if required, a re-test of the pump is made.
- Witness testing can be arranged.

Duty-point-verification test, Grades 3B, 2B, 2U, 1B, 1E and 1U

This test method offers the possibility to perform a duty-point verification of the following:

- Q and H, or
- Q, H and total efficiency (Eta-tot), or
- Q, H and total consumed power (P1).

Acceptance grade	Mandatory measurements		Optional measurements	
	Q	H	P1	Eta-tot
3B	Standard		On request	
2B	On request		On request	
2U				
1B	On request		On request	
1E				
1U				

What Grundfos is able to guarantee for the different acceptance grades will be evaluated on a case-by-case basis. Contact your local sales company on this.

Grundfos makes duty-point verification according to ISO 9906:2012 for one guarantee point at full speed, 50 or 60 Hz. The customer must tell Grundfos which duty point to verify.

The requested duty point is verified by five measured points.

Grade 1U duty-point verification

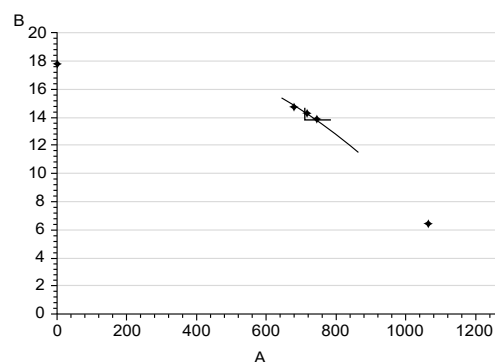
The following example illustrates performance testing according to Grade 1U.

Flow rate and head are mandatory, and efficiency or power consumption, P1, is optional.

Tolerances for a Grade 1U test are as follows:

- Flow rate: 10 %
- Head: 6 %
- Efficiency: 0 %, only equal to or better than the guaranteed value
- P1: 10 %

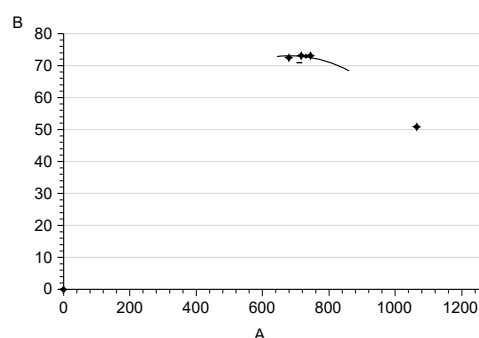
Q, H and Eta-tot are tested and verified



TM071542

Measured values for flow rate and head

Pos.	Description
B	H [m]
A	Q [m³/h]

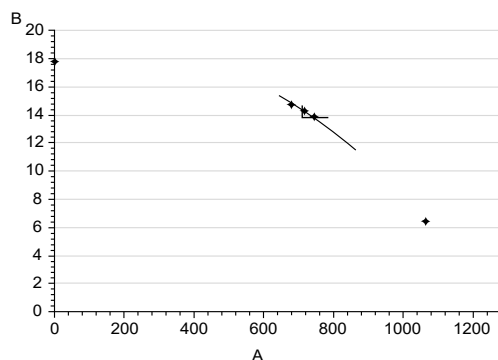


TM071543

Measured values for total efficiency

Pos.	Description
B	Eta-tot % [m]
A	Q [m³/h]

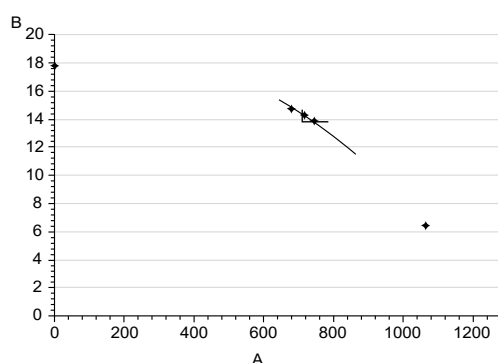
Q, H and P1 tested and verified



TM071542

Measured values for flow rate and head

Pos.	Description
B	H [m]
A	Q [m³/h]



TM071542

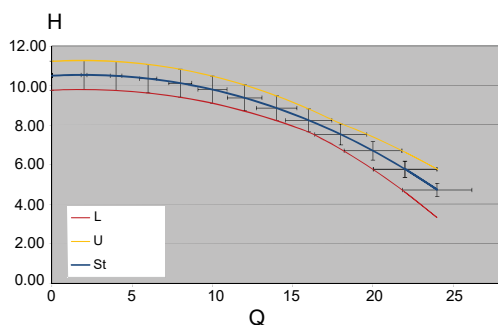
Measured values for consumed power

Pos.	Description
B	P1 [kW]
A	Q [m³/h]

Note that other points than the guarantee point can be measured and displayed in a curve-test report according to Grade 3B tolerances.

Curve test, Grade 3B

This test method is developed by Grundfos and is based on ISO 9906:2012 performance acceptance grade 3B tolerances: $Q = \pm 9\%$, $H = \pm 7\%$.



TM079684

Q-H curve with tolerance crosses on complete performance range

Pos.	Description
Q	[m³/h]
H	[m]
L	Lower limit
U	Upper limit
St	Standard curve

In fig. *Q-H curve with tolerance crosses on complete performance range* tolerance crosses according to Grade 3B have been distributed across the complete performance range of a pump. We generate the upper and lower limit of the performance curve by drawing two curves at the outlines of these crosses.

When the pump is tested, and the measured point is located within the range between the upper and lower limit, it meets the ISO 9906:2012 Grade 3B tolerances. This way of qualifying the pump performance is stricter than a duty-point-verification test for Grade 3B.

How does Grundfos perform curve testing for S pumps?

Grundfos applies two types of curve tests:

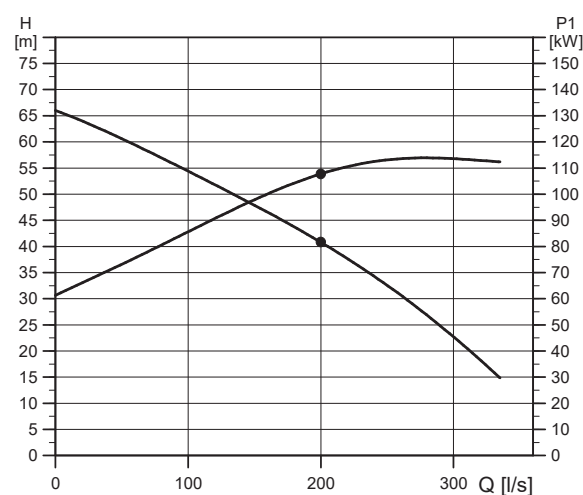
- a reference curve test
- a performance curve test.

Reference curve test, Grade 3B

A reference curve test is made when no curve test report is specified with the order. Three or four test points are measured depending on production site, and no curve test report is supplied with the pump.

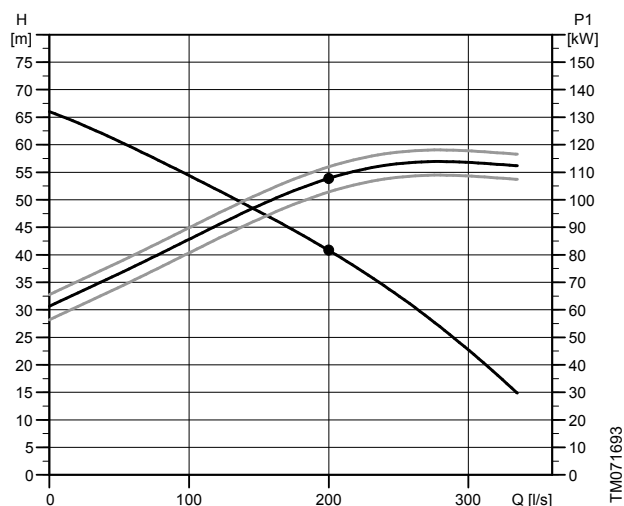
Measurements are made to maintain and observe continuous quality and to ensure that the supplied pump is within test grade tolerances. Test grade tolerances are set as for Grade 3B but without certification.

Example of a reference curve test



TM071674

Measured values for tested pump



The values in fig. calculated to reference speed for comparison to a reference performance curve

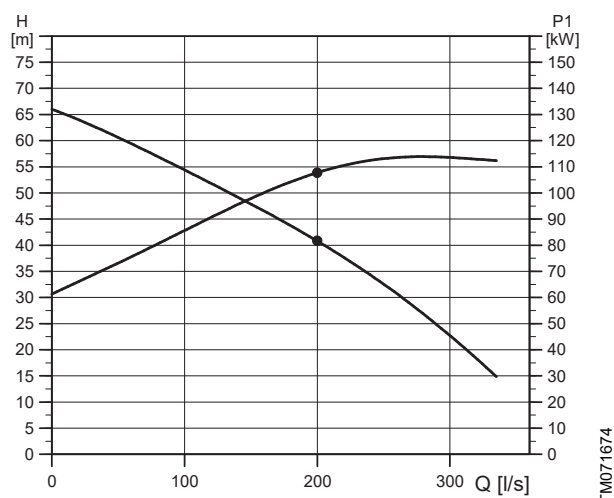
If a pump performance report is requested at a later stage, only reference test data are available.

Performance curve test, grade 3B

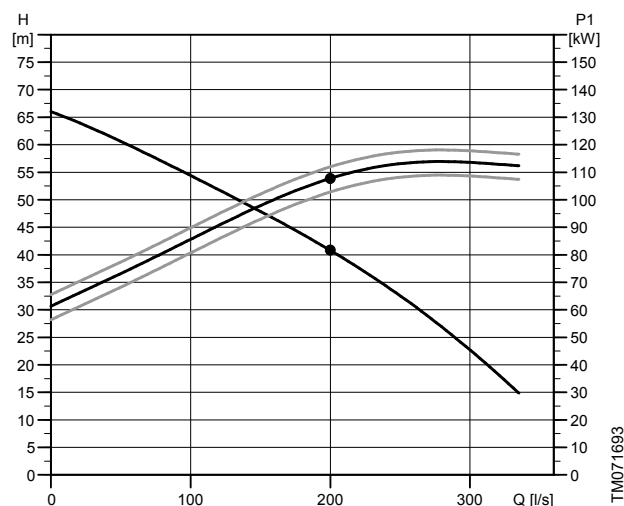
A performance curve test is carried out when a curve test report is specified with the order.

The pump is tested at pre-specified flows, and test grade tolerances are set as for Grade 3B but without certification.

Example of an S pump curve test



Measured values for tested pump



The values in fig. calculated to a reference speed for comparison to a reference performance

If the customer requires more points on the curve to be checked, individual measurements must be made, which is not part of the performance curve test.

Static high pressure test

All produced pumps undergo a static high pressure test of 1.5 x PN (nominal pressure of the pump).

Specifying acceptance grades

The graphs in the table in Acceptance grades and tolerances show the tolerances as stated in the standard, related to an ordinary pump curve. The graphs also show which pump performance to expect if the customer, having the same pump to start with, orders a pump with the same guarantee point for different tolerances (B, E or U) within the acceptance grades.

In some cases, it will not be possible to fulfil the same guarantee point for a unilateral tolerance as it will for a bilateral tolerance. This is indicated by the lower curve for "E" and "U" grades.

If the requested guarantee point is the same for a Grade U pump as for a Grade B pump, the consequence of the production tolerances could be that a larger pump is required to obtain the requested duty point.

What Grundfos is able to guarantee for the different acceptance grades will be evaluated on a case-by-case basis. Contact your local sales company on this.

Related information

[Acceptance grades and tolerances](#)

Acceptance grades and tolerances

Acceptance grade B

This acceptance grade refers to grades with a bilateral tolerance on flow rate and head and with a tolerance on efficiency.

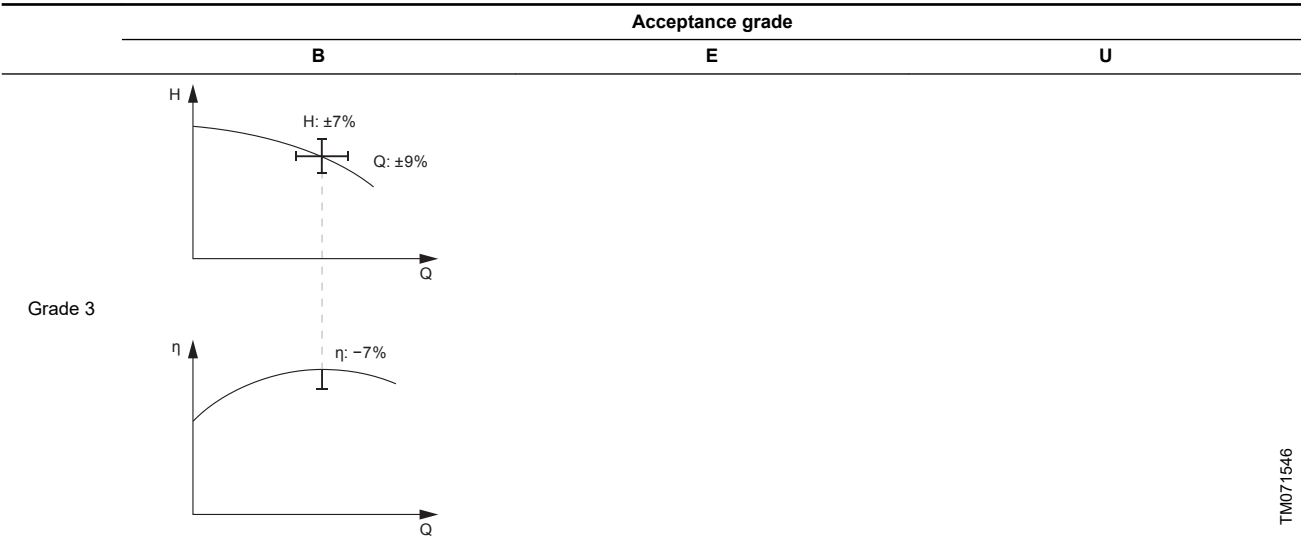
Acceptance grade E

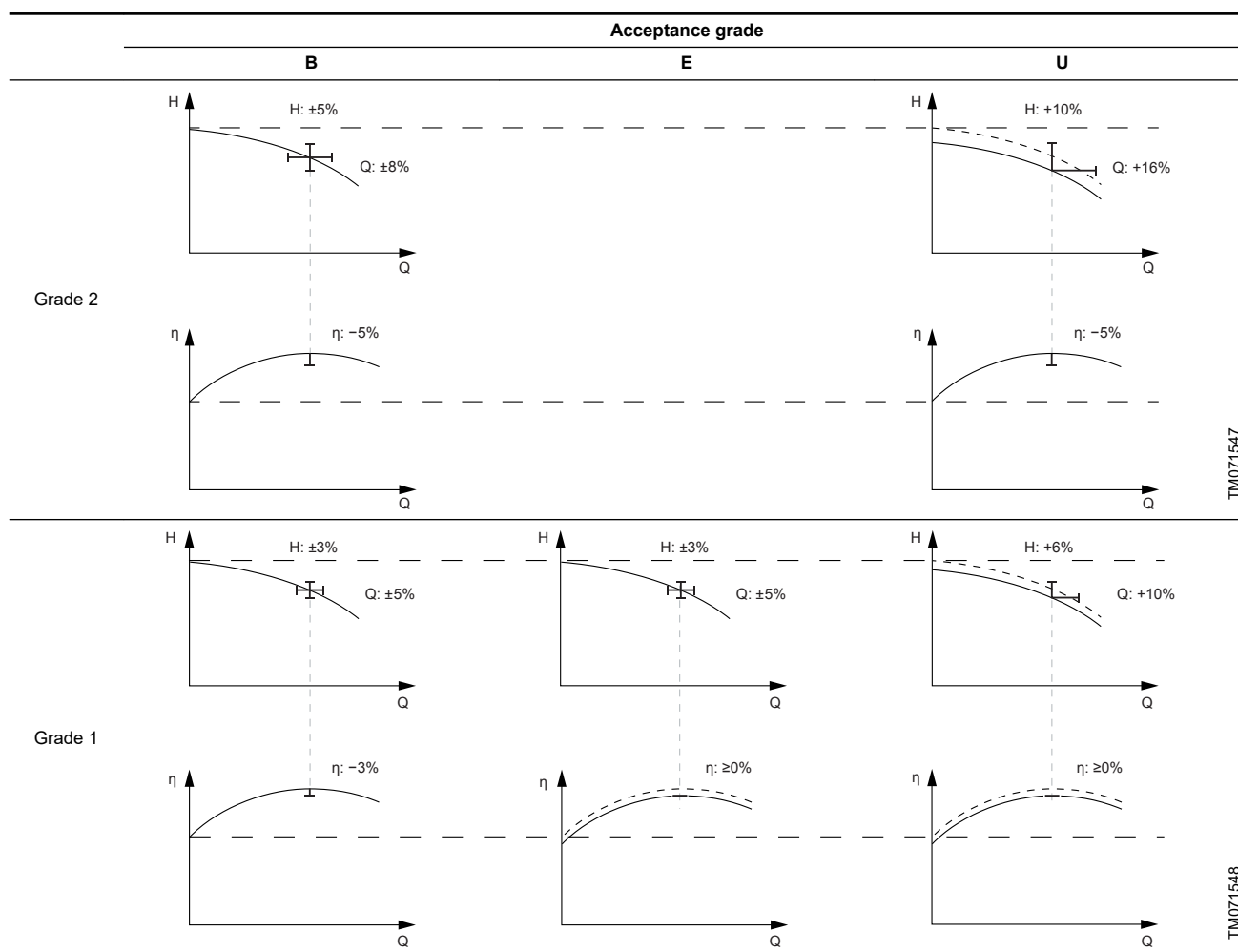
This acceptance grade refers to a grade with a bilateral tolerance on flow rate and head, but without tolerance on efficiency.

Acceptance grade U

This acceptance grade refers to a grade with a unilateral tolerance on flow rate and head. For the 2U grade, there is a tolerance on efficiency. For the 1U grade, there is no tolerance on efficiency.

Note that if the acceptance grade changes from Grade 1B to 1U, the customer does not necessarily get a better pump with a higher efficiency. More likely, he gets a pump where the performance is always to the positive side of the guarantee point.





Certificates

Certificates must be confirmed for each order and are available on request:

- 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 9906:2012.

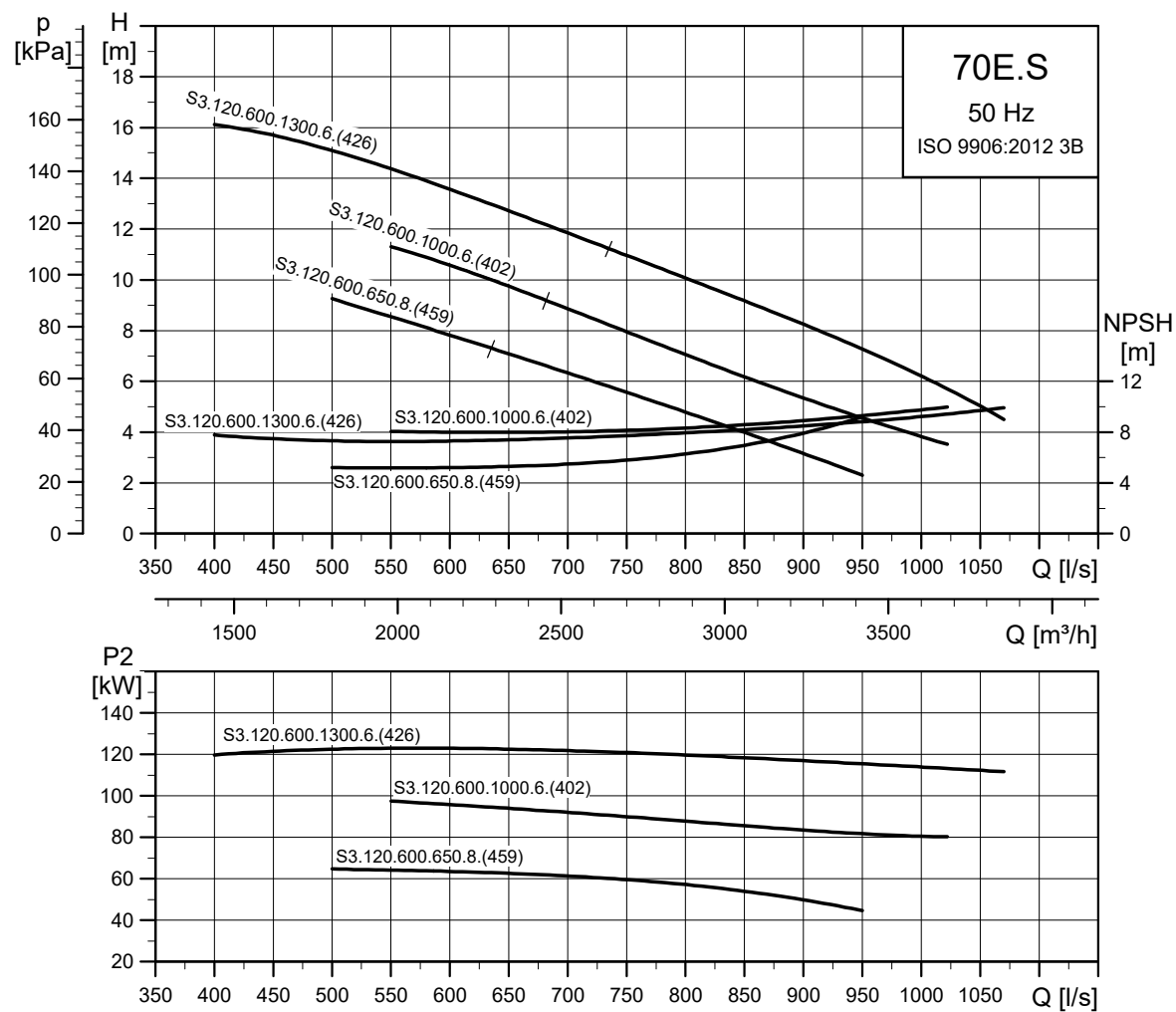
The witness test is not a certificate and will not result in a written statement from Grundfos. The witness itself is the only guarantee that everything is carried out as prescribed in the testing procedure.

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

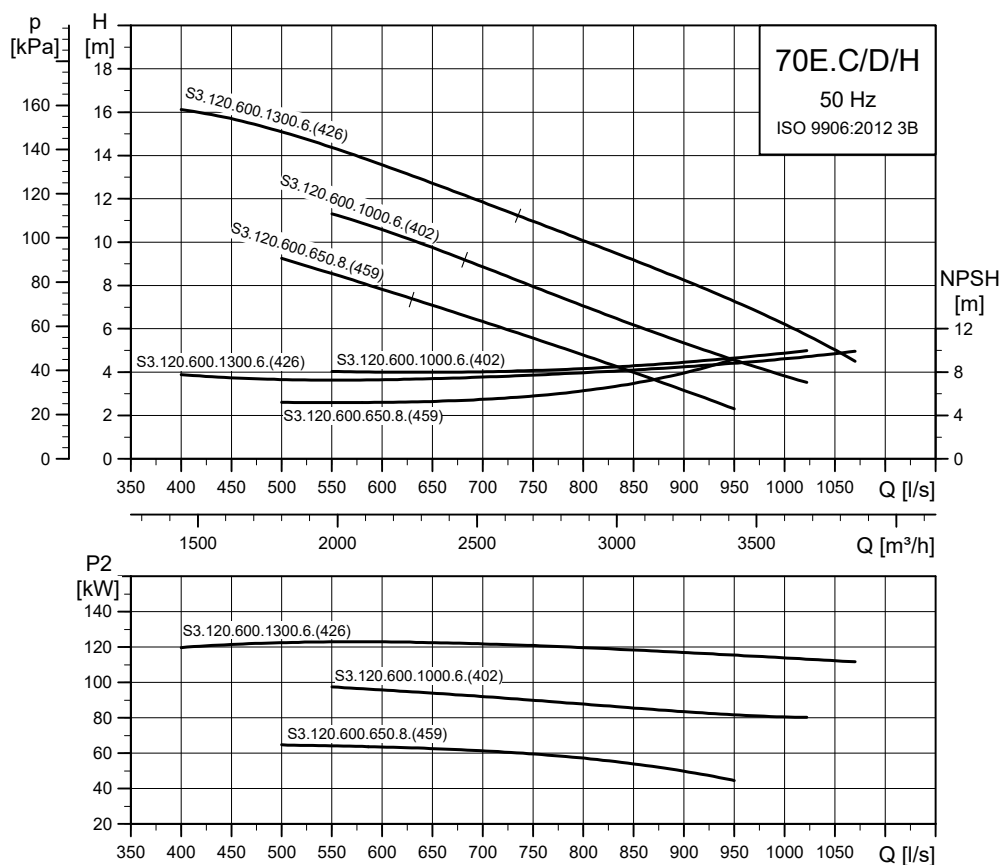
10. Performance curves and technical data

Extra-low pressure - 3 x 400/690 V

S3.120.600.650.8, S3.120.600.1000.6 and S3.120.600.1300.6



TM040683



TM040684

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S3.120.600.650.8.70E.S.459...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.120.600.650.8.70E.C.459...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.120.600.650.8.70E.D.459...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.120.600.650.8.70E.H.459...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.120.600.1000.6.70E.S.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.120.600.1000.6.70E.C.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.120.600.1000.6.70E.D.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.120.600.1000.6.70E.H.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.120.600.1300.6.70E.S.426...	141	130	6	982	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.120.600.1300.6.70E.C.426...	141	130	6	982	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.120.600.1300.6.70E.D.426...	141	130	6	982	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.120.600.1300.6.70E.H.426...	141	130	6	982	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

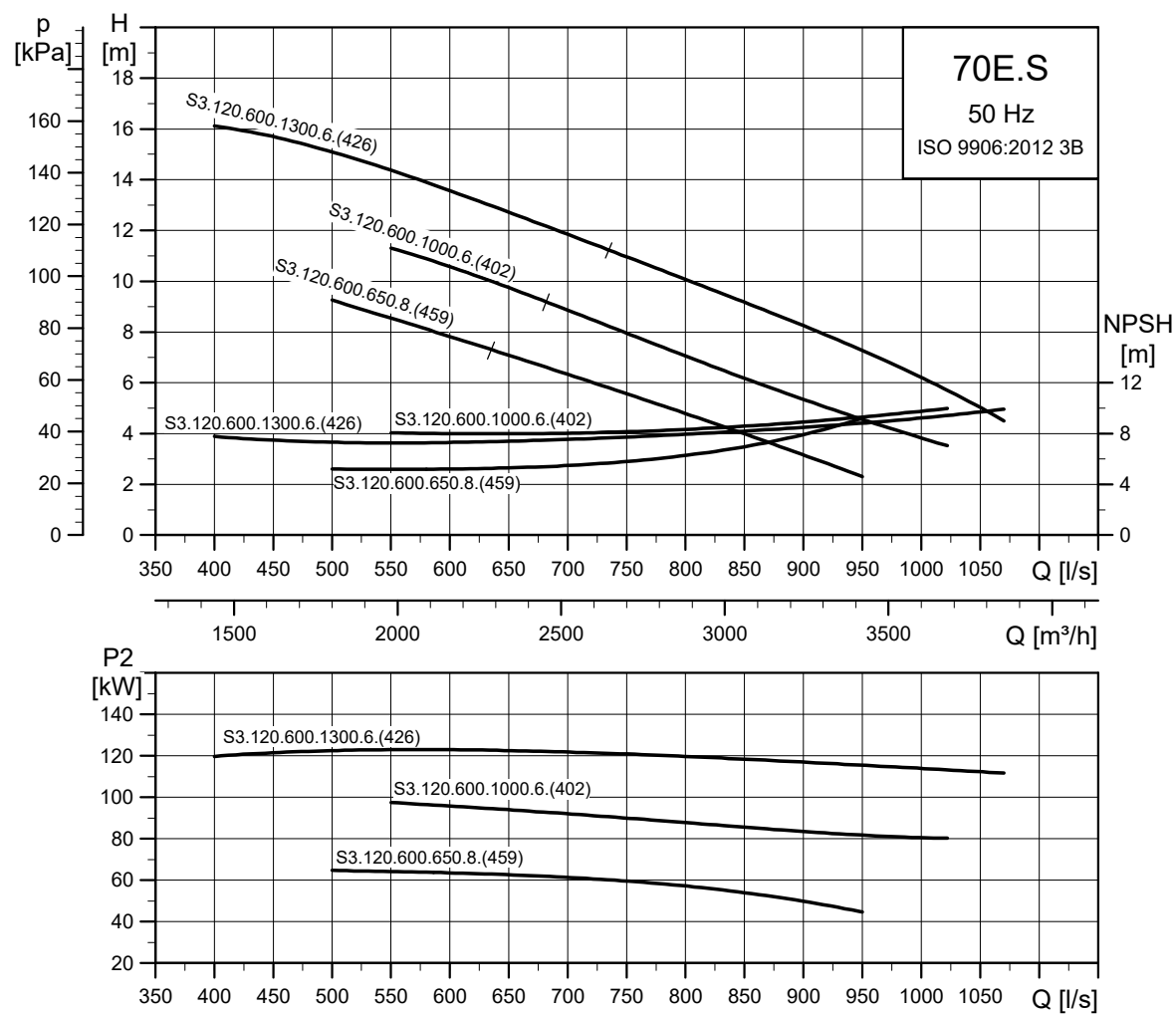
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S3.120.600.650.8.70E.S/C/D/H.459...	459				2,4743
S3.120.600.1000.6.70E.S/C/D/H.402...	402	120	10	20	1,9330
S3.120.600.1300.6.70E.S/C/D/H.426...	436				2,3093

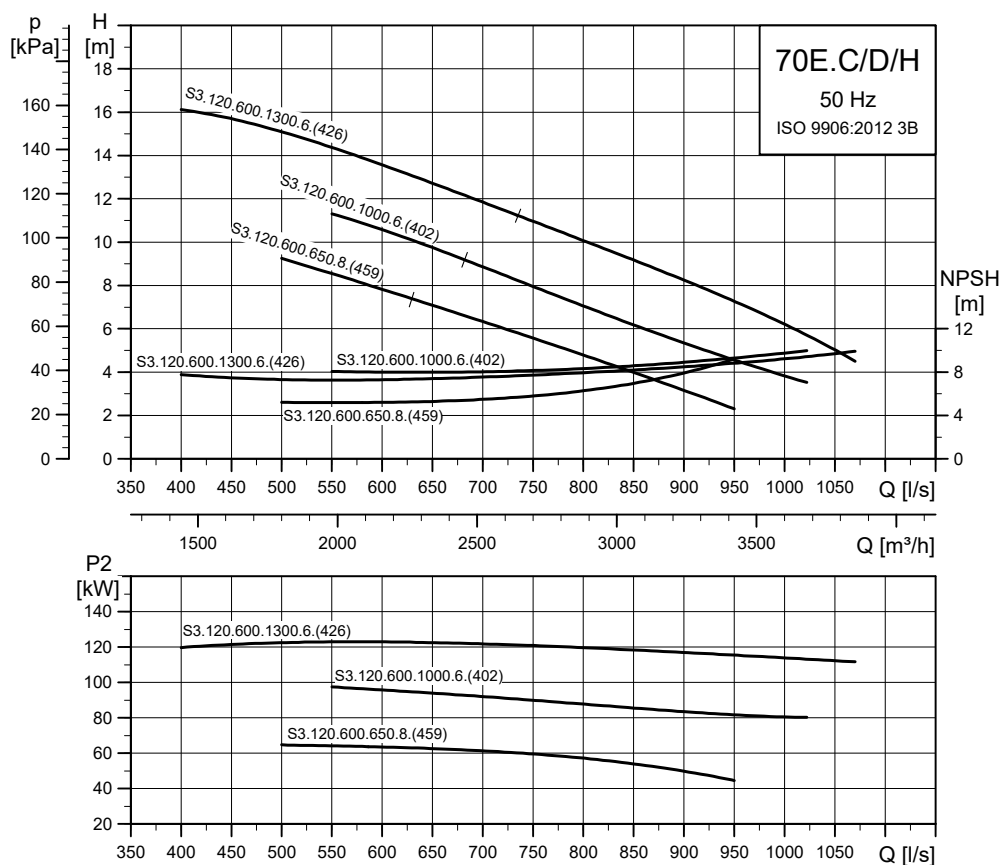
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Extra-low pressure - 3 x 415 V

S3.120.600.650.8, S3.120.600.1000.6 and S3.120.600.1300.6



TM040683



TM040684

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N	I _{start}	η _{motor} [%]				Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
S3.120.600.650.8.70E.S.459...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135	
S3.120.600.650.8.70E.C.459...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135	
S3.120.600.650.8.70E.D.459...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135	
S3.120.600.650.8.70E.H.459...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135	
S3.120.600.1000.6.70E.S.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090	
S3.120.600.1000.6.70E.C.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090	
S3.120.600.1000.6.70E.D.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090	
S3.120.600.1000.6.70E.H.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090	
S3.120.600.1300.6.70E.S.426...	141	130	6	982	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273	
S3.120.600.1300.6.70E.C.426...	141	130	6	982	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273	
S3.120.600.1300.6.70E.D.426...	141	130	6	982	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273	
S3.120.600.1300.6.70E.H.426...	141	130	6	982	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273	

Note: Enclosure class: IP68

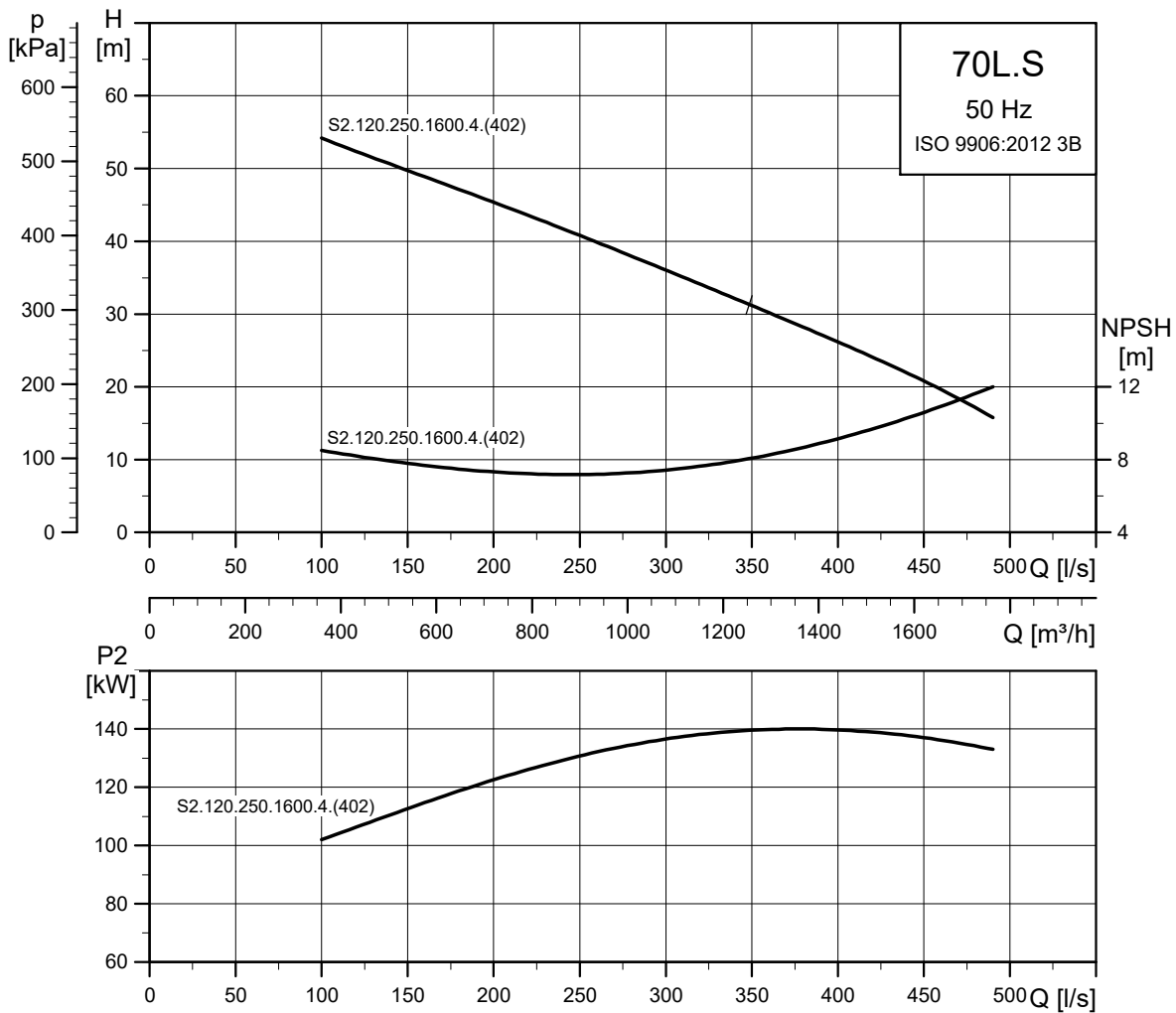
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S3.120.600.650.8.70E.S/C/D/H.459...	459				2,4743
S3.120.600.1000.6.70E.S/C/D/H.402...	402	120	10	20	1,9330
S3.120.600.1300.6.70E.S/C/D/H.426...	436				2,3093

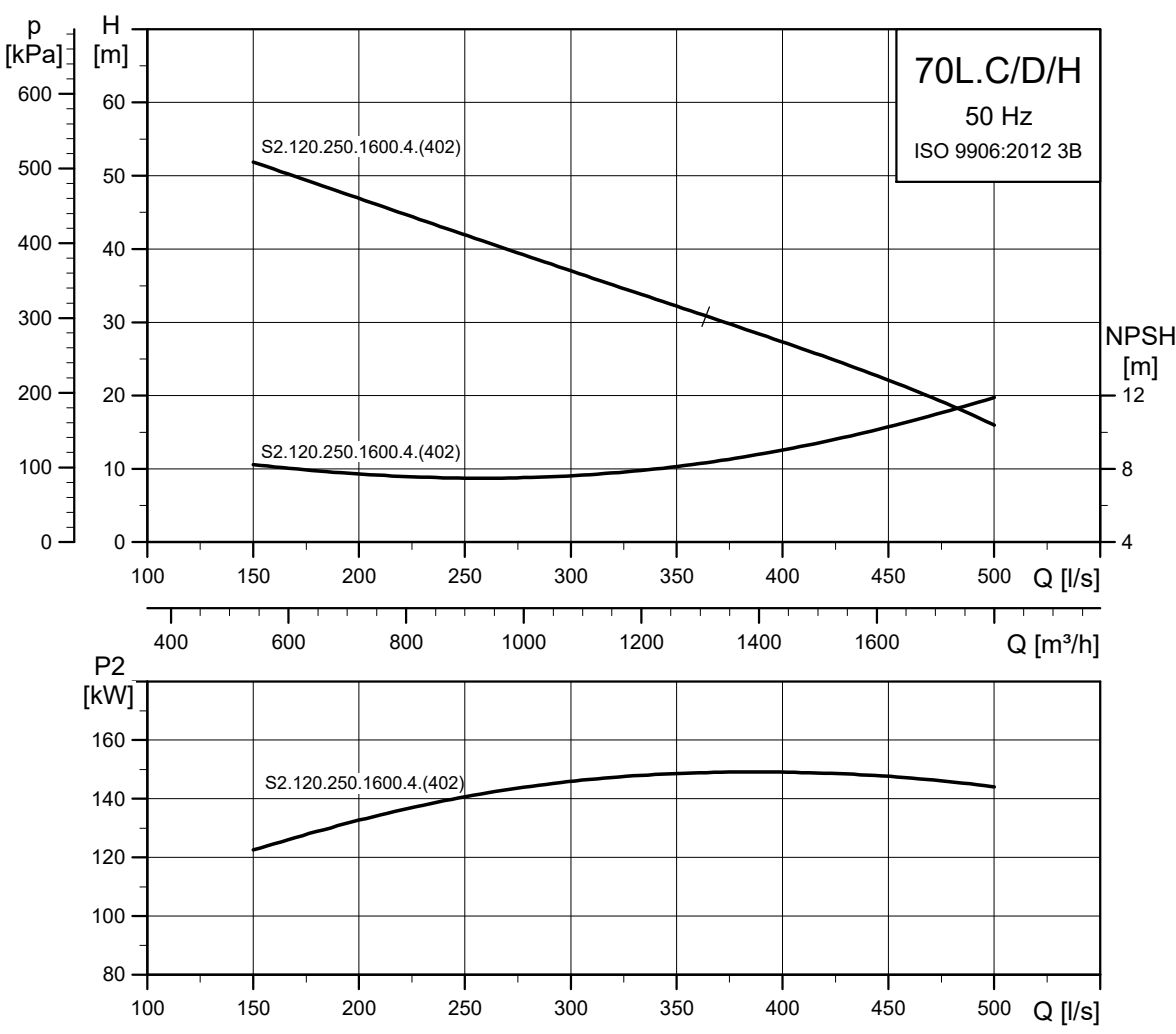
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 400/690 V

S2.120.250.1600.4



TM040689



TM040690

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S2.120.250.1600.4.70L.S.402...	167	155	4	1468	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000		3414		
S2.120.250.1600.4.70L.C.402...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000		3414		
S2.120.250.1600.4.70L.D.402...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000		3414		
S2.120.250.1600.4.70L.H.402...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000		3414		

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

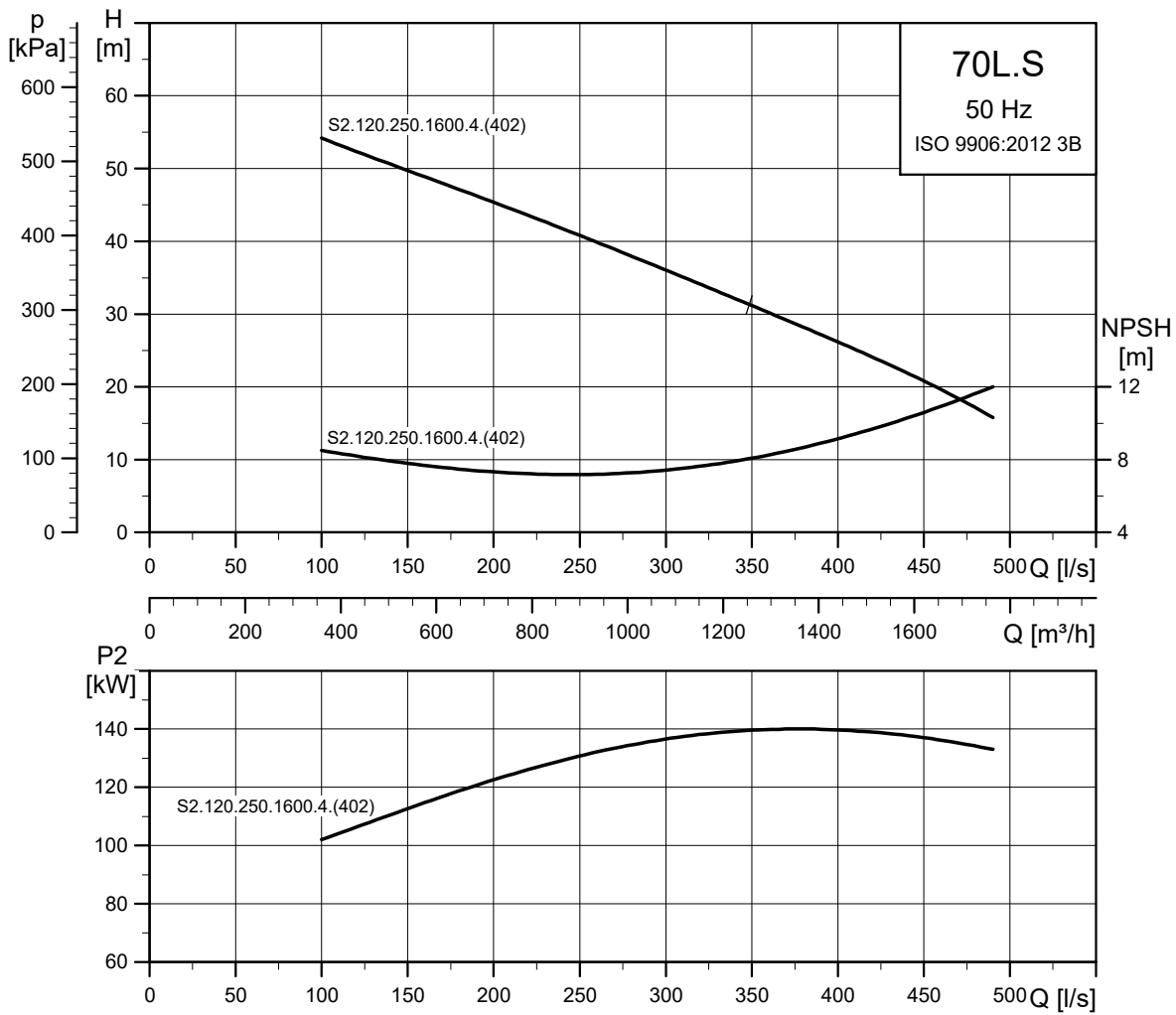
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.120.250.1600.4.70L.S/C/D/H.402...	402	120	10	20	1,0810

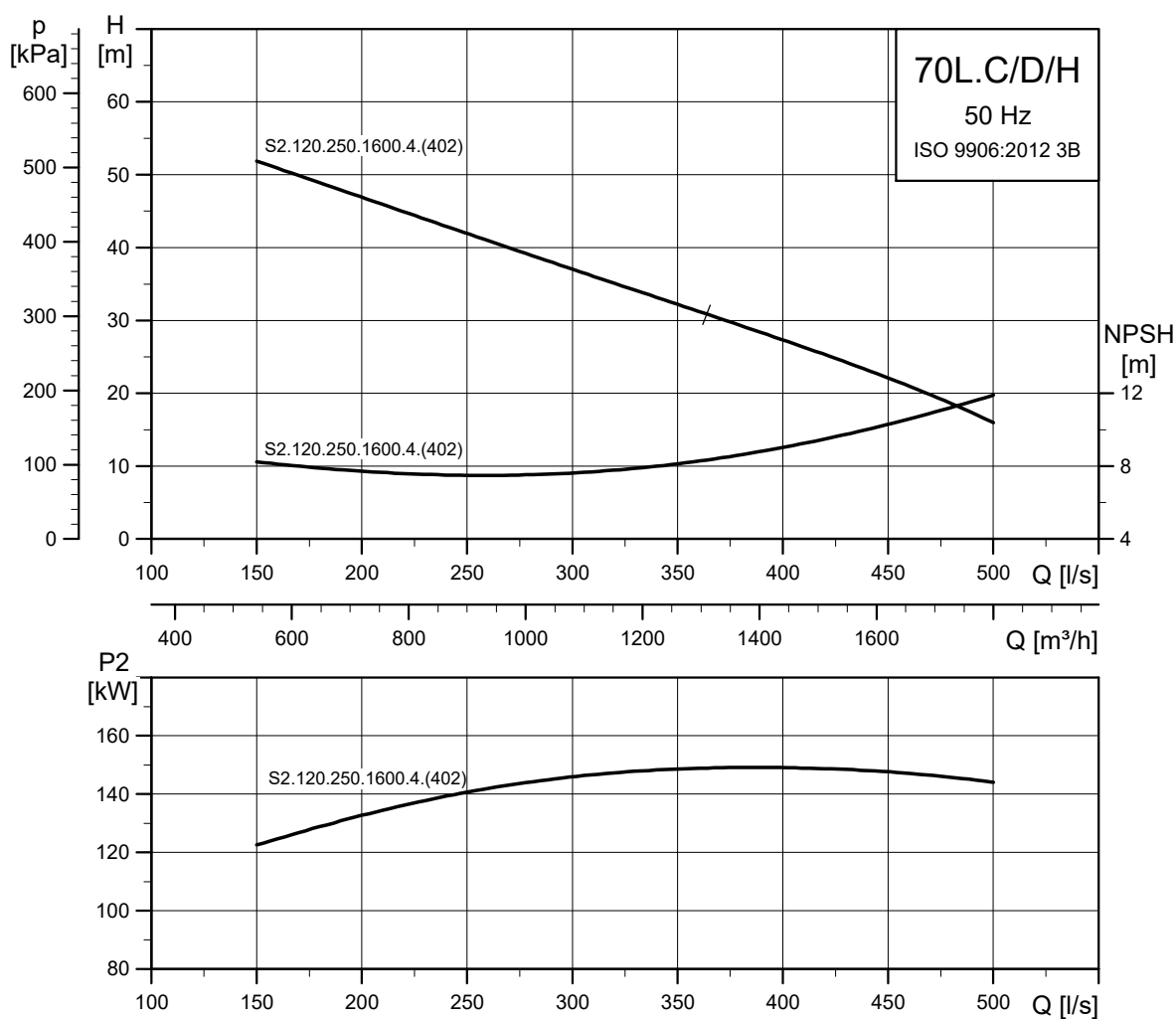
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 415 V

S2.120.250.1600.4



TM040689



TM040690

Motor 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 M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S2.120.250.1600.4.70L.S.402...	167	155	4	1468	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.120.250.1600.4.70L.C.402...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.120.250.1600.4.70L.D.402...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.120.250.1600.4.70L.H.402...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414			

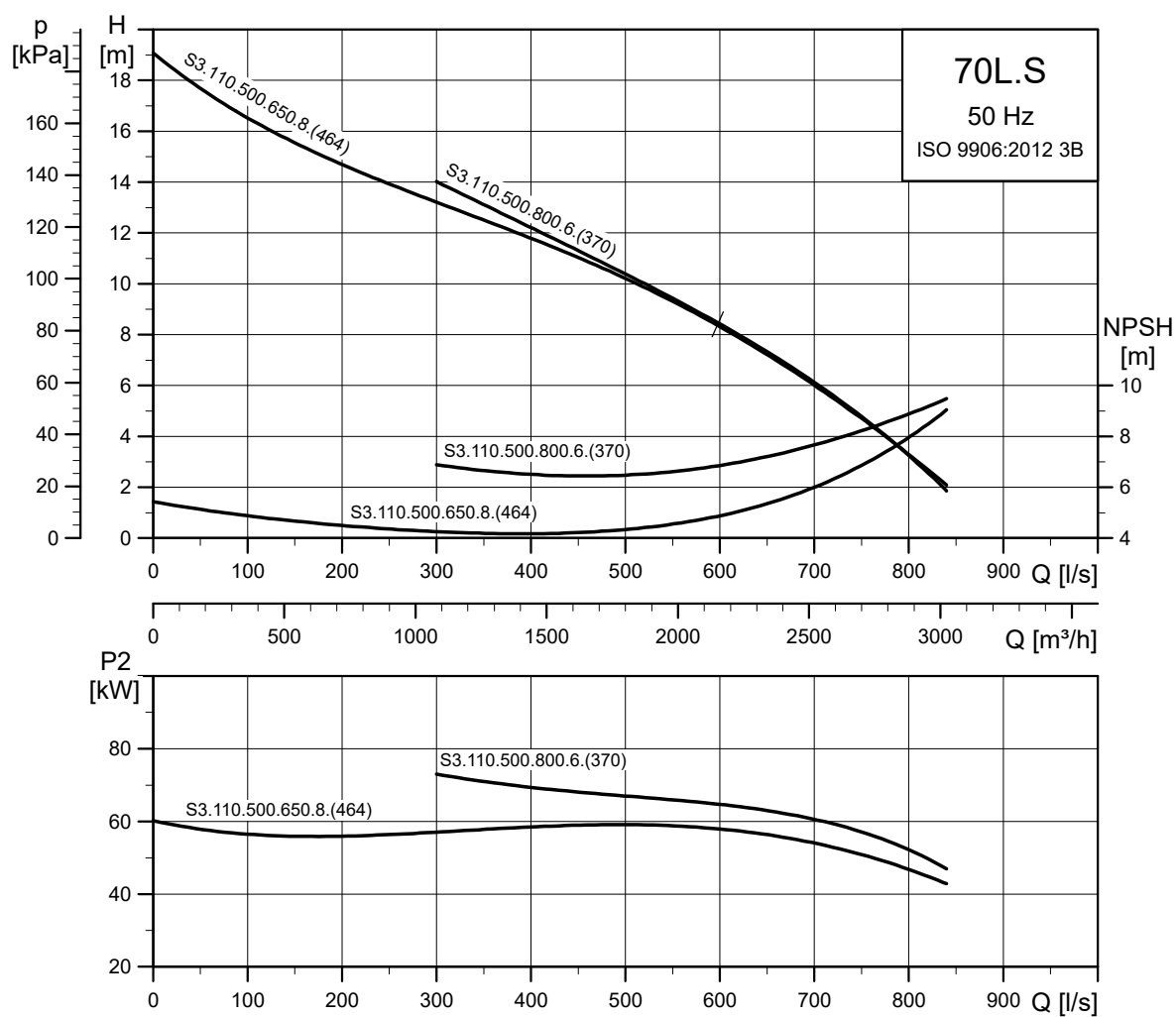
Note: Enclosure class: IP68**Pump data**

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.120.250.1600.4.70L.S/C/D/H.402...	402	120	10	20	1,0810

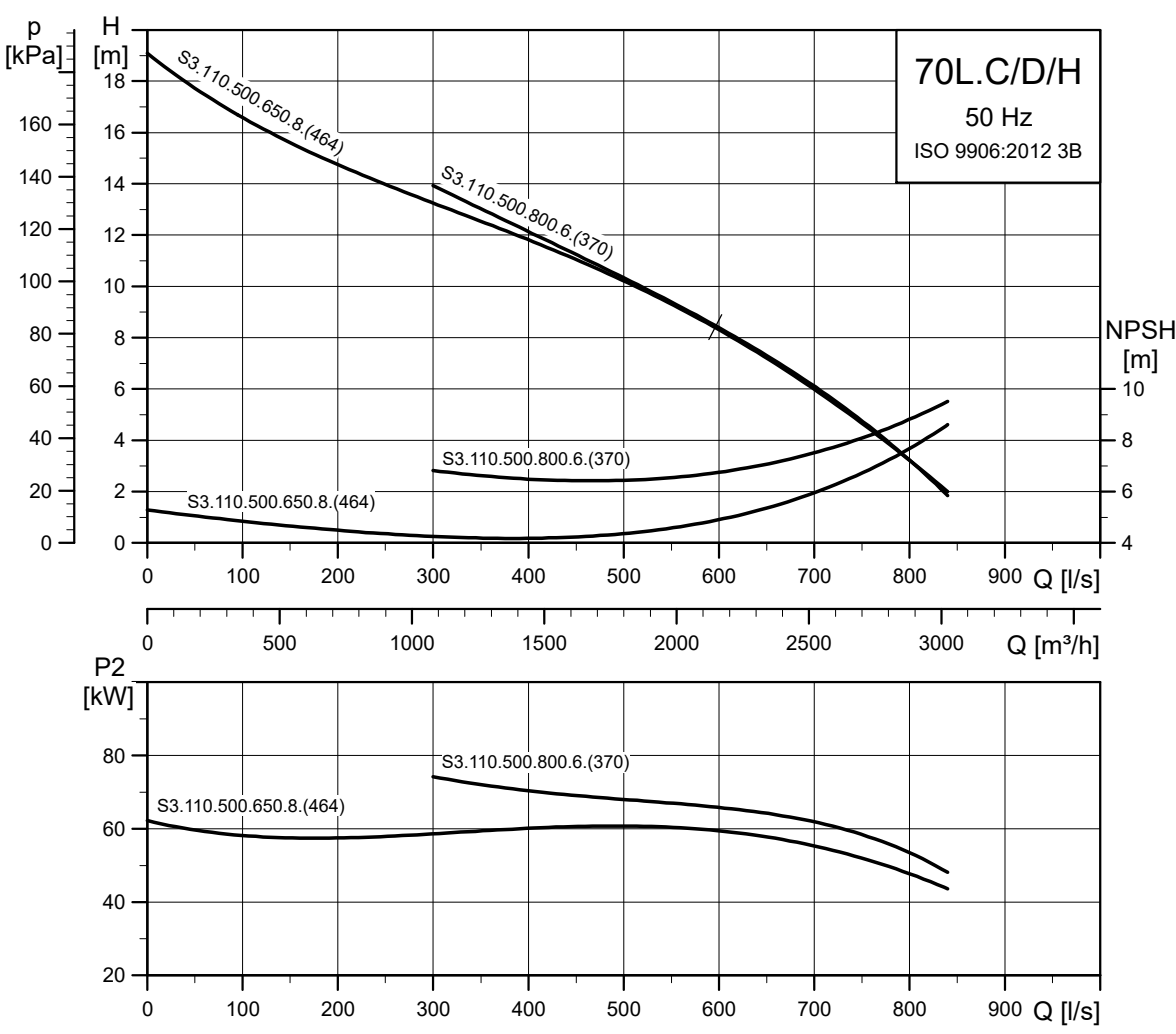
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 400/690 V

S3.110.500.650.8 and S3.110.500.800.6



TM040687



TM040688

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S3.110.500.650.8.70L.S.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.110.500.650.8.70L.C.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.110.500.650.8.70L.D.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.110.500.650.8.70L.H.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000	2135			
S3.110.500.800.6.70L.S.370...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000	2090			
S3.110.500.800.6.70L.C.370...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000	2090			
S3.110.500.800.6.70L.D.370...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000	2090			
S3.110.500.800.6.70L.H.370...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000	2090			

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

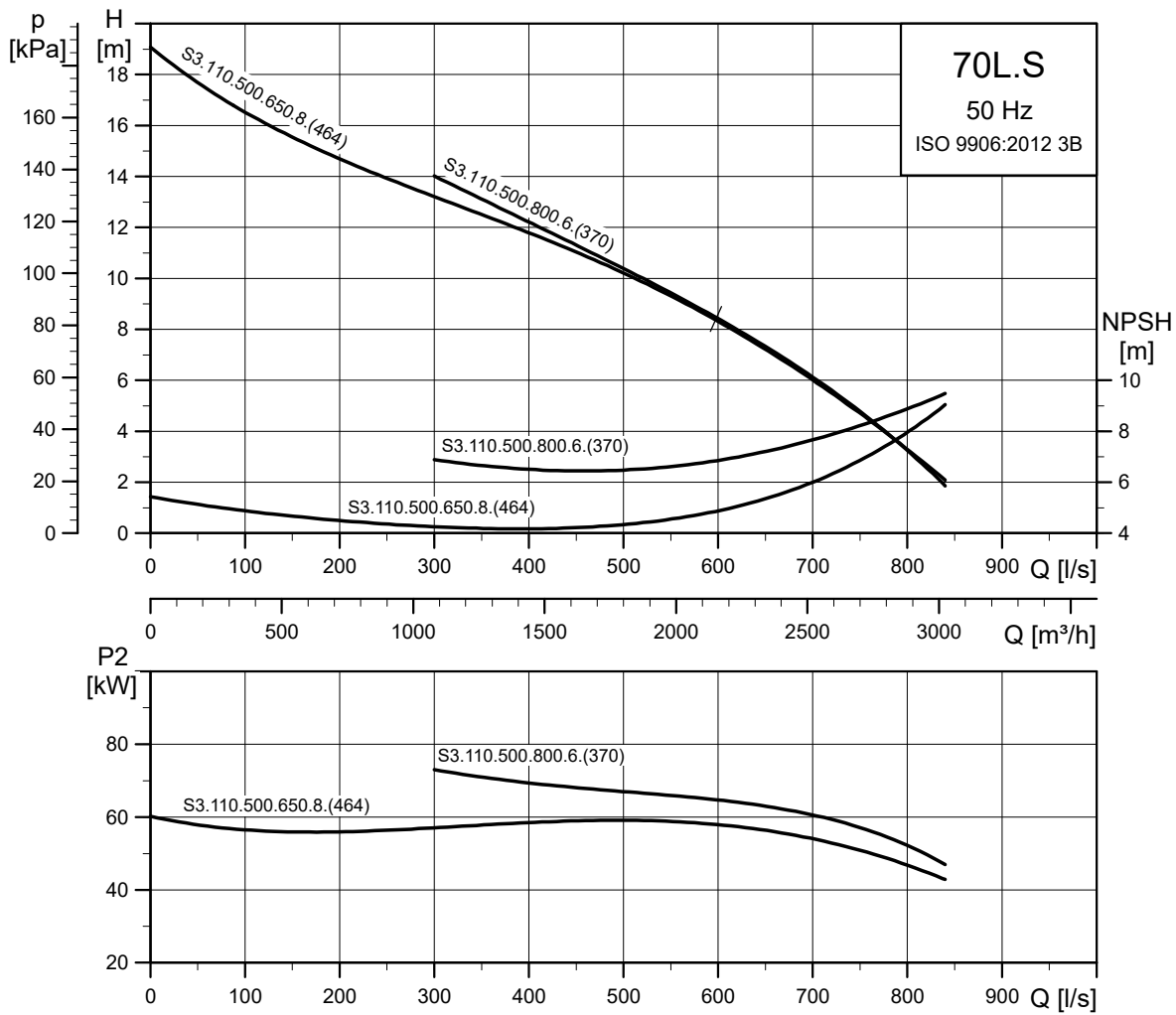
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S3.110.500.650.8.70L.S/C/D/H.464...	464	110	10	20	2,9323
S3.110.500.800.6.70L.S/C/D/H.370...	370				1,4270

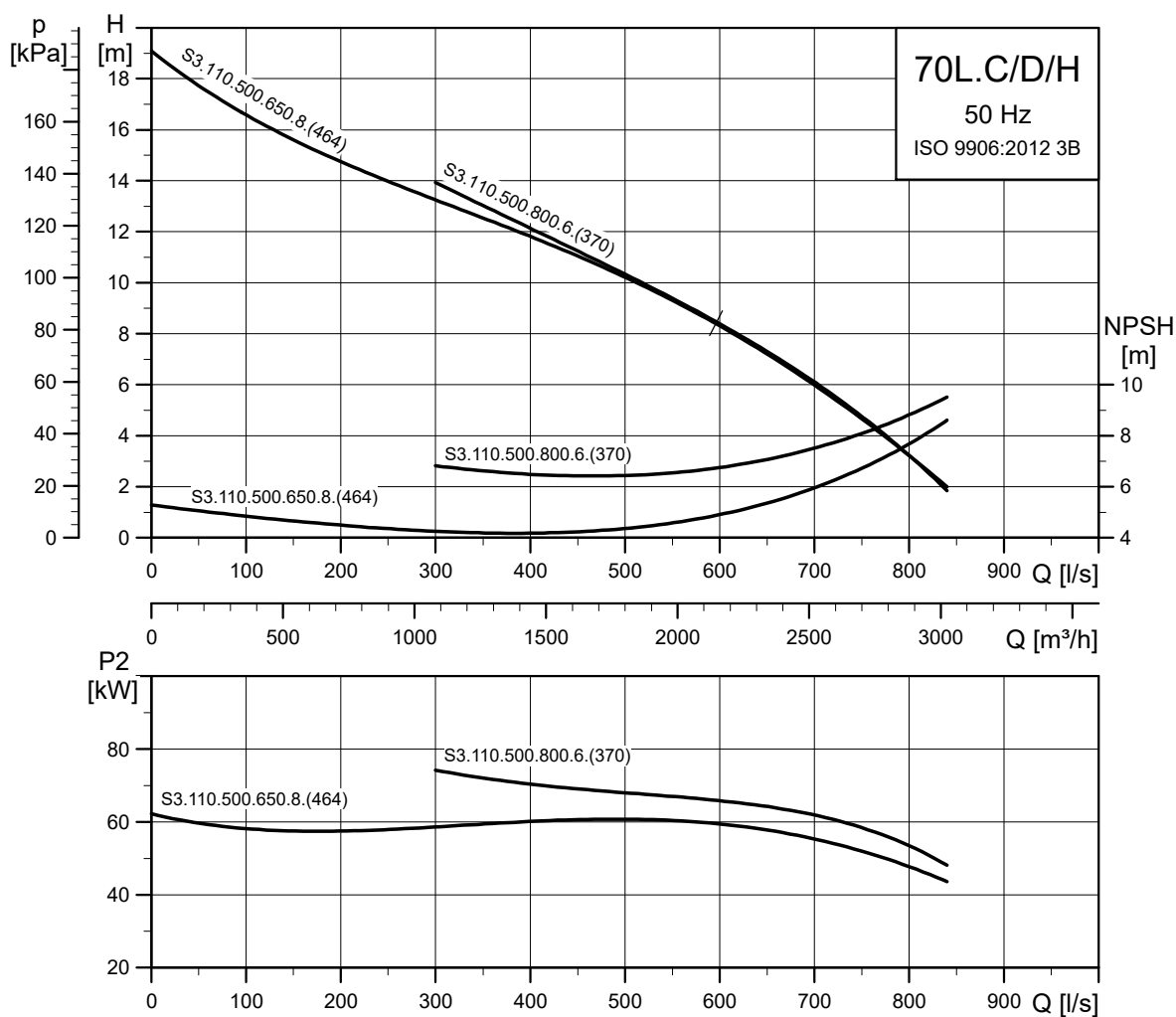
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 415 V

S3.110.500.650.8 and S3.110.500.800.6



TM040687



TM040688

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S3.110.500.650.8.70L.S.464...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	0.80	0.84	2.1000	2135
S3.110.500.650.8.70L.C.464...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	0.80	0.84	2.1000	2135
S3.110.500.650.8.70L.D.464...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	0.80	0.84	2.1000	2135
S3.110.500.650.8.70L.H.464...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	0.80	0.84	2.1000	2135
S3.110.500.800.6.70L.S.370...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	0.75	0.81	2.1000	2090
S3.110.500.800.6.70L.C.370...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	0.75	0.81	2.1000	2090
S3.110.500.800.6.70L.D.370...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	0.75	0.81	2.1000	2090
S3.110.500.800.6.70L.H.370...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	0.75	0.81	2.1000	2090

Note: Enclosure class: IP68

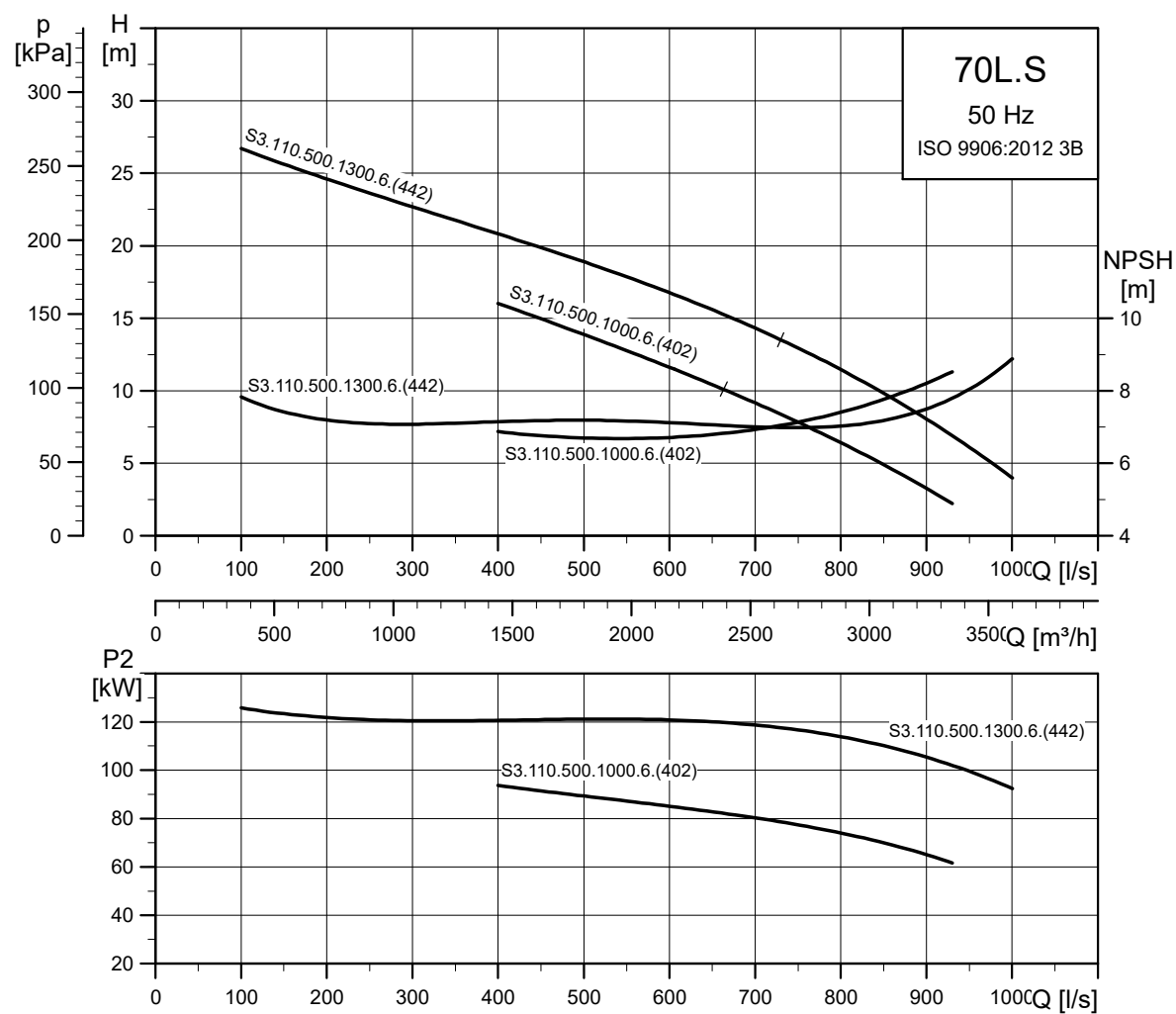
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S3.110.500.650.8.70L.S/C/D/H.464...	464	110	10	20	2,9323
S3.110.500.800.6.70L.S/C/D/H.370...	370				1,4270

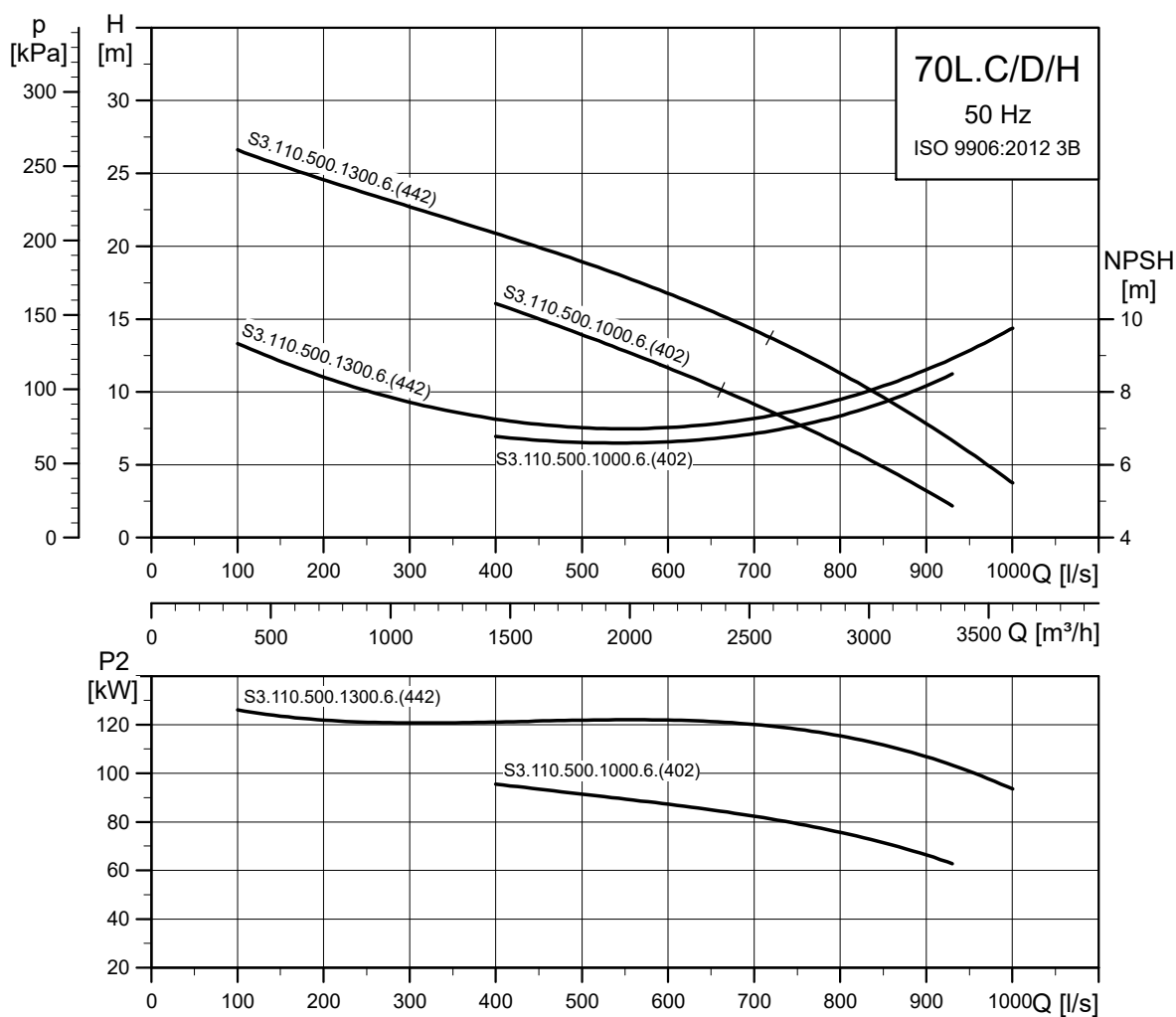
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 400/690 V

S3.110.500.1000.6 and S3.110.500.1300.6



TM041929



TM041930

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S3.110.500.1000.6.70L.S.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.110.500.1000.6.70L.C.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.110.500.1000.6.70L.D.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.110.500.1000.6.70L.H.402...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S3.110.500.1300.6.70L.S.442...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.C.442...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.D.442...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.H.442...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

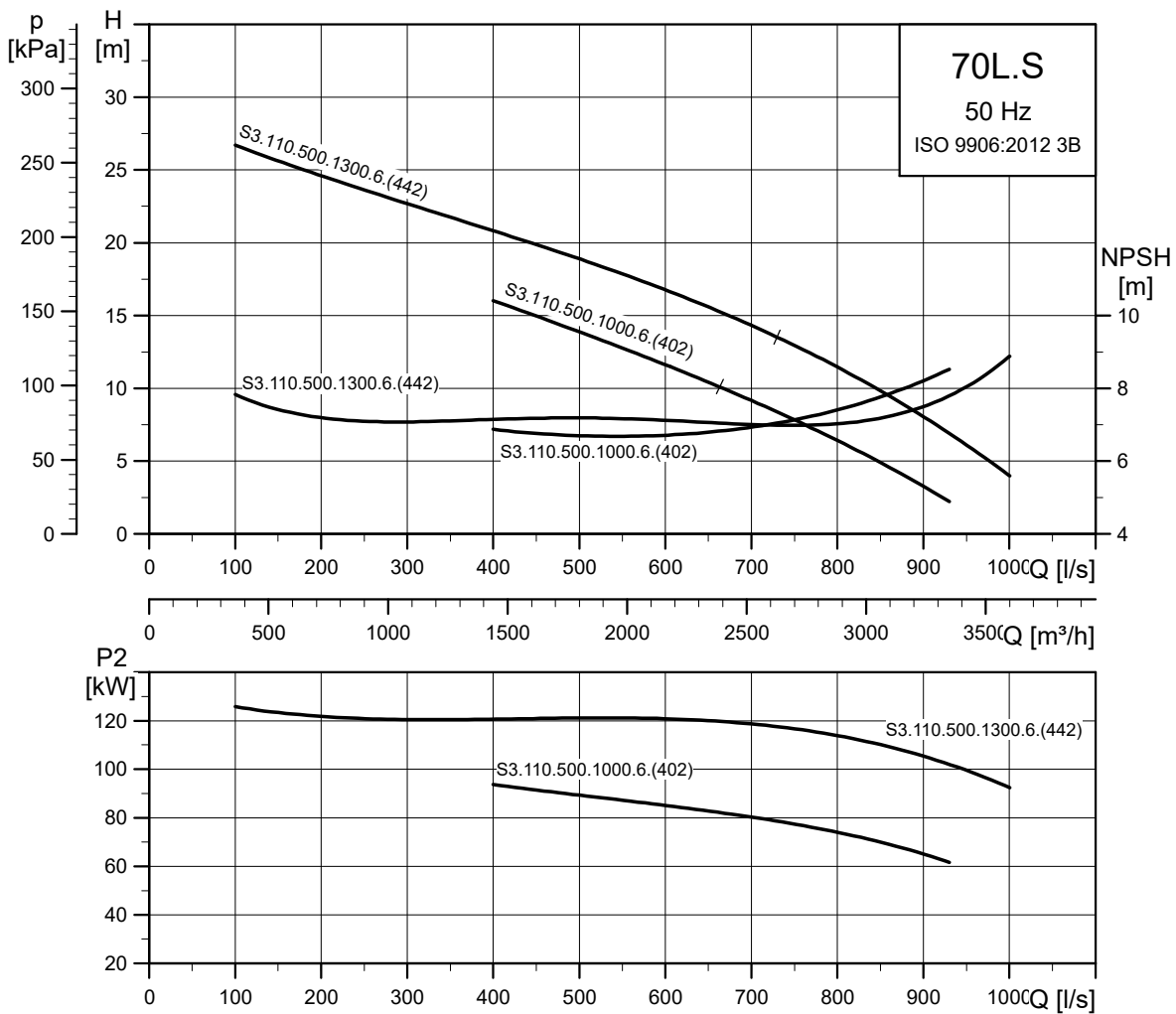
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S3.110.500.1000.6.70L.S/C/D/H.402...	402	110	10	20	1,7680
S3.110.500.1300.6.70L.S/C/D/H.442...	442				2,7797

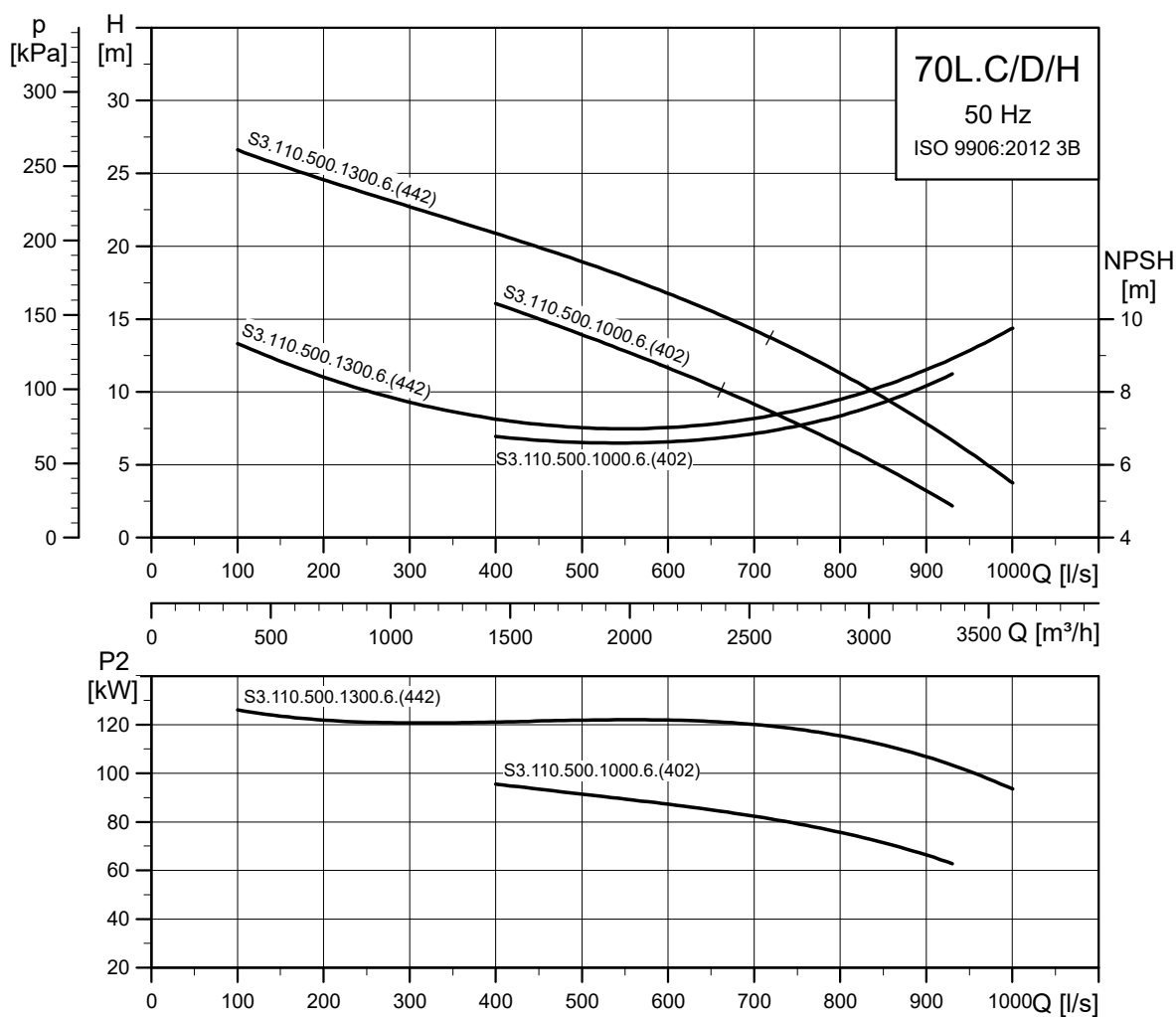
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Low pressure - 3 x 415 V

S3.110.500.1000.6 and S3.110.500.1300.6



TM041929



TM041930

Motor 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 M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S3.110.500.1000.6.70L.S.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090			
S3.110.500.1000.6.70L.C.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090			
S3.110.500.1000.6.70L.D.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090			
S3.110.500.1000.6.70L.H.402...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090			
S3.110.500.1300.6.70L.S.442...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.C.442...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.D.442...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273			
S3.110.500.1300.6.70L.H.442...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273			

Note: Enclosure class: IP68

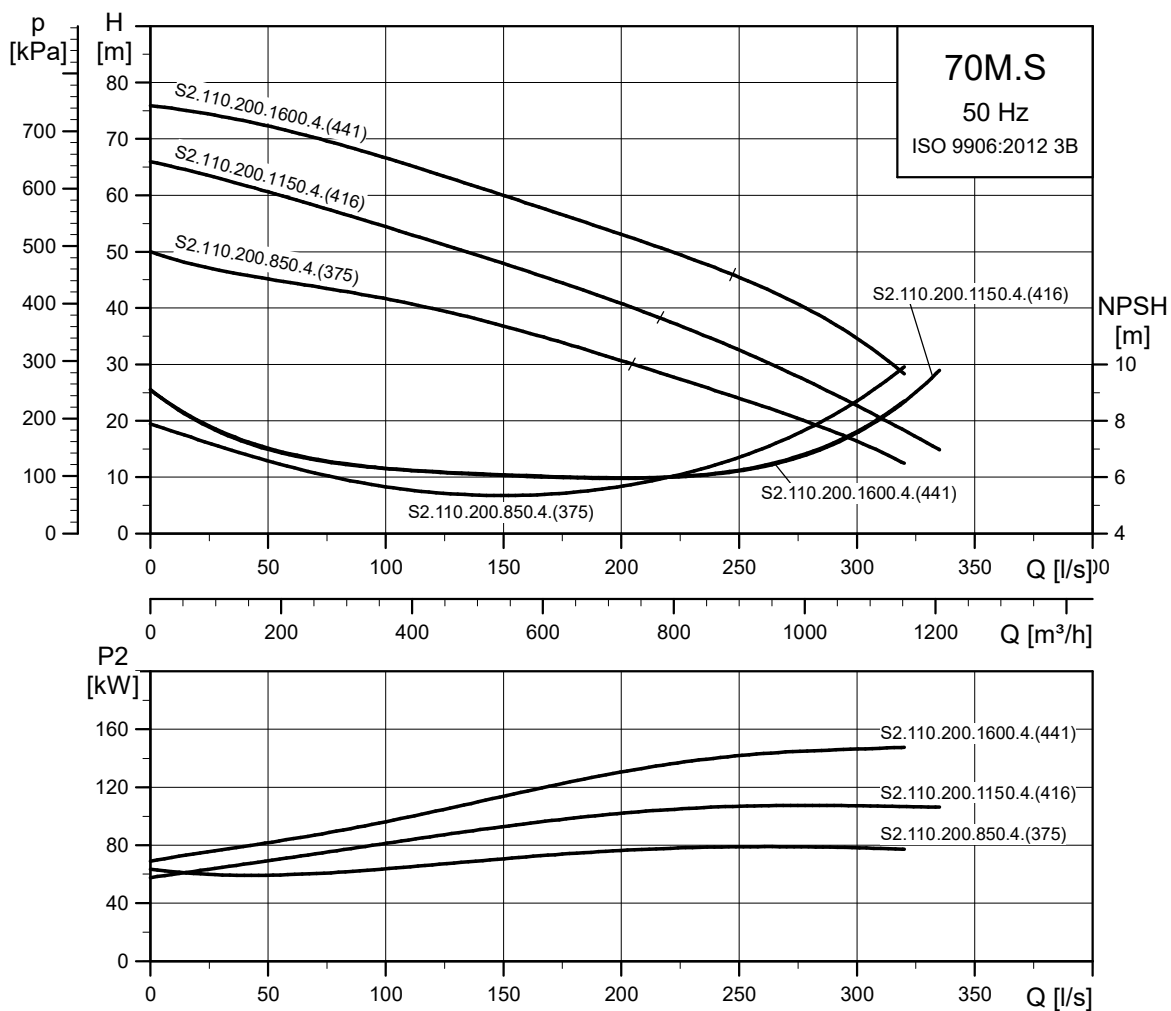
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S3.110.500.1000.6.70L.S/C/D/H.402...	402	110	10	20	1,7680
S3.110.500.1300.6.70L.S/C/D/H.442...	442				2,7797

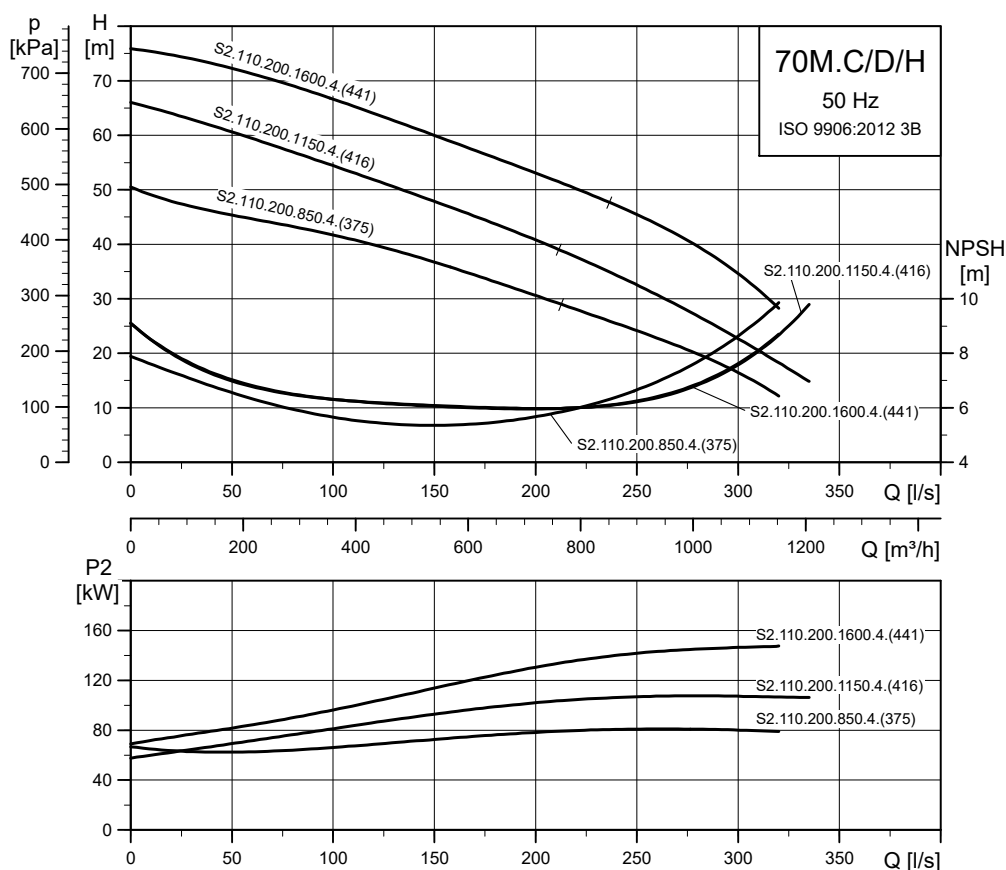
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 400/690 V

S2.110.200.850.4, S2.110.200.1150.4 and S2.110.200.1600.4



TM041867



TM041868

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}				η _{motor} [%]				Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1				
S2.110.200.850.4.70M.S.375...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647					
S2.110.200.850.4.70M.C.375...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647					
S2.110.200.850.4.70M.H.375...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647					
S2.110.200.850.4.70M.D.375...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647					
S2.110.200.1150.4.70M.S.416...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232					
S2.110.200.1150.4.70M.C.416...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232					
S2.110.200.1150.4.70M.H.416...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232					
S2.110.200.1150.4.70M.D.416...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232					
S2.110.200.1600.4.70M.S.441...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414					
S2.110.200.1600.4.70M.C.441...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414					
S2.110.200.1600.4.70M.H.441...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414					
S2.110.200.1600.4.70M.D.441...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414					

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

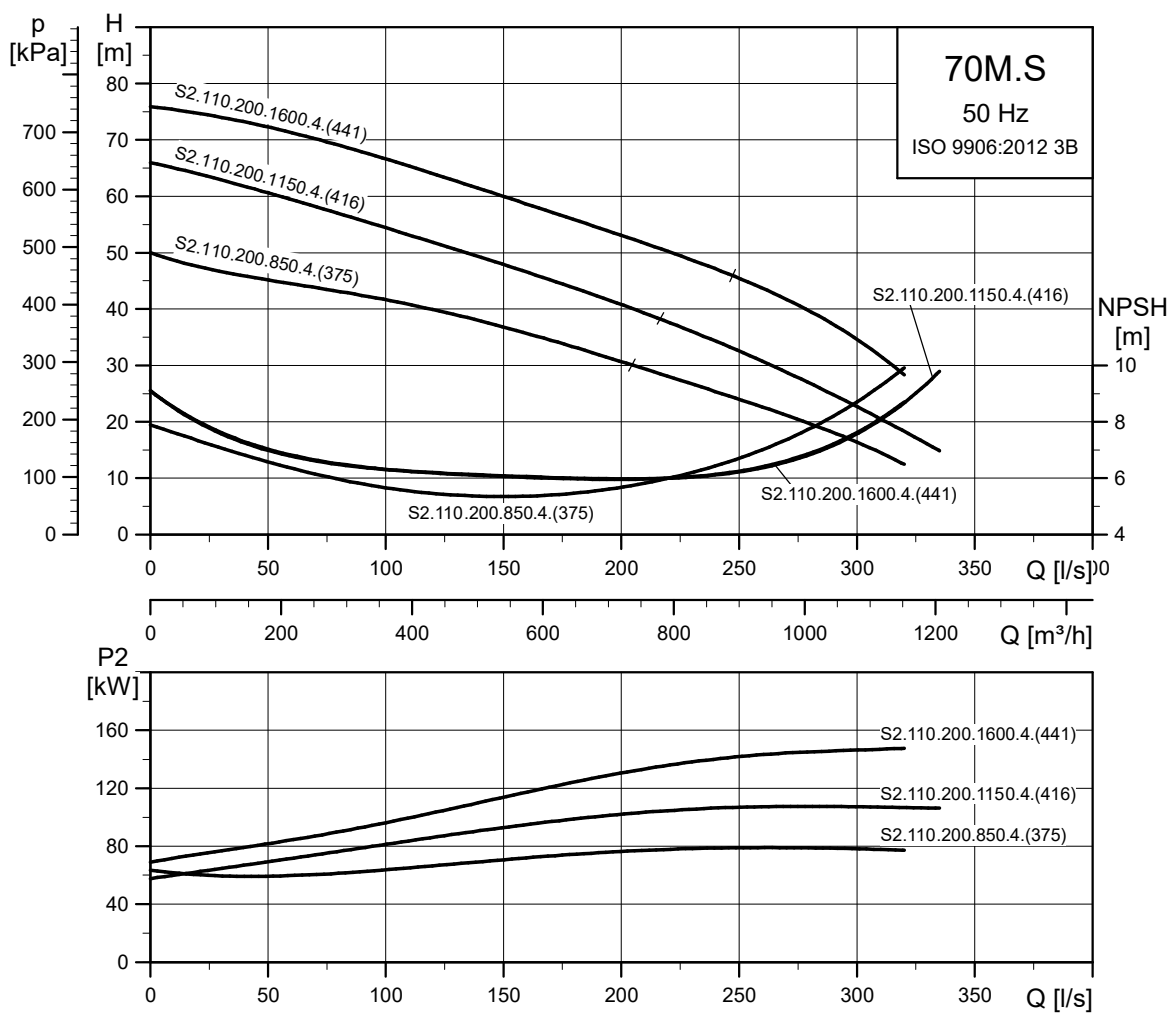
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S2.110.200.850.4.70M.S/C/D/H.375...	375	110	10	20	0,7827
S2.110.200.1150.4.70M.S/C/D/H.416...	416				0,8513
S2.110.200.1600.4.70M.S/C/D/H.441...	441				1,1470

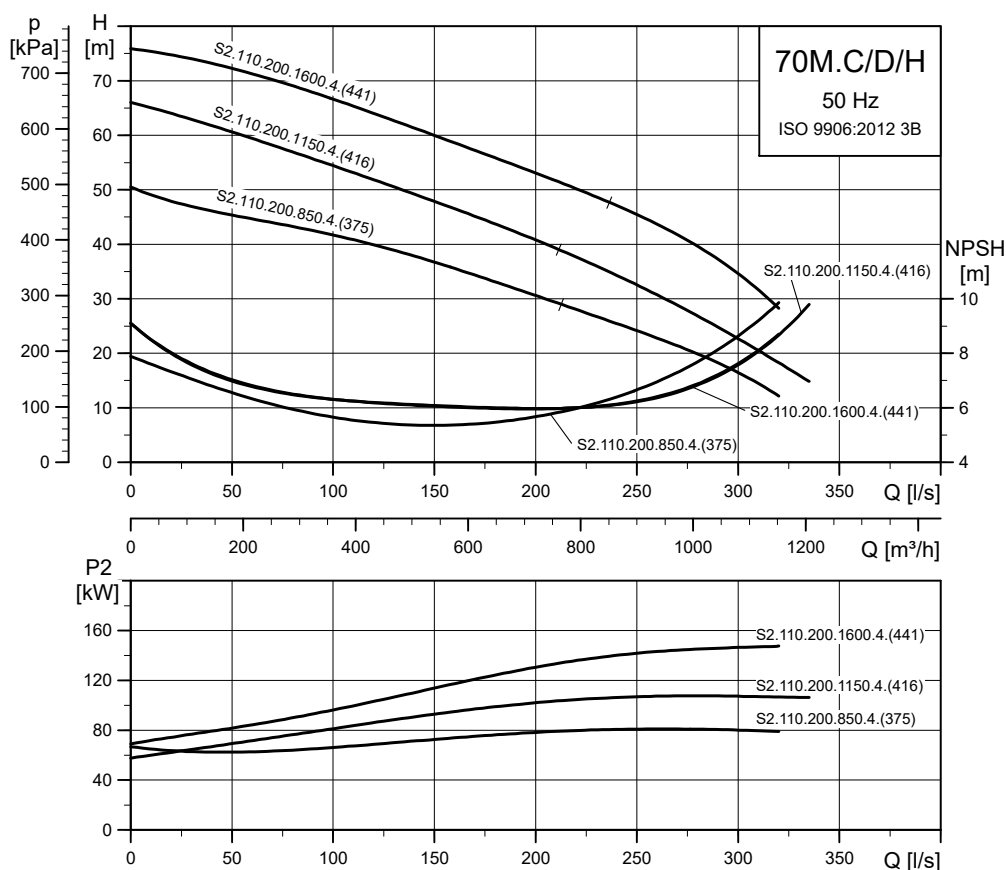
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 415 V

S2.110.200.850.4, S2.110.200.1150.4 and S2.110.200.1600.4



TM041867



TM041868

Motor 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 M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1		
S2.110.200.850.4.70M.S.375...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S2.110.200.850.4.70M.C.375...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S2.110.200.850.4.70M.D.375...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S2.110.200.850.4.70M.H.375...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S2.110.200.1150.4.70M.S.416...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.110.200.1150.4.70M.C.416...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.110.200.1150.4.70M.D.416...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.110.200.1150.4.70M.H.416...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.110.200.1600.4.70M.S.441...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.110.200.1600.4.70M.C.441...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.110.200.1600.4.70M.D.441...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.110.200.1600.4.70M.H.441...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414

Note: Enclosure class: IP68

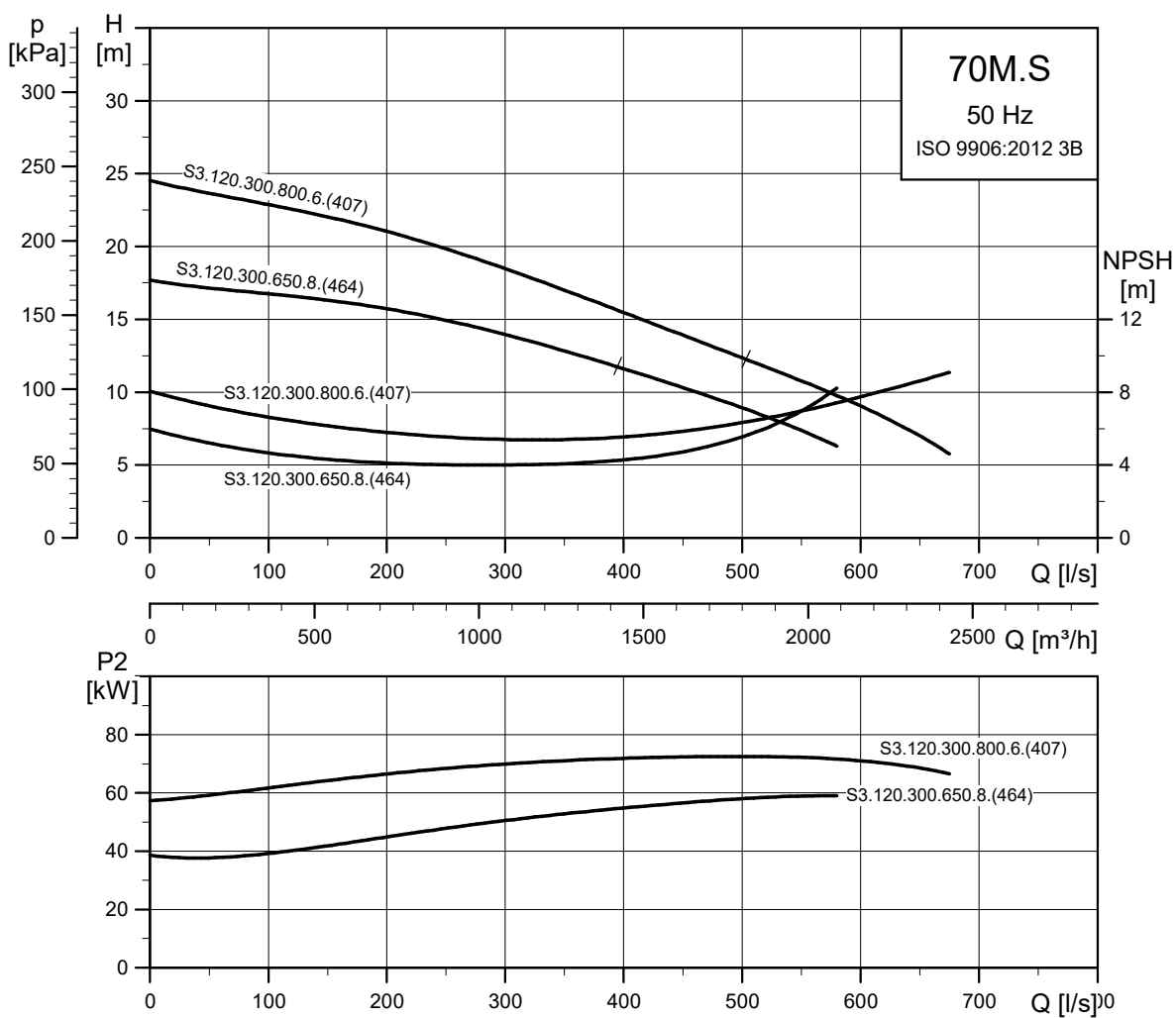
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S2.110.200.850.4.70M.S/C/D/H.375...	375				0,7827
S2.110.200.1150.4.70M.S/C/D/H.416...	416	110	10	20	0,8513
S2.110.200.1600.4.70M.S/C/D/H.441...	441				1,1470

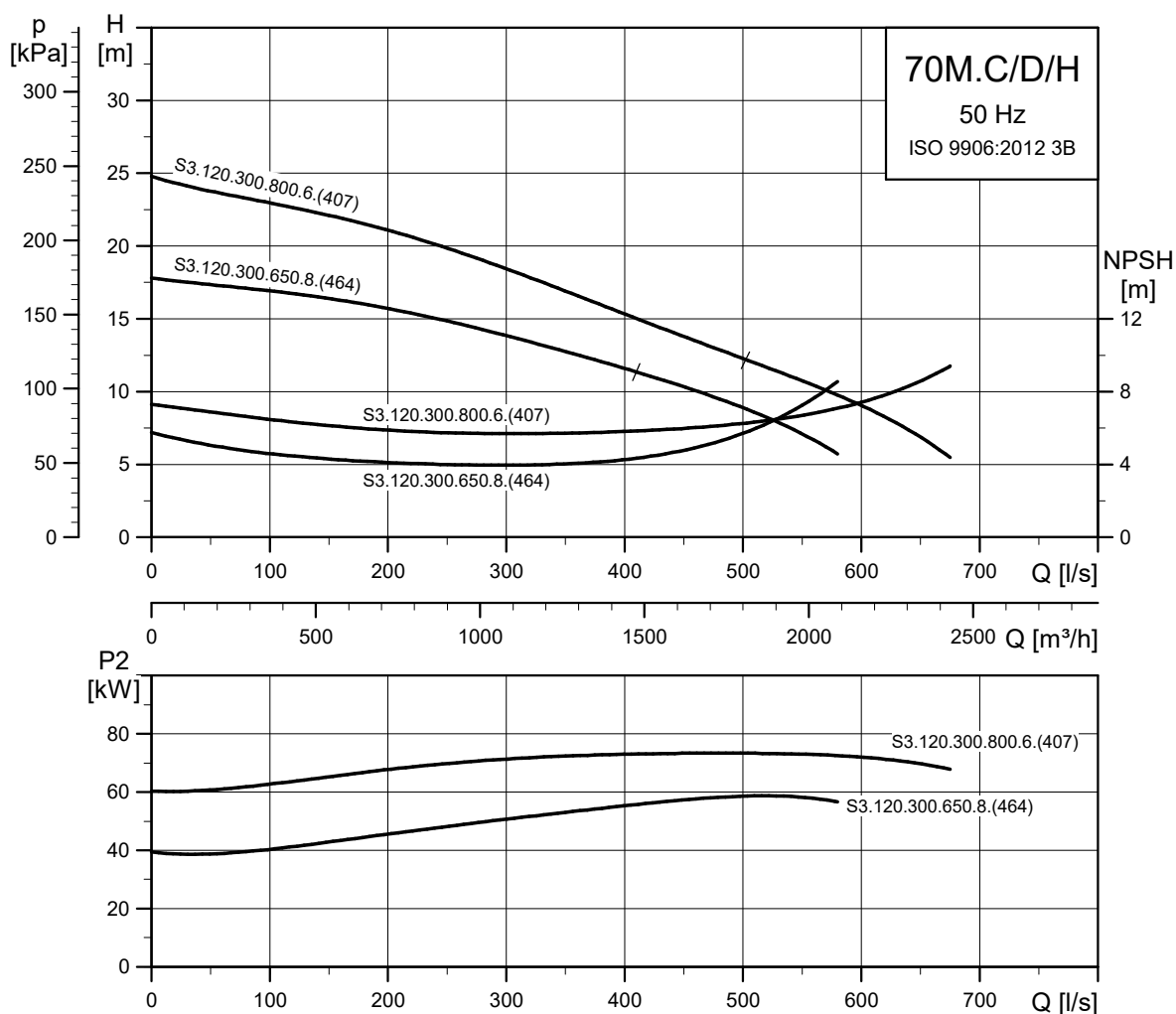
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 400/690 V

S3.120.300.650.8 and S3.120.300.800.6



TM041869



TM041870

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S3.120.300.650.8.70M.S.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000			2135	
S3.120.300.650.8.70M.C.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000			2135	
S3.120.300.650.8.70M.D.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000			2135	
S3.120.300.650.8.70M.H.464...	70	65	8	732	Y/D	123/72	733	94	94	91	0.70	0.80	0.84	2.1000			2135	
S3.120.300.800.6.70M.S.407...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S3.120.300.800.6.70M.C.407...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S3.120.300.800.6.70M.D.407...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S3.120.300.800.6.70M.H.407...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

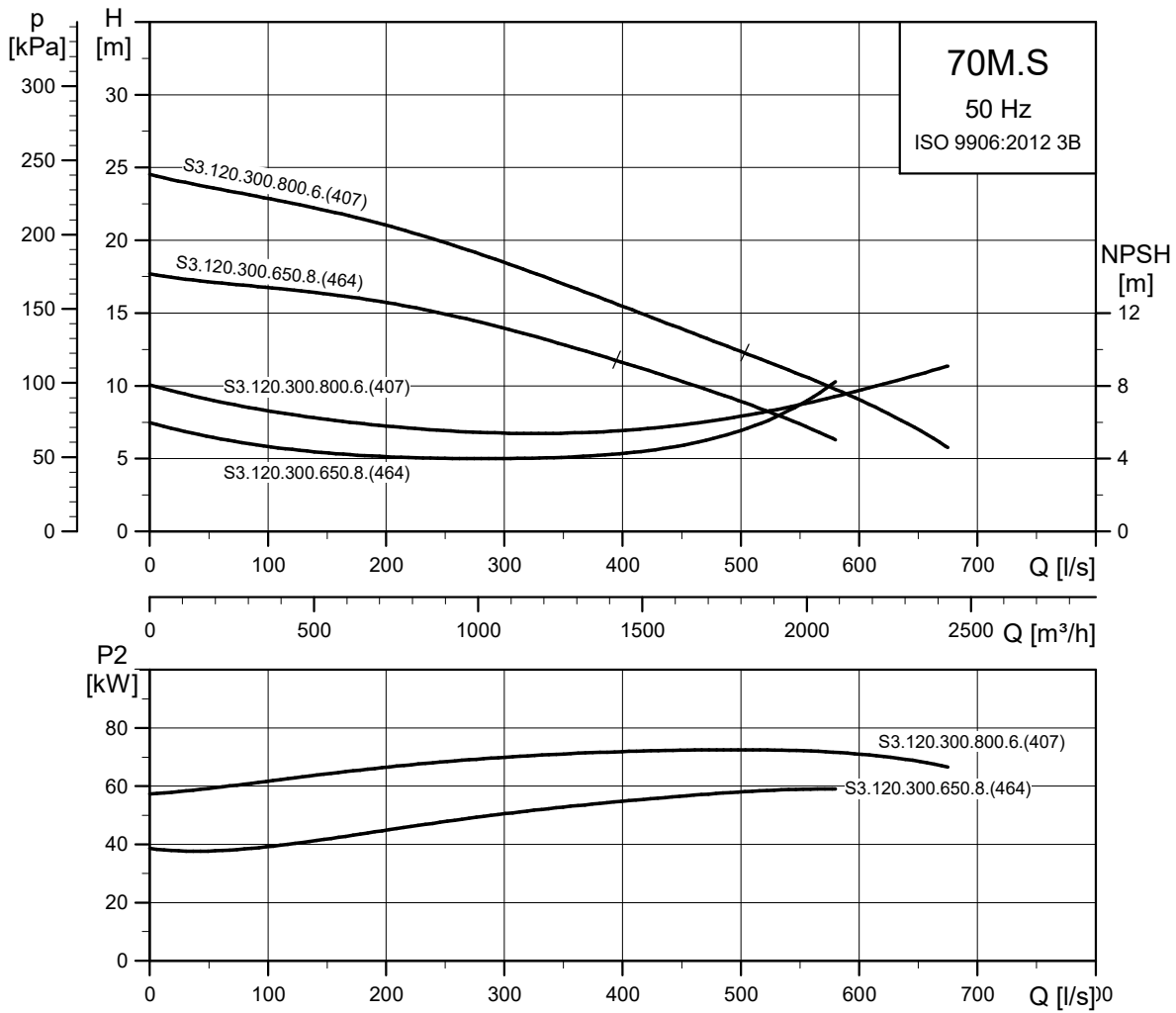
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm ²]
S3.120.300.650.8.70M.S/C/D/H.464...	464	120	10	20	1,7667
S3.120.300.800.6.70M.S/C/D/H.407...	407				1,1747

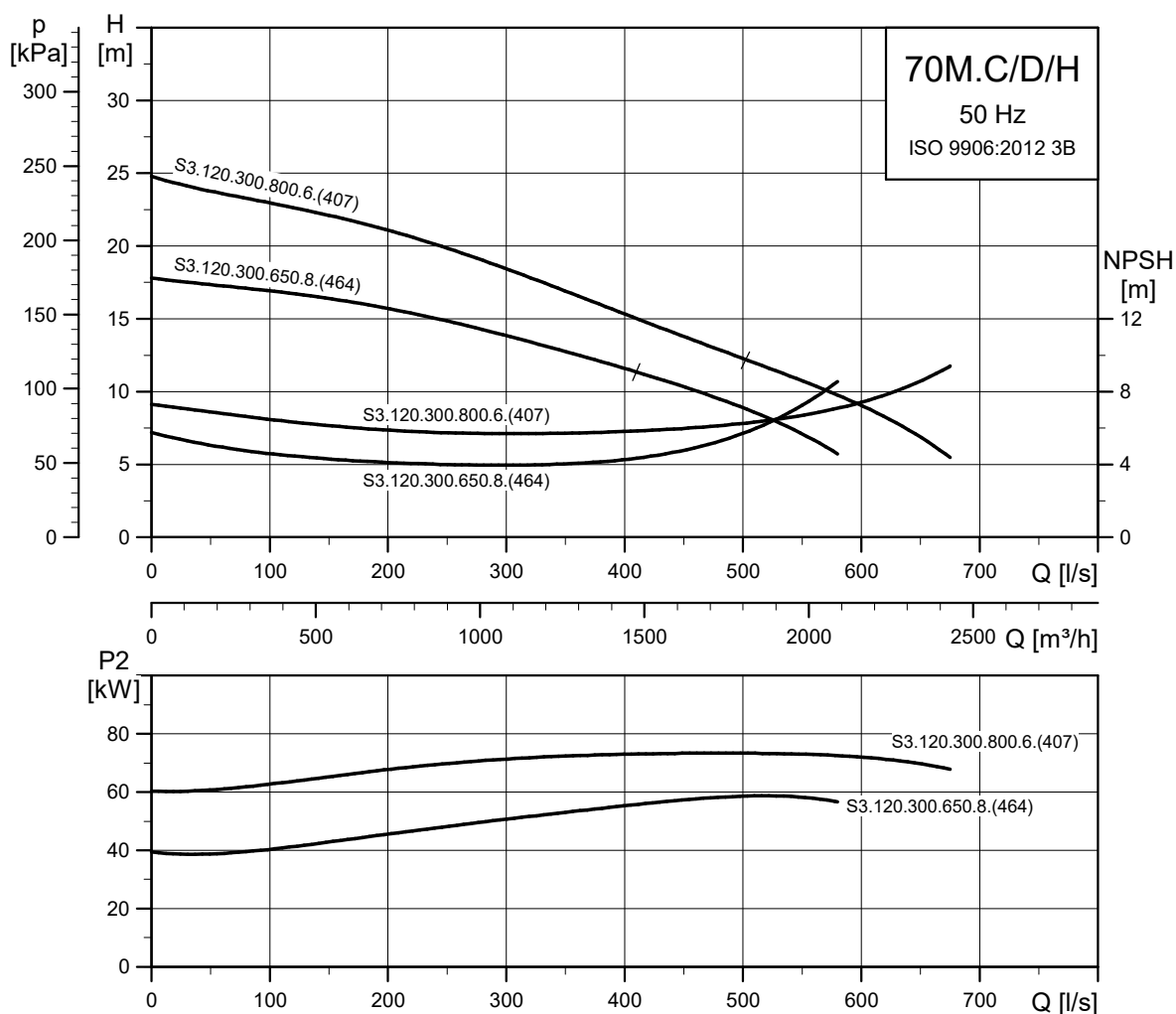
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 415 V

S3.120.300.650.8 and S3.120.300.800.6



TM041869



TM041870

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _n [A]	I _{start} [A]	η _{motor} [%]	Cos φ	Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
S3.120.300.650.8.70M.S.464...	70	65	8	732	Y/D	116	706	94 94 93	0.70 0.80 0.84	2.1000	2135
S3.120.300.650.8.70M.C.464...	70	65	8	732	Y/D	116	706	94 94 93	0.70 0.80 0.84	2.1000	2135
S3.120.300.650.8.70M.D.464...	70	65	8	732	Y/D	116	706	94 94 93	0.70 0.80 0.84	2.1000	2135
S3.120.300.650.8.70M.H.464...	70	65	8	732	Y/D	116	706	94 94 93	0.70 0.80 0.84	2.1000	2135
S3.120.300.800.6.70M.S.407...	87	80	6	988	Y/D	149	1203	91 92 92	0.64 0.75 0.81	2.1000	2090
S3.120.300.800.6.70M.C.407...	87	80	6	988	Y/D	149	1203	91 92 92	0.64 0.75 0.81	2.1000	2090
S3.120.300.800.6.70M.D.407...	87	80	6	988	Y/D	149	1203	91 92 92	0.64 0.75 0.81	2.1000	2090
S3.120.300.800.6.70M.H.407...	87	80	6	988	Y/D	149	1203	91 92 92	0.64 0.75 0.81	2.1000	2090

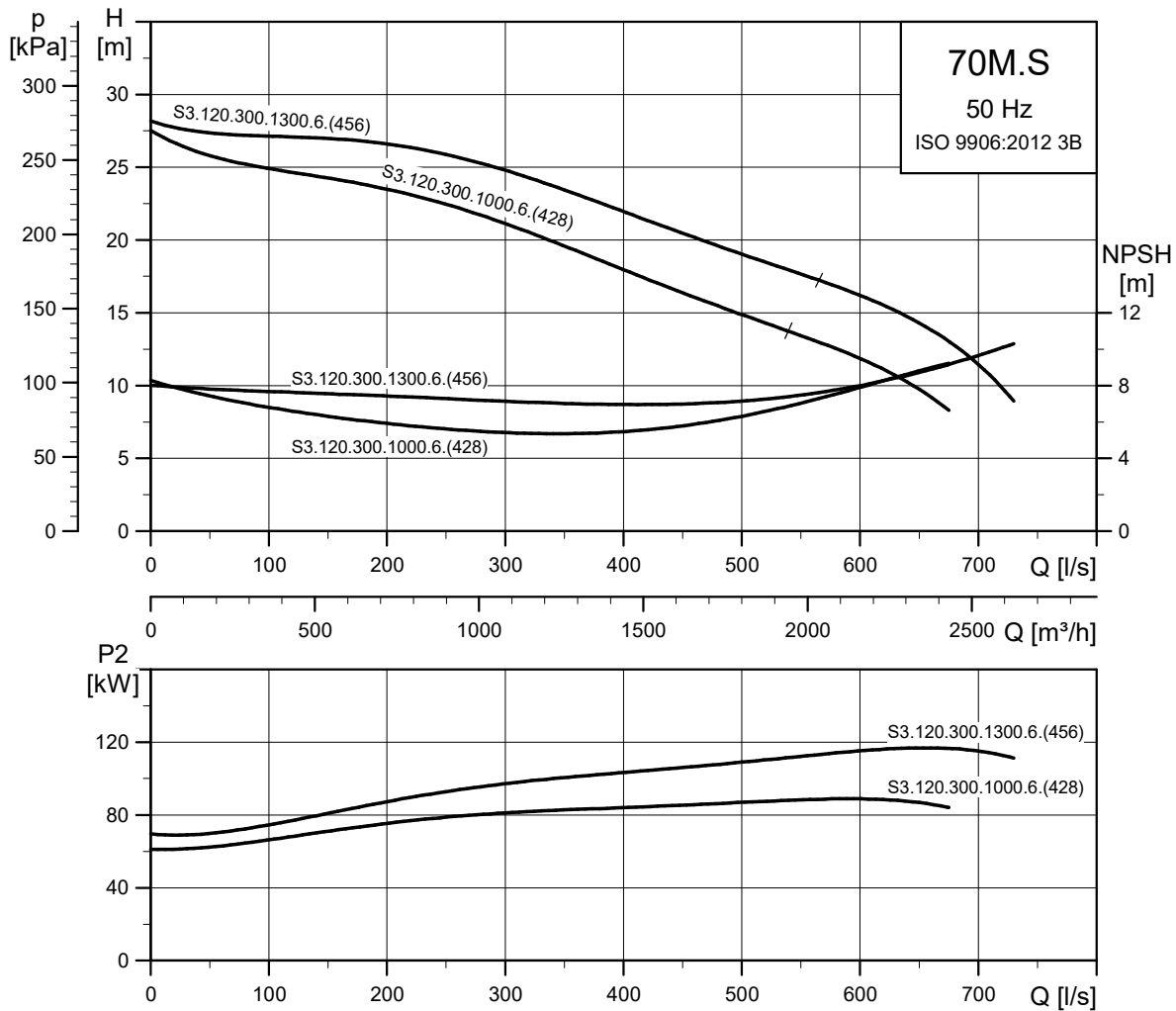
Note: Enclosure class: IP68**Pump data**

Pump type	Impeller diameter [mm]	Maximum solids size [mm]	Pump housing pressure PN	Maximum installation depth [m]	Moment of inertia* [kgm²]
S3.120.300.650.8.70M.S/C/D/H.464...	464	120	10	20	1,7667
S3.120.300.800.6.70M.S/C/D/H.407...	407				1,1747

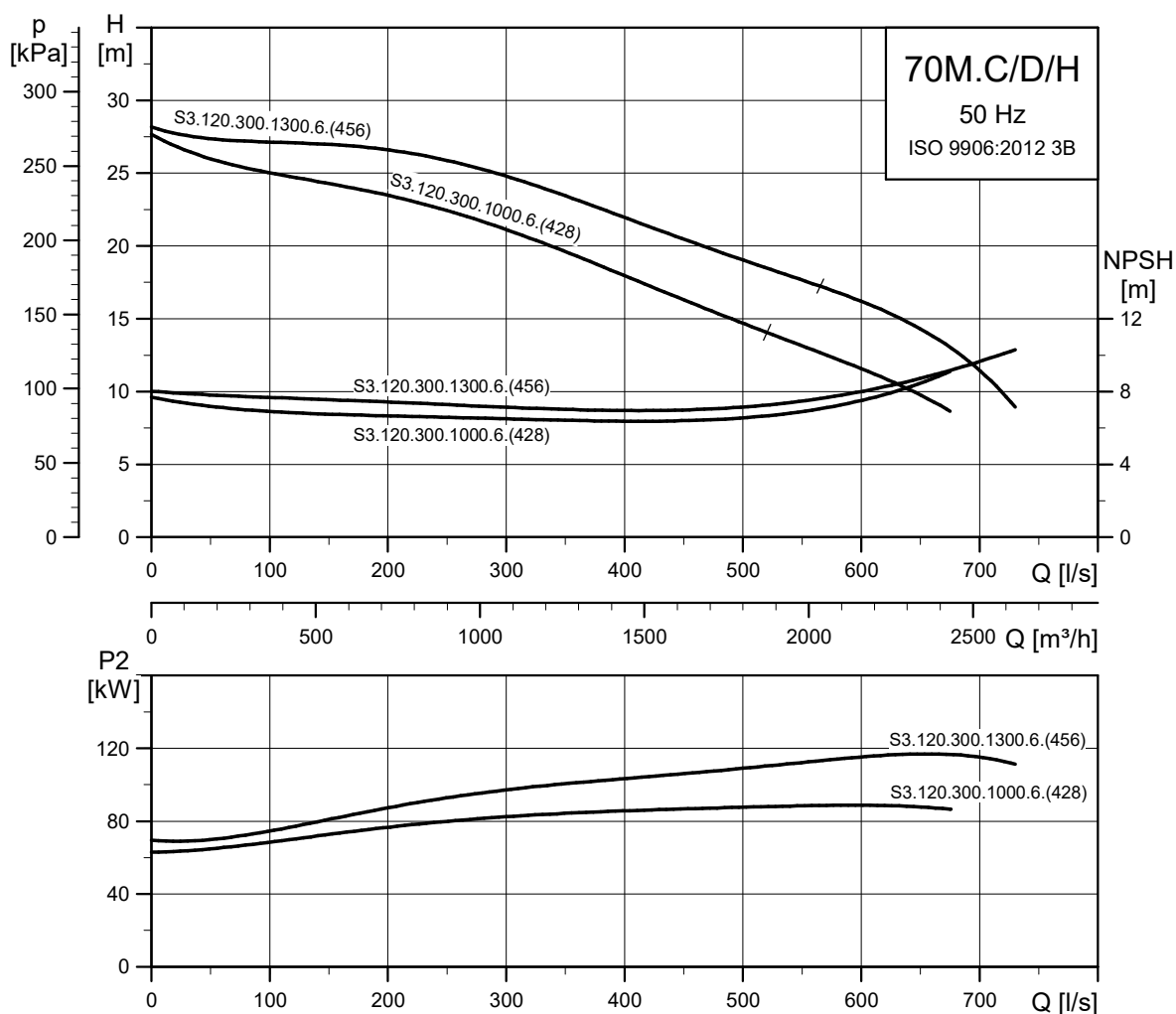
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 400/690 V

S3.120.300.1000.6 and S3.120.300.1300.6



TM075697



TM075698

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹ [A]	I _{start} [A]	η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
S3.120.300.1000.6.70M.S.428...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090
S3.120.300.1000.6.70M.C.428...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090
S3.120.300.1000.6.70M.D.428...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090
S3.120.300.1000.6.70M.H.428...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090
S3.120.300.1300.6.70M.S.456...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273
S3.120.300.1300.6.70M.C.456...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273
S3.120.300.1300.6.70M.D.456...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273
S3.120.300.1300.6.70M.H.456...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

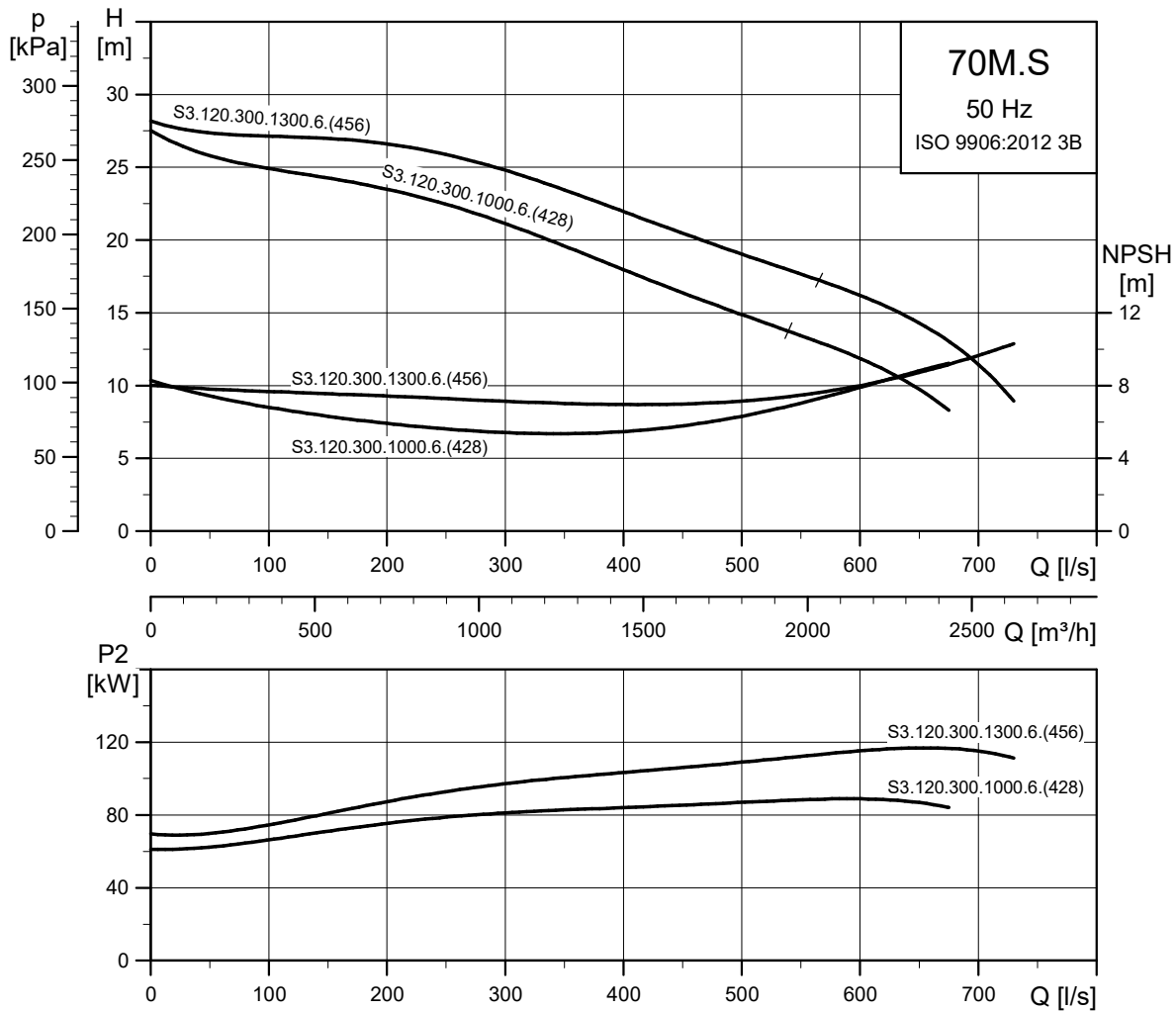
Pump data

Pump type	Impeller diameter [mm]	Maximum solids size [mm]	Pump housing pressure PN	Maximum installation depth [m]	Moment of inertia* [kgm²]
S3.120.300.1000.6.70M.S/C/D/H.428...	428	120	10	20	1,3443
S3.120.300.1300.6.70M.S/C/D/H.456...	456				1,6057

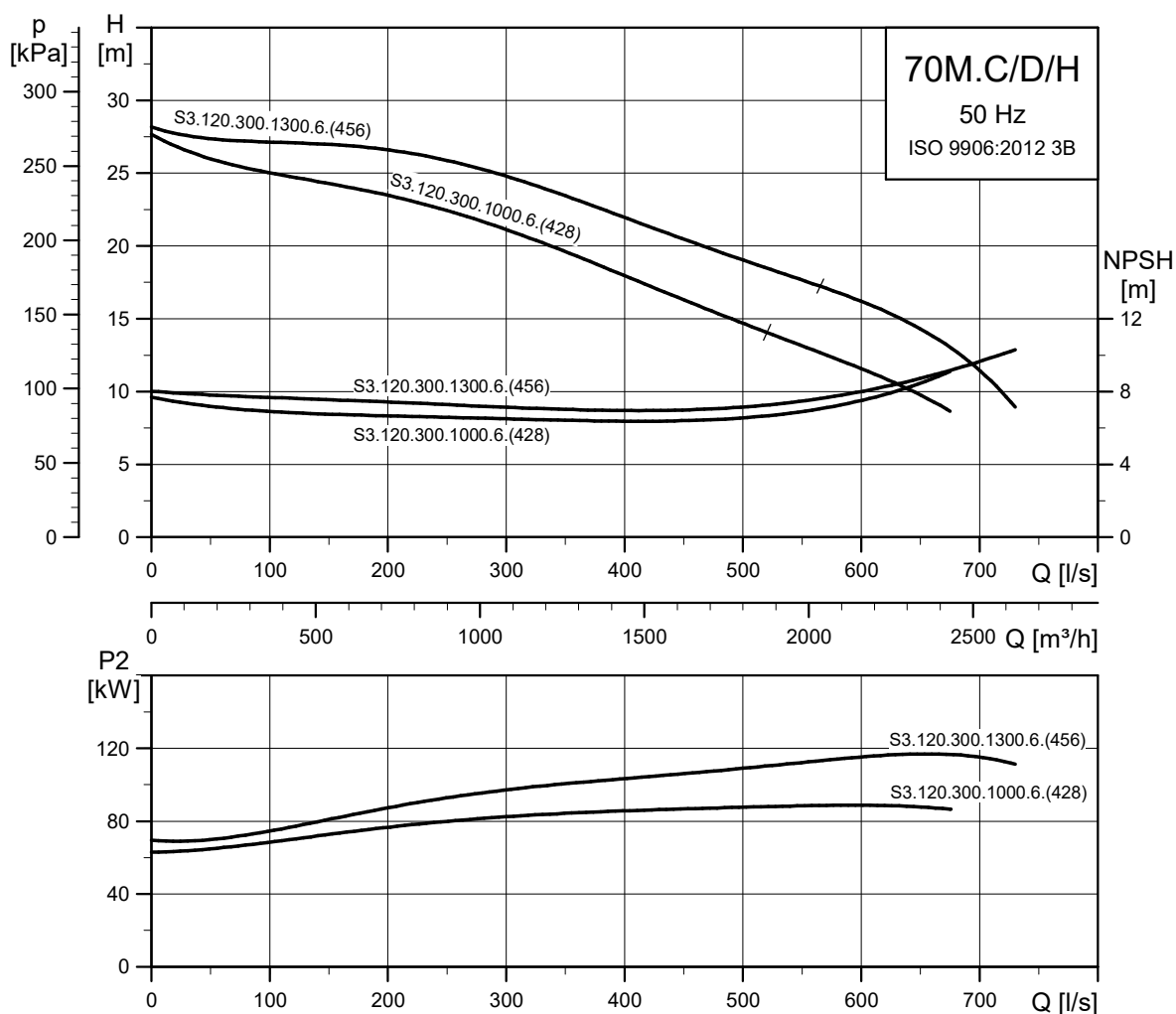
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Medium pressure - 3 x 415 V

S3.120.300.1000.6 and S3.120.300.1300.6



TM075697



TM075698

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _n		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S3.120.300.1000.6.70M.S.428...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000			2090	
S3.120.300.1000.6.70M.C.428...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000			2090	
S3.120.300.1000.6.70M.D.428...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000			2090	
S3.120.300.1000.6.70M.H.428...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000			2090	
S3.120.300.1300.6.70M.S.456...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000			3273	
S3.120.300.1300.6.70M.C.456...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000			3273	
S3.120.300.1300.6.70M.D.456...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000			3273	
S3.120.300.1300.6.70M.H.456...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000			3273	

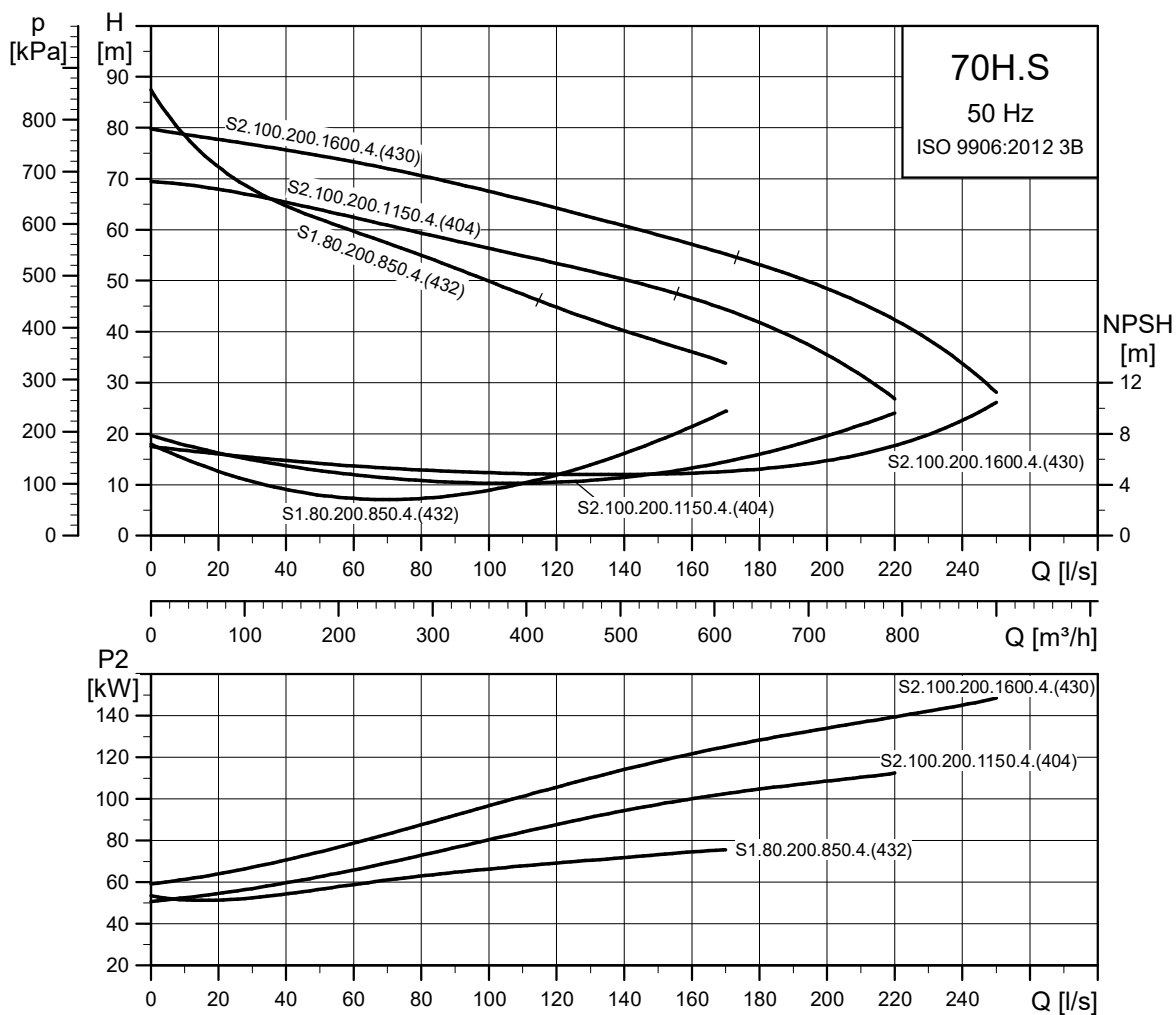
Note: Enclosure class: IP68**Pump data**

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S3.120.300.1000.6.70M.S/C/D/H.428...	428	120	10	20	1,3443
S3.120.300.1300.6.70M.S/C/D/H.456...	456				1,6057

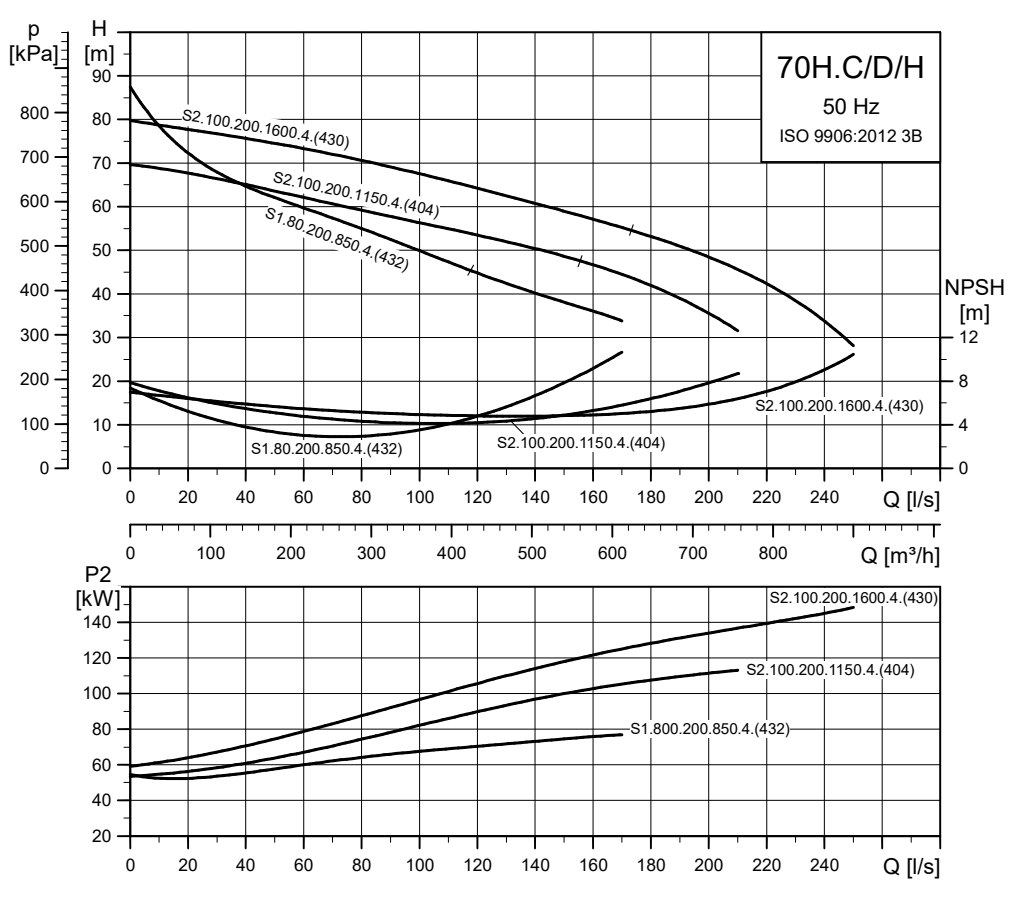
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 400/690 V

S1.80.200.850.4, S2.100.200.1150.4 and S2.100.200.1600.4



TM040685



TM040686

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}				η _{motor} [%]				Cos φ		Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1						
S1.80.200.850.4.70H.S.432...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647				
S1.80.200.850.4.70H.C.432...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647				
S1.80.200.850.4.70H.D.432...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647				
S1.80.200.850.4.70H.H.432...	90	85	4	1478	Y/D	154/90	1044	94	95	94	0.75	0.83	0.85	0.8500	1647				
S2.100.200.1150.4.70H.S.404...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232				
S2.100.200.1150.4.70H.C.404...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232				
S2.100.200.1150.4.70H.D.404...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232				
S2.100.200.1150.4.70H.H.404...	122	115	4	1475	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232				
S2.100.200.1600.4.70H.S.430...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414				
S2.100.200.1600.4.70H.C.430...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414				
S2.100.200.1600.4.70H.D.430...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414				
S2.100.200.1600.4.70H.H.430...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414				

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

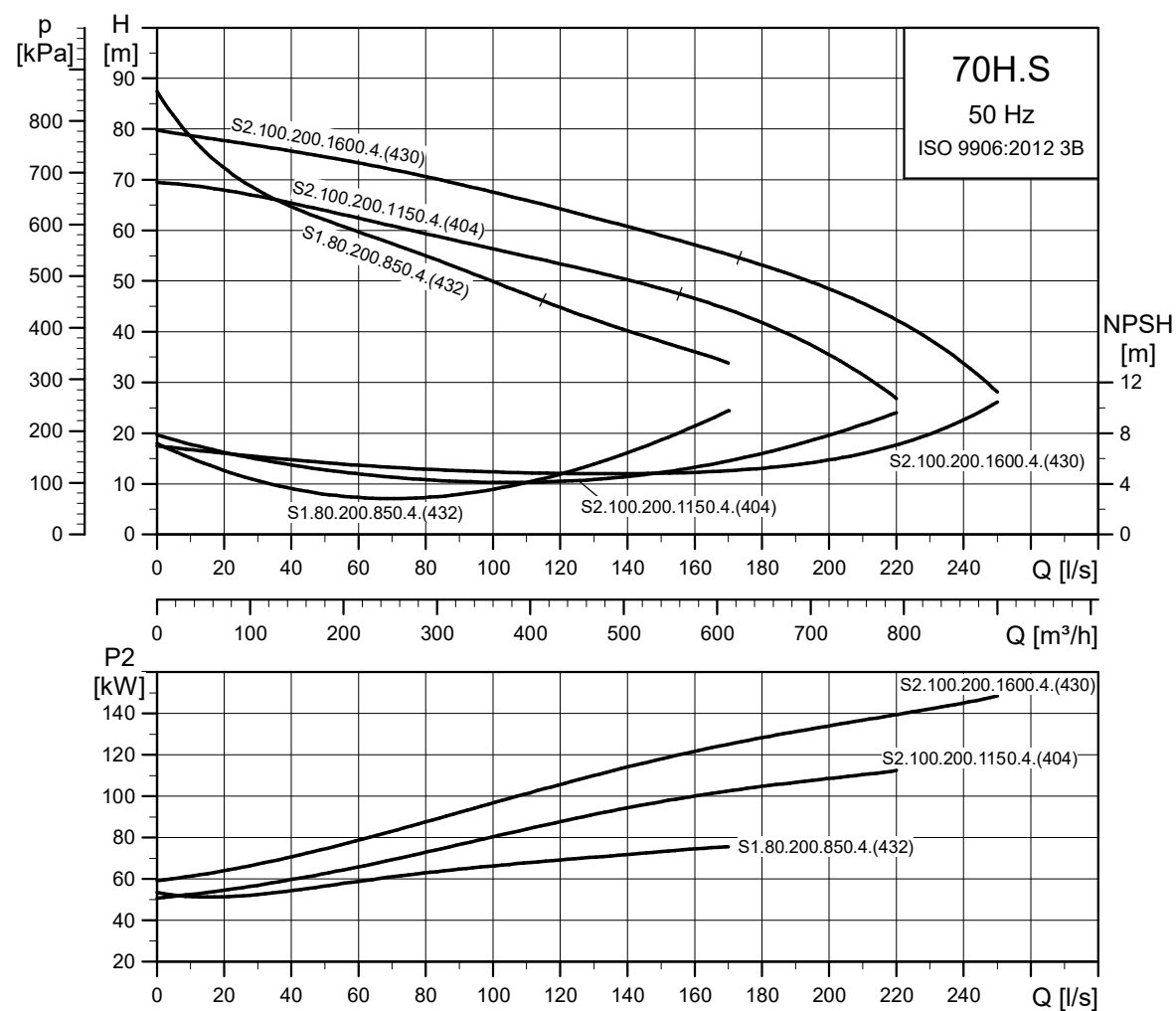
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia [*]
	[mm]	[mm]	PN	[m]	[kgm²]
S1.100.200.850.4.70H.S/C/D/H.432...	432				1,3697
S2.100.200.1150.4.70H.S/C/D/H.404...	404	100	10	20	1,0463
S2.100.200.1600.4.70H.S/C/D/H.430...	430				1,5000

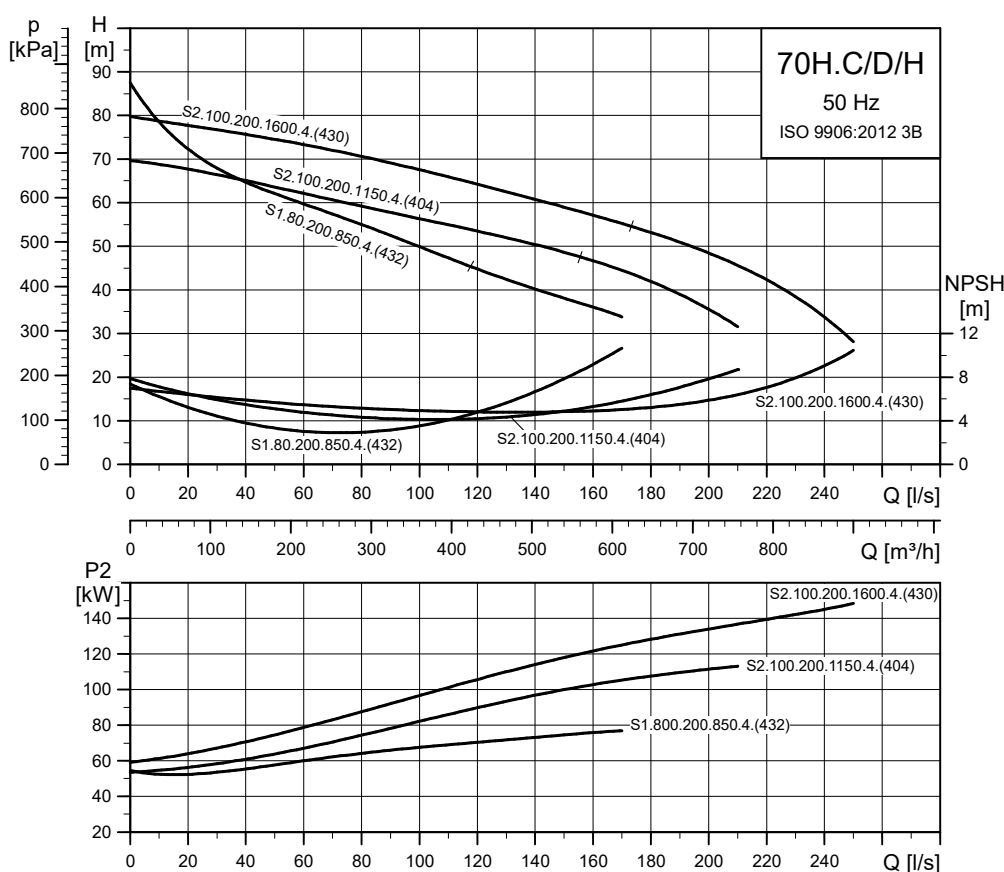
^{*} Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 415 V

S1.80.200.850.4, S2.100.200.1150.4 and S2.100.200.1600.4



TM040685



TM040686

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N [A]	I _{start} [A]	η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
S1.80.200.850.4.70H.S.448...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S1.80.200.850.4.70H.C.448...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S1.80.200.850.4.70H.D.448...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S1.80.200.850.4.70H.H.448...	90	85	4	1478	Y/D	149	1006	94	95	94	0.75	0.83	0.85	0.8500	1647
S2.100.200.1150.4.70H.S.404...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.100.200.1150.4.70H.C.404...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.100.200.1150.4.70H.D.404...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.100.200.1150.4.70H.H.404...	122	115	4	1475	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	2232
S2.100.200.1600.4.70H.S.430...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.100.200.1600.4.70H.C.430...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.100.200.1600.4.70H.D.430...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414
S2.100.200.1600.4.70H.H.430...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	3414

Note: Enclosure class: IP68

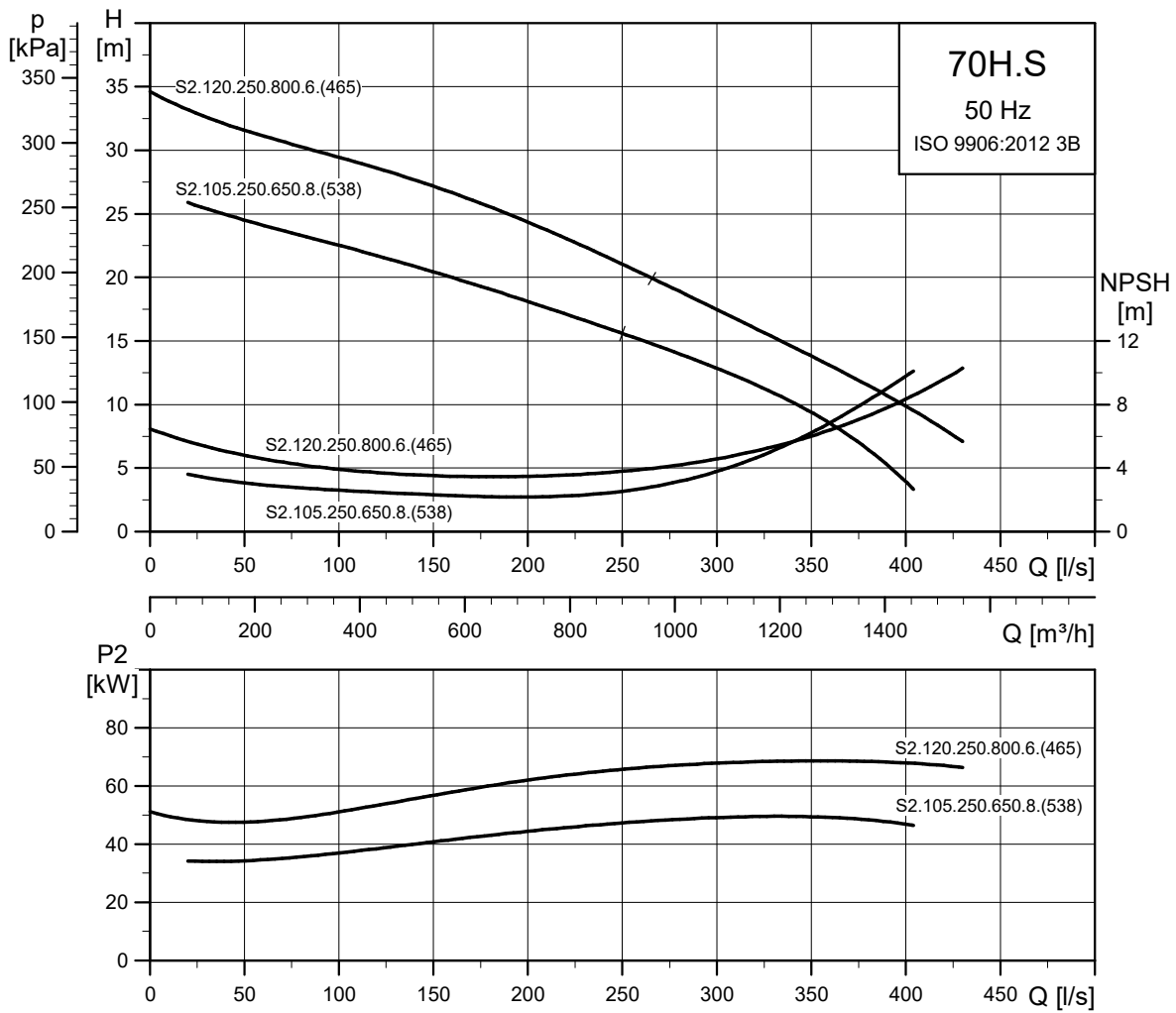
Pump data

Pump type	Impeller diameter [mm]	Maximum solids size [mm]	Pump housing pressure PN	Maximum installation depth [m]	Moment of inertia* [kgm ²]
S1.80.200.850.4.70H.S/C/D/H.448...	448	80			1,2100
S2.100.200.1150.4.70H.S/C/D/H.404...	404	100	10	20	1,0463
S2.100.200.1600.4.70H.S/C/D/H.430...	430				1,5000

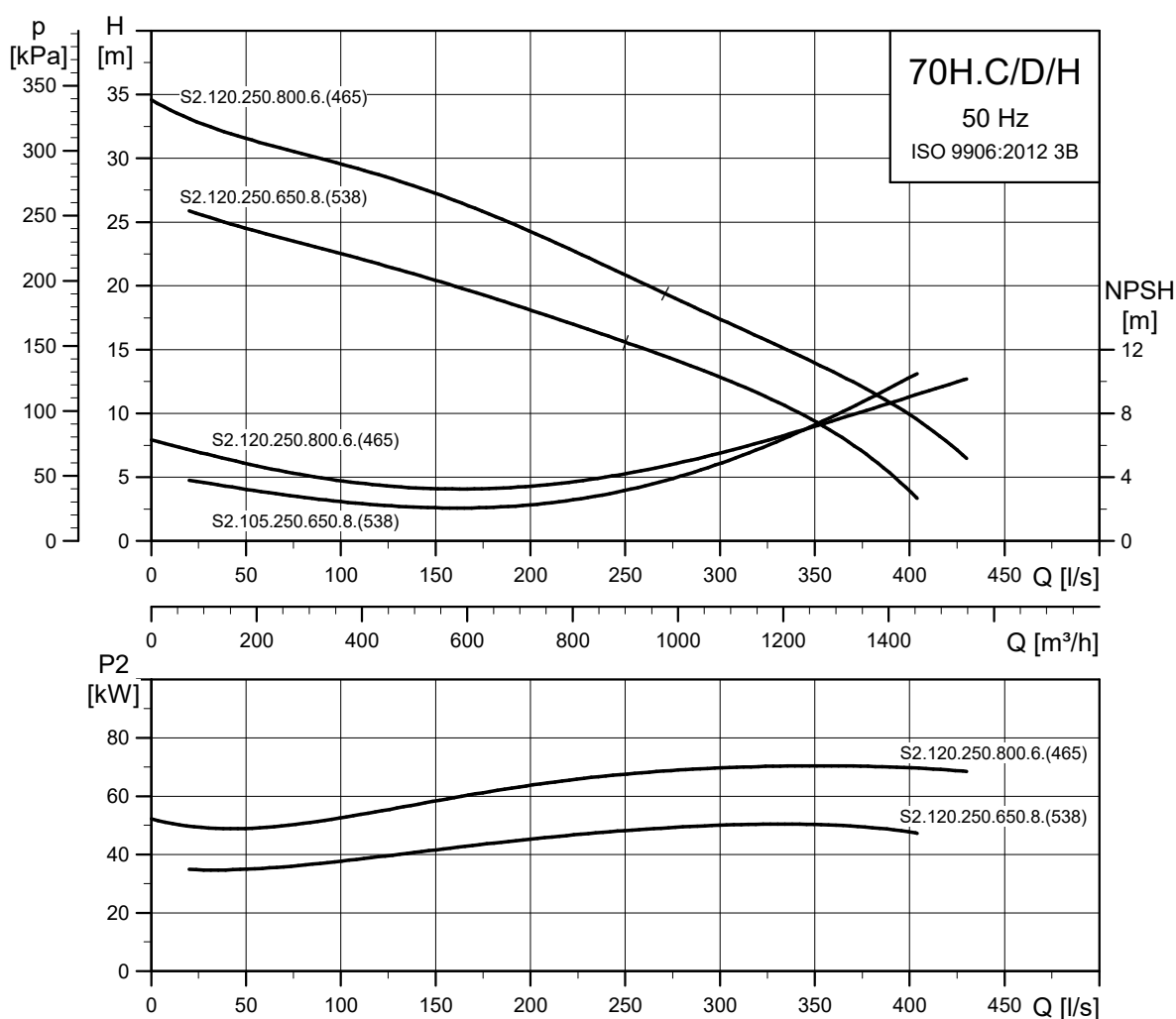
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 400/690 V

S2.120.250.650.8 and S2.120.250.800.6



TM041932



TM041934

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S2.105.250.650.8.70H.S.538...	70	65	8	732	Y/D	123/72	733	94	94	91	0.71	0.79	0.84	2.1000			2135	
S2.105.250.650.8.70H.C.538...	70	65	8	732	Y/D	123/72	733	94	94	91	0.71	0.79	0.84	2.1000			2135	
S2.105.250.650.8.70H.D.538...	70	65	8	732	Y/D	123/72	733	94	94	91	0.71	0.79	0.84	2.1000			2135	
S2.105.250.650.8.70H.H.538...	70	65	8	732	Y/D	123/72	733	94	94	91	0.71	0.79	0.84	2.1000			2135	
S2.120.250.800.6.70H.S.465...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S2.120.250.800.6.70H.C.465...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S2.120.250.800.6.70H.D.465...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	
S2.120.250.800.6.70H.H.465...	87	80	6	988	Y/D	168/98	1249	91	92	92	0.61	0.68	0.75	2.1000			2090	

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

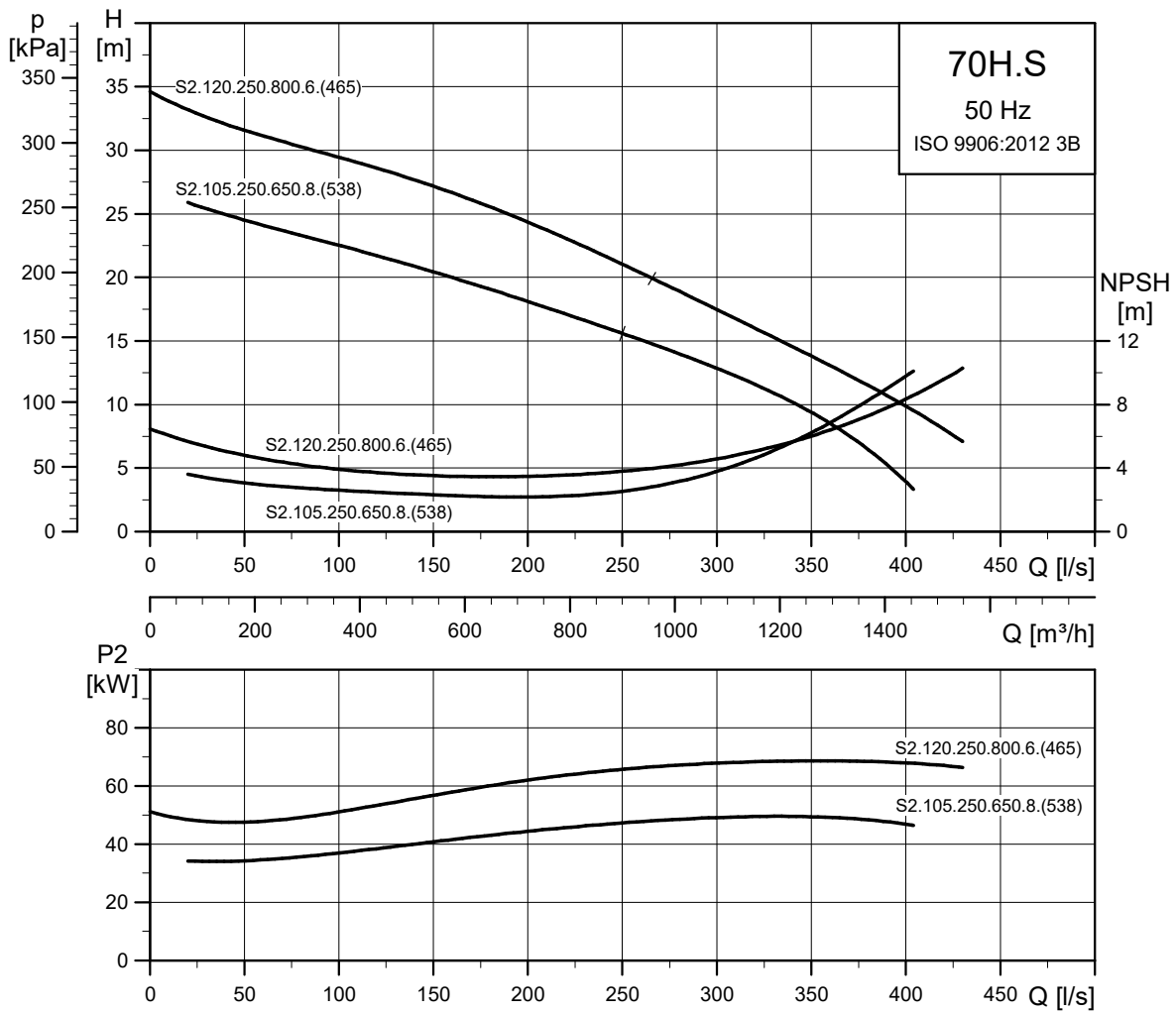
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.105.250.650.8.70H.S/C/D/H.538...	538	105	10	20	2,7400
S2.120.250.800.6.70H.S/C/D/H.465...	465	120			1,7727

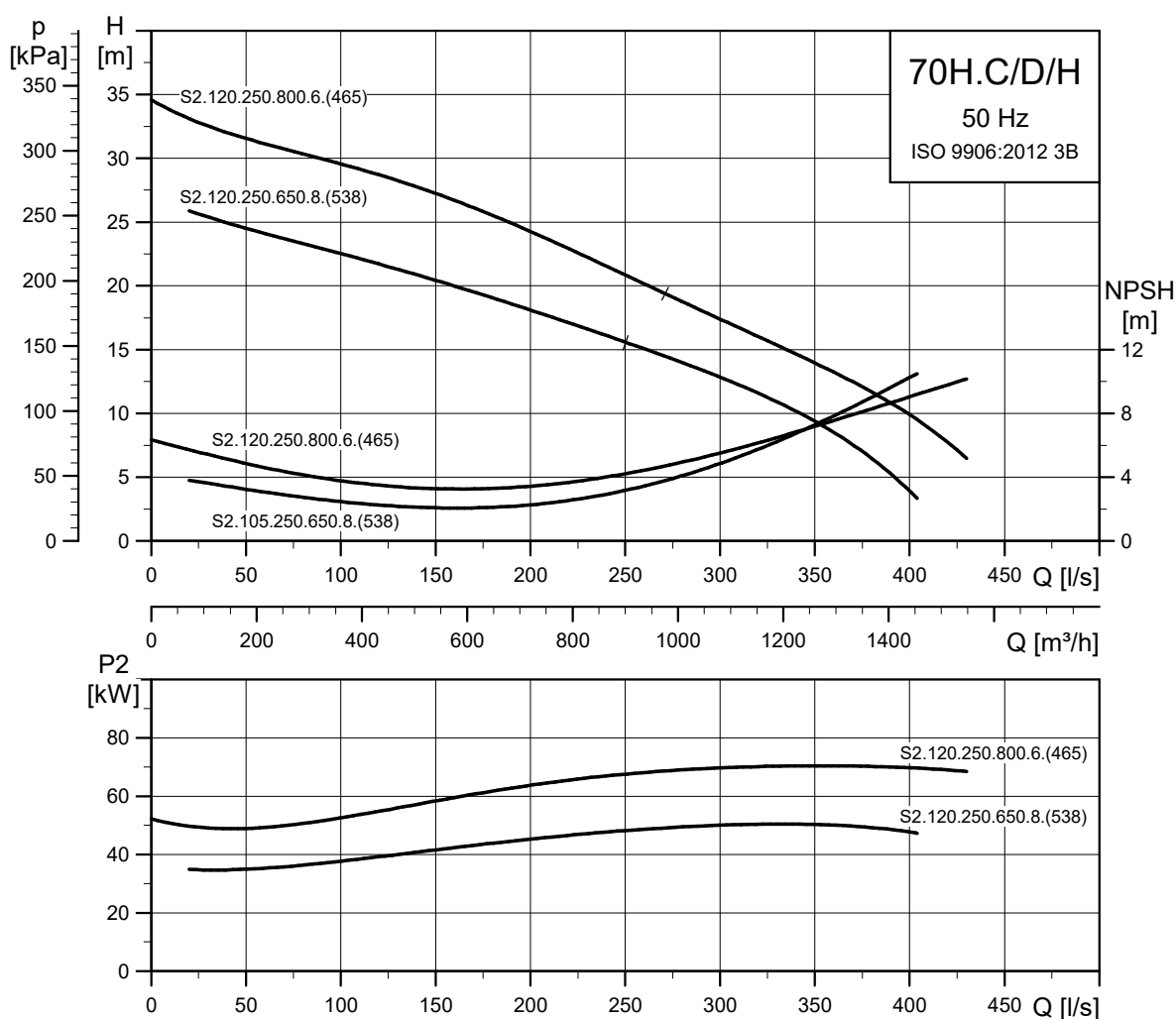
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 415 V

S2.105.250.650.8 and S2.120.250.800.6



TM041932



TM041934

Motor 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 M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1						
S2.105.250.650.8.70H.S.538...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135				
S2.105.250.650.8.70H.C.538...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135				
S2.105.250.650.8.70H.D.538...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135				
S2.105.250.650.8.70H.H.538...	70	65	8	732	Y/D	116	706	94	94	93	0.70	0.80	0.84	2.1000	2135				
S2.120.250.800.6.70H.S.465...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	2090				
S2.120.250.800.6.70H.C.465...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	2090				
S2.120.250.800.6.70H.D.465...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	2090				
S2.120.250.800.6.70H.H.465...	87	80	6	988	Y/D	149	1203	91	92	92	0.64	0.75	0.81	2.1000	2090				

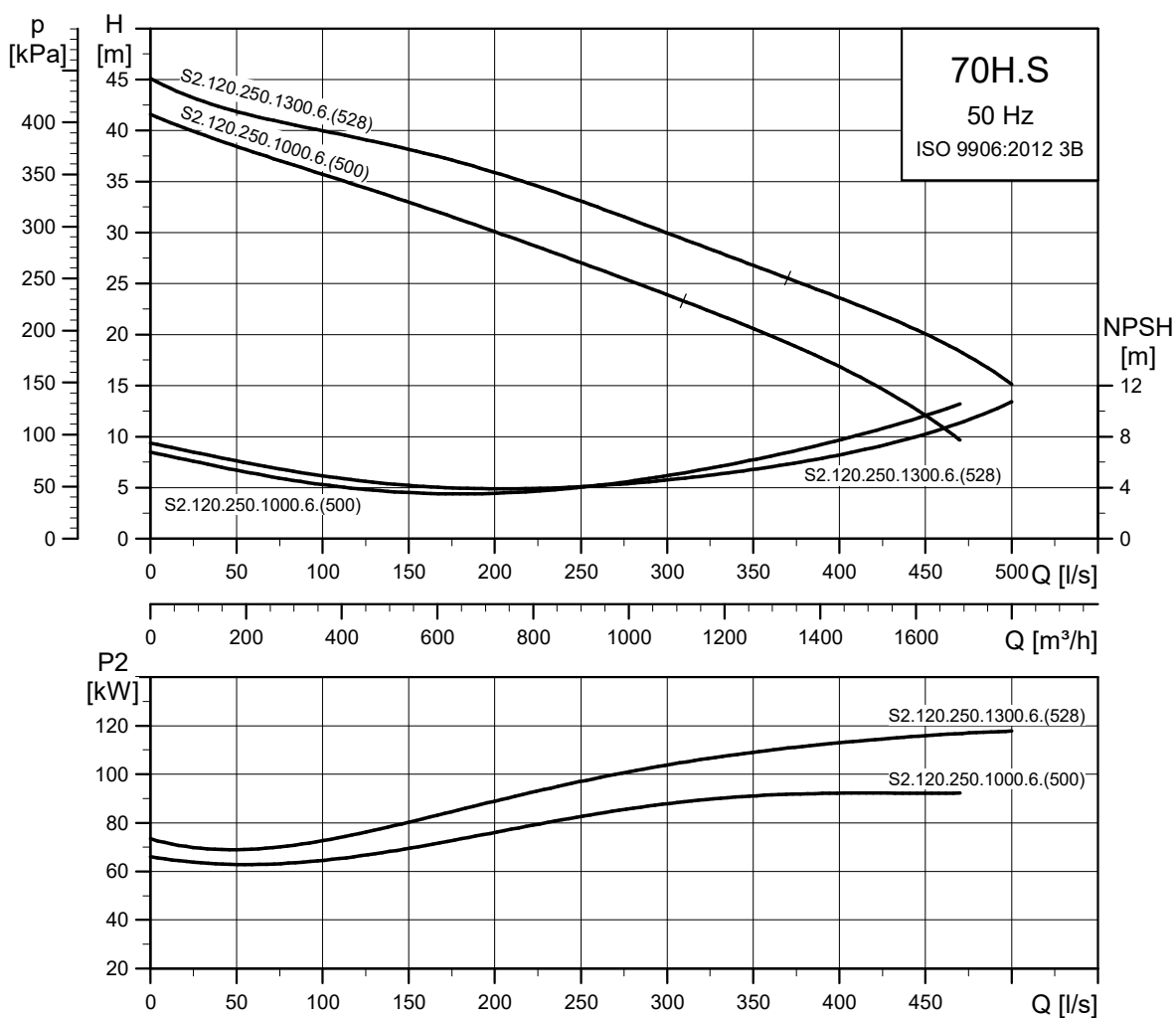
Note: Enclosure class: IP68**Pump data**

Pump type	Impeller diameter [mm]	Maximum solids size [mm]	Pump housing pressure PN	Maximum installation depth [m]	Moment of inertia* [kgm²]
S2.105.250.650.8.70H.S/C/D/H.538...	538	105	10	20	2,7400
S2.120.250.800.6.70H.S/C/D/H.465...	465	120			1,7727

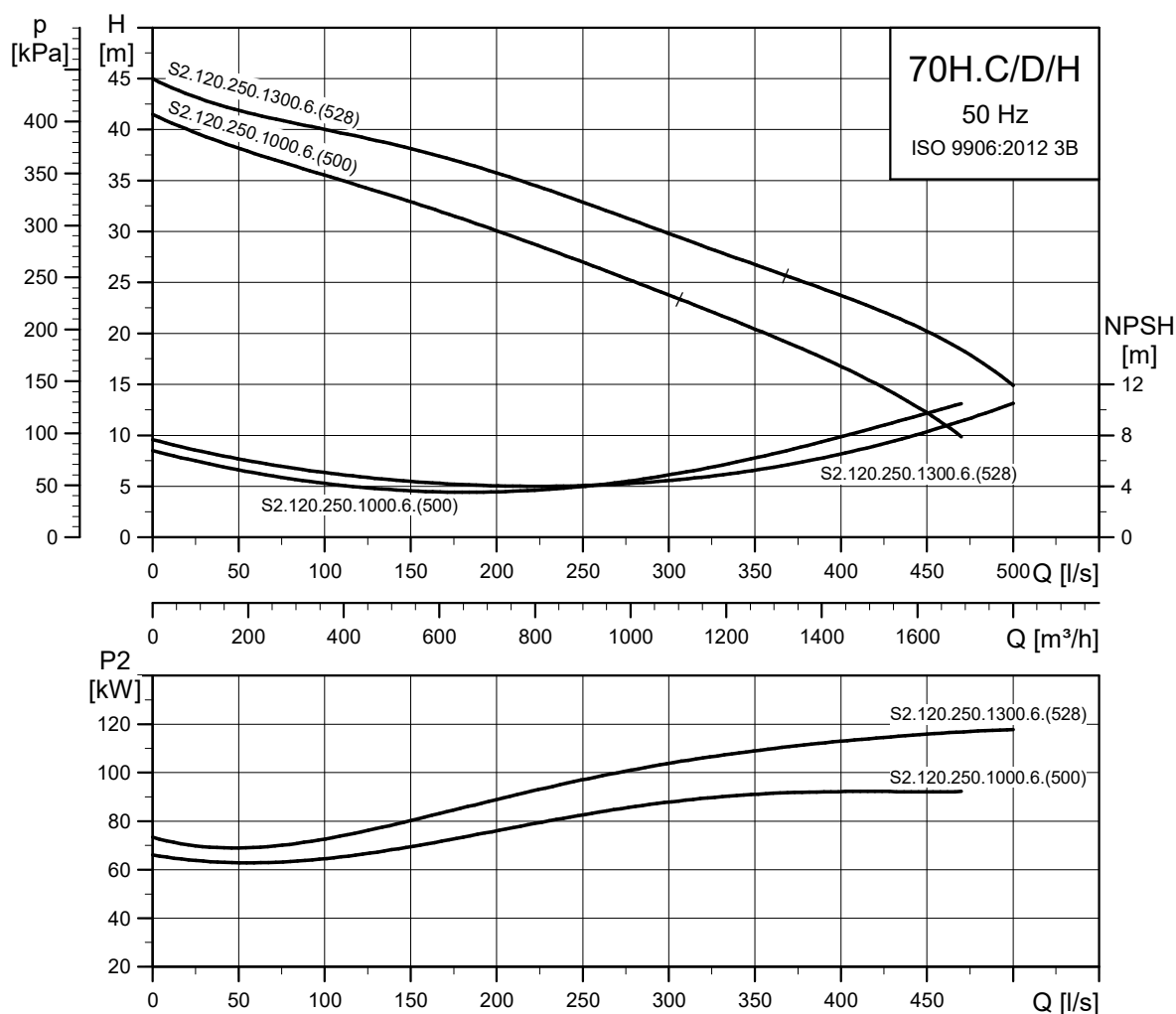
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 400/690 V

S2.120.250.1000.6 and S2.120.250.1300.6



TM041931



TM041933

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm ²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1					
S2.120.250.1000.6.70H.S.500...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S2.120.250.1000.6.70H.C.500...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S2.120.250.1000.6.70H.D.500...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S2.120.250.1000.6.70H.H.500...	109	100	6	984	Y/D	189/110	1249	91	92	92	0.64	0.73	0.83	2.1000	2090			
S2.120.250.1300.6.70H.S.528...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S2.120.250.1300.6.70H.C.528...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S2.120.250.1300.6.70H.D.528...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			
S2.120.250.1300.6.70H.H.528...	141	130	6	984	Y/D	265/154	1965	90	92	92	0.62	0.72	0.77	2.8000	3273			

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

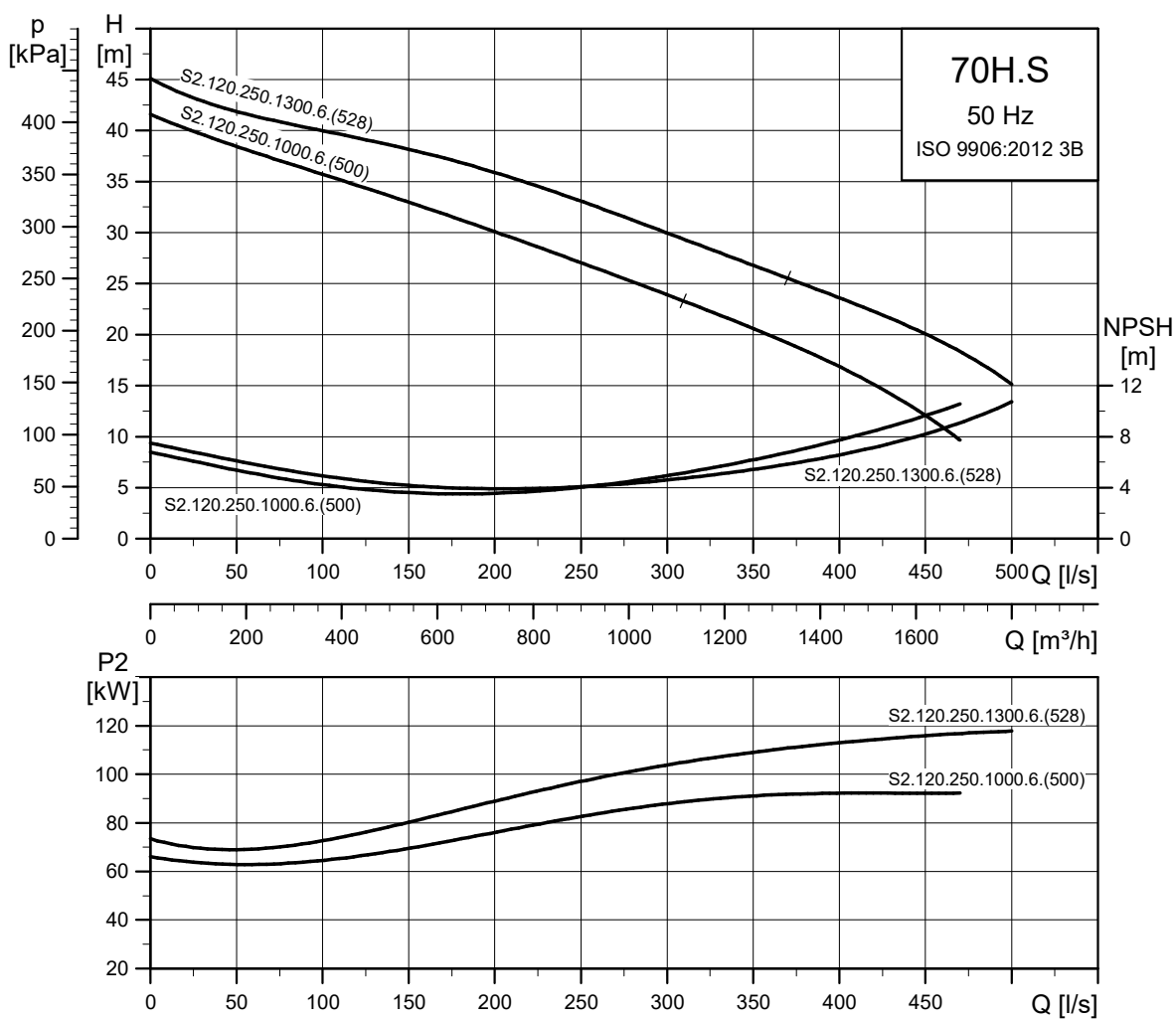
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.120.250.1000.6.70H.S/C/D/H.500...	500	120	10	20	2,1960
S2.120.250.1300.6.70H.S/C/D/H.528...	528				2,6103

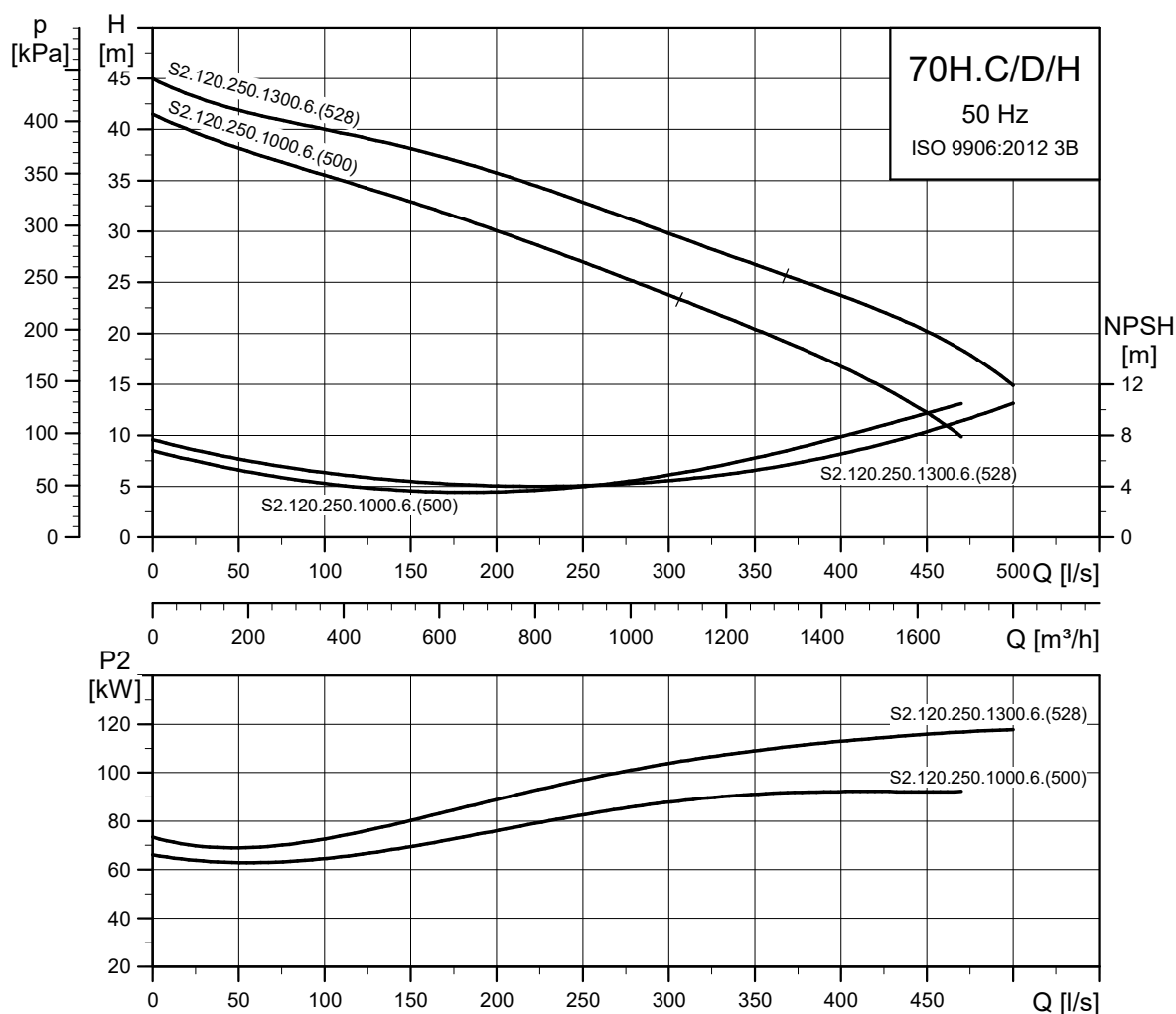
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

High pressure - 3 x 415 V

S2.120.250.1000.6 and S2.120.250.1300.6



TM041931



TM041933

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N [A]	I _{start} [A]	η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
S2.120.250.1000.6.70H.S.500...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090
S2.120.250.1000.6.70H.C.500...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090
S2.120.250.1000.6.70H.D.500...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090
S2.120.250.1000.6.70H.H.500...	109	100	6	984	Y/D	183	1203	91	92	92	0.70	0.80	0.83	2.1000	2090
S2.120.250.1300.6.70H.S.528...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273
S2.120.250.1300.6.70H.C.528...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273
S2.120.250.1300.6.70H.D.528...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273
S2.120.250.1300.6.70H.H.528...	141	130	6	984	Y/D	256	1894	90	92	92	0.62	0.72	0.77	2.8000	3273

Note: Enclosure class: IP68

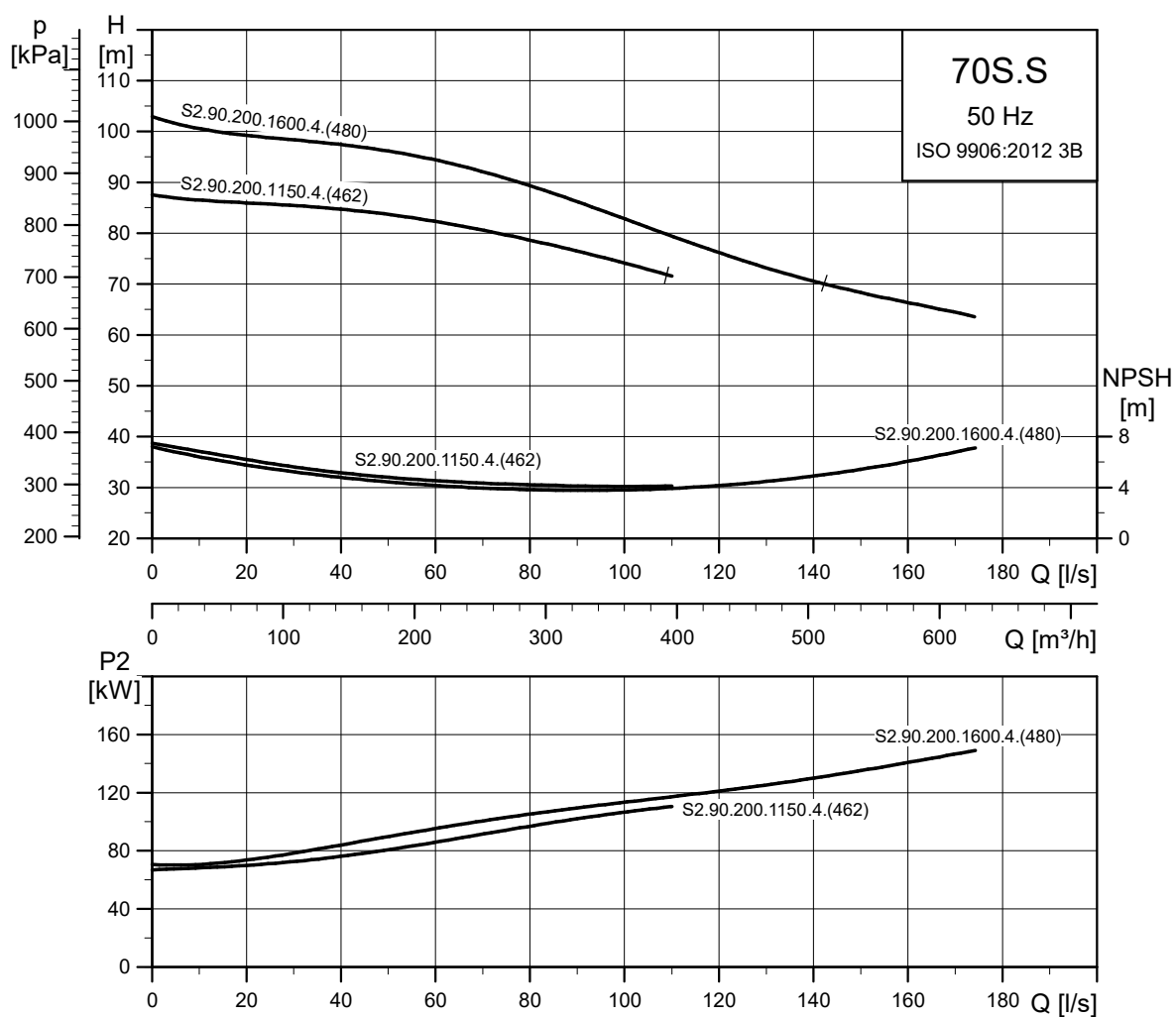
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.120.250.1000.6.70H.S/C/D/H.500...	500	120	10	20	2,1960
S2.120.250.1300.6.70H.S/C/D/H.528...	528				2,6103

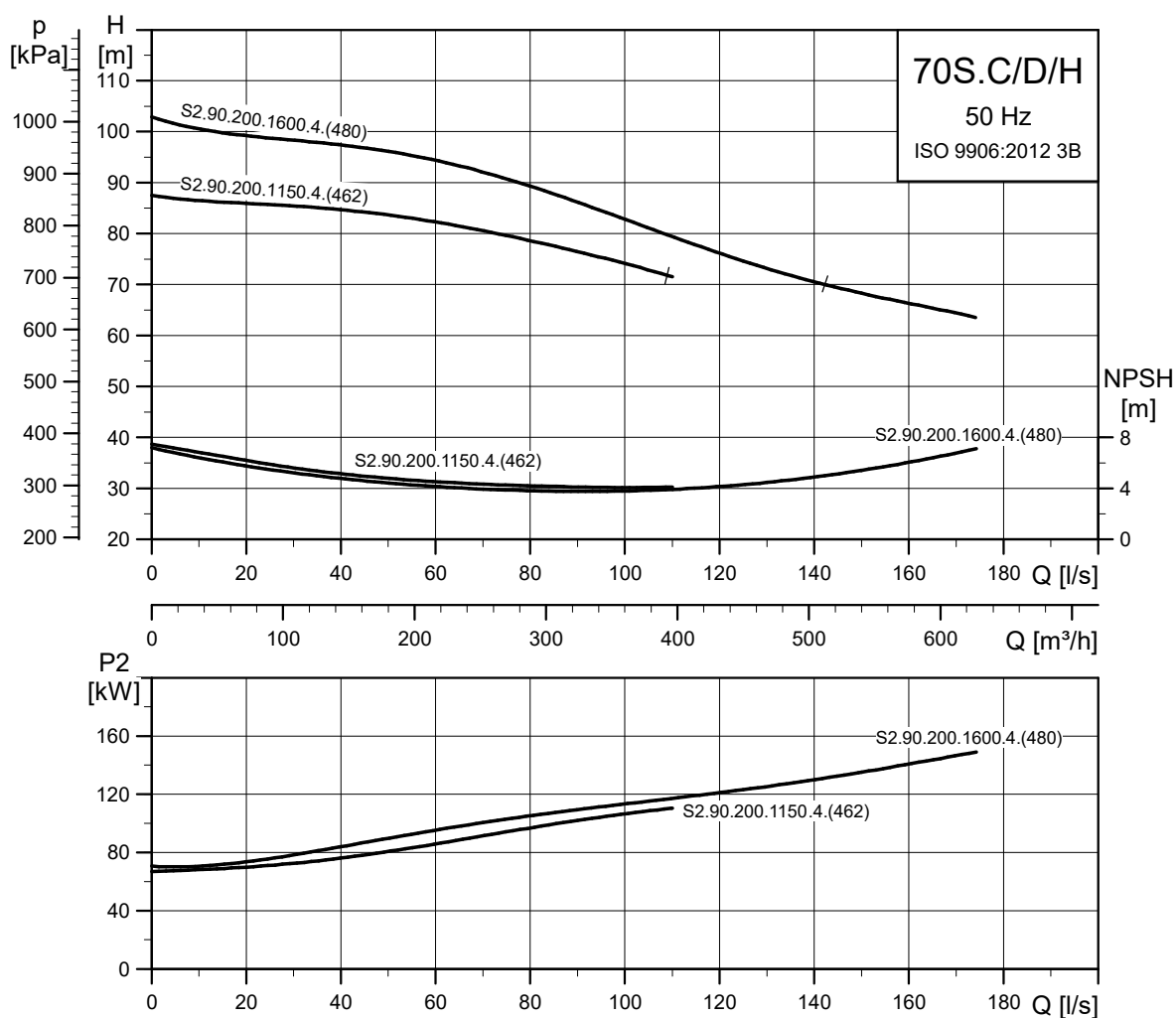
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Super-high pressure - 3 x 400/690 V

S2.90.200.1150.4 and S2.90.200.1600.4



TM041871



TM041872

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N ¹		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2		3/4	1/1	1/2	3/4	1/1				
S2.90.200.1150.4.70S.S.462...	122	115	4	1483	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232			
S2.90.200.1150.4.70S.C.462...	122	115	4	1483	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232			
S2.90.200.1150.4.70S.H.462...	122	115	4	1483	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232			
S2.90.200.1150.4.70S.D.462...	122	115	4	1483	Y/D	211/122	1430	94	95	94	0.69	0.79	0.84	1.1000	2232			
S2.90.200.1600.4.70S.S.480...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.90.200.1600.4.70S.C.480...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.90.200.1600.4.70S.H.480...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414			
S2.90.200.1600.4.70S.D.480...	167	155	4	1475	Y/D	280/163	2098	94	94	93	0.72	0.82	0.86	1.5000	3414			

¹ Low/high voltage (400/690 V).

Note: Enclosure class: IP68

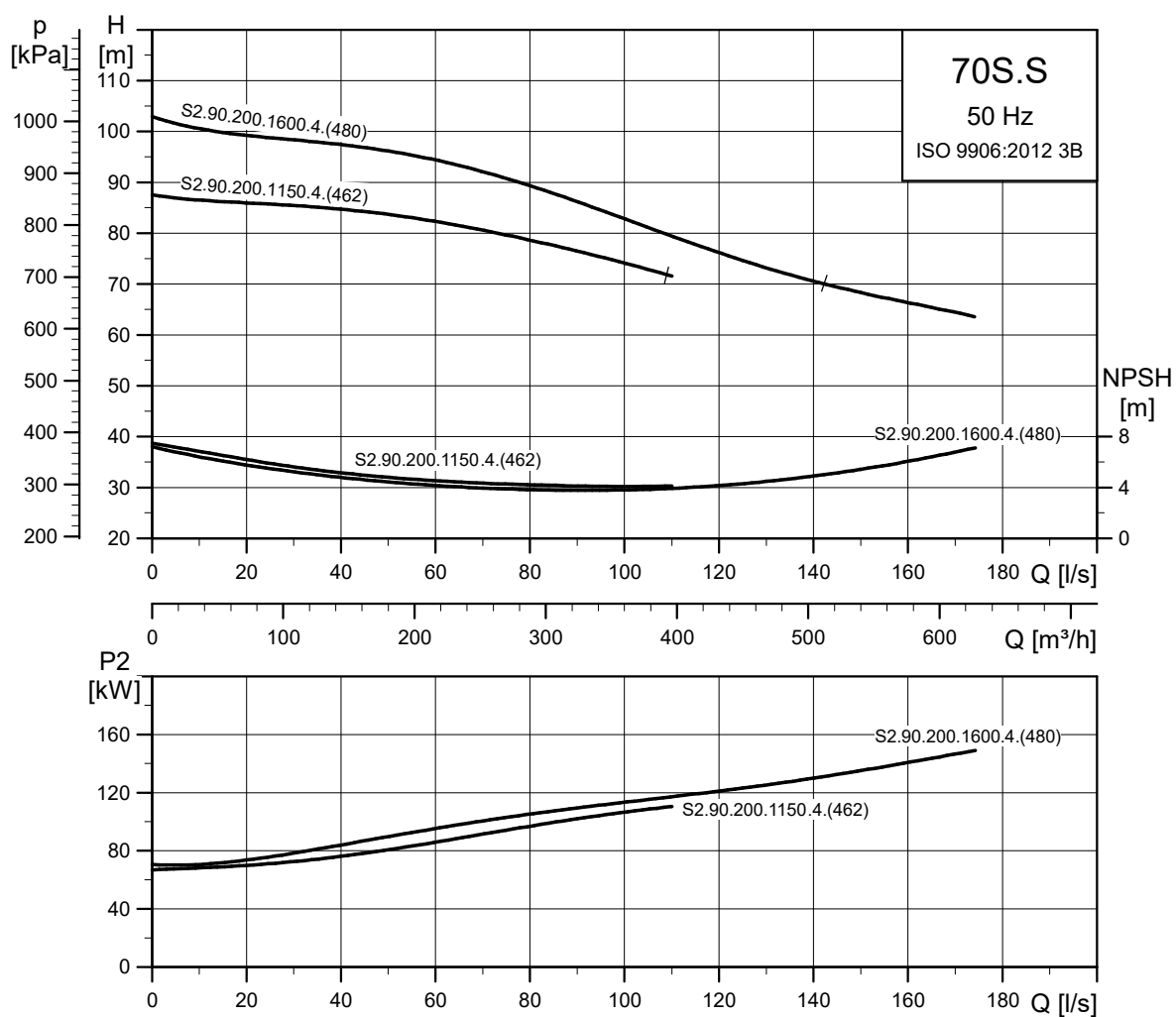
Pump data

Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.90.200.1150.4.70S.S/C/D/H.462...	462	90	10	20	1,5000
S2.90.200.1600.4.70S.S/C/D/H.480...	480				1,6000

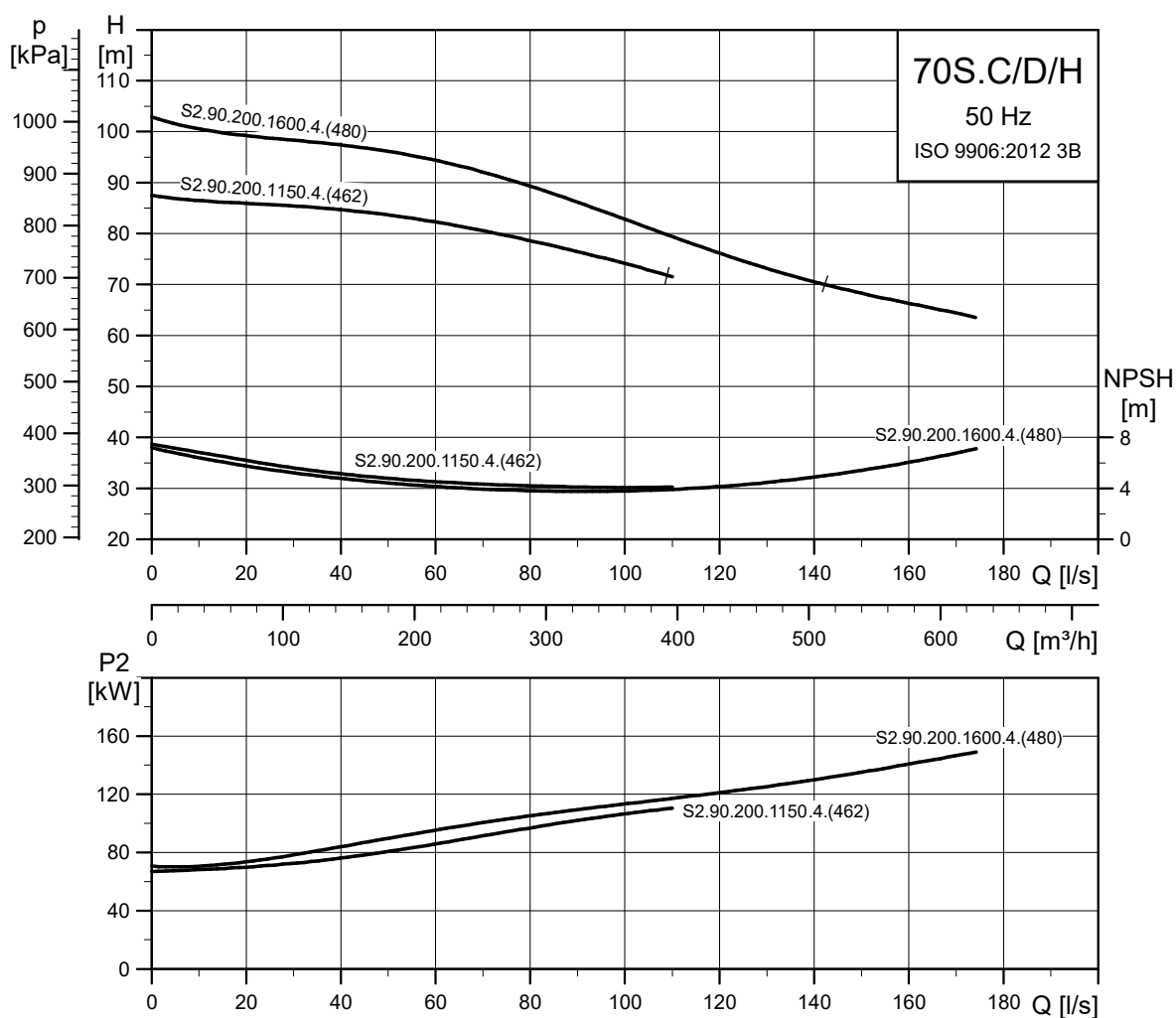
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

Super-high pressure - 3 x 415 V

S2.90.200.1150.4 and S2.90.200.1600.4



TM041871



TM041872

Motor data

Pump type	P1 [kW]	P2 [kW]	No. of poles	RPM	Starting method	I _N		I _{start}			η _{motor} [%]			Cos φ			Moment of inertia [kgm²]	Breakdown torque M _{max} [Nm]
						[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1	1/2	3/4	1/1		
S2.90.200.1150.4.70S.S.462...	122	115	4	1483	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	0.69	0.79	0.84	2232
S2.90.200.1150.4.70S.C.462...	122	115	4	1483	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	0.69	0.79	0.84	2232
S2.90.200.1150.4.70S.D.462...	122	115	4	1483	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	0.69	0.79	0.84	2232
S2.90.200.1150.4.70S.H.462...	122	115	4	1483	Y/D	203	1378	94	95	94	0.69	0.79	0.84	1.1000	0.69	0.79	0.84	2232
S2.90.200.1600.4.70S.S.480...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	0.72	0.82	0.86	3414
S2.90.200.1600.4.70S.C.480...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	0.72	0.82	0.86	3414
S2.90.200.1600.4.70S.D.480...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	0.72	0.82	0.86	3414
S2.90.200.1600.4.70S.H.480...	167	155	4	1475	Y/D	270	2022	94	94	93	0.72	0.82	0.86	1.5000	0.72	0.82	0.86	3414

Note: Enclosure class: IP68**Pump data**

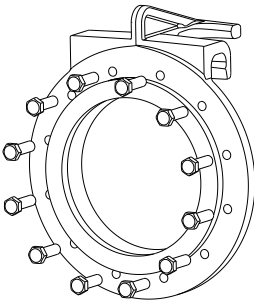
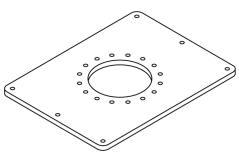
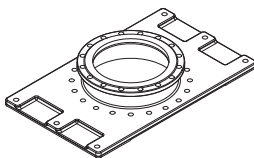
Pump type	Impeller diameter	Maximum solids size	Pump housing pressure	Maximum installation depth	Moment of inertia*
	[mm]	[mm]	PN	[m]	[kgm²]
S2.90.200.1150.4.70S.S/C/D/H.462...	462	90	10	20	1,5000
S2.90.200.1600.4.70S.S/C/D/H.480...	480				1,6000

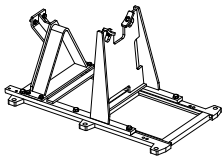
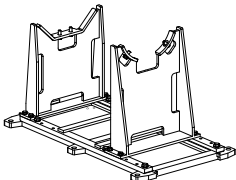
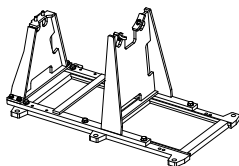
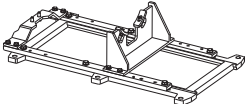
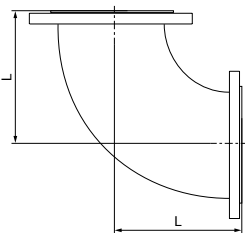
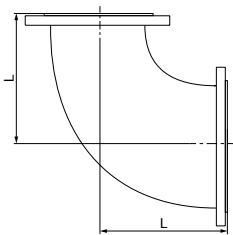
* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

11. Accessories

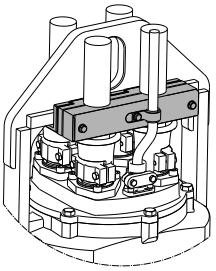
Accessories (for installation)

Pump type	Installation accessories
Range 50-70 S and C	DN 80-200 without a guide claw (guide claw included in auto-coupling kit)
Range 50-70 S and C	DN 250-600 with a guide claw mounted on the pump
Range 50-70 D	Pump without installation accessories (accessories as separate kit)
Range 50-70 H	Base stand for horizontal, dry installation supplied together with the pump. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

Pictures	Description	Size	Weight [kg]	PN	Product numbers
 TM069868	Cast iron, epoxy-coated auto-coupling system complete with: guide claw ¹ base unit upper guide rail bracket gaskets and bolts.	DN 200	250	10	96641489
		DN 250	225		96255838
		DN 300	275		96782484
		DN 500	705		96782485
		DN 600	900		96782486
Outlet flange					
¹ Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.					
Intermediate guide rail bracket	For guide rails longer than 6 m	DN 200-600	8		96255842
Guide rails	Standard pipes. Not supplied by Grundfos				
 TM069923	Adapter for Flygt auto-coupling with: flange seal bolts.	Grundfos flange/Flygt flange		10	
		DN 200/DN 200 - 3"	25		97908872
		DN 250/DN 250 - 3"	33		97908887
		DN 300/DN 300 - 3"	120		97908892
		DN 300/DN 300 - 4"	120		97908893
 TM032015	Steel, epoxy-coated. Base plate for vertical, dry installation with: gaskets bolts.	DN 250	90		96308240
		DN 300	87		96308241
		DN 500	167		96308245
 TM043693	Cast iron, epoxy-coated. Base plate for vertical, dry installation with: gaskets bolts.	DN 400	195		96308244
		Inlet flange			

Pictures	Description	Size	Weight [kg]	PN	Product numbers
 TM044158	Base stand for horizontal, dry installation products:	Version 1	140		96308192
	S2.120.250.800/1000/1300.6.70H.H				
	S2.105.250.650.8.70H.H				
	S2.90.200.1150/1600.4.70S.H				
	S3.110.500.800/1000/1300.6.70L.H				
	S3.110.500.650.8.70L.H				
	S3.120.300.1300.6.70M.H				
	S3.120.300.350.8.70M.H				
 TM044160	Base stand for horizontal, dry installation products:	Version 2	140		96308212
	S1.80.200.850.4.70H.H				
	S2.100.200.1150/1600.4.70H.H				
	S2.110.200.850/1150/1600.4.70M.H				
	S2.120.250.1600.4.70L.H				
 TM044159	Base stand for horizontal, dry installation product:	Version 3	125		96308255
	S2.120.300.800/1000.6.70M.H				
 TM064971	Special base stand for horizontal, dry installation with customized height.				Contact Grundfos.
 TM044033	Bend Cast iron, epoxy-coated	Pipe/pump inlet			
	L = 350 mm	DN 250	64	10	99035998
	L = 400 mm	DN 300	81		99035999
	L = 500 mm	DN 400	148		99036000
	L = 500 mm	DN 500	351		99036001
 TM044034	Reducing bend Cast iron, epoxy-coated	Pipe/pump inlet			
	L = 400 mm	DN 300/DN 250	76	10	99036011
	L = 450 mm	DN 350/DN 250	93		99036012
	L = 500 mm	DN 400/DN 250	118		99036013
	L = 500 mm	DN 400/DN 300	128		99036014
	L = 600 mm	DN 500/DN 400	306		99036015
	L = 700 mm	DN 600/DN 500	411		99031225

Other accessories

Pictures	Description	Size	Product number
	TM026126 Galvanised lifting chain with lifting link and safety hook. Certified. Maximum lifting capacity 3200 kg.	4 m	98425788
		6 m	98425789
		8 m	98425790
		10 m	98425791
	TM026126 Stainless steel lifting chain with lifting link and safety hook. Certified. Maximum lifting capacity 3200 kg.	4 m	98425805
		6 m	98425806
		8 m	98425807
		10 m	98425808
	TM064974 Cable support bracket (case by case)		Contact Grundfos
	AMD.07.18.1430 mixer, 3 x 400 V, 50 Hz		99018155
	Bracket for wall mounting	2" thread	96115291
	Bracket for floor mounting	2" thread	96115292
	Bracket for suspended mounting	2" thread	96115293
	TM065110 Tube for suspended mounting, length 3 m	2" thread	96115294
	TM016982 Float switch	10 m cable	96003332
		20 m cable	96003695
		10 m cable	96003421
	TM016982 Float switch for use in potentially explosive environments.	20 m cable	96003536
	TM028862 Bracket for float switches		96003338

Pictures	Description	Size	Product number
	Float switches with bracket		
	2 switches, 1 pump without alarm	10 m cable	62500013
	3 switches, 1 pump with alarm		62500014
	3 switches, 2 pumps with alarm		62500014
	3 switches, 2 pumps with alarm		62500015
	Float switches with bracket for use in potentially explosive environments		
	2 switches, 1 pump without alarm	10 m cable	62500016
	3 switches, 1 pump with alarm		62500017
	3 switches, 2 pumps with alarm		62500017
	3 switches, 2 pumps with alarm		62500018
	Bracket for level electrodes	For 38 mm mounting pipe	91713196

12. Dimensions

Recommendation for pump foundations

Note: This applies only to pumps above 15 kW.

All rotating equipment generates vibrations as a mass, such as an impeller or rotor, is turning at high speeds. Proper installation and anchorage of Grundfos pumps and installation accessories is critical to limit vibrations and achieve reliable, trouble-free installation. It is important to note that all mechanically connected pipes, fittings and supports of the pump are part of a single system.

The rotating mass of the entire pump together with the forces from the motor and hydraulics will generate disturbances related to the speed of the motor. Unbalance and impeller vane pass in hydraulics are the two most important frequencies affecting vibration.

When these frequencies coincide with the natural frequency of the entire mechanical system, the vibration level will increase substantially.

Pumps from Grundfos are designed and produced according to the highest quality standards. The method and grade of balancing is specified by the manufacturer in order to achieve acceptable vibration levels. Although the pump itself can withstand rather high vibration levels under operating conditions without considerable lifetime reduction, the pipes and supportive structure might suffer and crack if vibration levels are too high. Furthermore, noticeable noise levels might be generated.

The likelihood of high vibration levels occurring is increased in variable-speed applications where the pump is operated over a range of speeds rather than at a single constant speed. Most variable-speed drives provide the possibility to exclude certain frequency ranges to avoid operating areas with high vibrations.

To ensure acceptable vibration levels in the field, all parts of the system must be sufficiently stiff and firmly anchored to minimise vibrations:

- The foundation and concrete must be of adequate strength to support the weight of the pump including accessories, the weight of the liquid passing through the pump and the forces generated by the pump.
- As a rule of thumb, the mass of the concrete foundation must be a minimum of three to five times the mass of the supported equipment and must have sufficient rigidity to withstand the axial, transverse and torsional loadings generated by the equipment.
- The foundation must be 15 cm wider than the base plate for pumps up to 350 kW and 25 cm wider for larger pumps.
- The concrete used in the foundation must have a minimum tensile strength of 250 N/cm². Epoxy grout must always be used to mate the secure the pump base plate to the foundation.

Pull-out strengths for anchor bolts

Submerged installation on auto-coupling (type S and C):

Auto-coupling base unit	Bolts	Pull-out resistance [kN]
DN 100	4 x M16	5
DN 125/150 ¹		8
DN 200	4 x M24	16
DN 250		30
DN 300		40
DN 500	6 x M30	40
DN 600		40

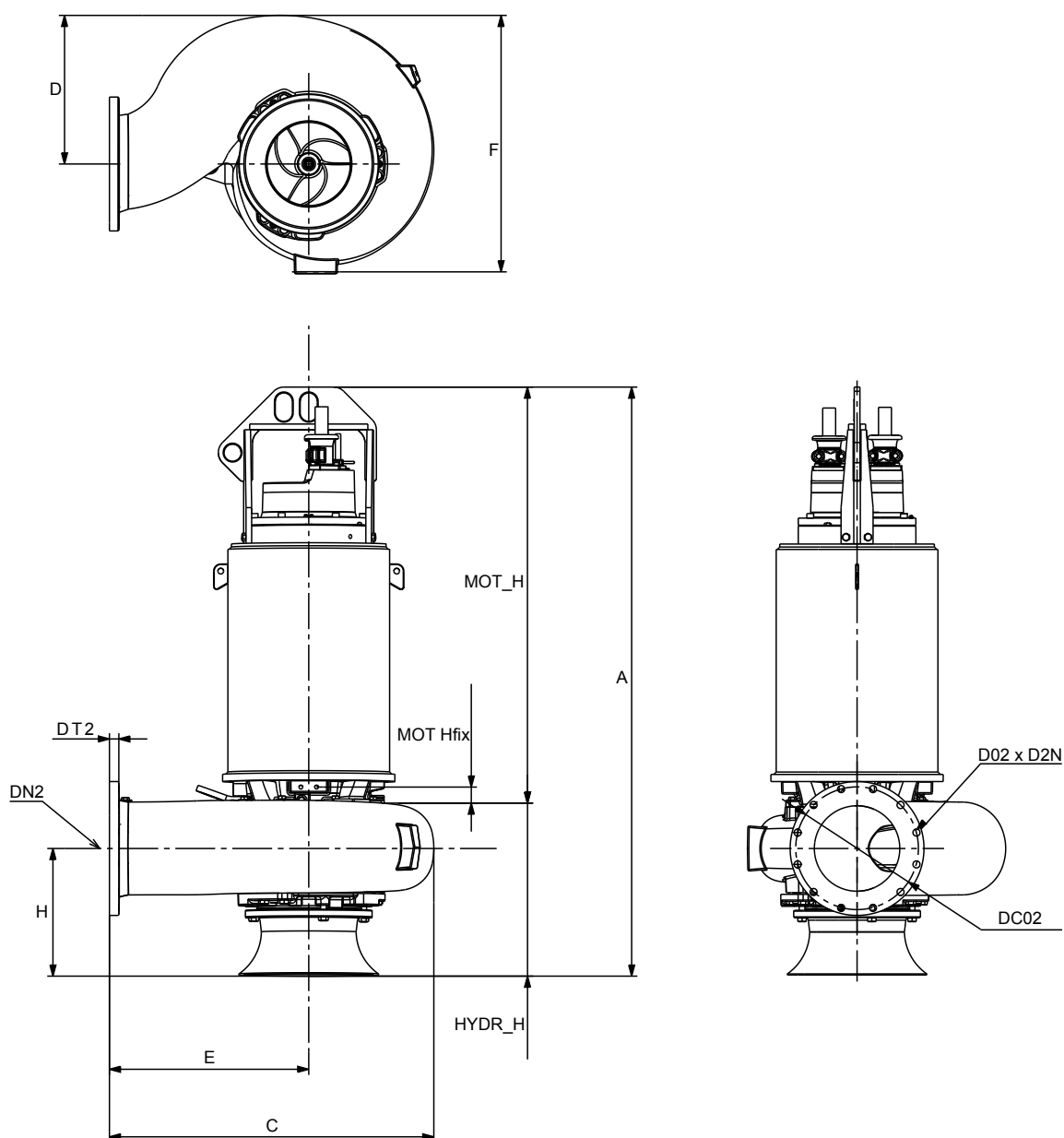
¹ Pump outlet DN 125 and base plate outlet DN 150.

Dry installation (type H and D):

Dry installation	Anchor bolts	Pull-out resistance [kN]
DN 100	3 x M20	18
DN 150	6 x M20	18
DN 200		18
DN 250		25
DN 300	6 x M24	25
DN 500/400 ¹		25
DN 500		25

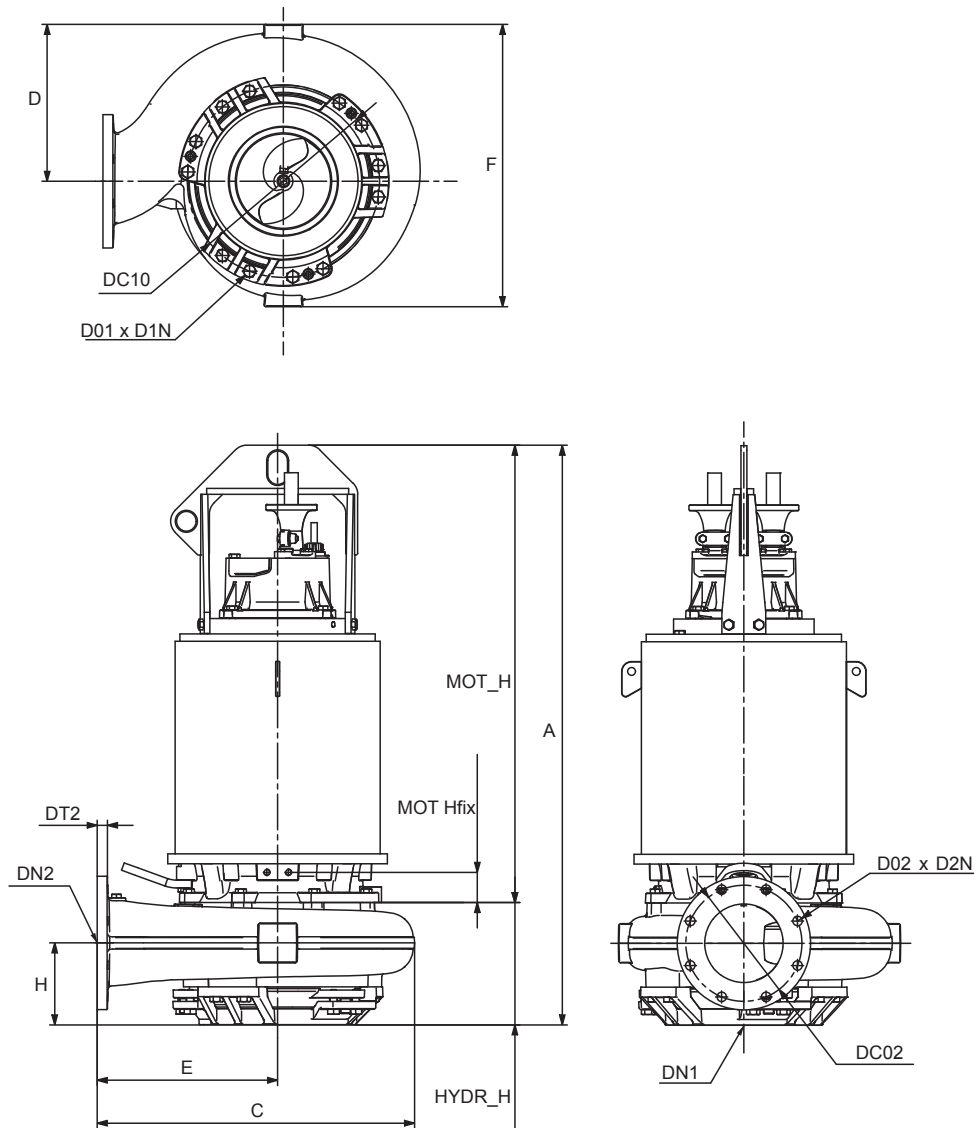
¹ Base plate inlet DN 500 and pump inlet DN 400.

Basic pump



Installation types S and C

TM071653



TM042412

Installation types D and H

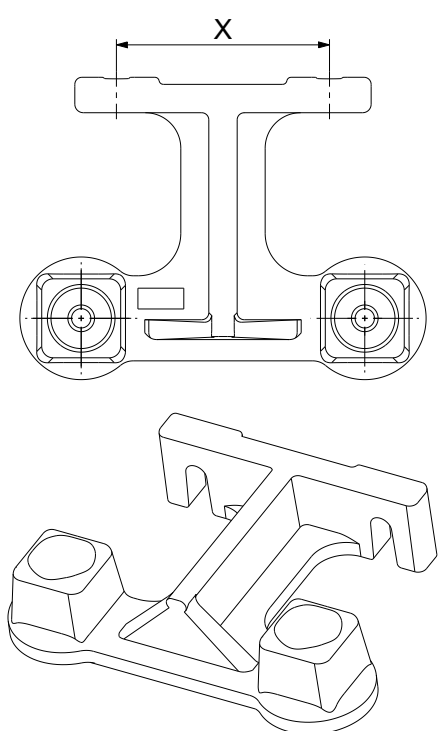
Note: Dimensions D01, D1N, DC10 and DN1 are equal to zero for installation types C and S because of the inlet type.

Pump type	A	C	D	D01	D02	D1N	D2N	DC02	DC10	DN1	DN2	DT2	E	F	H	HYDR H	MOT H	MOT Hfix
S1.80.200.650.4.70H.C	1653	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	225	333	1320	20
S1.80.200.650.4.70H.D	1654	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	225	333	1320	20
S1.80.200.650.4.70H.H	1654	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	225	333	1320	20
S1.80.200.650.4.70H.S	1653	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	225	333	1320	20
S2.90.200.1150.4.70S.C	1615	1069	360	-	24	-	8	295	-	-	DN 200	24	750	710	185	295	1320	20
S2.90.200.1150.4.70S.D	1660	1069	360	M20	24	12	8	295	350	DN 250	DN 200	24	750	710	229	340	1320	20
S2.90.200.1150.4.70S.H	1660	1069	360	M20	24	12	8	295	350	DN 250	DN 200	24	750	710	229	340	1320	20
S2.90.200.1150.4.70S.S	1615	1069	360	-	24	-	8	295	-	-	DN 200	24	750	710	185	295	1320	20
S2.90.200.1600.4.70S.C	1770	1069	360	-	24	-	8	295	-	-	DN 200	24	750	710	185	295	1475	20
S2.90.200.1600.4.70S.D	1815	1069	360	M20	24	12	8	295	350	DN 250	DN 200	24	750	710	229	340	1475	20
S2.90.200.1600.4.70S.H	1815	1069	360	M20	24	12	8	295	350	DN 250	DN 200	24	750	710	229	340	1475	20
S2.90.200.1600.4.70S.S	1770	1069	360	-	24	-	8	295	-	-	DN 200	24	750	710	185	295	1475	20
S2.100.200.1150.4.70H.C	1633	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	205	313	1320	20
S2.100.200.1150.4.70H.D	1654	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	226	334	1320	20
S2.100.200.1150.4.70H.H	1654	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	226	334	1320	20
S2.100.200.1150.4.70H.S	1633	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	205	313	1320	20

Pump type	A	C	D	D01	D02	D1N	D2N	DC02	DC10	DN1	DN2	DT2	E	F	H	HYDR H	MOT H	MOT Hfix
S2.100.200.1600.4.70H.C	1788	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	205	313	1475	20
S2.100.200.1600.4.70H.D	1809	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	226	334	1475	20
S2.100.200.1600.4.70H.H	1809	883	300	M20	24	24	8	296	350	DN 250	DN 200	26	600	596	226	334	1475	20
S2.100.200.1600.4.70H.S	1788	883	300	-	24	-	8	296	-	-	DN 200	26	600	596	205	313	1475	20
S2.110.200.850.4.70M.C	1638	809	400	-	24	-	8	296	-	-	DN 200	26	460	720	215	318	1320	20
S2.110.200.850.4.70M.D	1638	809	400	M20	24	12	8	296	350	DN 250	DN 200	26	460	720	215	318	1320	20
S2.110.200.850.4.70M.H	1638	809	400	M20	24	12	8	296	350	DN 250	DN 200	26	460	720	215	318	1320	20
S2.110.200.850.4.70M.S	1638	809	400	-	24	-	8	296	-	-	DN 200	26	460	720	215	318	1320	20
S2.110.200.1150.4.70M.C	1636	837	357	-	24	-	8	296	-	-	DN 200	24	550	669	200	316	1320	20
S2.110.200.1150.4.70M.D	1659	837	357	M20	24	12	8	296	350	DN 250	DN 200	24	550	669	223	339	1320	20
S2.110.200.1150.4.70M.H	1659	837	357	M20	24	12	8	296	350	DN 250	DN 200	24	550	669	223	339	1320	20
S2.110.200.1150.4.70M.S	1636	837	357	-	24	-	8	296	-	-	DN 200	24	550	669	200	316	1320	20
S2.110.200.1600.4.70M.C	1791	837	357	-	24	-	8	296	-	-	DN 200	24	550	669	200	316	1475	20
S2.110.200.1600.4.70M.D	1814	837	357	M20	24	12	8	296	350	DN 250	DN 200	24	550	669	223	339	1475	20
S2.110.200.1600.4.70M.H	1814	837	357	M20	24	12	8	296	350	DN 250	DN 200	24	550	669	223	339	1475	20
S2.110.200.1600.4.70M.S	1791	837	357	-	24	-	8	296	-	-	DN 200	24	550	669	200	316	1475	20
S2.105.250.650.8.70H.C	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.105.250.650.8.70H.D	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.105.250.650.8.70H.H	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.105.250.650.8.70H.S	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.120.250.800.6.70H.C	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.120.250.800.6.70H.D	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.120.250.800.6.70H.H	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.120.250.800.6.70H.S	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.120.250.1000.6.70H.C	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.120.250.1000.6.70H.D	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.120.250.1000.6.70H.H	1744	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1320	20
S2.120.250.1000.6.70H.S	1689	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1320	20
S2.120.250.1300.6.70H.C	1844	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1475	20
S2.120.250.1300.6.70H.D	1899	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1475	20
S2.120.250.1300.6.70H.H	1899	1193	478	M20	24	12	12	350	400	DN 300	DN 250	30	750	891	290	424	1475	20
S2.120.250.1300.6.70H.S	1844	1193	478	-	24	-	12	350	-	-	DN 250	30	750	891	235	369	1475	20
S2.120.250.1600.6.70H.C	1825	1067	410	-	24	-	12	350	-	-	DN 250	30	750	730	233	350	1475	20
S2.120.250.1600.6.70H.D	1825	1068	410	M20	24	12	12	350	400	DN 300	DN 250	30	750	730	233	350	1475	20
S2.120.250.1600.6.70H.H	1825	1068	410	M20	24	12	12	350	400	DN 300	DN 250	30	750	730	233	350	1475	20
S2.120.250.1600.6.70H.S	1825	1067	410	-	24	-	12	350	-	-	DN 250	30	750	730	233	350	1475	20
S3.110.500.650.8.70L.C	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.650.8.70L.D	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.650.8.70L.H	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.650.8.70L.S	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.800.6.70L.C	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.800.6.70L.D	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.800.6.70L.H	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.800.6.70L.S	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.1000.6.70L.C	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.1000.6.70L.D	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.1000.6.70L.H	1783	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1320	20
S3.110.500.1000.6.70L.S	1830	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1320	20
S3.110.500.1300.6.70L.C	1985	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1475	20
S3.110.500.1300.6.70L.D	1938	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1475	20
S3.110.500.1300.6.70L.H	1938	1843	719	M24	27	16	20	620	515	DN 400	DN 500	37	1200	1269	333	463	1475	20
S3.110.500.1300.6.70L.S	1985	1843	719	-	27	-	20	620	-	-	DN 500	37	1200	1269	380	510	1475	20
S3.120.300.650.8.70M.C	1915	1284	570	-	24	-	12	400	-	-	DN 300	33	760	1041	455	595	1320	20
S3.120.300.650.8.70M.D	1744	1284	570	M20	24	12	12	400	400	DN 300	DN 300	33	760	1041	455	424	1320	20
S3.120.300.650.8.70M.H	1744	1284	570	M20	24	12	12	400	400	DN 300	DN 300	33	760	1041	455	424	1320	20
S3.120.300.650.8.70M.S	1915	1284	570	-	24	-	12	400	-	-	DN 300	33	760	1041	455	595	1320	20
S3.120.300.800.6.70M.C	1915	1139	522	-	24	-	12	400	-	-	DN 300	33	700	907	450	595	1320	20
S3.120.300.800.6.70M.D	1744	1139	522	M20	24	12	12	400	400	DN 300	DN 300	33	700	907	279	242	1320	20
S3.120.300.800.6.70M.H	1744	1139	522	M20	24	12	12	400	400	DN 300	DN 300	33	700	907	279	242	1320	20

Pump type	A	C	D	D01	D02	D1N	D2N	DC02	DC10	DN1	DN2	DT2	E	F	H	HYDR H	MOT H	MOT Hfix
S3.120.300.800.6.70M.S	1915	1139	522	-	24	-	12	400	-	-	DN 300	33	700	907	450	595	1320	20
S3.120.300.1000.6.70M.C	1915	1139	522	-	24	-	12	400	-	-	DN 300	33	700	907	450	595	1320	20
S3.120.300.1000.6.70M.D	1744	1139	522	M20	24	12	12	400	400	DN 300	DN 300	33	700	907	279	242	1320	20
S3.120.300.1000.6.70M.H	1744	1139	522	M20	24	12	12	400	400	DN 300	DN 300	33	700	907	279	242	1320	20
S3.120.300.1000.6.70M.S	1915	1139	522	-	24	-	12	400	-	-	DN 300	33	700	907	450	595	1320	20
S3.120.300.1300.6.70M.C	2070	1284	570	-	24	-	12	400	-	-	DN 300	33	760	1041	455	595	1475	20
S3.120.300.1300.6.70M.D	1899	1284	570	M20	24	12	12	400	400	DN 300	DN 300	33	760	1041	283	424	1475	20
S3.120.300.1300.6.70M.H	1899	1284	570	M20	24	12	12	400	400	DN 300	DN 300	33	760	1041	283	424	1475	20
S3.120.300.1300.6.70M.S	2070	1284	570	-	24	-	12	400	-	-	DN 300	33	760	1041	455	595	1475	20
S3.120.600.650.8.70E.C	1911	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1320	20
S3.120.600.650.8.70E.D	1877	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1320	20
S3.120.600.650.8.70E.H	1877	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1320	20
S3.120.600.650.8.70E.S	1911	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1320	20
S3.120.600.1000.6.70E.C	1911	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1320	20
S3.120.600.1000.6.70E.D	1877	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1320	20
S3.120.600.1000.6.70E.H	1877	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1320	20
S3.120.600.1000.6.70E.S	1911	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1320	20
S3.120.600.1300.6.70E.C	2066	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1475	20
S3.120.600.1300.6.70E.D	2032	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1475	20
S3.120.600.1300.6.70E.H	2032	2124	886	M24	30	20	20	725	620	DN 500	DN 600	40	1350	1506	417	557	1475	20
S3.120.600.1300.6.70E.S	2066	2124	886	-	30	-	20	725	-	-	DN 600	40	1350	1506	450	591	1475	20

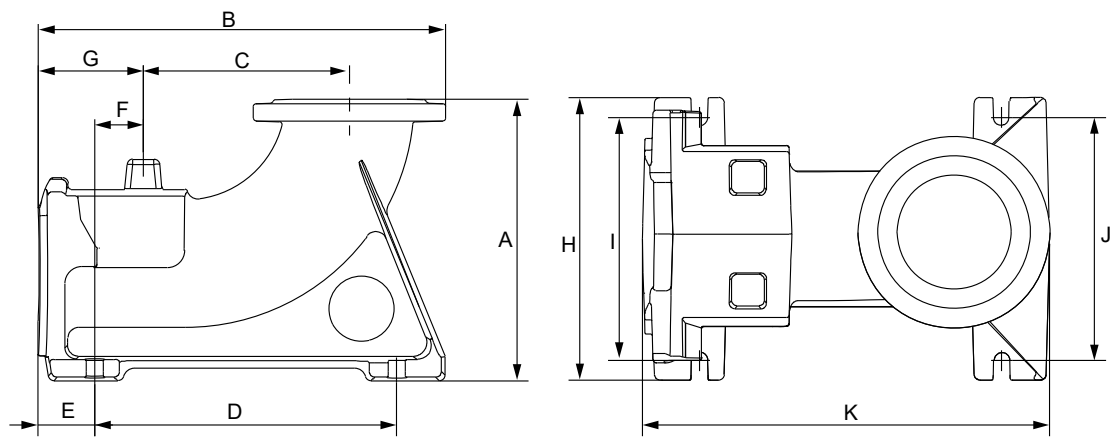
Installation on auto-coupling system
Upper guide rail bracket dimensions



Auto-coupling		X [mm]
Product number	Size	
96641489	DN 200	150
96782483	DN 250	
96782484	DN 300	
96782485	DN 500	
96782486	DN 600	

Installation dimensions for upper guide rail bracket

Auto-coupling dimensions

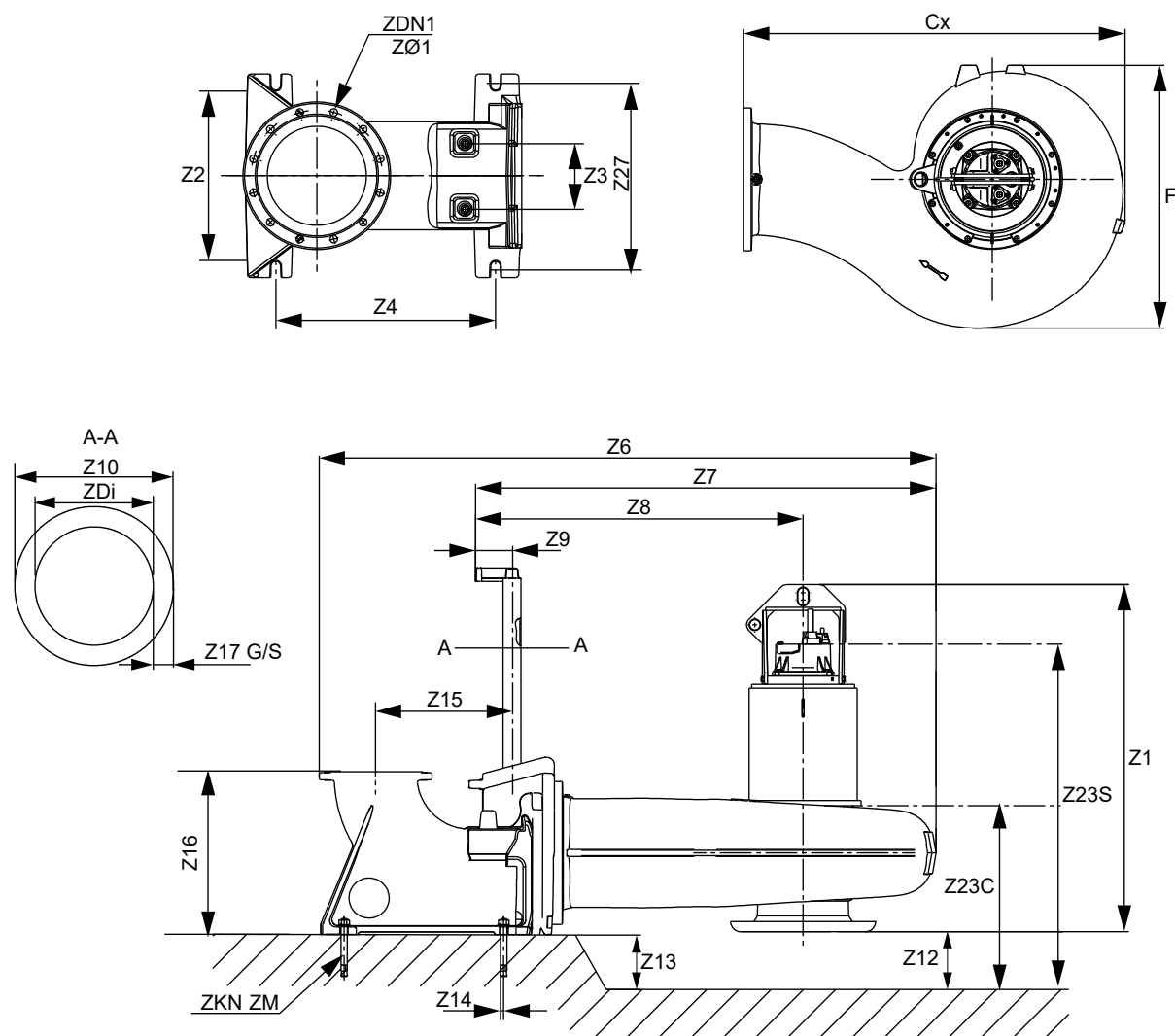


Dimension for cast-iron base unit

Product number	Size	Dimensions [mm]										
		A	B	C	D	E	F	G	H	I	J	K
96641489	DN 200	485	710	365	535	89	86	175	500	430	430	710
96255838	DN 250	545	753	375	565	89	86	175	540	470	470	745
96782484	DN 300	650	860	450	670	80	95	175	620	550	550	845
96782485	DN 500	890	1148	564	735/150 ¹	127	99	226	720	660	6660	1120
96782486	DN 600	1050	1260	614	830/160 ¹	127	99	226	780	710	710	1230

¹ Six-bolt installation: distance between the front bolt hole and the middle bolt hole / distance between the middle bolt hole and the back bolt hole.

Pump installation dimensions



TM068504

Installation on auto-coupling system - version 1 (base unit with 4 anchor bolts)

Pos.	Description
S Ex	Installation S Ex pump
S St	Installation S Std. pump
C	Installation C

Note: Z12A is the minimum recommended distance from pit bottom to bottom of pump inlet side.

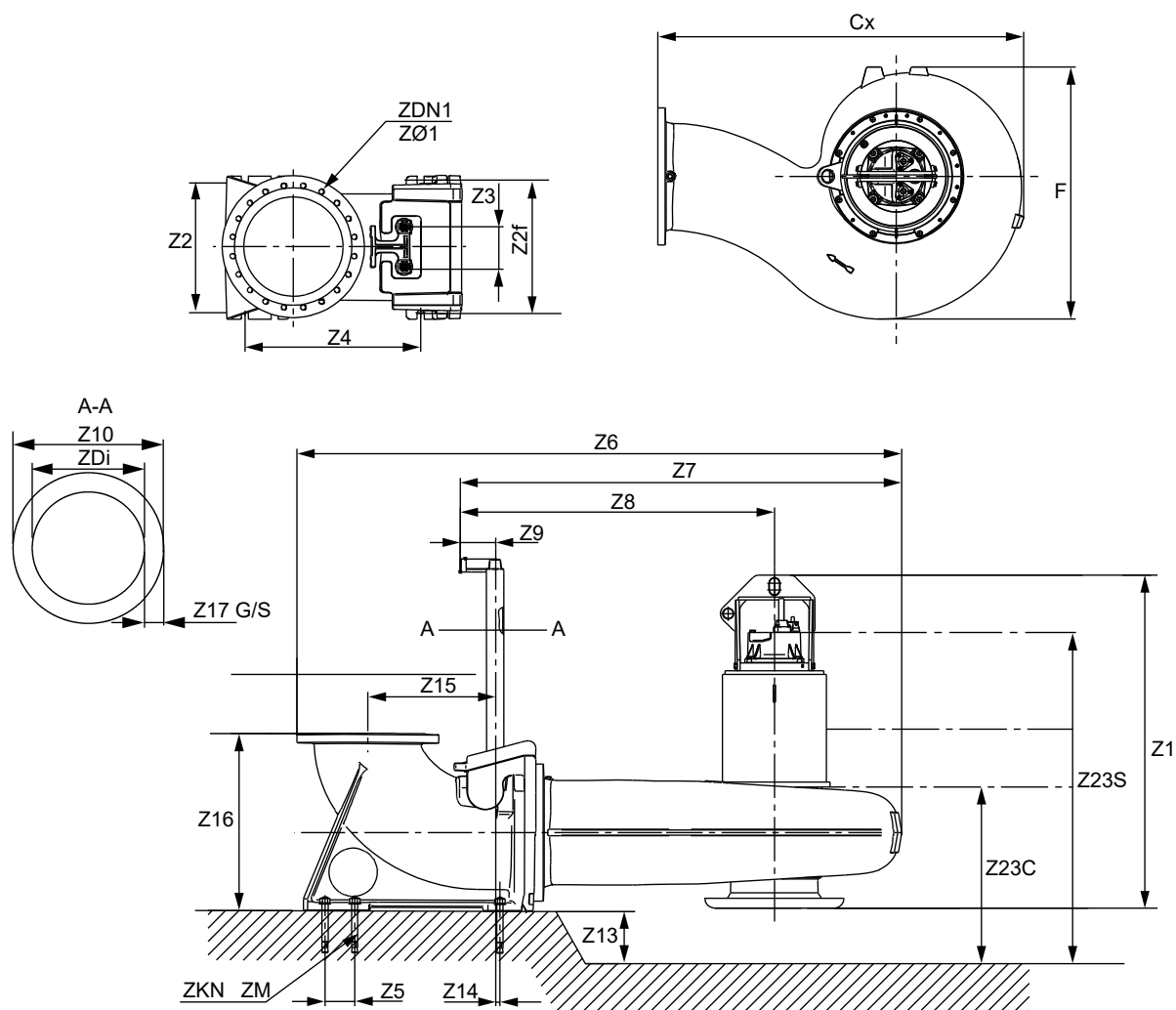
Note: Z11 is the total height of pump installed on Grundfos installation accessory in the pit.

Note: The pump in this figure might not equal Z12A + Z1.

Pump type	C	F	Z01	Z1	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12A	Z12B
S1.80.200.850.4.70H.S/C	1083	596	8 x 23	1653	430	200	535	1844	1475	1192	170	88.0	1774	121	196
S1.100.200.850.4.70H.S	883	596	8 x 23	1713	430	200	535	1644	1276	993	170	88.9	1834	121	196
S2.90.200.1150.4.70S.S/C	1069	710	8 x 23	1615	430	200	535	1830	1461	1142	170	88.0	1726	111	196
S2.90.200.1600.4.70S.S/C	1069	710	8 x 23	1770	430	200	535	1830	1461	1142	170	88.0	1881	111	196
S2.100.200.1150.4.70H.S/C	883	596	8 x 23	1633	430	200	535	1644	1275	992	170	88.0	1774	141	196
S2.100.200.1600.4.70H.S/C	1083	596	8 x 23	1788	430	200	535	1844	1475	1192	170	88.0	1929	141	196
S2.110.200.850.4.70M.S/C	809	720	8 x 23	1638	430	200	535	1570	1201	852	170	88.0	1769	131	196
S2.110.200.1150.4.70M.S/C	837	669	8 x 23	1636	430	200	535	1598	1229	942	170	88.0	1782	146	196
S2.110.200.1600.4.70M.S/C	837	669	8 x 23	1791	430	200	535	1598	1229	942	170	88.0	1937	146	196
S2.105.250.650.8.70H.S/C	1193	891	12 x 23	1689	471	200	565	1992	1585	1142	170	88.0	1828	139	224
S2.120.250.800.6.70H.S/C	1193	891	12 x 23	1689	471	200	565	1992	1585	1142	170	88.0	1828	139	224

Pump type	C	F	Z01	Z1	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12A	Z12B
S2.120.250.1000.6.70H.S/C	1193	891	12 x 23	1689	471	200	565	1992	1585	1142	170	88.0	1828	139	224
S2.120.250.1300.6.70H.S/C	1193	891	12 x 23	1844	471	200	565	1992	1585	1142	170	88.0	2033	189	224
S2.120.250.1600.4.70L.S/C	1068	730	12 x 23	1825	471	200	565	1867	1460	1142	170	88.0	2016	191	224
S3.120.300.650.8.70M.S/C	1284	1041	12 x 23	1915	551	200	670	2185	1676	1152	170	88.0	2066	151	256
S3.120.300.800.6.70M.S/C	1139	907	12 x 23	1915	551	200	670	2040	1531	1092	170	88.0	2121	206	256
S3.120.300.1000.6.70M.S/C	1139	907	12 x 23	1915	551	200	670	2040	1531	1092	170	88.0	2121	206	256
S3.120.300.1300.6.70M.S/C	1284	1041	12 x 23	2070	551	200	670	2185	1676	1152	170	88.0	2321	251	256

Pump type	Z13	Z14	Z15	Z16	Z17		Z23		S3OPR		ZDC1	DN1	ZDT1	ZL1	ZL2	ZM
					G	S	Std.	Ex	Std.	Ex						
S1.80.200.850.4.70H.C	150	86	365	485	3	3	450	450	421	421	295	DN 200	31	761	222	4 x M24
S1.100.200.850.4.70H.S	150	86	365	485	3	3	808	1357	779	1328	295	DN 200	31	761	223	4 x M24
S2.90.200.1150.4.70S.C	100	86	365	485	3	3	412	412	423	423	295	DN 200	31	761	222	4 x M24
S2.90.200.1150.4.70S.S	100	86	365	485	3	3	770	1319	781	1330	295	DN 200	31	761	222	4 x M24
S2.90.200.1600.4.70S.C	100	86	365	485	3	3	412	412	423	423	295	DN 200	31	761	222	4 x M24
S2.90.200.1600.4.70S.S	100	86	365	485	3	3	847	1474	858	1485	295	DN 200	31	761	222	4 x M24
S2.100.200.1150.4.70H.C	150	86	365	485	3	3	430	430	421	421	295	DN 200	31	761	222	4 x M24
S2.100.200.1150.4.70H.S	150	86	365	485	3	3	788	1337	779	1328	295	DN 200	31	761	222	4 x M24
S2.100.200.1600.4.70H.C	150	86	365	485	3	3	430	430	421	421	295	DN 200	31	761	222	4 x M24
S2.100.200.1600.4.70H.S	150	86	365	485	3	3	865	1492	856	1483	295	DN 200	31	761	222	4 x M24
S2.110.200.850.4.70M.C	150	86	365	485	3	3	435	435	416	416	295	DN 200	31	761	222	4 x M24
S2.110.200.850.4.70M.S	150	86	365	485	3	3	793	1342	774	1323	295	DN 200	31	761	222	4 x M24
S2.110.200.1150.4.70M.C	150	86	365	485	3	3	433	433	429	429	295	DN 200	31	761	222	4 x M24
S2.110.200.1150.4.70M.S	150	86	365	485	3	3	791	1340	787	1336	295	DN 200	31	761	222	4 x M24
S2.110.200.1600.4.70M.C	150	86	365	485	3	3	433	433	429	429	295	DN 200	31	761	222	4 x M24
S2.110.200.1600.4.70M.S	150	86	365	485	3	3	868	1495	864	1491	295	DN 200	31	761	222	4 x M24
S2.105.250.650.8.70H.C	150	86	375	545	3	3	486	486	475	475	350	DN 250	32	799	222	4 x M24
S2.105.250.650.8.70H.S	150	86	375	545	3	3	844	1393	833	1382	350	DN 250	32	799	222	4 x M24
S2.120.250.800.6.70H.C	150	86	375	545	3	3	486	486	475	475	350	DN 250	32	799	222	4 x M24
S2.120.250.800.6.70H.S	150	86	375	545	3	3	844	1393	833	1382	350	DN 250	32	799	222	4 x M24
S2.120.250.1000.6.70H.C	150	86	375	545	3	3	486	486	475	475	350	DN 250	32	799	222	4 x M24
S2.120.250.1000.6.70H.S	150	86	375	545	3	3	844	1393	833	1382	350	DN 250	32	799	222	4 x M24
S2.120.250.1300.6.70H.C	200	86	375	545	3	3	486	486	475	475	350	DN 250	32	799	222	4 x M24
S2.120.250.1300.6.70H.S	200	86	375	545	3	3	921	1548	910	1537	350	DN 250	32	799	222	4 x M24
S2.120.250.1600.4.70L.C	200	86	375	545	3	3	467	467	458	458	350	DN 250	32	799	222	4 x M24
S2.120.250.1600.4.70L.S	200	86	375	545	3	3	902	1529	893	1520	350	DN 250	32	799	222	4 x M24
S3.120.300.650.8.70M.C	350	95	450	650	3	3	712	712	513	513	400	DN 300	32	901	222	4 x M24
S3.120.300.650.8.70M.S	350	95	450	650	3	3	1070	1619	871	1420	400	DN 300	32	901	222	4 x M24
S3.120.300.800.6.70M.C	400	95	450	650	3	3	712	712	518	518	400	DN 300	32	901	222	4 x M24
S3.120.300.800.6.70M.S	400	95	450	650	3	3	1070	1619	876	1425	400	DN 300	32	901	222	4 x M24
S3.120.300.1000.6.70M.C	400	95	450	650	3	3	712	712	518	518	400	DN 300	32	901	222	4 x M24
S3.120.300.1000.6.70M.S	400	95	450	650	3	3	1070	1619	876	1425	400	DN 300	32	901	222	4 x M24
S3.120.300.1300.6.70M.C	450	95	450	650	3	3	712	712	513	513	400	DN 300	32	901	222	4 x M24
S3.120.300.1300.6.70M.S	450	95	450	650	3	3	1147	1774	948	1575	400	DN 300	32	901	222	4 x M24



TM042418

Installation on auto-coupling system - version 2 (base unit with 6 anchor bolts)

Pos.	Description
S Ex	Installation S Ex pump
S St	Installation S Std. pump
C	Installation C

Note: Z12A is the minimum recommended distance from pit bottom to bottom of pump inlet side.

Note: Z11 is the total height of pump installed on Grundfos installation accessory in the pit.

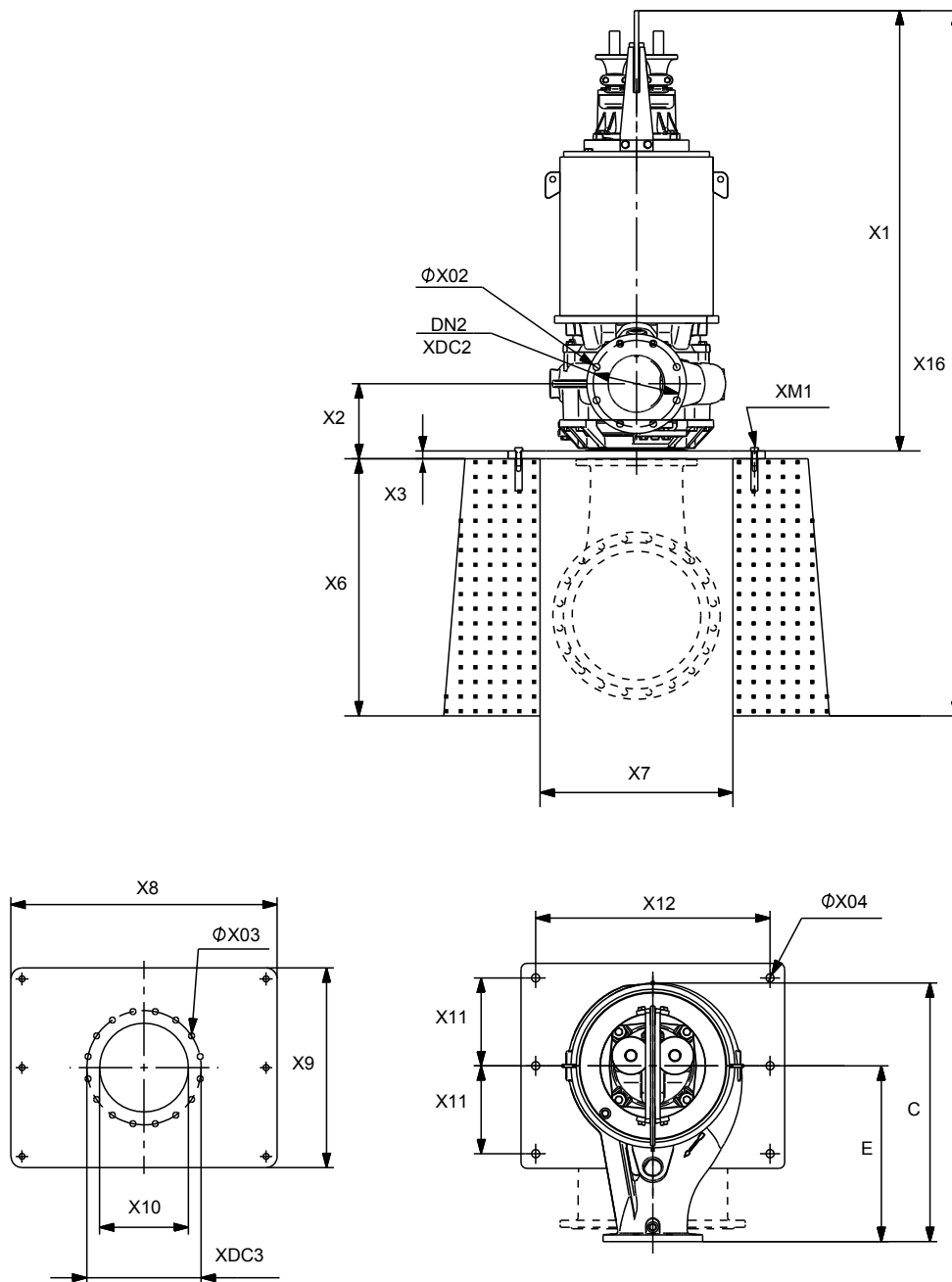
Note: The pump in this figure might not equal Z12A + Z1.

Pump type	C	F	Z01	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9	Z10	Z11	Z12A	Z12B
S3.110.500.650.8.70L.S/C	1843	1269	20 x 27	1830	657	200	885	150	3028	2297	1654	170	88.0	2030	200	380
S3.110.500.800.6.70L.S/C	1843	1269	20 x 27	1830	657	200	885	150	3028	2297	1654	170	88.0	2030	250	380
S3.110.500.1000.6.70L.S/C	1843	1269	20 x 27	1830	657	200	885	150	3028	2297	1654	170	88.0	2080	250	380
S3.110.500.1300.6.70L.S/C	1843	1269	20 x 27	1985	657	200	885	150	3028	2297	1654	170	88.0	2235	250	380
S3.120.600.650.8.70E.S/C	2124	1506	20 x 31	1911	710	200	990	160	3444	2574	1800	170	88.0	2142	231	431
S3.120.600.1000.6.70E.S/C	2124	1506	20 x 31	1911	710	200	990	160	3444	2574	1800	170	88.0	2192	281	431
S3.120.600.1300.6.70E.S/C	2124	1506	20 x 31	2066	710	200	990	160	3444	2574	1800	170	88.0	2347	281	431

Pump type	Z13	Z14	Z15	Z16	Z17		Z23		S3OPR		ZDC1	DN1	ZDT1	ZL1	ZL2	ZM
					G	S	Std.	Ex	Std.	Ex						
S3.110.500.650.8.70L.C	200	98	565	890	3	3	627	627	627	627	620	DN 500	42	1185	284	6 x M30
S3.110.500.650.8.70L.S	200	98	565	890	3	3	985	1534	985	1534	620	DN 500	42	1185	284	6 x M30
S3.110.500.800.6.70L.C	250	98	565	890	3	3	627	627	627	627	620	DN 500	42	1185	284	6 x M30

Pump type	Z13	Z14	Z15	Z16	Z17		Z23		S3OPR		ZDC1	DN1	ZDT1	ZL1	ZL2	ZM
					G	S	Std.	Ex	Std.	Ex						
S3.110.500.800.6.70L.S	250	98	565	890	3	3	985	1534	985	1534	620	DN 500	42	1185	284	6 x M30
S3.110.500.1000.6.70L.C	250	98	565	890	3	3	627	627	627	627	620	DN 500	42	1185	284	6 x M30
S3.110.500.1000.6.70L.S	250	98	565	890	3	3	985	1534	985	1534	620	DN 500	42	1185	284	6 x M30
S3.110.500.1300.6.70L.C	250	98	565	890	3	3	627	627	627	627	620	DN 500	42	1185	284	6 x M30
S3.110.500.1300.6.70L.S	250	98	565	890	3	3	1062	1689	1062	1689	620	DN 500	42	1185	284	6 x M30
S3.120.600.650.8.70E.C	250	98	615	1050	3	3	708	708	689	689	725	DN 600	48	1320	280	6 x M30
S3.120.600.650.8.70E.S	250	98	615	1050	3	3	1066	1615	1047	1596	725	DN 600	48	1320	280	6 x M30
S3.120.600.1000.6.70E.C	300	98	615	1050	3	3	708	708	689	689	725	DN 600	48	1320	280	6 x M30
S3.120.600.1000.6.70E.S	300	98	615	1050	3	3	1066	1615	1047	1596	725	DN 600	48	1320	280	6 x M30
S3.120.600.1300.6.70E.C	300	98	615	1050	3	3	708	708	689	689	725	DN 600	48	1320	280	6 x M30
S3.120.600.1300.6.70E.S	300	98	615	1050	3	3	1143	1770	1124	1751	725	DN 600	48	1320	280	6 x M30

Dry, vertical installation on concrete foundation



TM042424

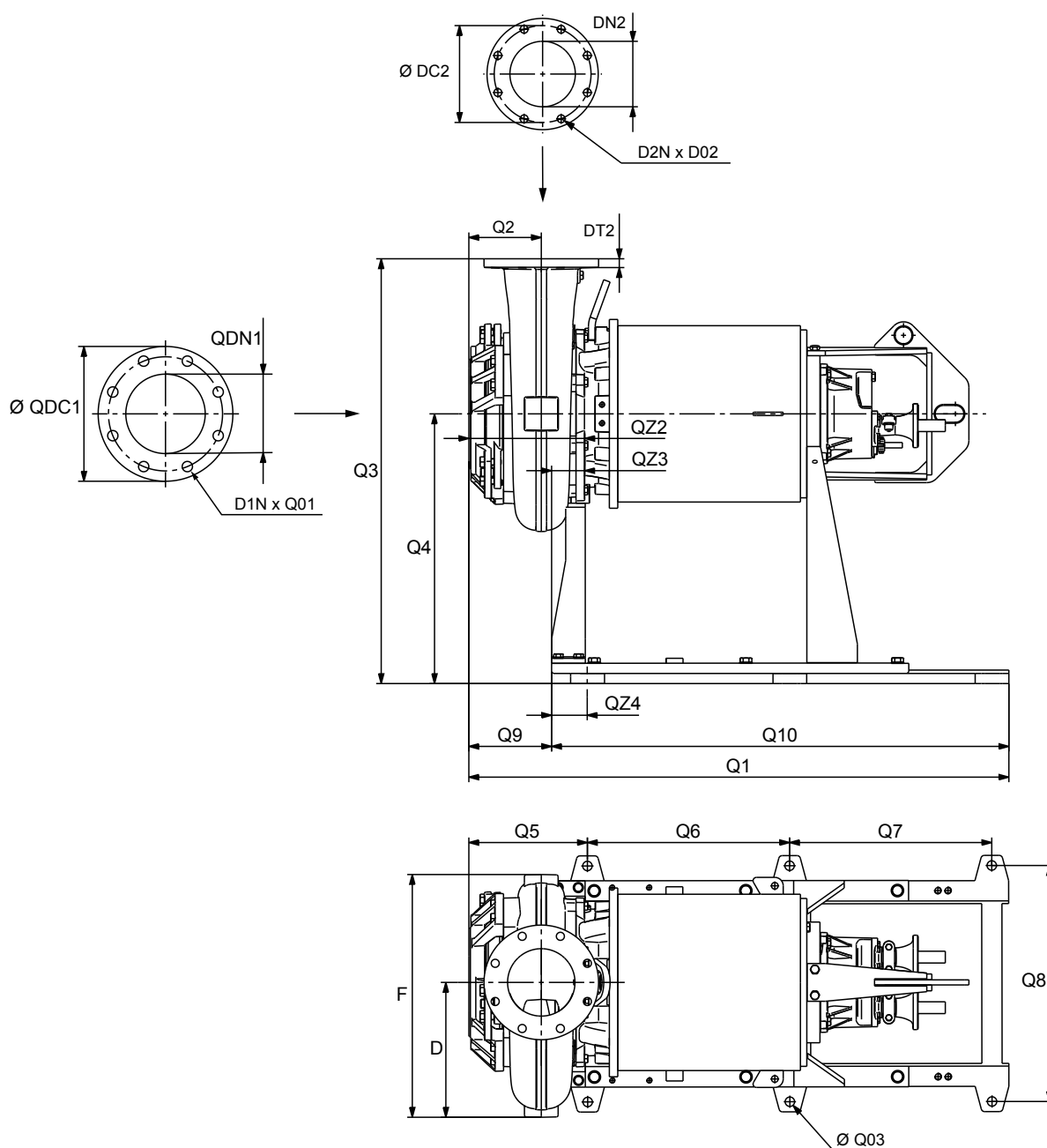
Dry, vertical installation on concrete foundation

Pump type	C	E	Ø X02	Ø X03	Ø X04	X1	X2	X3	X6	X7	X8
S1.80.200.850.4.70H.D	883	600	24	23	28	1654	246	20	700	500	900
S2.90.200.1150.4.70S.D	1069	750	24	23	28	1660	249	20	700	500	900
S2.90.200.1600.4.70S.D	1069	750	24	23	28	1815	249	20	700	500	900
S2.100.200.1150.4.70H.D	883	600	24	23	28	1654	246	20	700	500	900
S2.100.200.1600.4.70H.D	883	600	24	23	28	1809	246	20	700	500	900
S2.110.200.850.4.70M.D	809	460	24	23	28	1638	235	20	700	500	900
S2.110.200.1150.4.70M.D	837	550	24	23	28	1659	243	20	700	500	900
S2.110.200.1600.4.70M.D	837	550	24	23	28	1814	243	20	700	500	900
S2.105.250.650.8.70H.D	1193	750	24	23	28	1744	310	20	800	600	900
S2.120.250.800.6.70H.D	1193	750	24	23	28	1744	310	20	800	600	900

Pump type	C	E	Ø X02	Ø X03	Ø X04	X1	X2	X3	X6	X7	X8
S2.120.250.1000.6.70H.D	1193	750	24	23	28	1744	310	20	800	600	900
S2.120.250.1300.6.70H.D	1193	750	24	23	28	1899	310	20	800	600	900
S2.120.250.1600.4.70L.D	1068	750	24	23	28	1825	253	20	800	600	900
S3.110.500.650.8.70L.D	1843	1200	27	27	28	1783	493	160	1450	850	1180
S3.110.500.800.6.70L.D	1843	1200	27	27	28	1783	493	160	1450	850	1180
S3.110.500.1000.6.70L.D	1843	1200	27	27	28	1783	493	160	1450	850	1180
S3.110.500.1300.6.70L.D	1843	1200	27	27	28	1938	493	160	1450	850	1180
S3.120.300.650.8.70M.D	1284	760	24	23	28	1744	303	20	800	600	900
S3.120.300.800.6.70M.D	1139	700	24	23	28	1744	299	20	800	600	900
S3.120.300.1000.6.70M.D	1139	700	24	23	28	1744	299	20	800	600	900
S3.120.300.1300.6.70M.D	1284	760	24	23	28	1899	303	20	800	600	900
S3.120.600.650.8.70E.D	2124	1350	30	27	28	1877	452	35	1450	850	1180
S3.120.600.1000.6.70E.D	2124	1350	30	27	28	1877	452	35	1450	850	1180
S3.120.600.1300.6.70E.D	2124	1350	30	27	28	2032	452	35	1450	850	1180

Pump type	X9	X10	X11	X12	X16	DT2	XDC2	XDC3	DN2	XM1
S1.80.200.850.4.70H.D	700	250	300	800	2374	26	296	350	DN 200	6 x M24
S2.90.200.1150.4.70S.D	700	250	300	800	2380	24	295	350	DN 200	6 x M24
S2.90.200.1600.4.70S.D	700	250	300	800	2535	24	295	350	DN 200	6 x M24
S2.100.200.1150.4.70H.D	700	250	300	800	2374	26	296	350	DN 200	6 x M24
S2.100.200.1600.4.70H.D	700	250	300	800	2529	26	296	350	DN 200	6 x M24
S2.110.200.850.4.70M.D	700	250	300	800	2358	26	296	350	DN 200	6 x M24
S2.110.200.1150.4.70M.D	700	250	300	800	2379	24	296	350	DN 200	6 x M24
S2.110.200.1600.4.70M.D	700	250	300	800	2534	24	296	350	DN 200	6 x M24
S2.105.250.650.8.70H.D	700	300	300	800	2564	30	350	400	DN 250	6 x M24
S2.120.250.800.6.70H.D	700	300	300	800	2564	30	350	400	DN 250	6 x M24
S2.120.250.1000.6.70H.D	700	300	300	800	2564	30	350	400	DN 250	6 x M24
S2.120.250.1300.6.70H.D	700	300	300	800	2719	30	350	400	DN 250	6 x M24
S2.120.250.1600.4.70L.D	700	300	300	800	2645	30	350	400	DN 250	6 x M24
S3.110.500.650.8.70L.D	700	400	300	1100	3393	37	620	620	DN 500	6 x M24
S3.110.500.800.6.70L.D	700	400	300	1100	3393	37	620	620	DN 500	6 x M24
S3.110.500.1000.6.70L.D	700	400	300	1100	3393	37	620	620	DN 500	6 x M24
S3.110.500.1300.6.70L.D	700	400	300	1100	3548	37	620	620	DN 500	6 x M24
S3.120.300.650.8.70M.D	700	300	300	800	2564	33	400	400	DN 300	6 x M24
S3.120.300.800.6.70M.D	700	300	300	800	2564	33	400	400	DN 300	6 x M24
S3.120.300.1000.6.70M.D	700	300	300	800	2564	33	400	400	DN 300	6 x M24
S3.120.300.1300.6.70M.D	700	300	300	800	2719	33	400	400	DN 300	6 x M24
S3.120.600.650.8.70E.D	700	500	300	1100	3362	40	725	620	DN 600	6 x M24
S3.120.600.1000.6.70E.D	700	500	300	1100	3362	40	725	620	DN 600	6 x M24
S3.120.600.1300.6.70E.D	700	500	300	1100	3517	40	725	620	DN 600	6 x M24

Dry, horizontal installation on base stand



TM042415

Dry, horizontal installation on base stand

Pump type	D	F	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
S1.80.200.850.4.70H.H	300	596	1654	226	1400	800	411	600	600	700	304	1357
S2.90.200.1150.4.70S.H	360	710	1660	229	1550	800	417	600	600	700	310	1357
S2.90.200.1600.4.70S.H	360	710	1815	229	1550	800	417	600	600	700	310	1357
S2.100.200.1150.4.70H.H	300	596	1654	226	1400	800	411	600	600	700	304	1357
S2.100.200.1600.4.70H.H	300	596	1809	226	1400	800	411	600	600	700	304	1357
S2.110.200.850.4.70M.H	400	720	1638	215	1260	800	395	600	600	700	288	1357
S2.110.200.1150.4.70M.H	357	669	1659	223	1350	800	416	600	600	700	309	1357
S2.110.200.1600.4.70M.H	357	669	1814	223	1350	800	416	600	600	700	309	1357
S2.105.250.650.8.70H.H	478	891	1744	290	1550	800	501	600	600	700	394	1357
S2.120.250.800.6.70H.H	478	891	1744	290	1550	800	501	600	600	700	394	1357
S2.120.250.1000.6.70H.H	478	891	1744	290	1550	800	501	600	600	700	394	1357

Pump type	D	F	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
S2.120.250.1300.6.70H.H	478	891	1899	290	1550	800	501	600	600	700	394	1357
S2.120.250.1600.4.70L.H	410	730	1825	233	1550	800	427	600	600	700	320	1357
S3.110.500.650.8.70L.H	719	1269	1783	333	2000	800	540	600	600	700	433	1357
S3.110.500.800.6.70L.H	719	1269	1783	333	2000	800	540	600	600	700	433	1357
S3.110.500.1000.6.70L.H	719	1269	1783	333	2000	800	540	600	600	700	433	1357
S3.110.500.1300.6.70L.H	719	1269	1938	333	2000	800	540	600	600	700	433	1357
S3.120.300.650.8.70M.H	570	1041	1744	283	1560	800	501	600	600	700	394	1357
S3.120.300.800.6.70M.H	522	907	1744	279	1500	800	501	600	600	700	394	1357
S3.120.300.1000.6.70M.H	522	907	1744	279	1500	800	501	600	600	700	394	1357
S3.120.300.1300.6.70M.H	570	1041	1899	283	1560	800	501	600	600	700	394	1357
S3.120.600.650.8.70E.H	886	1506	1877	417	2150	800	634	600	600	700	527	1357
S3.120.600.1000.6.70E.H	886	1506	1877	417	2150	800	634	600	600	700	527	1357
S3.120.600.1300.6.70E.H	886	1506	2032	417	2150	800	634	600	600	700	527	1357

Pump type	Ø QDC1	QDN1	D1N	Q01	DN2	D2N	D02	DC2	DT2	Ø Q03	QZ2	QZ3	QZ4
S1.80.200.850.4.70H.H	350	250	12	M20	200	8	24	296	26	28	354	-50	107
S2.90.200.1150.4.70S.H	350	250	12	M20	200	8	24	295	24	28	360	-50	107
S2.90.200.1600.4.70S.H	350	250	12	M20	200	8	24	295	24	28	360	-50	107
S2.100.200.1150.4.70H.H	350	250	12	M20	200	8	24	296	26	28	354	-50	107
S2.100.200.1600.4.70H.H	350	250	12	M20	200	8	24	296	26	28	354	-50	107
S2.110.200.850.4.70M.H	350	250	12	M20	200	8	24	296	26	28	338	-50	107
S2.110.200.1150.4.70M.H	350	250	12	M20	200	8	24	296	24	28	359	-50	107
S2.110.200.1600.4.70M.H	350	250	12	M20	200	8	24	296	24	28	359	-50	107
S2.105.250.650.8.70H.H	400	300	12	M20	250	12	24	350	30	28	444	-50	107
S2.120.250.800.6.70H.H	400	300	12	M20	250	12	24	350	30	28	444	-50	107
S2.120.250.1000.6.70H.H	400	300	12	M20	250	12	24	350	30	28	444	-50	107
S2.120.250.1300.6.70H.H	400	300	12	M20	250	12	24	350	30	28	444	-50	107
S2.120.250.1600.4.70L.H	400	300	12	M20	250	12	24	350	30	28	370	-50	107
S3.110.500.650.8.70L.H	515	400	16	M24	500	20	27	620	37	28	483	-50	107
S3.110.500.800.6.70L.H	515	400	16	M24	500	20	27	620	37	28	483	-50	107
S3.110.500.1000.6.70L.H	515	400	16	M24	500	20	27	620	37	28	483	-50	107
S3.110.500.1300.6.70L.H	515	400	16	M24	500	20	27	620	37	28	483	-50	107
S3.120.300.650.8.70M.H	400	300	12	M20	300	12	24	400	33	28	444	-50	107
S3.120.300.800.6.70M.H	400	300	12	M20	300	12	24	400	33	28	444	-50	107
S3.120.300.1000.6.70M.H	400	300	12	M20	300	12	24	400	33	28	444	-50	107
S3.120.300.1300.6.70M.H	400	300	12	M20	300	12	24	400	33	28	444	-50	107
S3.120.600.650.8.70E.H	620	500	20	M24	600	20	30	725	40	28	577	-50	107
S3.120.600.1000.6.70E.H	620	500	20	M24	600	20	30	725	40	28	577	-50	107
S3.120.600.1300.6.70E.H	620	500	20	M24	600	20	30	725	40	28	577	-50	107

13. Weights

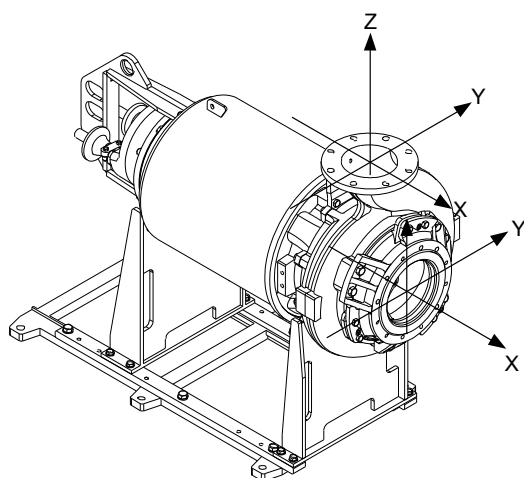
Weights include 10 m cable.

Pump type	Weight [kg]
S1.80.200.850.4.70H.S.448...	1050
S1.80.200.850.4.70H.C.448...	1195
S1.80.200.850.4.70H.D.448...	1185
S1.80.200.850.4.70H.H.448...	1320
S2.90.200.1150.4.70S.S.462...	1180
S2.90.200.1150.4.70S.C.462...	1320
S2.90.200.1150.4.70S.D.462...	1360
S2.90.200.1150.4.70S.H.462...	1500
S2.90.200.1600.4.70S.S.480...	1350
S2.90.200.1600.4.70S.C.480...	1500
S2.90.200.1600.4.70S.D.480...	1535
S2.90.200.1600.4.70S.H.480...	1680
S2.100.200.1150.4.70H.S.404...	1085
S2.100.200.1150.4.70H.C.404...	1225
S2.100.200.1150.4.70H.D.404...	1245
S2.100.200.1150.4.70H.H.404...	1390
S2.100.200.1600.4.70H.S.430...	1275
S2.100.200.1600.4.70H.C.430...	1440
S2.100.200.1600.4.70H.D.430...	1425
S2.100.200.1600.4.70H.H.430...	1570
S2.110.200.850.4.70M.S.375...	985
S2.110.200.850.4.70M.C.375...	1125
S2.110.200.850.4.70M.H.375...	1155
S2.110.200.850.4.70M.D.375...	1300
S2.110.200.1150.4.70M.S.416...	1090
S2.110.200.1150.4.70M.C.416...	1230
S2.110.200.1150.4.70M.H.416...	1250
S2.110.200.1150.4.70M.D.416...	1390
S2.110.200.1600.4.70M.S.441...	1245
S2.110.200.1600.4.70M.C.441...	1405
S2.110.200.1600.4.70M.H.441...	1425
S2.110.200.1600.4.70M.D.441...	1570
S2.105.250.650.8.70H.S.538...	1280
S2.105.250.650.8.70H.C.538...	1415
S2.105.250.650.8.70H.D.538...	1385
S2.105.250.650.8.70H.H.538...	1520
S2.120.250.800.6.70H.S.465...	1300
S2.120.250.800.6.70H.C.465...	1440
S2.120.250.800.6.70H.D.465...	1405
S2.120.250.800.6.70H.H.465...	1540
S2.120.250.1000.6.70H.S.500...	1295
S2.120.250.1000.6.70H.C.500...	1435
S2.120.250.1000.6.70H.D.500...	1405
S2.120.250.1000.6.70H.H.500...	1545
S2.120.250.1300.6.70H.S.528...	1480
S2.120.250.1300.6.70H.C.528...	1640
S2.120.250.1300.6.70H.D.528...	1600
S2.120.250.1300.6.70H.H.528...	1745
S2.120.250.1600.4.70L.S.402...	1380
S2.120.250.1600.4.70L.C.402...	1535

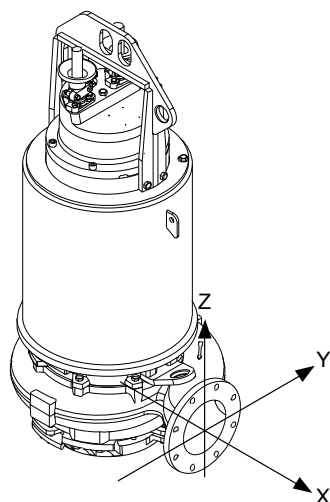
Pump type	Weight [kg]
S2.120.250.1600.4.70L.D.402...	1480
S2.120.250.1600.4.70L.H.402...	1610
S3.110.500.650.8.70L.S.464...	1745
S3.110.500.650.8.70L.C.464...	1885
S3.110.500.650.8.70L.D.464...	1735
S3.110.500.650.8.70L.H.464...	1875
S3.110.500.800.6.70L.S.370...	1765
S3.110.500.800.6.70L.C.370...	1905
S3.110.500.800.6.70L.D.370...	1755
S3.110.500.800.6.70L.H.370...	1895
S3.110.500.1000.6.70L.S.402...	1765
S3.110.500.1000.6.70L.C.402...	1910
S3.110.500.1000.6.70L.D.402...	1755
S3.110.500.1000.6.70L.H.402...	1870
S3.110.500.1300.6.70L.S.442...	1945
S3.110.500.1300.6.70L.C.442...	2105
S3.110.500.1300.6.70L.D.442...	1955
S3.110.500.1300.6.70L.H.442...	2095
S3.120.300.650.8.70M.S.464...	1375
S3.120.300.650.8.70M.C.464...	1520
S3.120.300.650.8.70M.D.464...	1430
S3.120.300.650.8.70M.H.464...	1560
S3.120.300.800.6.70M.S.407...	1280
S3.120.300.800.6.70M.C.407...	1425
S3.120.300.800.6.70M.D.407...	1335
S3.120.300.800.6.70M.H.407...	1520
S3.120.300.1000.6.70M.S.428...	1285
S3.120.300.1000.6.70M.C.428...	1425
S3.120.300.1000.6.70M.D.428...	1335
S3.120.300.1000.6.70M.H.428...	1460
S3.120.300.1300.6.70M.S.456...	1575
S3.120.300.1300.6.70M.C.456...	1735
S3.120.300.1300.6.70M.D.456...	1645
S3.120.300.1300.6.70M.H.456...	1785
S3.120.600.650.8.70E.S.459...	1995
S3.120.600.650.8.70E.C.459...	2135
S3.120.600.650.8.70E.D.459...	2020
S3.120.600.650.8.70E.H.459...	2155
S3.120.600.1000.6.70E.S.402...	2015
S3.120.600.1000.6.70E.C.402...	2155
S3.120.600.1000.6.70E.D.402...	2040
S3.120.600.1000.6.70E.H.402...	2175
S3.120.600.1300.6.70E.S.426...	2195
S3.120.600.1300.6.70E.C.426...	2355
S3.120.600.1300.6.70E.D.426...	2235
S3.120.600.1300.6.70E.H.426...	2375

14. Flange forces

Pump characteristics

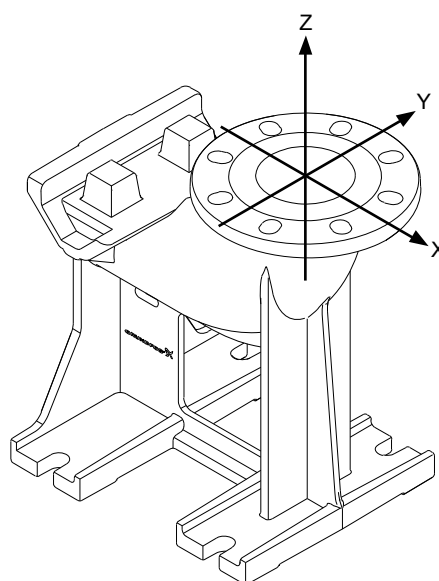


Horizontal installations



Vertical installations

TM064902



TM064901

Base unit

The flange forces and moments are according to EN ISO 5199.

Forces can be found for both horizontal and vertical installations in table B.3 in EN ISO 5199, by selecting the correct flange dimension. Forces cannot be used directly for end-suction wastewater pumps without using a coefficient which can be found in table B.5 in EN ISO 5199 by selecting the correct pump family.

For Grundfos wastewater pumps, the pump families and coefficients are as stated below.

Horizontally installed pumps

Pump family A4 = Coefficient 0.35

Vertically installed pumps

Pump family 10A = Coefficient 0.30

TM064903

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ECM: 1395661

GRUNDFOS Holding A/S
Poul Due Jensens Vej 7
DK-8850 Bjerringbro
Tel: +45 87 50 14 00
www.grundfos.com



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