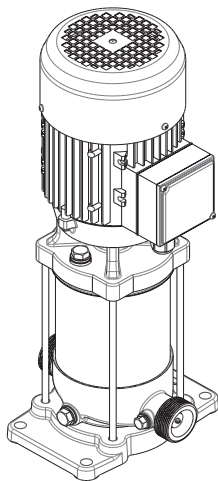
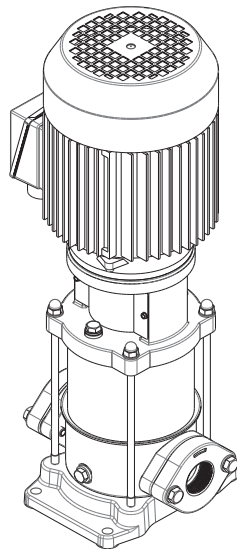


Technical Data 50 Hz

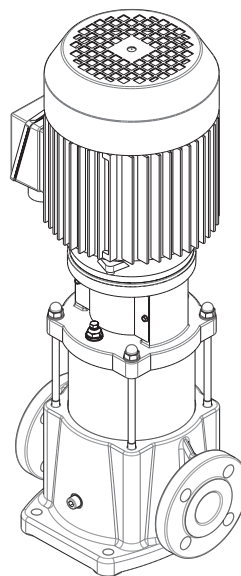
Vertical centrifugal pumps
Series: DPVE / DPV(S) / DPVCF / DPLHS



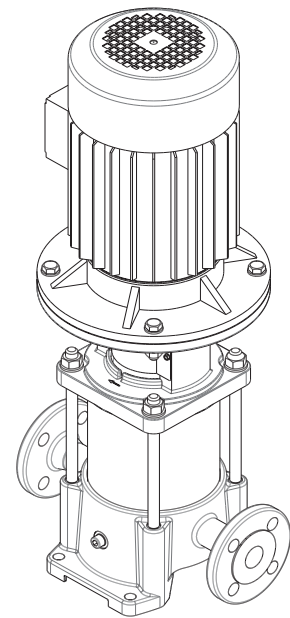
DPVE



DPV(S)



DPVCF



DPLHS

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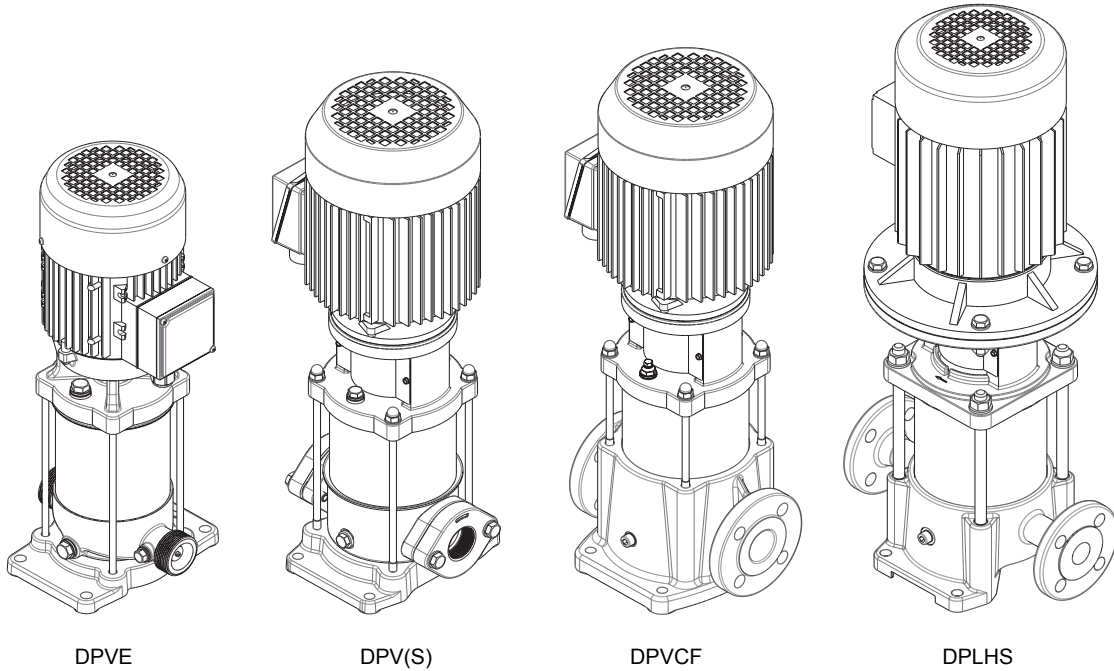
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1 Pump introduction

1.1 General

© 2019/07/2018



20040265-B

The vertical, multi-stage centrifugal pumps DPVE, DPV(S), DPVCF and DPLHS are produced by DP-Pumps.

1.2 Model key

Pump type	DPVS	F	45	-50	-1	
Materials	DPV					DP Vertical pumps in AISI 304 (1.4301).
	DPVE					DP Vertical pumps in AISI 304 (1.4301). Male thread with built-in non-return valve on discharge side.
	DPVS					DP Vertical pump in superior grade AISI 316 (1.4401).
	DPLHS					DP Vertical pump in superior grade AISI 316 (1.4401) 40 Bar.
Pump connections	DPVCF					DP Vertical pump with cast-iron pumpcasing for heavy duty applications.
		F				Oval counterflanges with female thread (DPLHS round flanges)
		V				Round flanges DIN, JIS or ASME.
Model / flow			45			Victaulic connection.
Stages / head				-50		Pump model indicates nominal flow in [m ³ /h].
Half stage impeller					-1	Indicates number of impeller stages (50 = 5).
						Fitted with a half stage impeller (only DPV(S)F 45)

1.3 Description of the product

The vertical, single or multistage pump series DPV, DPVE, DPLHS and DPVCF are designed for pumping clean, watery liquids. Suction and discharge of the pump are in-line, making the pump easy to install. The hydraulic assembly is installed vertically and driven by an electric motor.

All hydraulic parts of the pump (except for the suction/ discharge casing of the DPVCF) are made of stainless steel, making the pump light and extremely suitable for applications that demand high grade materials, such as drinking water applications.

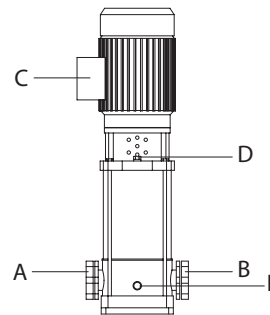
The DPV series is the standard vertical pump, available in various types. The DPVE is a compact vertical pump with a built-in non-return valve, especially designed for drinking water applications. The DPLHS is designed for high pressures (up to 40 Bar) and the DPVCF is designed for industrial, heavy duty applications, such as boiler feed.

The pump is initially designed for vertical installation, but can be installed horizontally by using a special adaptation set.

1.4 Operation

The liquid is sucked in through the pump inlet (A) on the supply side under minimum pressure. The pump increases the pressure. The liquid leaves the pump through the pump outlet (B) on the delivery side under increased pressure.

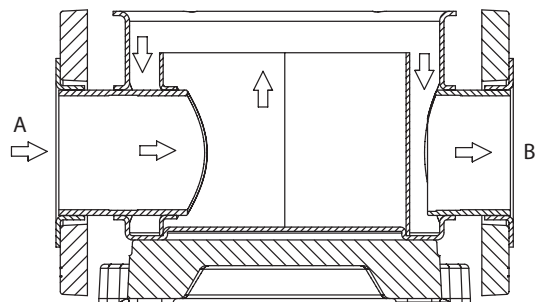
03-4527/2003



03/04/02072003

- A Pump inlet
- B Pump outlet
- C Terminal box
- D Fill plug/air relief plug
- E Drain plug

04/06/07/2004



2458/07/052004

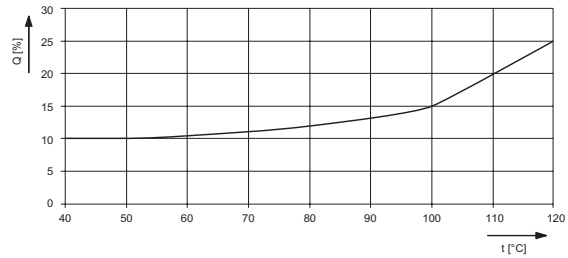
1.5 Working range

The working range of the pumps in this series can be summarised as follows:

Table 1: Specification of the working range

Pump type	DPVE	DPV	DPVfV	DPVS	DPVSfV	DPVCF	DPLHS
Ambient temperature [°C]	+4 to 40						
Liquid temperature [°C]	-15 to 60	-15 to 100 ¹		-15 to 120 ²		-15 to 120	-15 to 80 ³
Maximum working pressure [bar]	10 ⁴	16 ⁴	25 ⁴	16 ⁴	25 ⁴	25 ⁴	40 ⁴
Allowable size of solids pumped	5µ to 1mm						
Minimum supply pressure	Not cavitating ⁵ .						
Viscosity liquid [cSt]	1 A higher viscosity may require more motor power. ⁵						
Density liquid [kg/m ³]	1000 A higher density may require more motor power. ⁵						
Cooling	The space above the cooling fan of the motor must at least be equal to 1/4 of the diameter of the inlet of the cooling fan of the motor in order to have a sufficient supply of air.						
Number of starts	Related to the motor ⁶						
Minimum frequency [Hz]	10						
Maximum frequency [Hz]	60 ⁷						

- Using the factory option "o-ring sealing EPDM E425" the max. temp. limit is 120°C.
- When pumping water, the max. allowable liquid temp is 80°C.
- Higher temperatures are possible at lower pressure. For specific limits consult your supplier.
- The total of the supply pressure and no-load delivery pressure with closed outlet shut-off valve may not exceed the maximum working pressure.
- Contact your supplier for more detailed advice.
- For standard motors see the technical specifications. When the pump is fitted with another motor brand, please consult the motor supplier.
- Pumps that are intended for 50 Hz operation, may not be connected to 60 Hz.



Minimum volume flows (Q) in % of Q optimum temperatures (t).

Table 2: Minimum volume flows (Q_{min})

DP	50 Hz	60 Hz
	Q _{min} in m ³ /h	
2	0.3	0.3
4	0.6	0.65
6	0.8	0.8
10	1.2	1.4
14	1.0	1.1
18	2.4	2.4
24	2.2	2.6
32	4.0	4.0
45	4.6	5.1
65	6.1	6.1

Table 3: Specific applications

type	application area
DPV	(Drinking) water supply systems, irrigation systems, water treatment systems, car-wash systems, sprinkler systems.
DPVS	Water-supply systems for drinking water, softened and demineralised water, systems for brackish water, sea water and swimming-pool water, however limited with respect to temperature, pressure and chlorine percentage.
DPVCF	Systems for boiler supply and discharge of condensed water
DPLHS	Reverse osmosis installations and high pressure cleaning systems.
DPVE	(Drinking) water supply systems.

2 Performance characteristics

2.1 Performance curve details

The preceding diagrams give a global overview of all the pump models mentioned in this documentation. Detailed characteristics are given for each model showing the hydraulic efficiency, $NPSH_{req}$, and shaft power as well.

The performance of the pump depends on the number of stages. The number of stages are shown as a multiple of 10, as per example:

DPV 10-60	6 full stage impellers
DPVF 45-50-1	5 full stage impellers and 1 half stage impeller

The detailed performance curves are in accordance with ISO 9906 Annex A. Vibration limits at rated speed and rated flow are according to ISO 9905.

The motors used for the measurements are standard DP. When using another motor brand the performance data, like Q/H, efficiency and shaft power must be corrected accordingly.

The characteristics given are based on:

- De-aerated water at a temperature of 20 °C
- Density of 1.0 kg/dm³
- Kinematical viscosity of 1 mm²/s (1 cst)

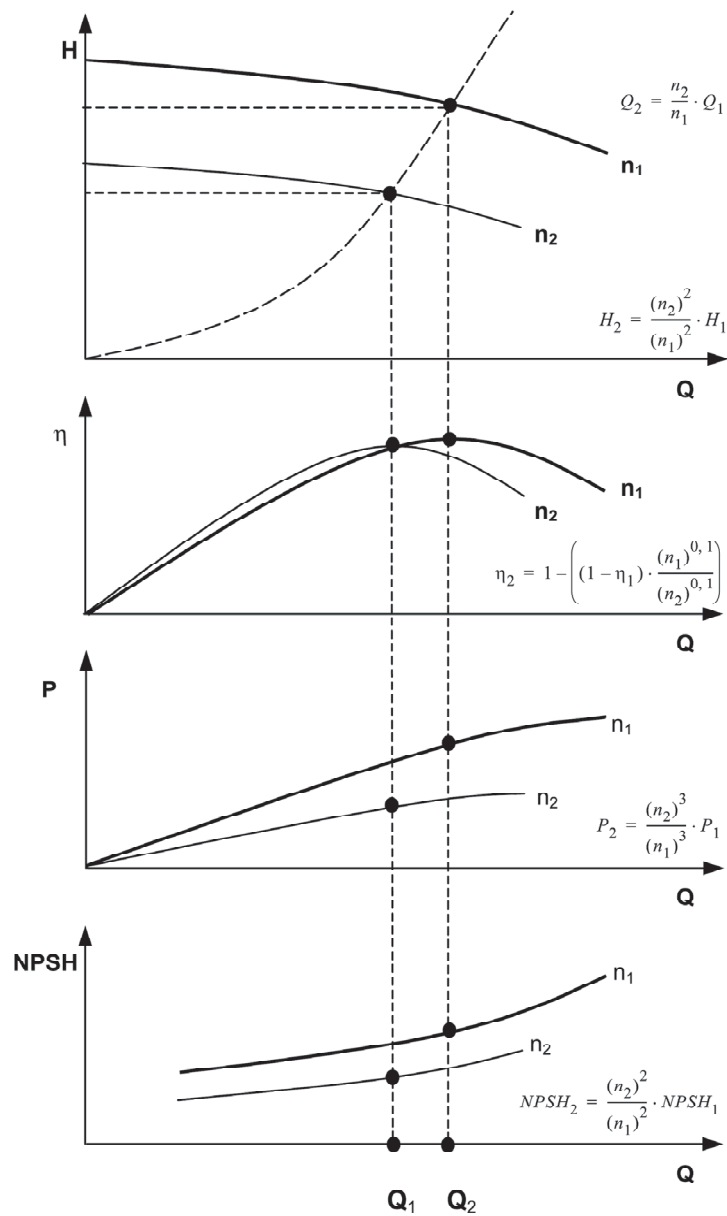
To prevent the pump from overheating, gathering gas, cavitation etc. a minimum flow has to be secured. The minimum flow corresponds to a percentage of the optimum flow Q_{opt} in relation to the temperature of the liquid pumped.

2.2 Performance with variable frequency drive

The minimum frequency of the DP motor should be limited to 10 Hz to ensure sufficient cooling. When the rotational speed exceeds the nominal speed of the motor, make sure that the power output of the motor is suitable to drive the corresponding pump model.

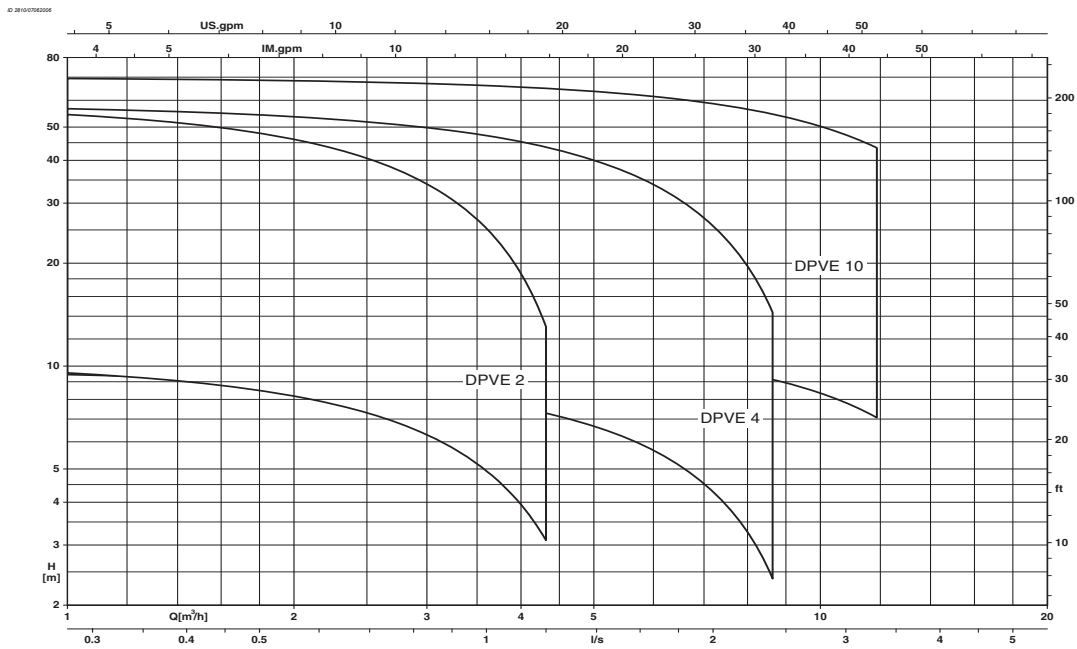
The converted frequency from an average variable frequency drive will have a rather high pulse rise time, which creates heat in the winding. To be suitable for this kind of application, the DP motors are built in accordance with IEC 60034-17.

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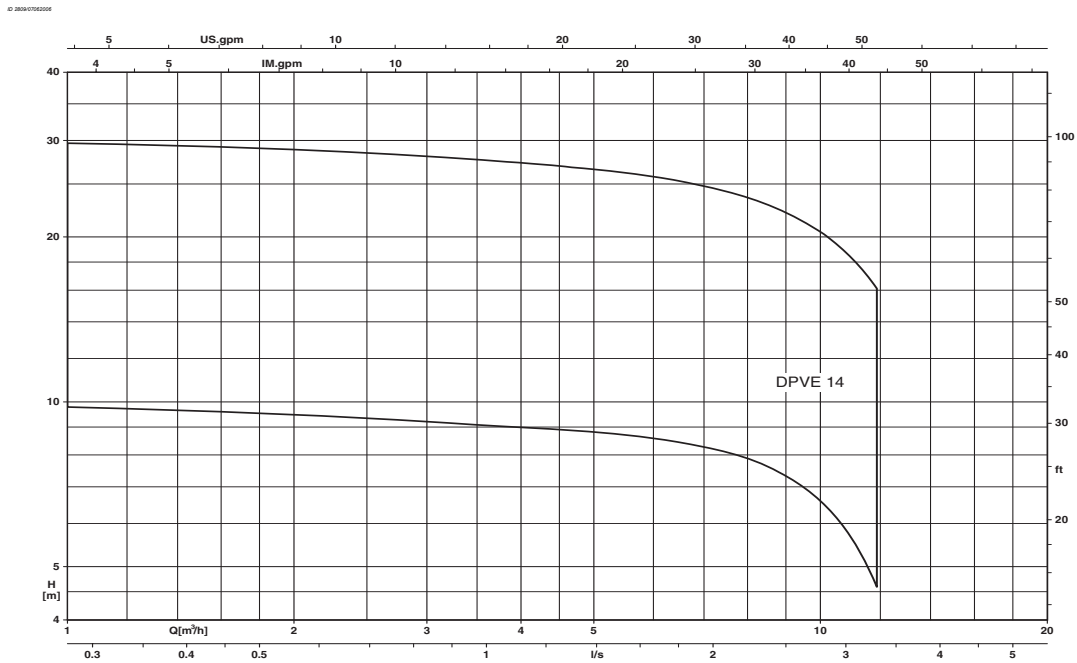


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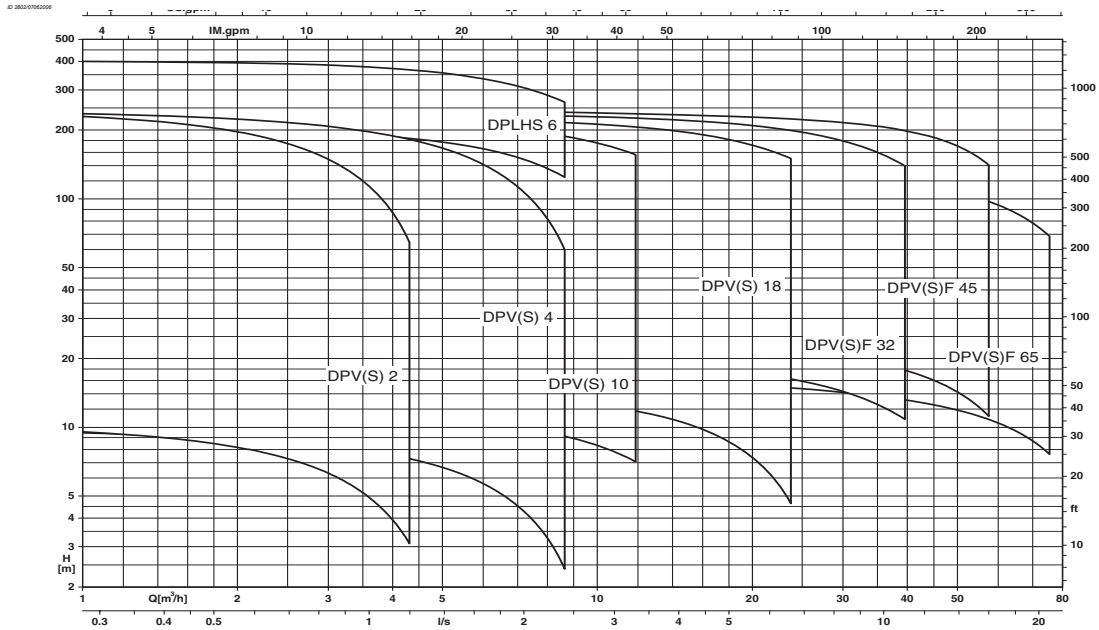
2.3 Performance characteristics DPVE 2-pole 50 Hz



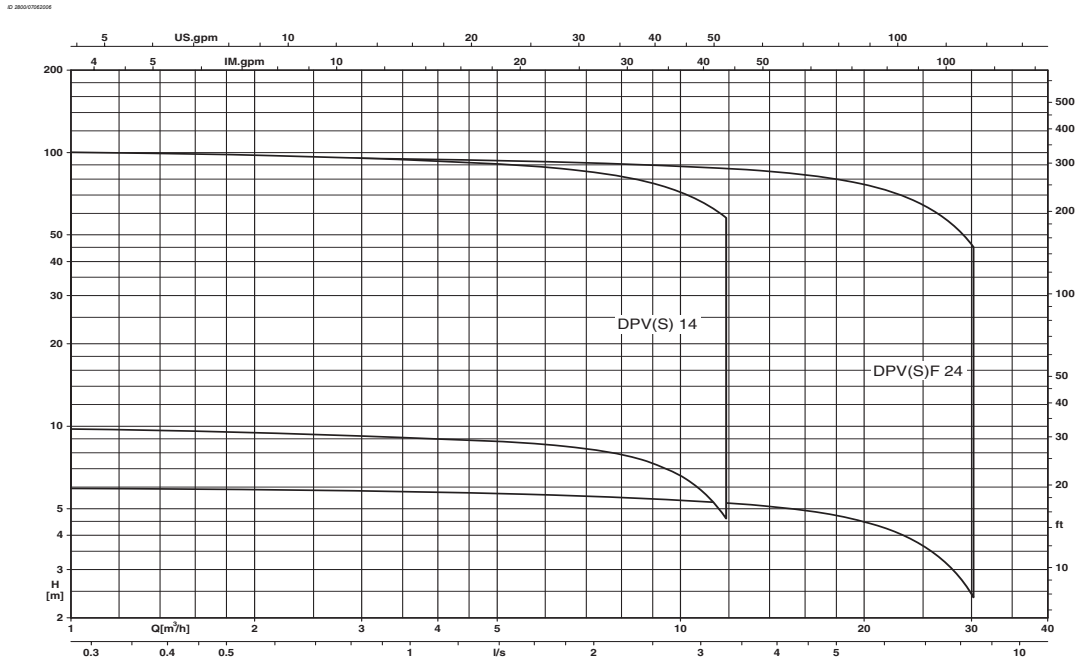
2.4 Performance characteristics DPVE 4-pole 50 Hz



2.5 Performance characteristics DPV(S)(F) 2-pole 50 Hz

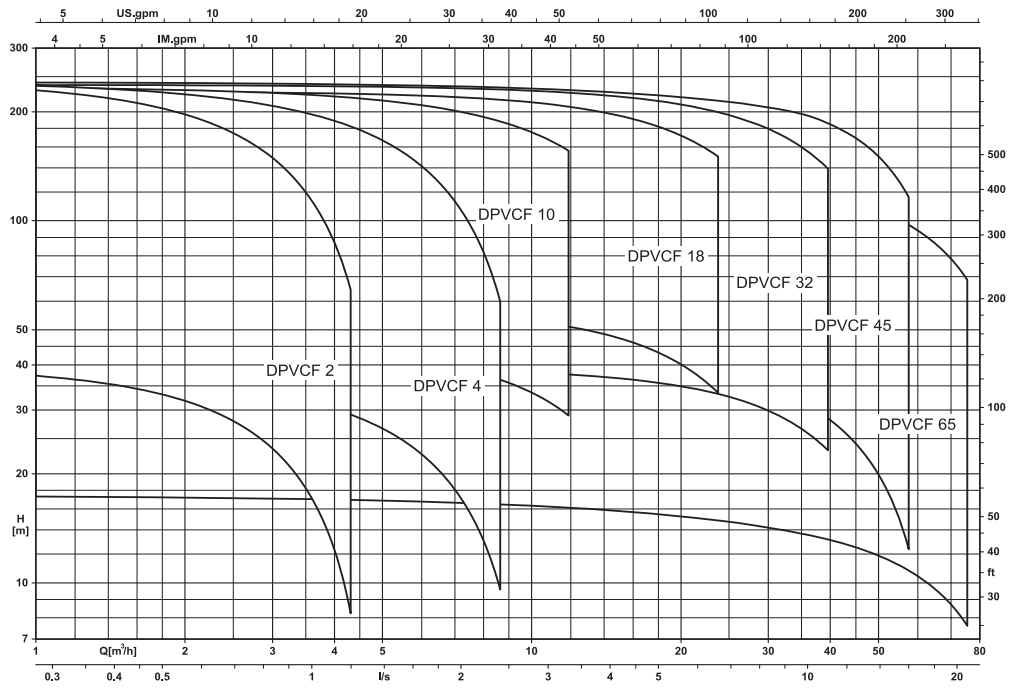


2.6 Performance characteristics DPV(S)(F) 4-pole 50 Hz



2.7 Performance characteristics DPVCF 2-pole 50 Hz

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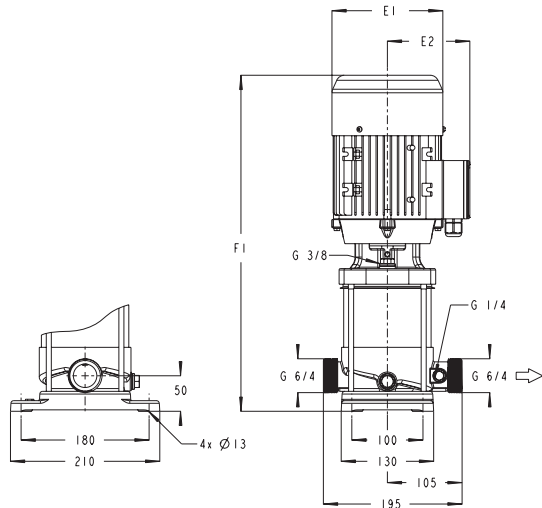
n = 2900 1/min

2804/26042007

3 Technical specifications

3.1 Dimensions and weights DPVE 2 50 Hz

© DPVE 2005



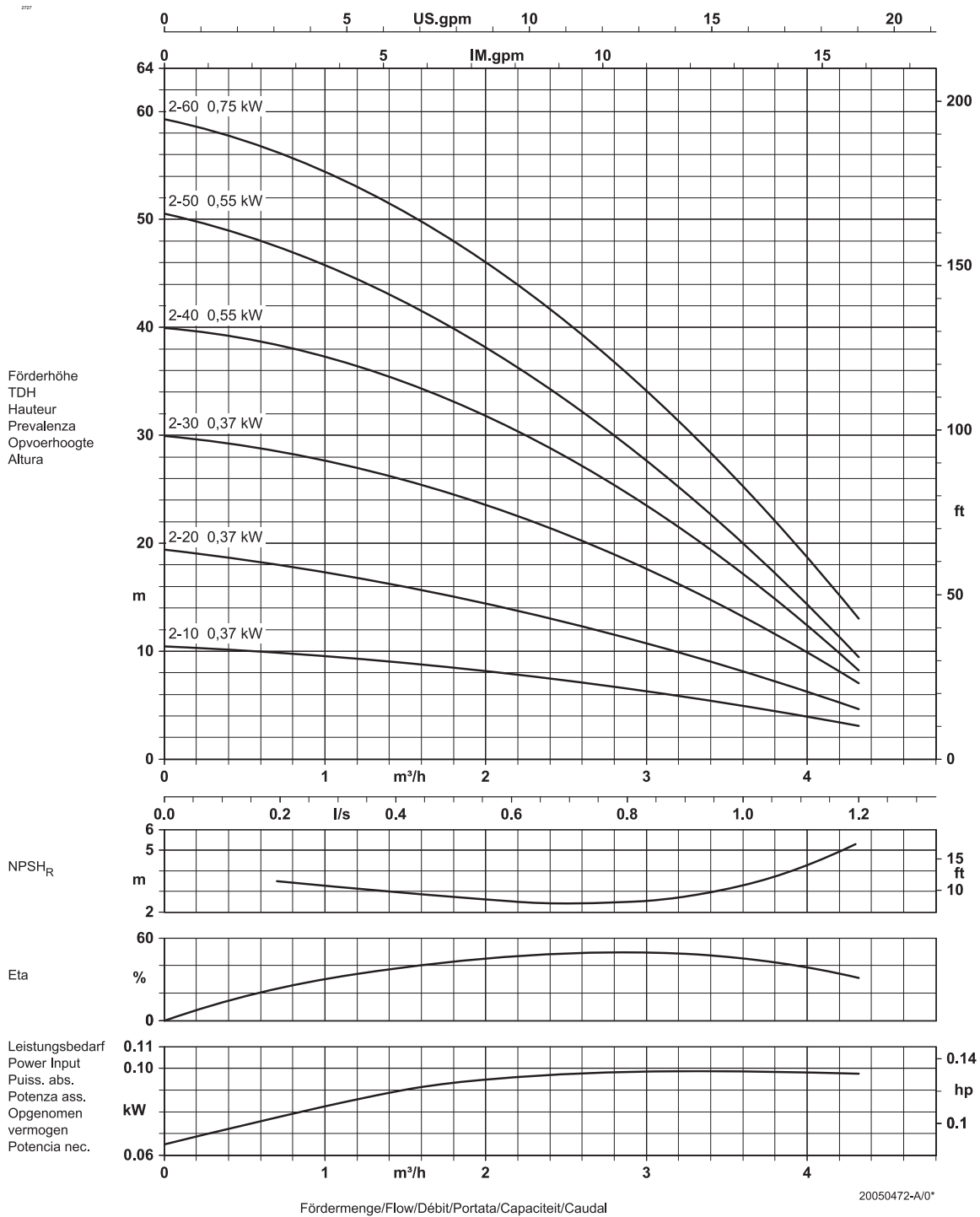
DPVE 2

95000714

DPVE 2 50 Hz	General				
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	Net Weight [kg]
2-10	0.37	134	107	413	13
2-20	0.37	134	107	413	13
2-30	0.37	134	107	434	13
2-40	0.55	134	107	479	16
2-50	0.55	134	107	500	16
2-60	0.75	150	115	512	19

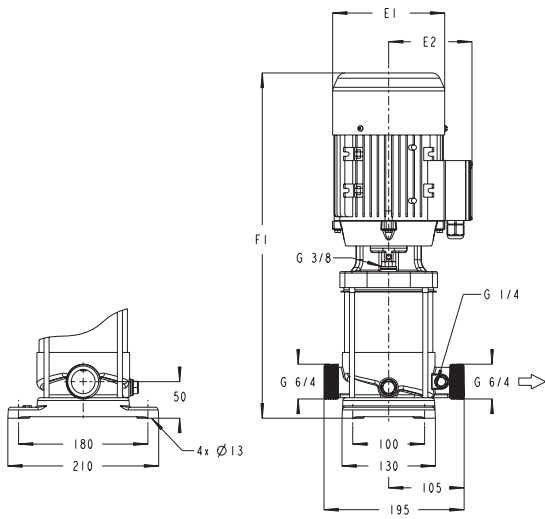
20020511-C

3.2 Hydraulic performance DPVE 2 50 Hz ~2900 1/min



3.3 Dimensions and weights DPVE 4 50 Hz

20020513-000



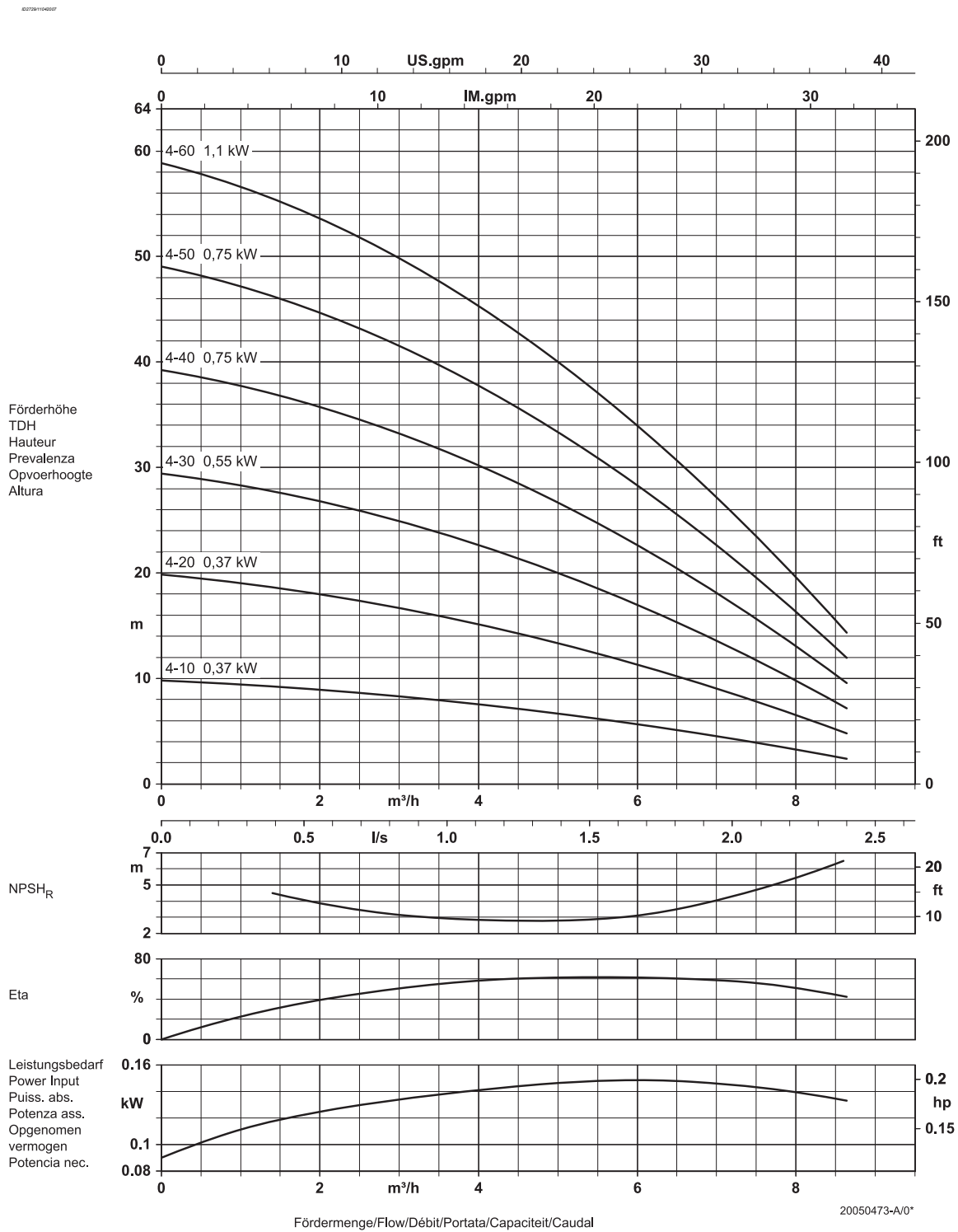
DPVE 4

95000715

DPVE 4 50 Hz		General			
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	Net weight [kg]
4-10	0.37	134	107	413	13
4-20	0.37	134	107	413	13
4-30	0.55	134	107	458	15
4-40	0.75	150	115	470	18
4-50	0.75	150	115	491	19
4-60	1.1	150	115	542	21

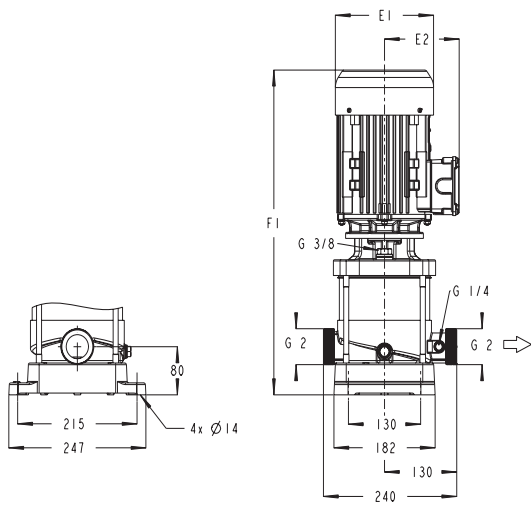
20020513-C

3.4 Hydraulic performance DPVE 4 50 Hz ~2900 1/min



3.5 Dimensions and weights DPVE 10 50 Hz

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DPVE 10

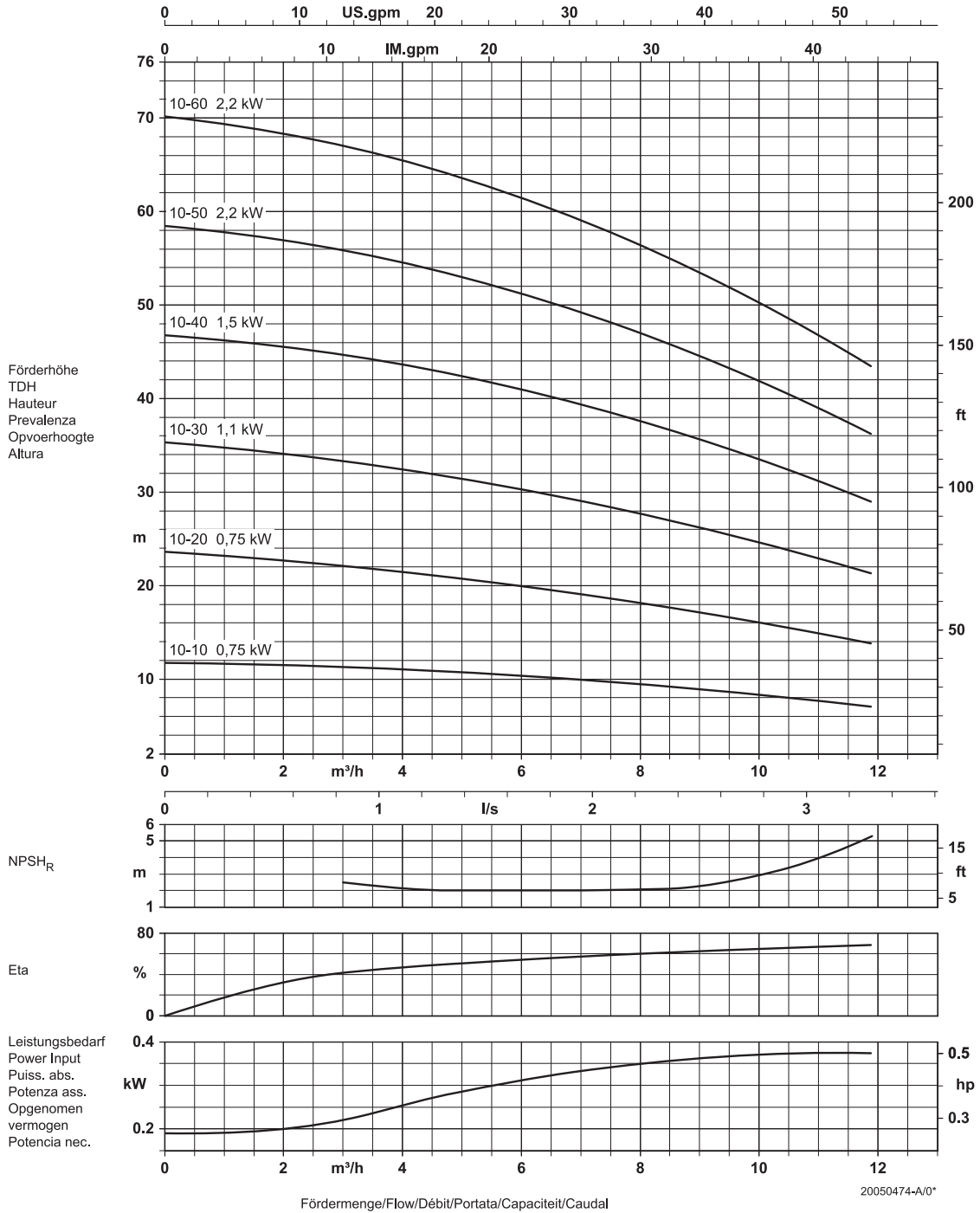
97000191

DPVE 10 50 Hz		General			
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	Net weight [kg]
10- 10	0.75	150	115	498	23
10- 20	0.75	150	115	498	23
10- 30	1.1	150	115	555	25
10- 40	1.5	176	136	593	29
10- 50	2.2	176	136	620	32
10- 60	2.2	176	136	647	33

20031117

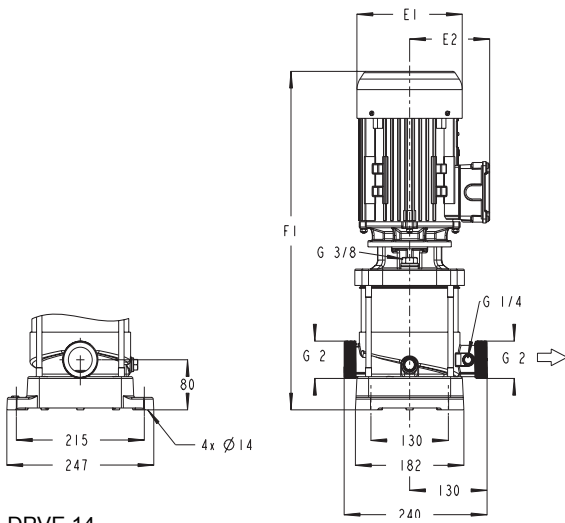
3.6 Hydraulic performance DPVE 10 50 Hz ~2900 1/min

ID 27311042007



3.7 Dimensions and weights DPVE 14 50 Hz

275101-02005



DPVE 14

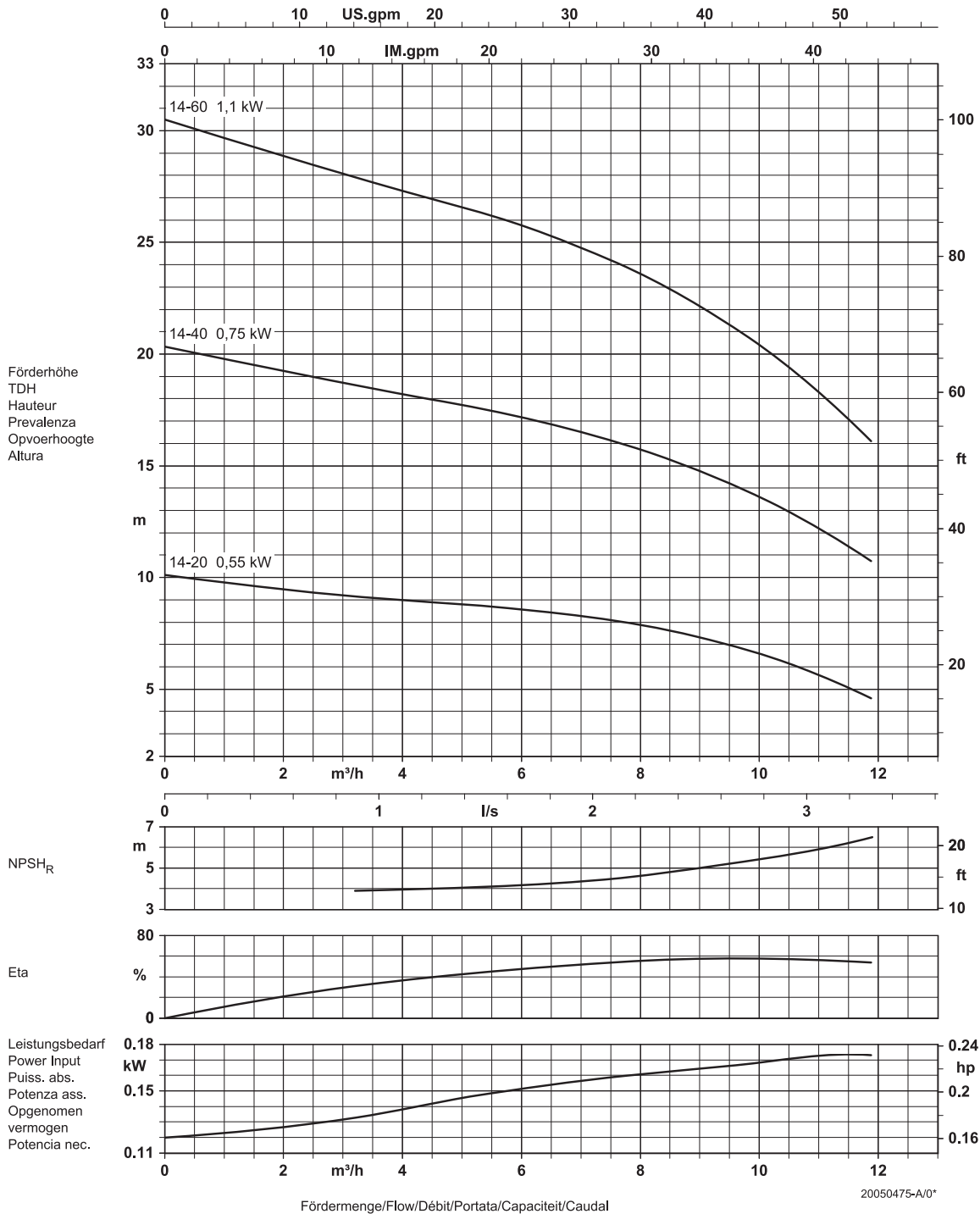
97000192

DPVE 14 50 Hz		General			
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	Net weight [kg]
14- 20	0.55	150	115	498	21
14- 40	0.75	150	115	582	24
14- 60	1.10	176	136	652	29

20031118-A

3.8 Hydraulic performance DPVE 14 50 Hz ~1450 1/min

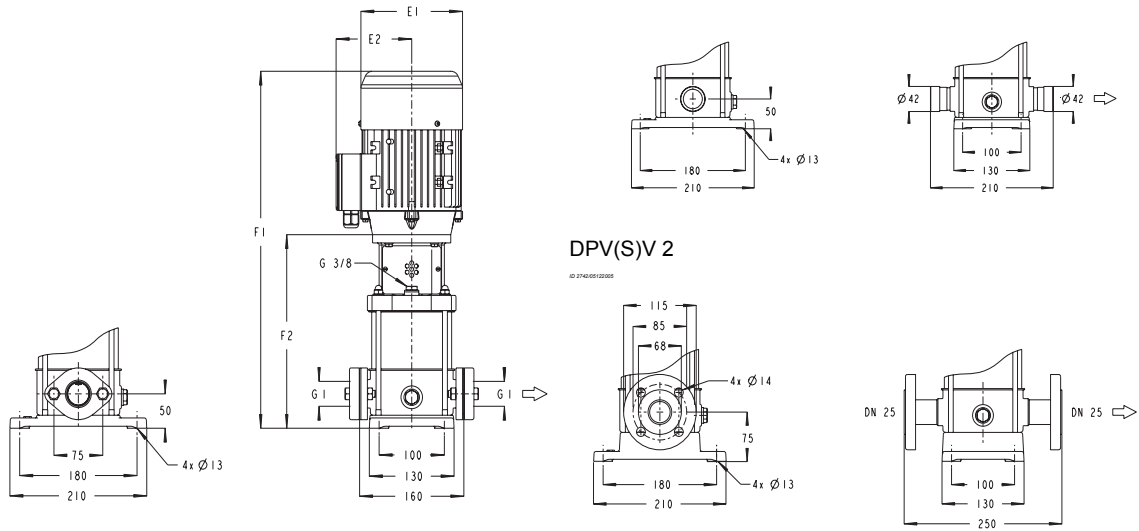
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3.9 Dimensions and weights DPV(S) 2 50 Hz

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DPV(S) 2

DPV(S)F 2

95000714

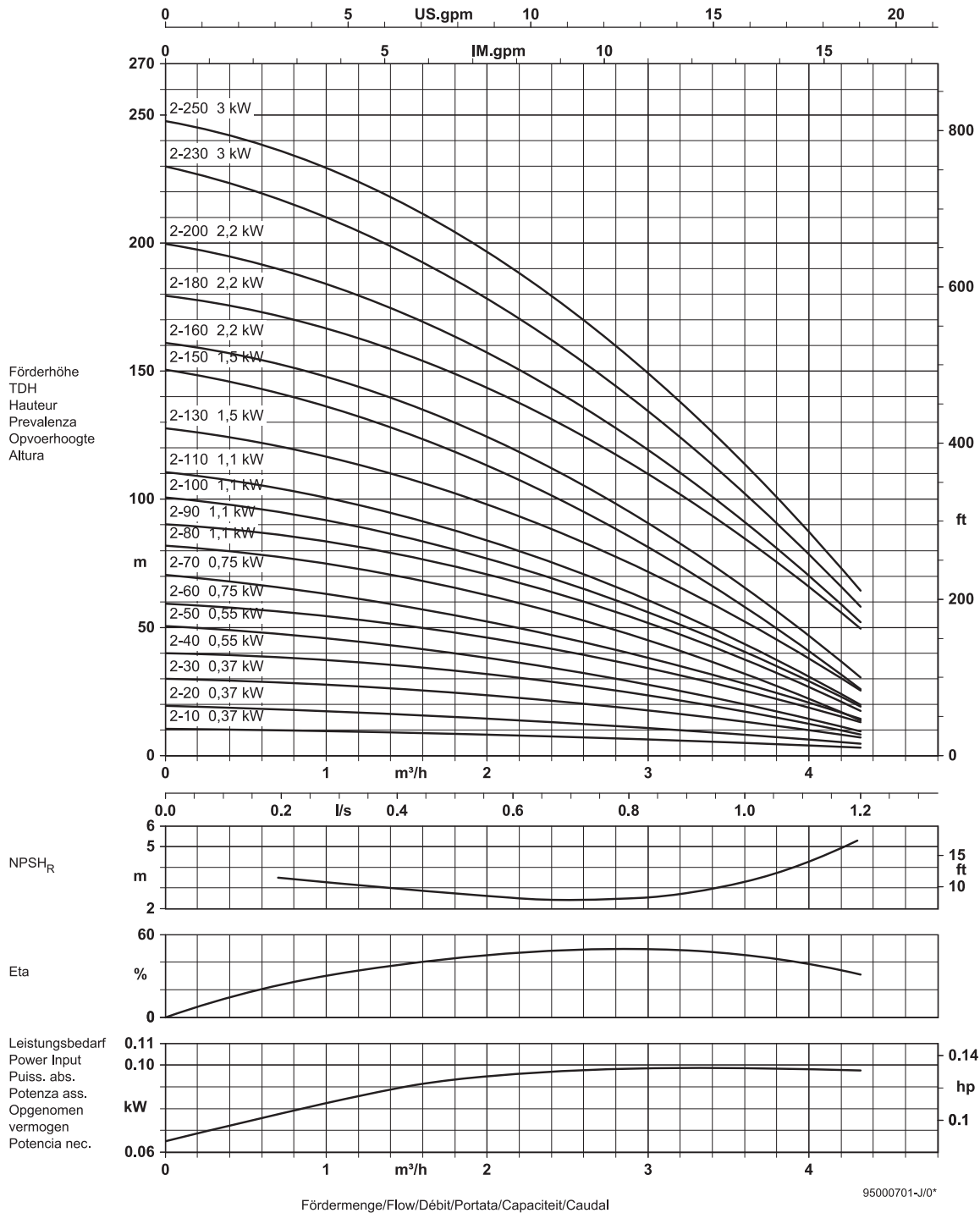
Model	General			DPV(S)			DPV(S)V			DPV(S)F		
	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net Weight [kg]
2- 10	0.37	134	107	451	232	13	451	232	13	476	257	14
2- 20	0.37	134	107	451	232	13	451	232	13	476	257	14
2- 30	0.37	134	107	472	253	14	472	253	14	497	278	14
2- 40	0.55	134	107	517	274	16	517	274	16	542	299	17
2- 50	0.55	134	107	538	295	17	538	295	17	563	320	17
2- 60	0.75	150	115	560	326	20	560	326	20	585	351	21
2- 70	0.75	150	115	581	347	20	581	347	20	606	372	21
2- 80	1.1	150	115	632	368	22	632	368	22	657	393	23
2- 90	1.1	150	115	653	389	23	653	389	23	678	414	23
2- 100	1.1	150	115	674	410	23	674	410	23	699	435	24
2- 110	1.1	150	115	695	431	24	695	431	24	720	456	24
2- 130	1.5	176	136	758	483	28	758	483	28	783	508	29
2- 150	1.5	176	136	800	525	29	800	525	29	825	550	30
2- 160	2.2	176	136	x	x	x	821	546	33	846	571	33
2- 180	2.2	176	136	x	x	x	863	588	33	888	613	34
2- 200	2.2	176	136	x	x	x	905	630	34	930	655	35
2- 230	3	194	147	x	x	x	1019	703	46	1044	728	46
2- 250	3	194	147	x	x	x	1061	745	47	1086	770	47

96000477-1



3.10 Hydraulic performance DPV(S) 2 50 Hz ~2900 1/min

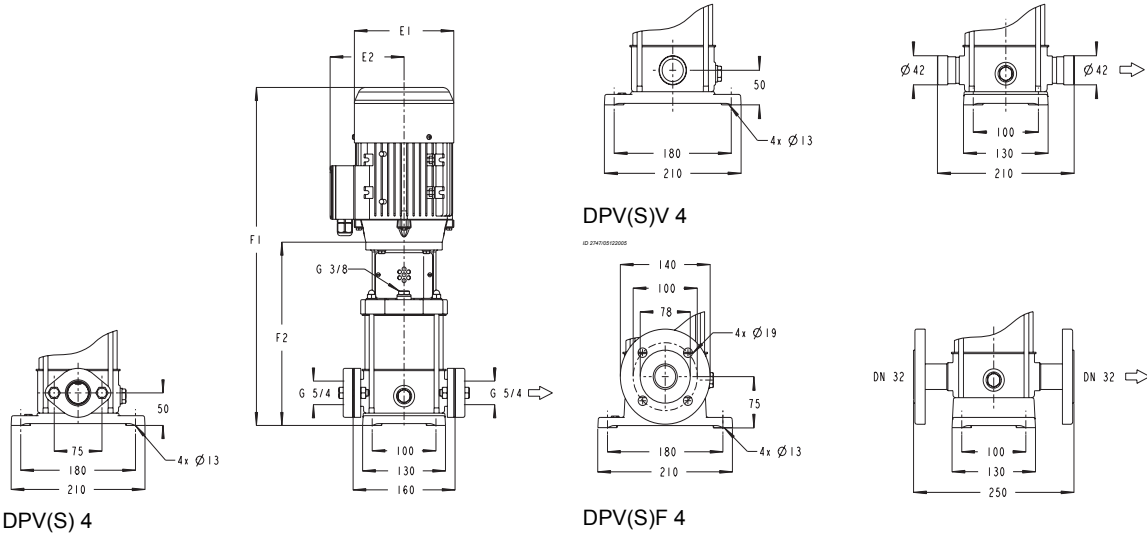
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3.11 Dimensions and weights DPV(S) 4 50 Hz

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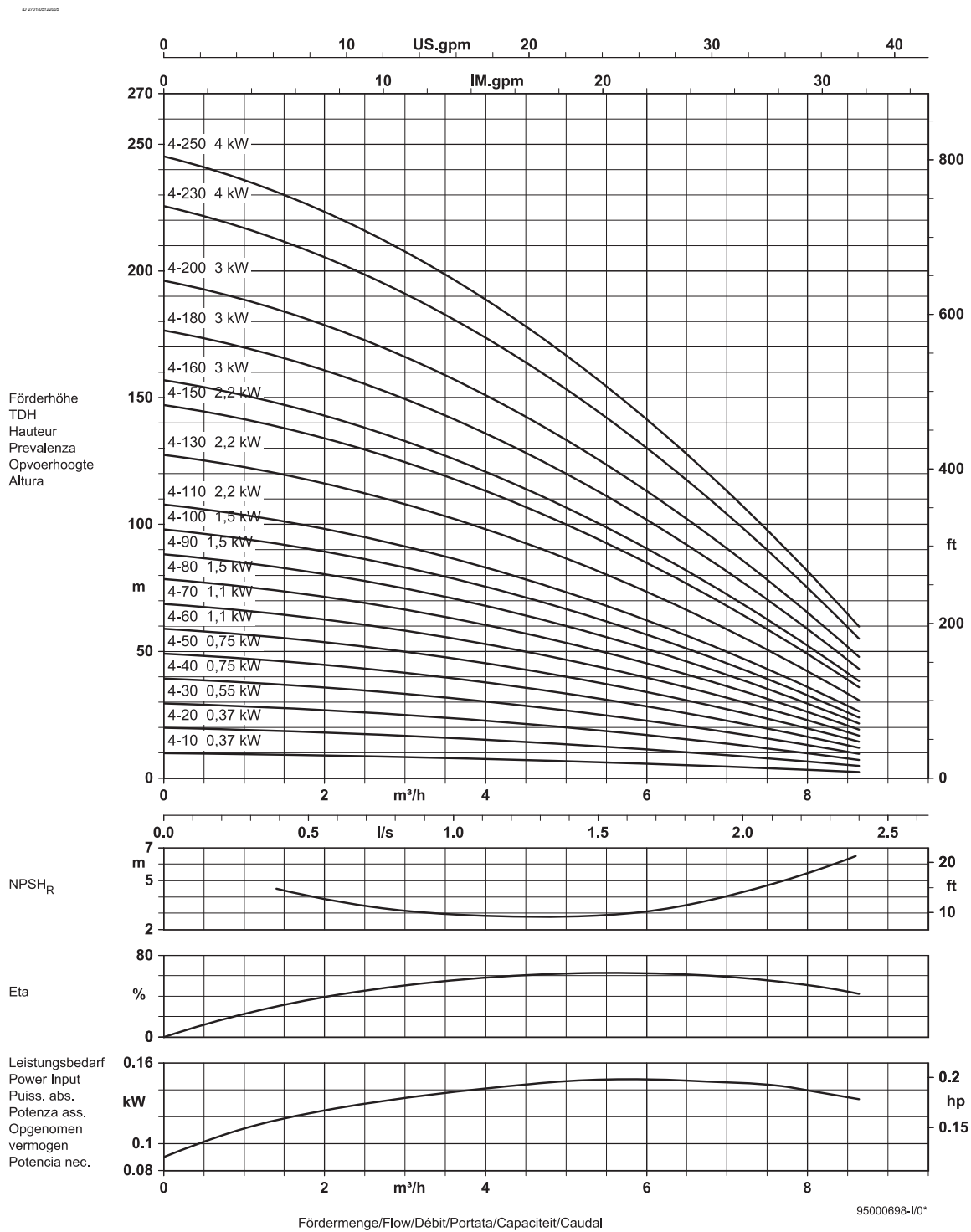
95000715

Model	General			DPV(S)			DPV(S)V			DPV(S)F		
	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net weight [kg]
4- 10	0.37	134	107	451	232	13	451	232	13	476	257	15
4- 20	0.37	134	107	451	232	13	451	232	13	476	257	15
4- 30	0.55	134	107	496	253	16	496	253	16	521	278	17
4- 40	0.75	150	115	518	284	19	518	284	19	543	309	21
4- 50	0.75	150	115	539	305	20	539	305	20	564	330	21
4- 60	1.1	150	115	590	326	21	590	326	21	615	351	23
4- 70	1.1	150	115	611	347	22	611	347	22	636	372	23
4- 80	1.5	176	136	653	378	26	653	378	26	678	403	27
4- 90	1.5	176	136	674	399	26	674	399	26	699	424	28
4- 100	1.5	176	136	695	420	27	695	420	27	720	445	28
4- 110	2.2	176	136	716	441	30	716	441	30	741	466	32
4- 130	2.2	176	136	758	483	31	758	483	31	783	508	33
4- 150	2.2	176	136	800	525	32	800	525	32	825	550	34
4- 160	3	194	147	x	x	x	872	556	43	897	581	44
4- 180	3	194	147	x	x	x	914	598	43	939	623	45
4- 200	3	194	147	x	x	x	956	640	44	981	665	46
4- 230	4	233	162	x	x	x	1027	703	55	1052	728	56
4- 250	4	233	162	x	x	x	1069	745	56	1094	770	57

96000478-J



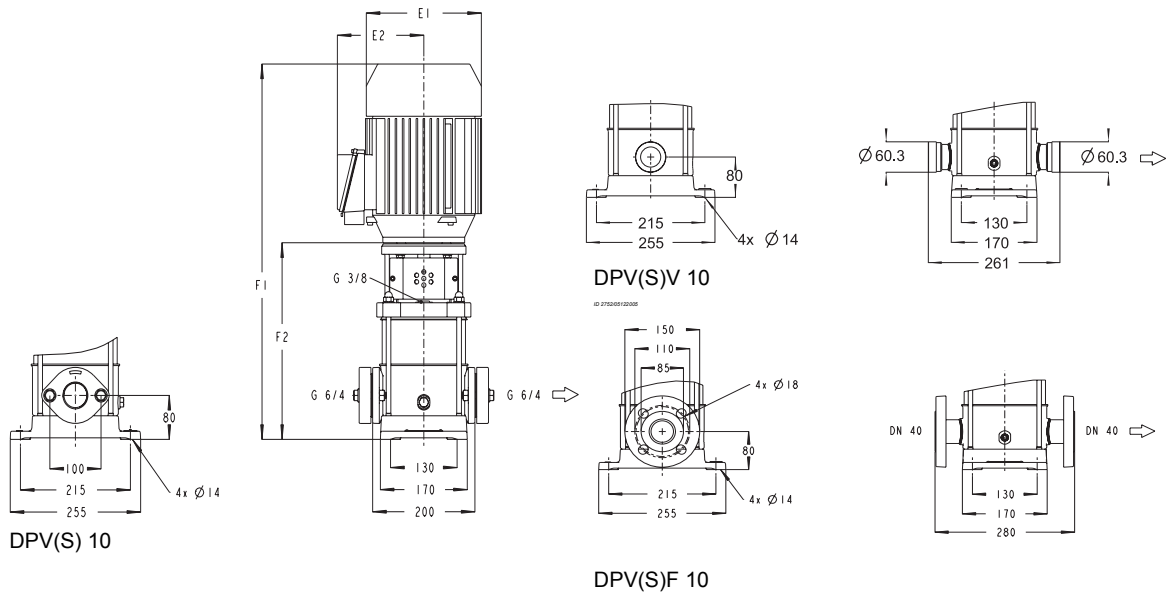
3.12 Hydraulic performance DPV(S) 4 50 Hz ~2900 1/min



3.13 Dimensions and weights DPV(S) 10 50 Hz

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97000191

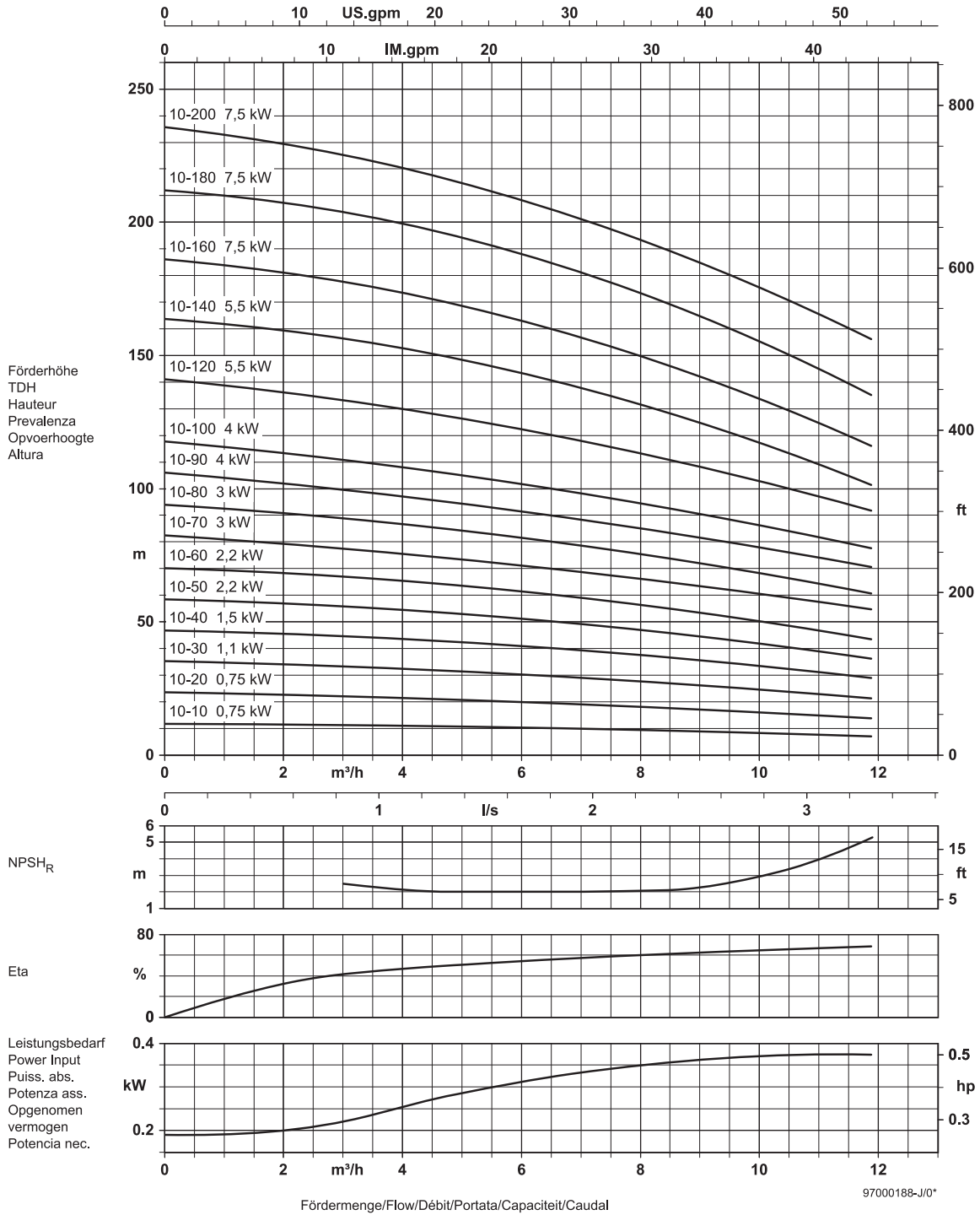
Model	General					DPV(S) Net weight [kg]	DPV(S)V Net weight [kg]	DPV(S)F Net weight [kg]
	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]			
10- 10	0.75	150	115	556	322	23	23	26
10- 20	0.75	150	115	556	322	23	23	26
10- 30	1.1	150	115	613	349	25	25	28
10- 40	1.5	176	136	661	386	30	30	32
10- 50	2.2	176	136	688	413	33	33	36
10- 60	2.2	176	136	715	440	34	34	37
10- 70	3	194	147	793	477	45	45	48
10- 80	3	194	147	820	504	46	46	48
10- 90	4	233	162	855	531	55	55	58
10- 100	4	233	162	882	558	56	56	59
10- 120	5.5	233	162	961	632	63	63	66
10- 140	5.5	233	162	1015	686	65	65	68
10- 160	7.5	233	162	1097	740	x	70	73
10- 180	7.5	233	162	1151	794	x	72	74
10- 200	7.5	233	162	1205	848	x	73	76

96000716-I

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.14 Hydraulic performance DPV(S) 10 50 Hz ~2900 1/min

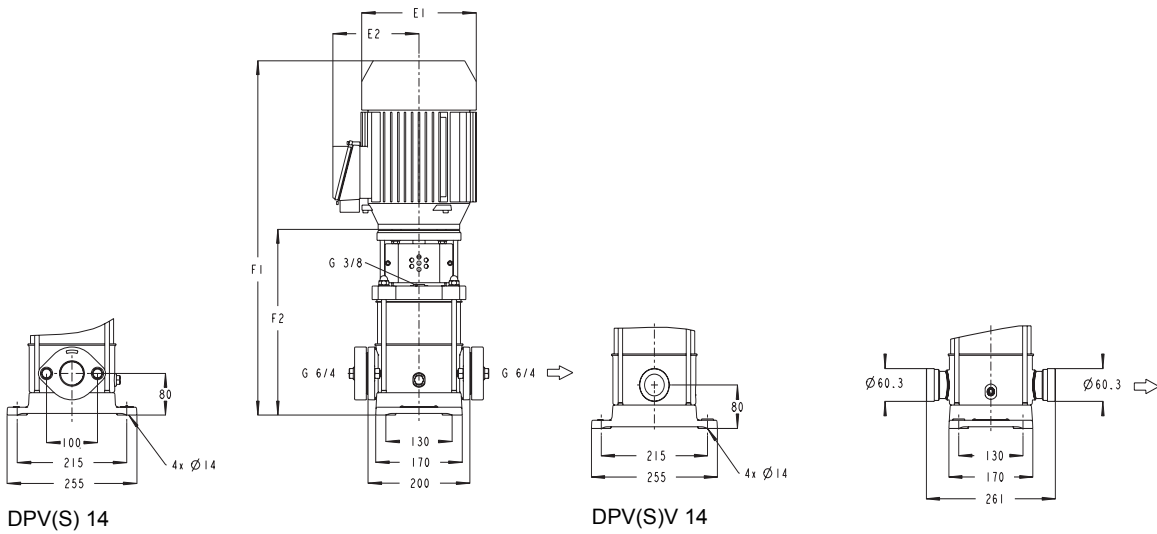
© 2010/01/2005



3.15 Dimensions and weights DPV(S) 14 50 Hz

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DPV(S) 14

DPV(S)V 14

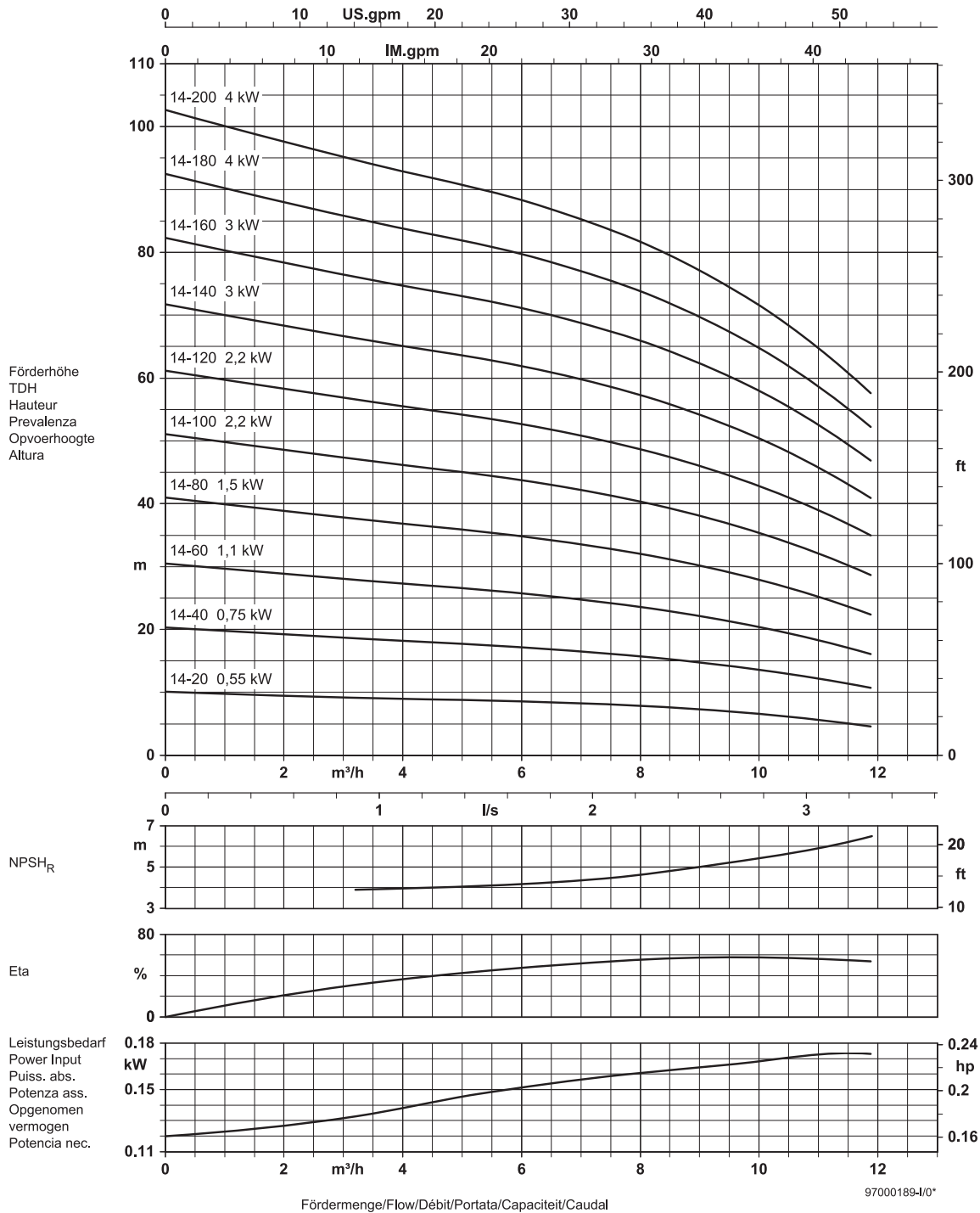
97000192

DPV(S)(V)(F) 14 50 Hz		General				
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
14- 20	0.55	150	115	556	322	22
14- 40	0.75	150	115	640	376	25
14- 60	1.1	176	136	720	440	31
14- 80	1.5	176	136	774	494	35
14- 100	2.2	194	147	874	558	46
14- 120	2.2	194	147	928	612	48
14- 140	3	194	147	982	666	50
14- 160	3	194	147	1036	720	52
14- 180	4	233	162	1098	774	61
14- 200	4	233	162	1152	828	63

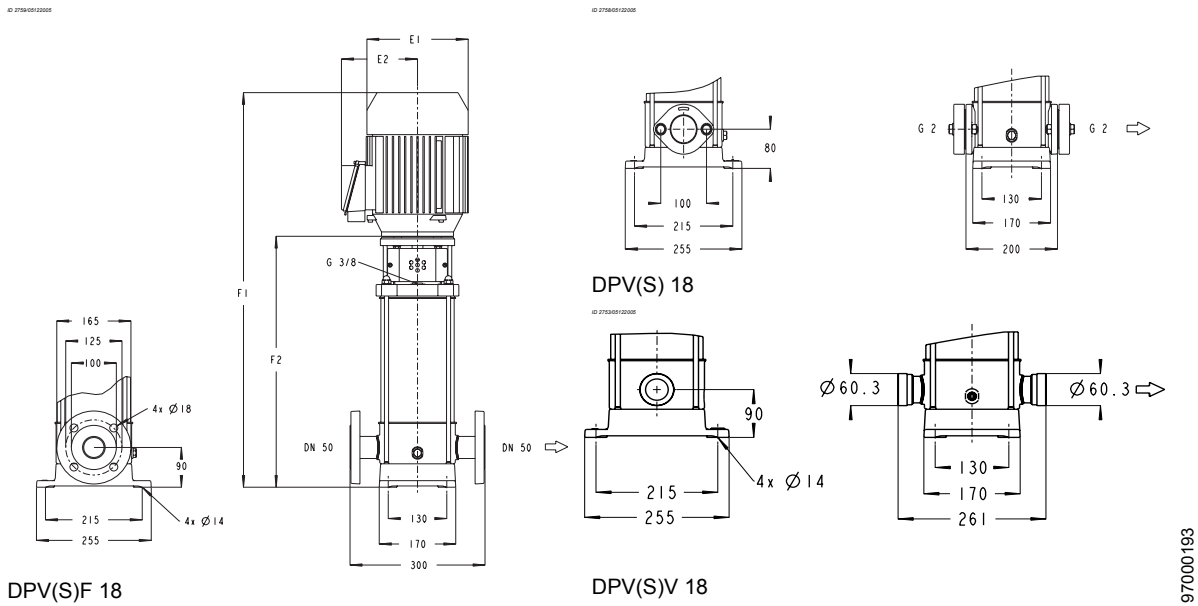
96000717-H

3.16 Hydraulic performance DPV(S) 14 50 Hz ~1450 1/min

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3.17 Dimensions and weights DPV(S) 18 50 Hz



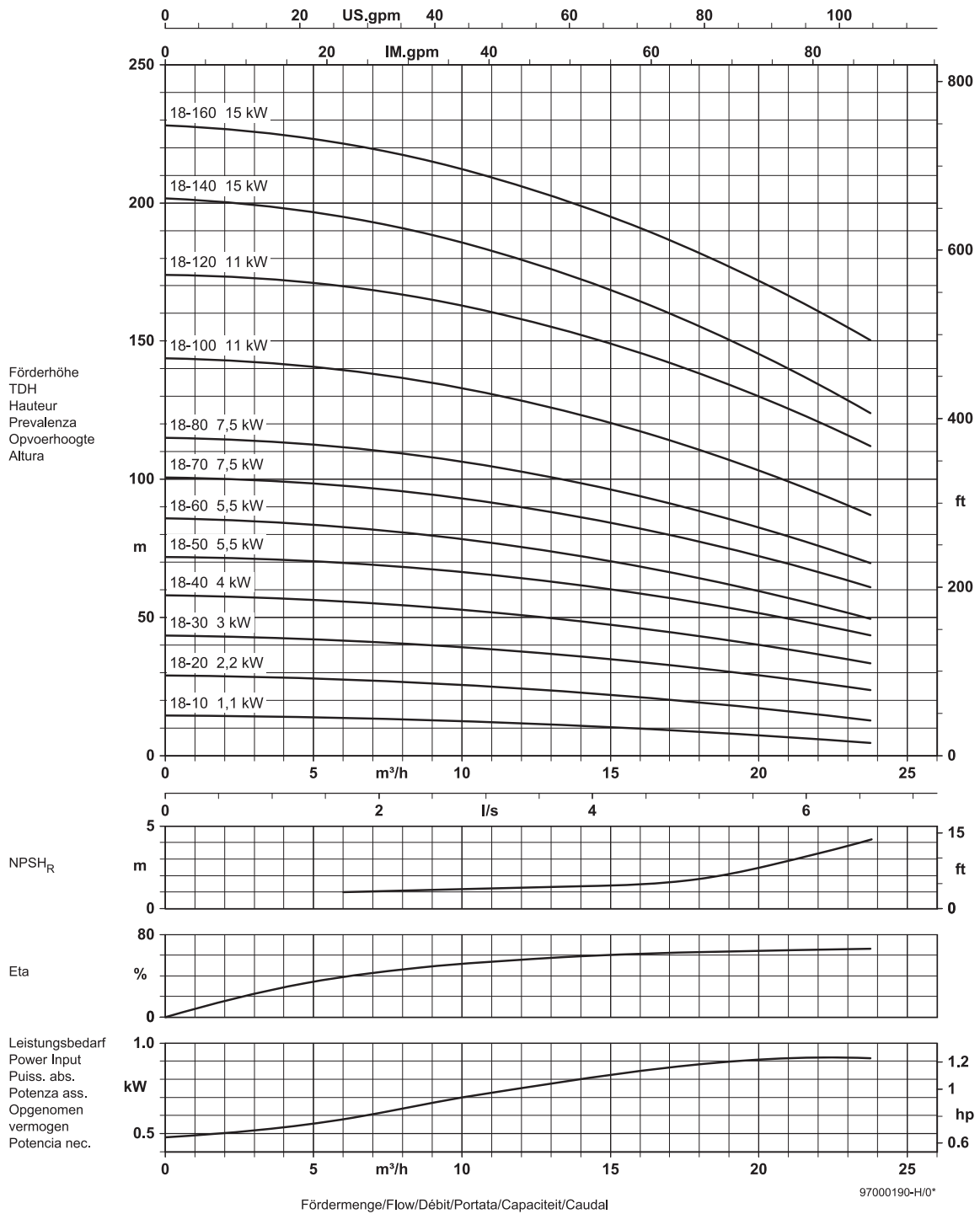
Model	General			DPV(S)			DPV(S)V			DPV(S)F		
	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net weight [kg]	F1 [mm]	F2 [mm]	Net weight [kg]
18- 10	1.1	150	115	601	337	25	611	347	25	611	347	29
18- 20	2.2	176	136	622	347	32	632	357	32	632	357	36
18- 30	3	194	147	707	391	43	717	401	43	717	401	47
18- 40	4	233	162	750	426	53	760	436	53	760	436	57
18- 50	5.5	233	162	809	480	60	819	490	60	819	490	64
18- 60	5.5	233	162	844	515	60	854	525	60	854	525	65
18- 70	7.5	233	162	906	549	65	916	559	65	916	559	70
18- 80	7.5	233	162	941	584	66	951	594	66	951	594	71
18- 100	11	315	206	1185	683	134	1195	693	134	1195	693	139
18- 120	11	315	206	1254	752	x	1264	762	136	1264	762	141
18- 140	15	315	206	1323	821	x	1333	831	152	1333	831	156
18- 160	15	315	206	1392	890	x	1402	900	154	1402	900	158

96000718-L

1. Diameter adapter flange 5,5-7,5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

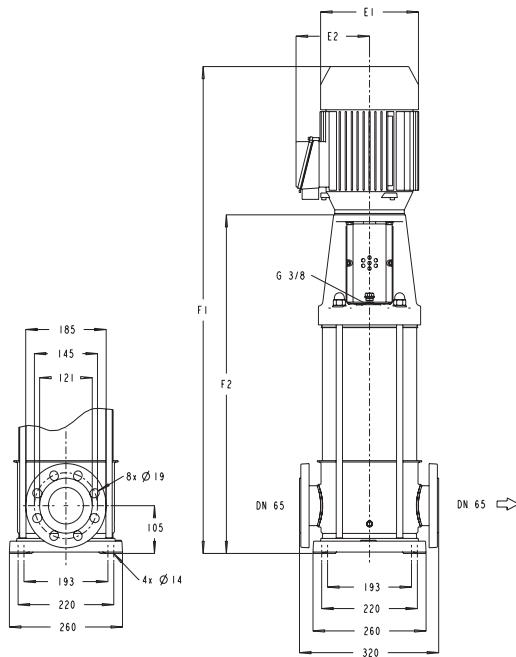
3.18 Hydraulic performance DPV(S) 18 50 Hz ~2900 1/min

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3.19 Dimensions and weights DPV(S)F 24 50 Hz

© 2014/01/22/005



DPV(S)F 24

20010205

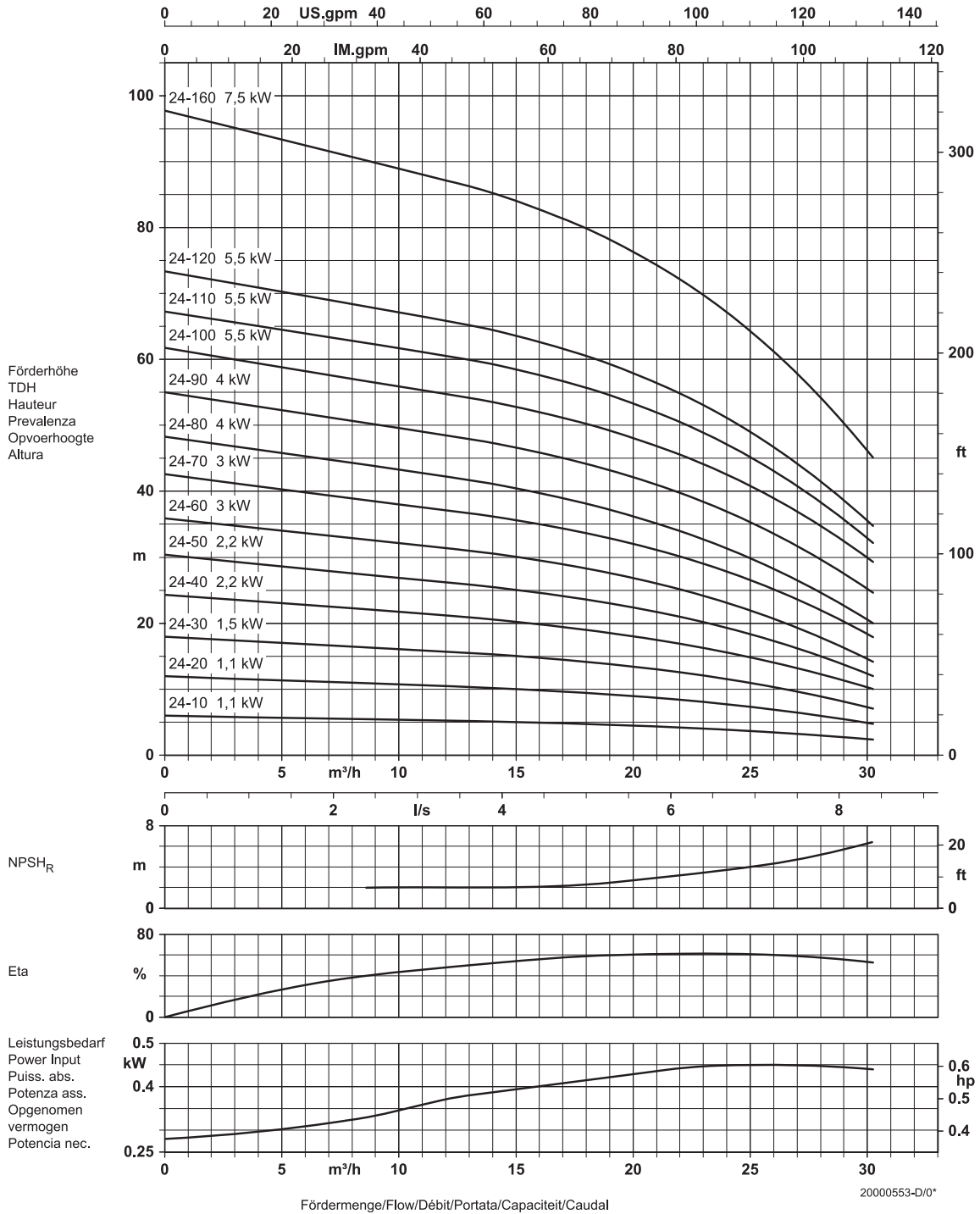
DPV(S)F 24 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
24-10	1.1	176	136	738	458	57
24-20	1.1	176	136	786	506	59
24-30	1.5	176	136	835	555	64
24-40	2.2	194	147	919	603	75
24-50	2.2	194	147	968	652	77
24-60	3	194	147	1016	700	81
24-70	3	194	147	1065	749	83
24-80	4	233	162	1121	797	93
24-90	4	233	162	1170	846	96
24-100	5.5	266	179	1297	914	131
24-110	5.5	266	179	1346	963	134
24-120	5.5	266	179	1394	1011	136
24-160	7.5	266	179	1626	1205	155

20000569-E

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.20 Hydraulic performance DPV(S)F 24 50 Hz ~1450 1/min

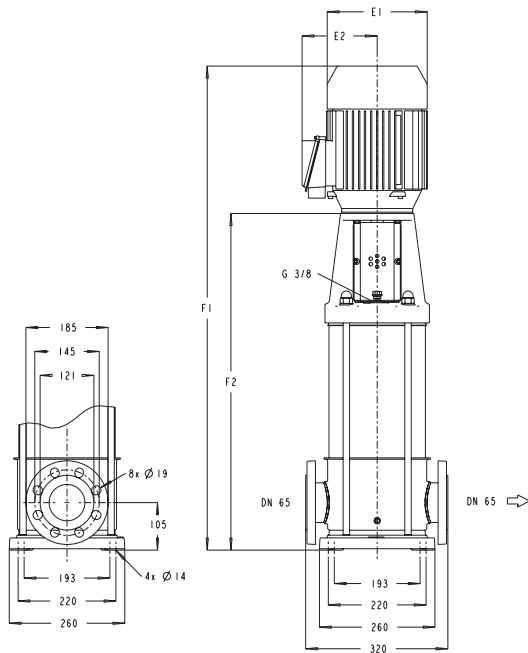
© 2009-10-02/07



20000553-D

3.21 Dimensions and weights DPV(S)F 32 50 Hz

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DPV(S)F 32

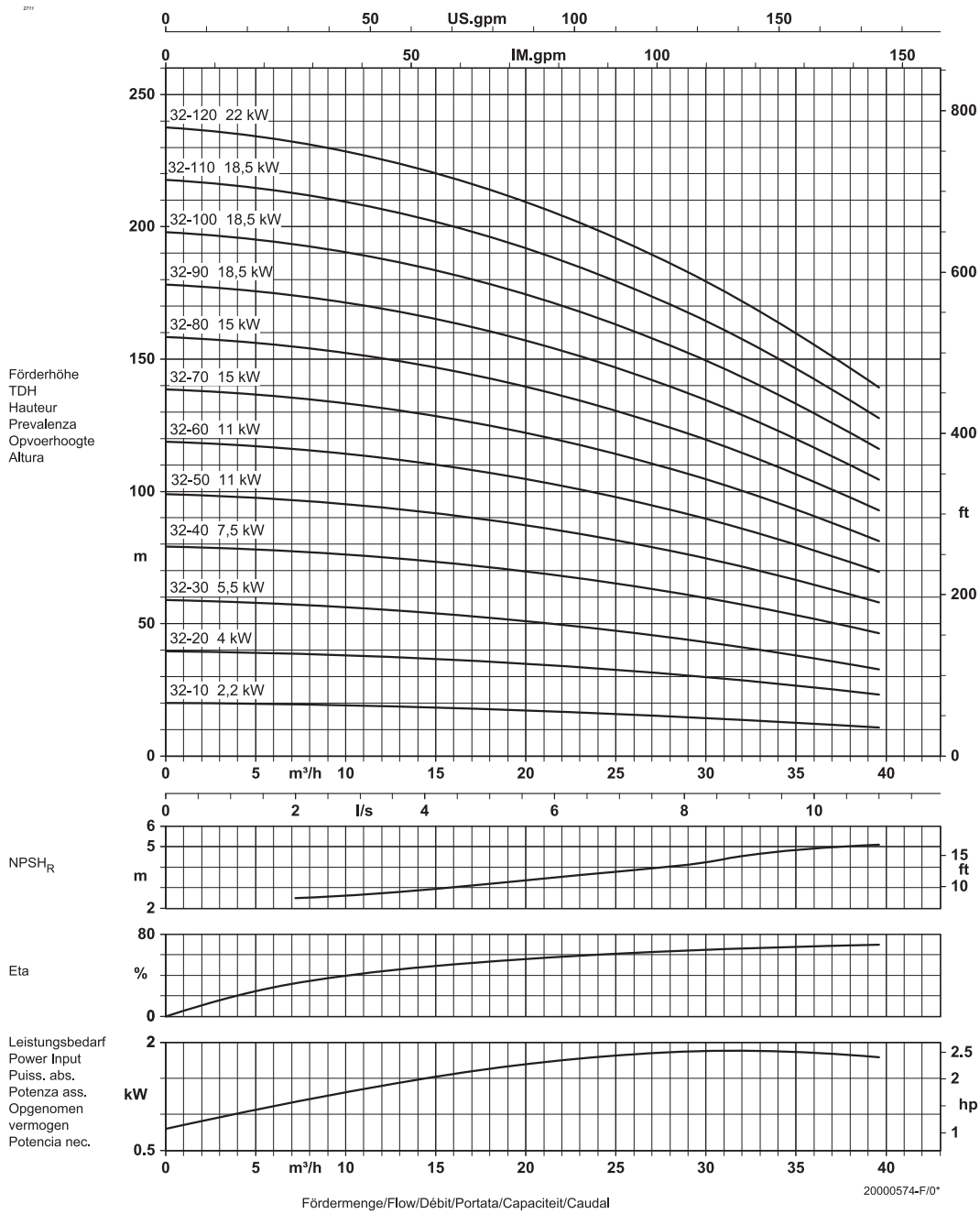
20010205

DPV(S)F 32 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
32- 10	2.2	176	136	733	458	61
32- 20	4	233	162	830	506	81
32- 30	5.5	233	162	904	575	89
32- 40	7.5	233	162	980	623	96
32- 50	11	315	206	1279	777	167
32- 60	11	315	206	1327	825	169
32- 70	15	315	206	1376	874	186
32- 80	15	315	206	1424	922	188
32- 90	18.5	315	206	1517	971	205
32- 100	18.5	315	206	1565	1019	208
32- 110	18.5	315	206	1614	1068	210
32- 120	22	350	225	1711	1116	248

20000600-1

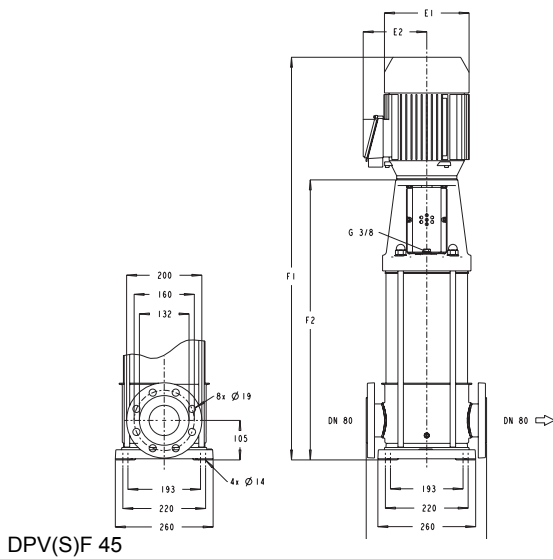
1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.22 Hydraulic performance DPV(S)F 32 50 Hz ~2900 1/min



3.23 Dimensions and weights DPV(S)F 45 50 Hz

20000631-I



DPV(S)F 45

20010207

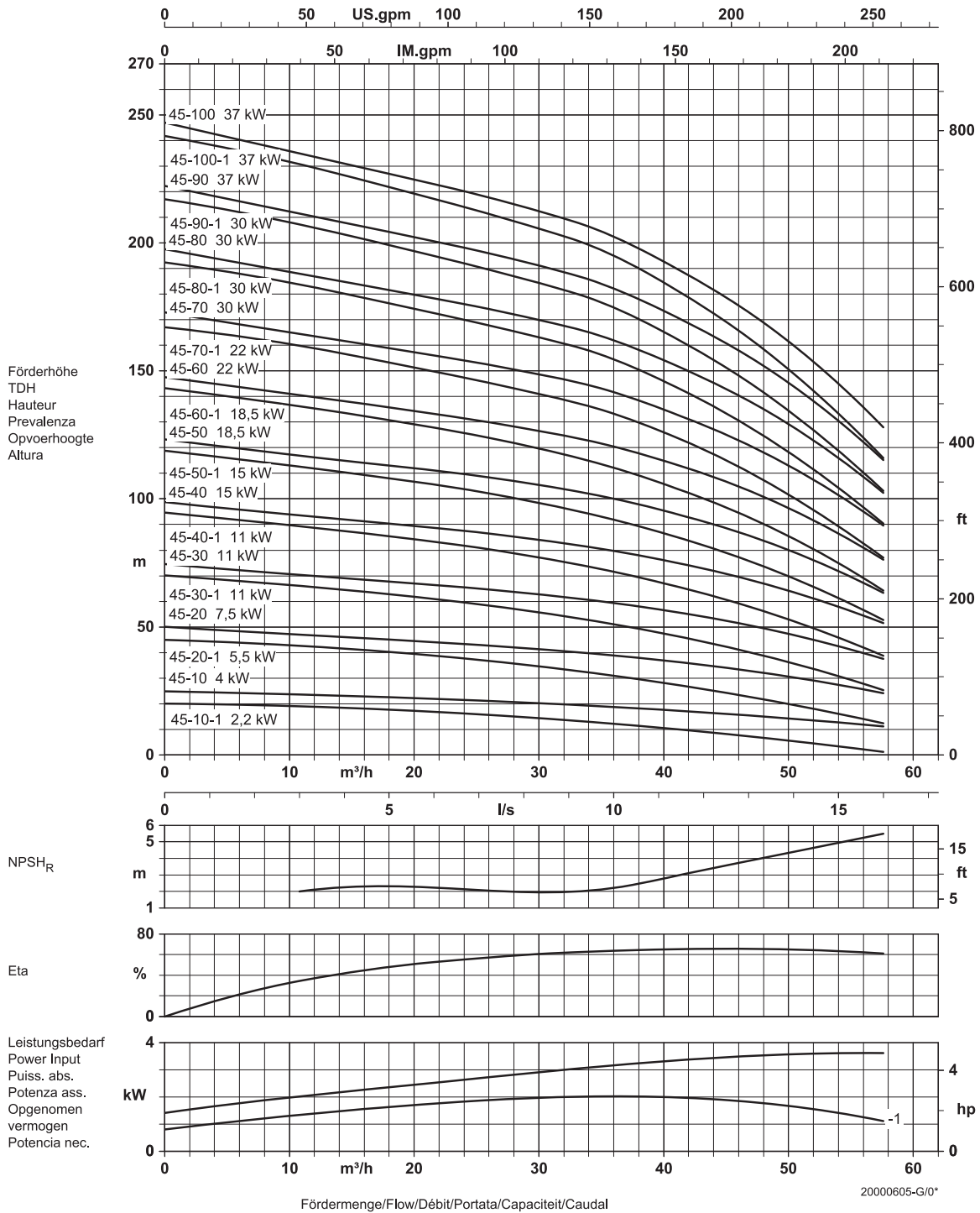
DPV(S)F 45 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
45- 10-1	2.2	176	136	733	458	62
45- 10	4	233	162	782	458	80
45- 20-1	5.5	233	162	855	526	88
45- 20	7.5	233	162	883	526	92
45- 30-1	11	315	206	1182	680	164
45- 30	11	315	206	1182	680	164
45- 40-1	11	315	206	1230	728	166
45- 40	15	315	206	1230	728	180
45- 50-1	15	315	206	1279	777	182
45- 50	18.5	315	206	1323	777	198
45- 60-1	18.5	315	206	1371	825	200
45- 60	22	350	225	1420	825	236
45- 70-1	22	350	225	1469	874	238
45- 70	30	400	290	1524	874	311
45- 80-1	30	400	290	1572	922	314
45- 80	30	400	290	1572	922	314
45- 90-1	30	400	290	1621	971	316
45- 90	37	400	290	1621	971	330
45- 100-1	37	400	290	1669	1019	332
45- 100	37	400	290	1669	1019	332

20000631-I

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

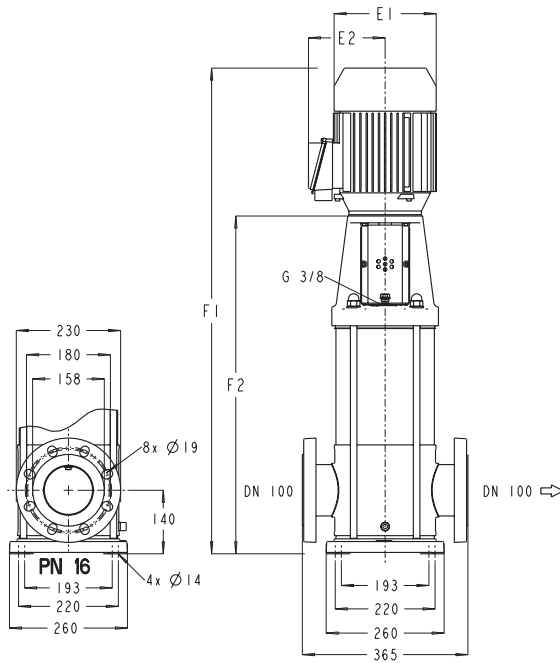
3.24 Hydraulic performance DPV(S)F 45 50 Hz ~2900 1/min

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3.25 Dimensions and weights DPV(S)F 65 50 Hz

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DPV(S)F 65

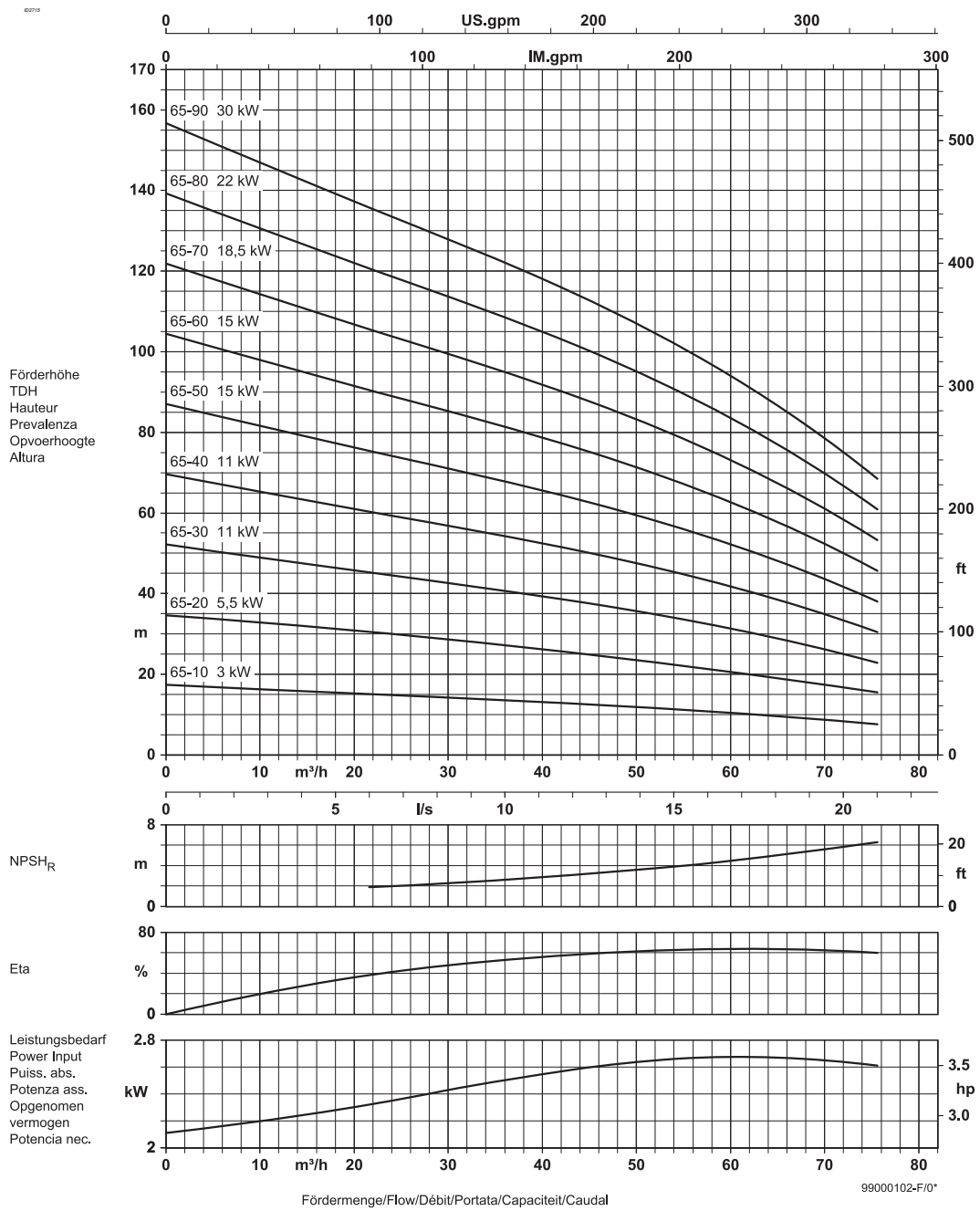
99000288-C

DPV(S)F 65 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
65- 10	3	194	147	886	570	78
65- 20	5.5	233	162	1008	679	97
65- 30	11	315	206	1300	798	104
65- 40	11	315	206	1389	887	173
65- 50	15	315	206	1478	976	191
65- 60	15	315	206	1567	1065	194
65- 70	18.5	315	206	1700	1154	213
65- 80	22	350	225	1838	1243	252
65- 90	30	400	290	1982	1332	255

99000286-I

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

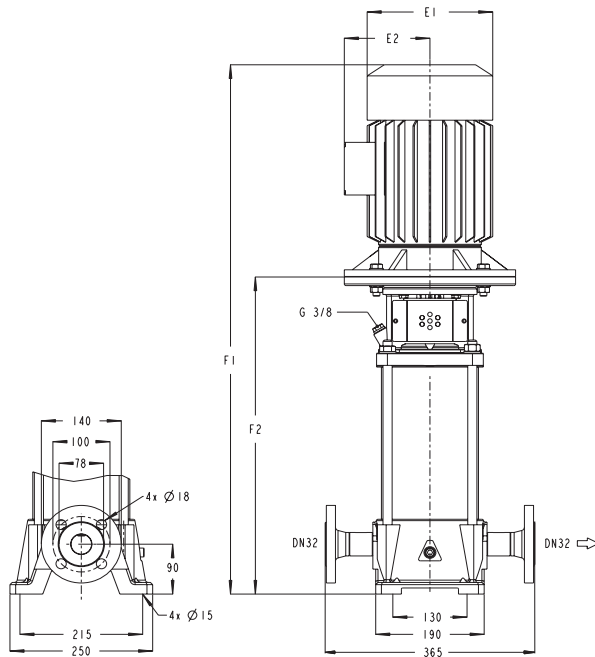
3.26 Hydraulic performance DPV(S)F 65 50 Hz ~2900 1/min



99000102-F

3.27 Dimensions and weights DPLHS 6 50 Hz

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DPLHS 6

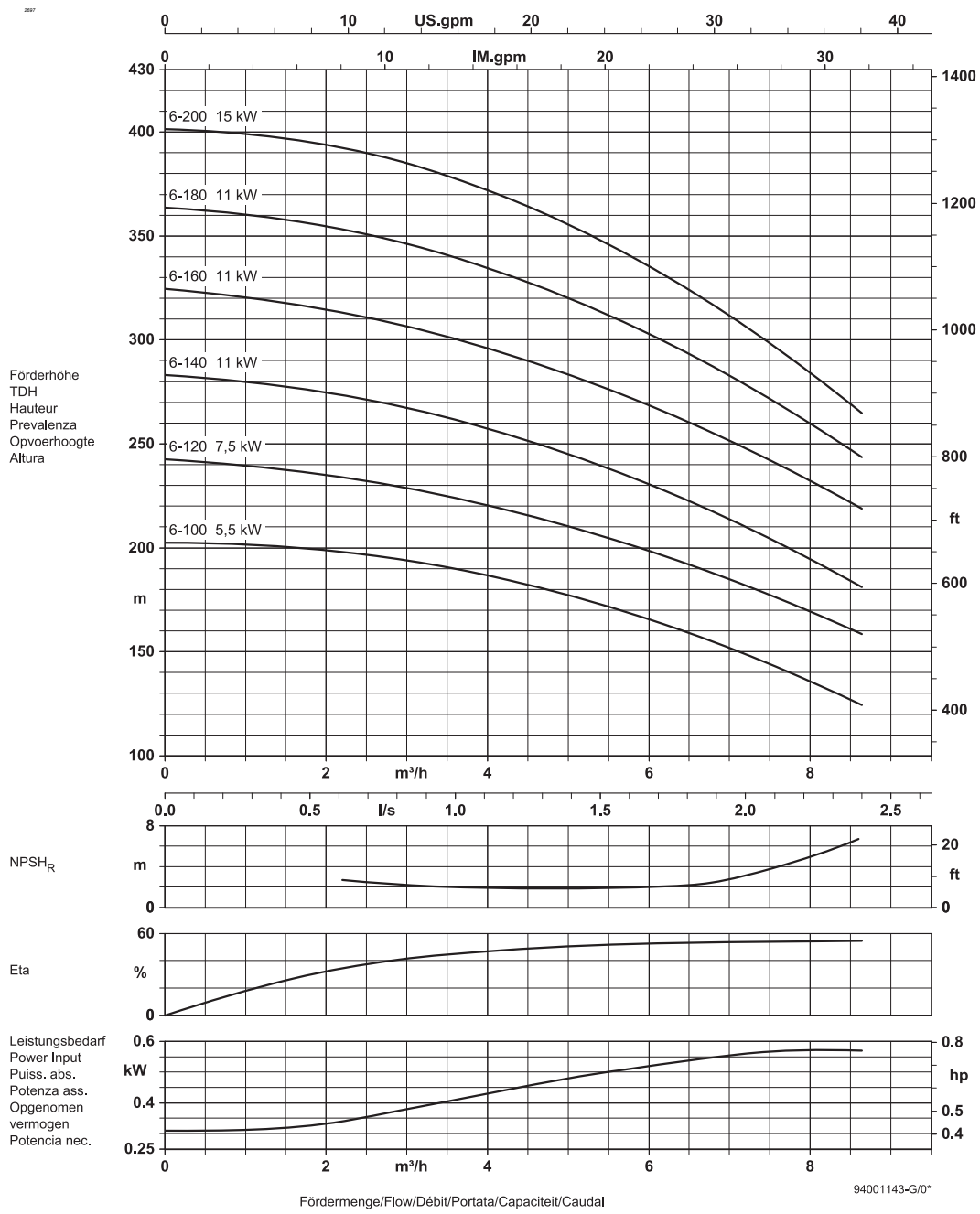
94001301

DPLHS 6 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
6-50	4	233	162	753	429	79
6-70	4	233	162	813	489	82
6-80	4	233	162	843	519	83
6-100	5.5	233	162	928	599	92
6-120	7.5	233	162	1015	658	99
6-140	11	315	206	1250	748	166
6-160	11	315	206	1310	808	171
6-180	11	315	206	1369	867	174
6-200	15	315	206	1429	927	191

95000234-H

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

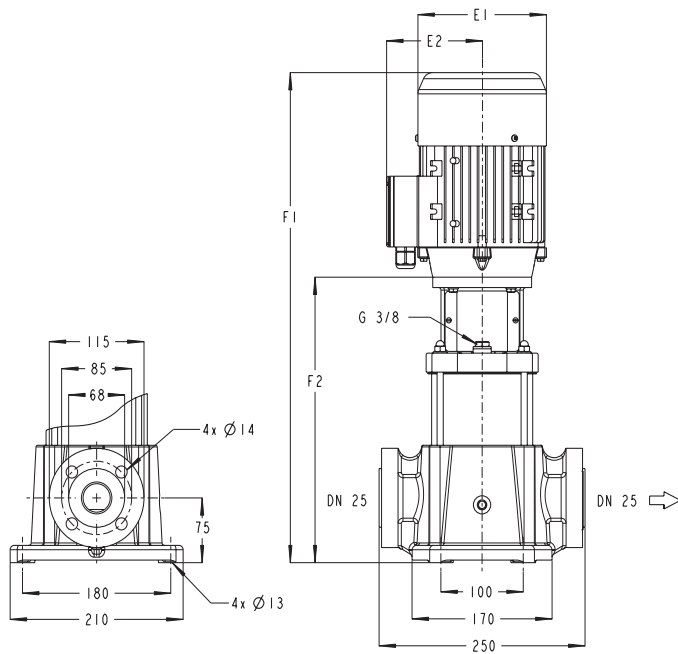
3.28 Hydraulic performance DPLHS 6 50 Hz ~2900 1/min



94001143-G

3.29 Dimensions and weights DPVCF 2 50 Hz

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DPVCF 2

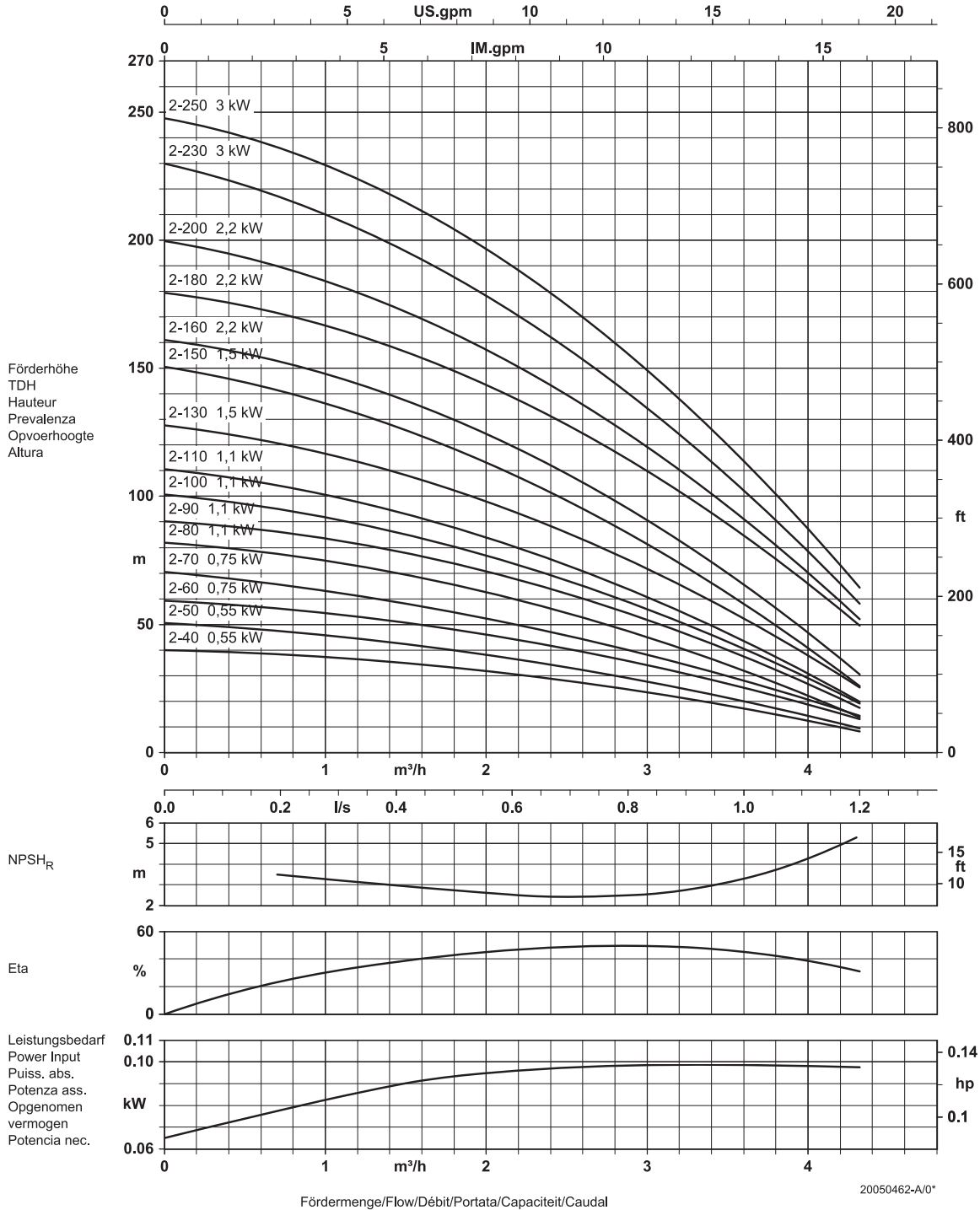
20050498

DPVCF 2 50 Hz		General				
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
2-40	0.55	134	107	542	299	22
2-50	0.55	134	107	563	320	23
2-60	0.75	150	115	585	351	26
2-70	0.75	150	115	606	372	26
2-80	1.1	150	115	657	393	28
2-90	1.1	150	115	678	414	29
2-100	1.1	150	115	699	435	29
2-110	1.1	150	115	720	456	30
2-130	1.5	176	136	783	508	34
2-150	1.5	176	136	825	550	35
2-160	2.2	176	136	846	571	38
2-180	2.2	176	136	888	613	39
2-200	2.2	176	136	930	655	40
2-230	3	194	147	1044	728	52
2-250	3	194	147	1086	770	53

96000477-1

3.30 Hydraulic performance DPVCF 2 50 Hz ~2900 1/min

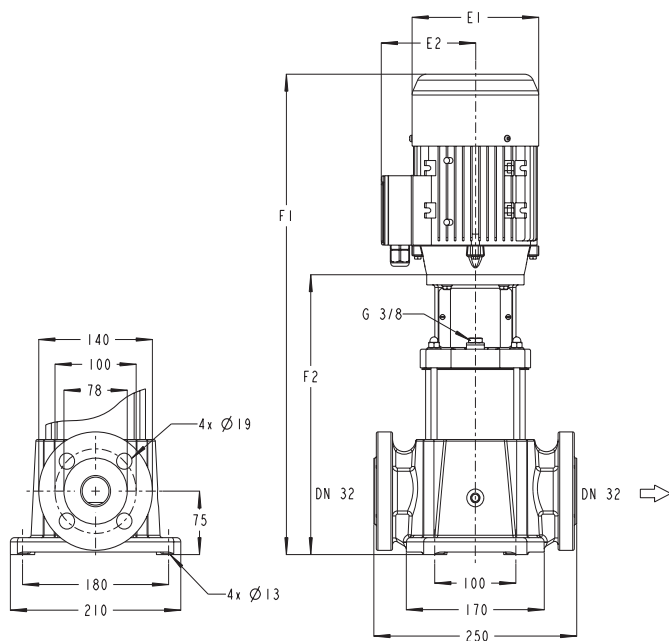
ID 27176922000



20050462-A

3.31 Dimensions and weights DPVCF 4 50 Hz

2737001/02005



DPVCF 4

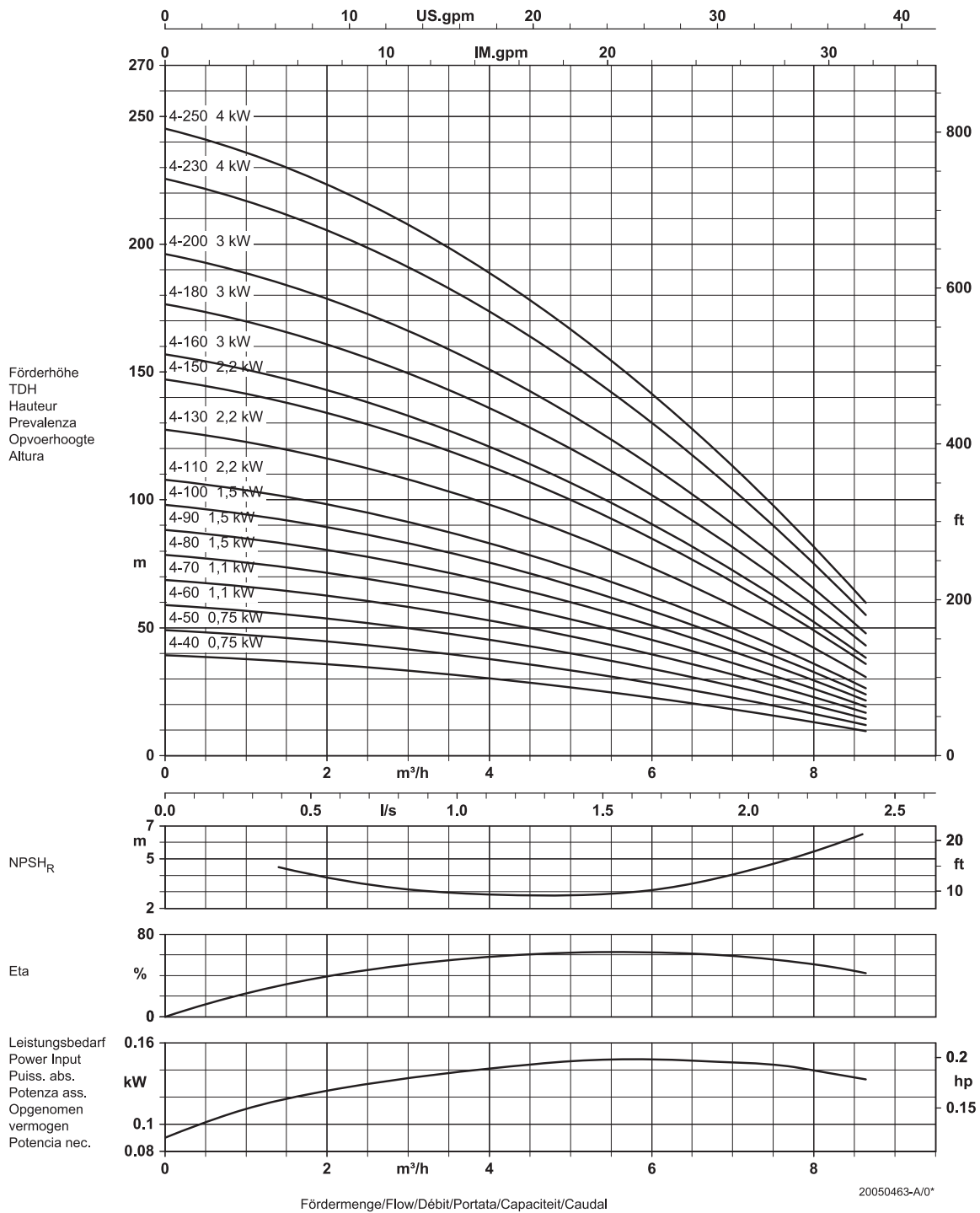
20050499

DPVCF 4 50 Hz		General				
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
4- 40	0.75	150	115	543	309	27
4- 50	0.75	150	115	564	330	27
4- 60	1.1	150	115	615	351	29
4- 70	1.1	150	115	636	372	29
4- 80	1.5	176	136	678	403	33
4- 90	1.5	176	136	699	424	34
4- 100	1.5	176	136	720	445	34
4- 110	2.2	176	136	741	466	38
4- 130	2.2	176	136	783	508	39
4- 150	2.2	176	136	825	550	40
4- 160	3	194	147	897	581	50
4- 180	3	194	147	939	623	51
4- 200	3	194	147	981	665	52
4- 230	4	233	162	1052	728	62
4- 250	4	233	162	1094	770	63

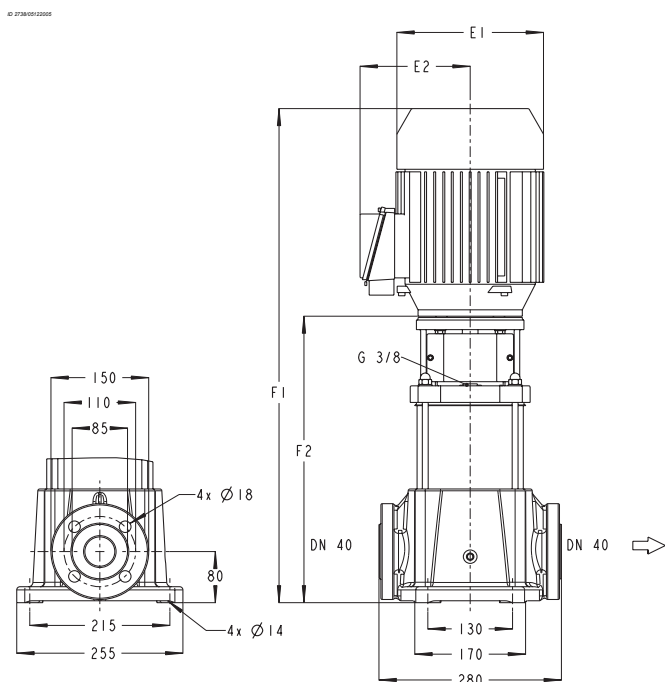
96000478-J

3.32 Hydraulic performance DPVCF 4 50 Hz ~2900 1/min

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3.33 Dimensions and weights DPVCF 10 50 Hz



DPVCF 10

20050500

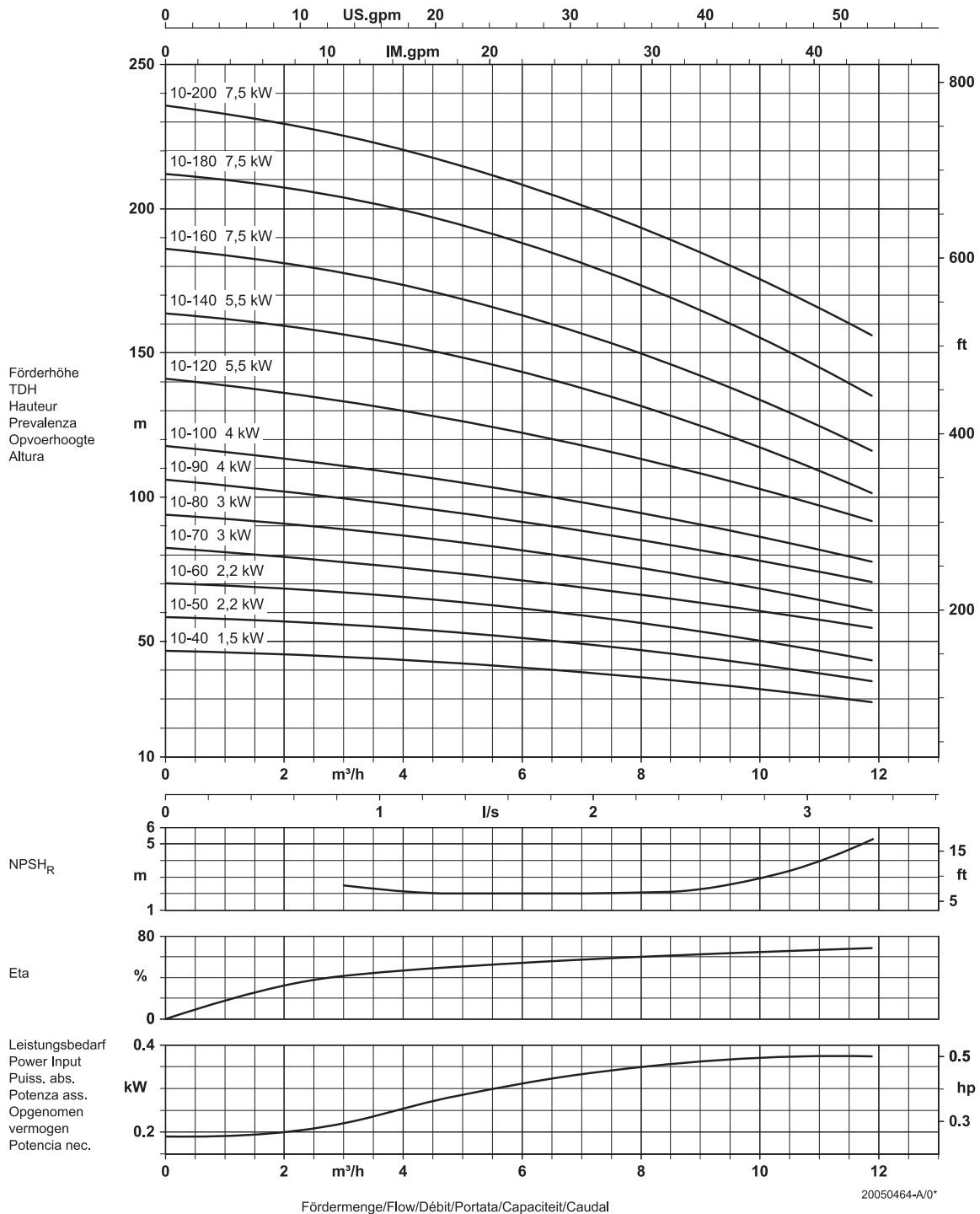
DPVCF 10 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
10- 40	1.5	176	136	661	386	40
10- 50	2.2	176	136	688	413	43
10- 60	2.2	176	136	715	440	44
10- 70	3	194	147	793	477	55
10- 80	3	194	147	820	504	56
10- 90	4	233	162	855	531	65
10- 100	4	233	162	882	558	66
10- 120	5.5	233	162	961	632	73
10- 140	5.5	233	162	1015	686	75
10- 160	7.5	233	162	1097	740	80
10- 180	7.5	233	162	1151	794	82
10- 200	7.5	233	162	1205	848	83

96000716-1

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

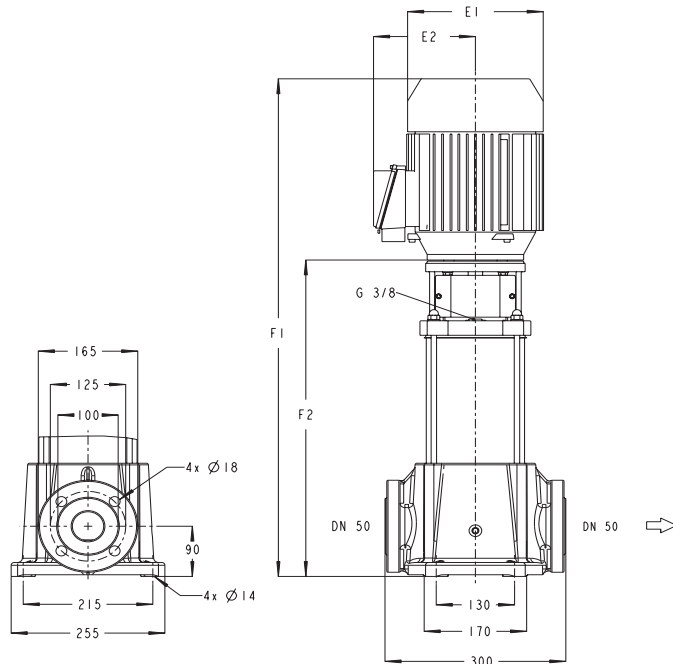
3.34 Hydraulic performance DPVCF 10 50 Hz ~2900 1/min

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3.35 Dimensions and weights DPVCF 18 50 Hz

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DPVCF 18

20050501

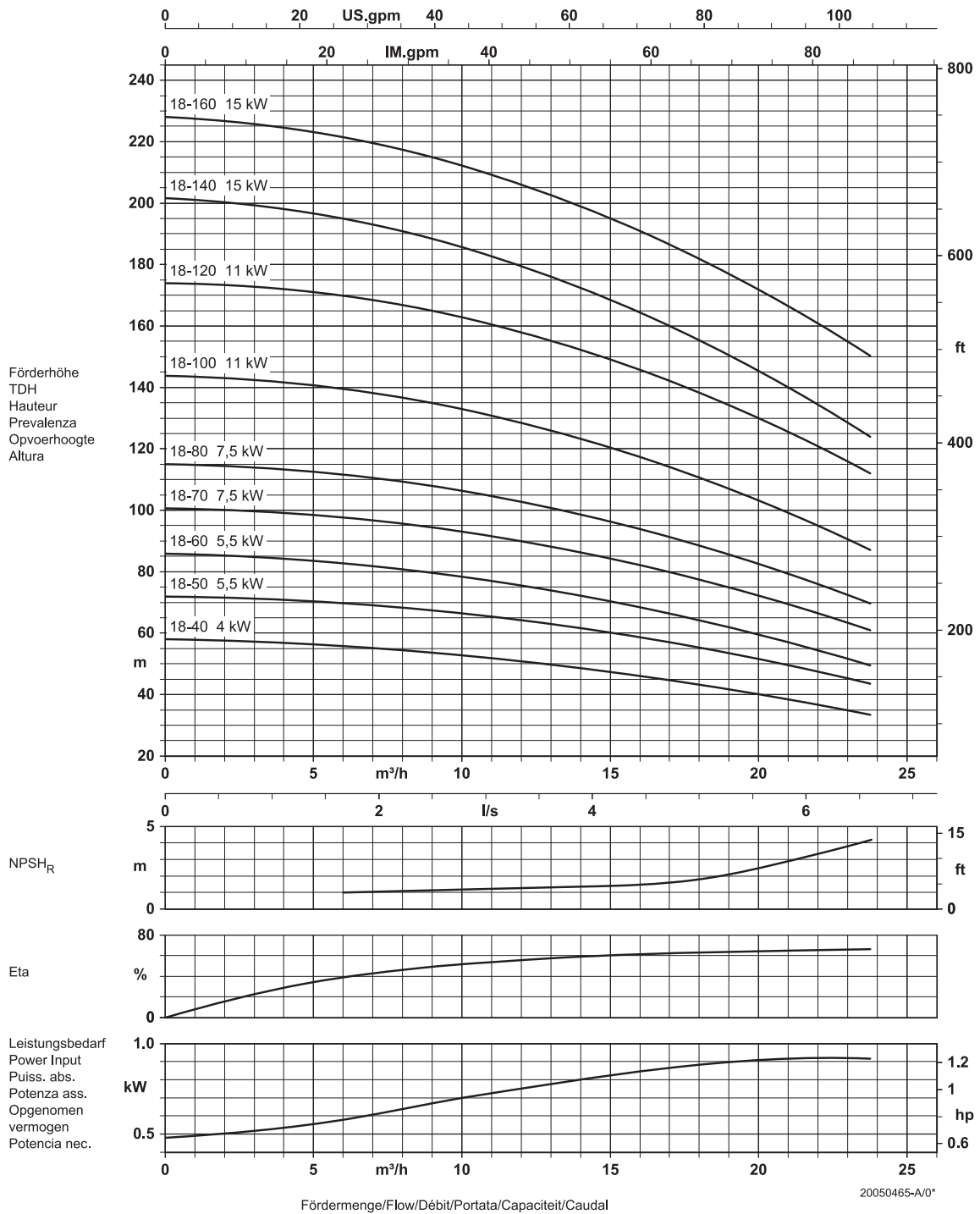
DPVCF 18 50 Hz		General				
Model	P [kW]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
18- 40	4	233	162	760	436	67
18- 50	5.5	233	162	819	490	74
18- 60	5.5	233	162	854	525	75
18- 70	7.5	233	162	916	559	80
18- 80	7.5	233	162	951	594	80
18- 100	11	315	206	1195	693	148
18- 120	11	315	206	1264	762	150
18- 140	15	315	206	1333	831	166
18- 160	15	315	206	1402	900	168

96000718-L

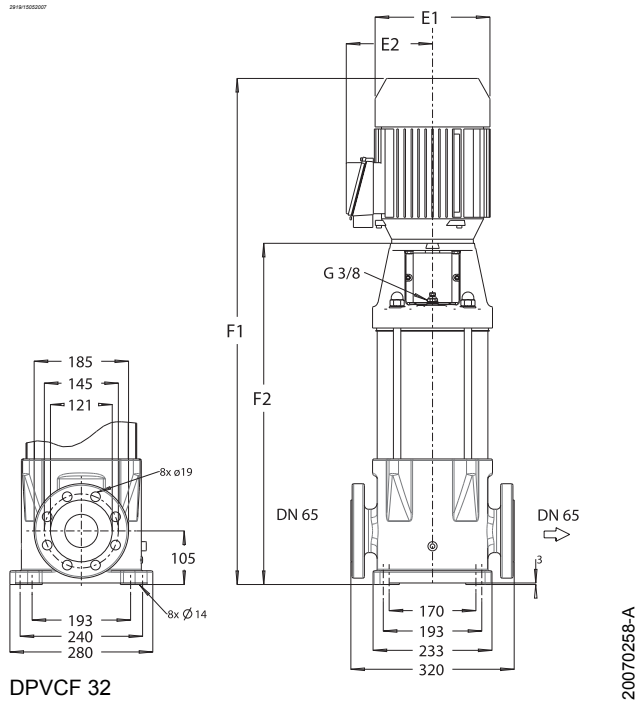
1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.36 Hydraulic performance DPVCF 18 50 Hz ~2900 1/min

© 20050465-0000



3.37 Dimensions and weights DPVCF 32 50 Hz

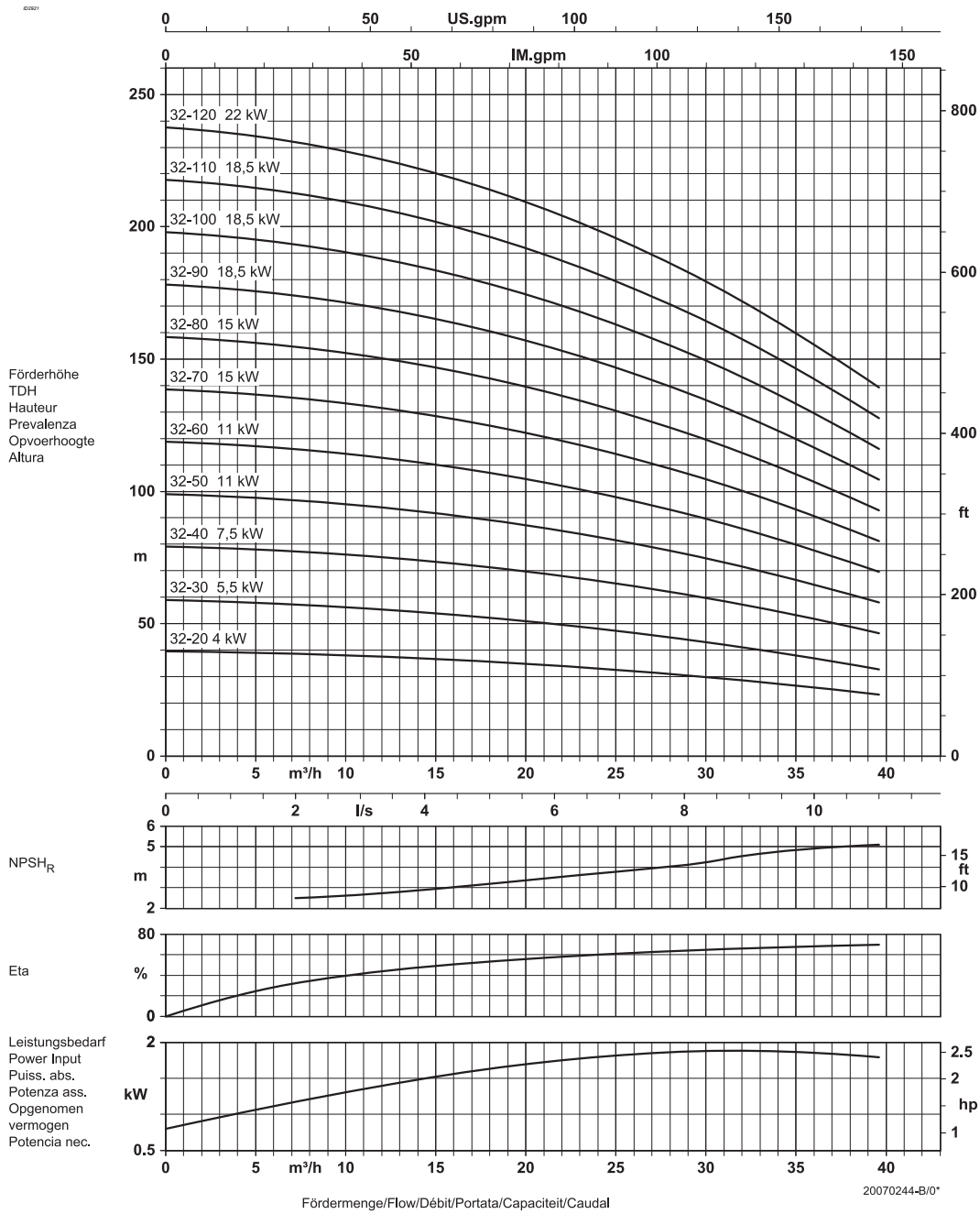


DPVCF 32 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
32-10	2.2	176	136	733	458	x
32-20	4	233	162	830	506	87
32-30	5.5	233	162	904	575	95
32-40	7.5	233	162	980	623	101
32-50	11	315	206	1279	777	173
32-60	11	315	206	1327	825	175
32-70	15	315	206	1376	874	191
32-80	15	315	206	1424	922	194
32-90	15	315	206	1473	971	196
32-100	18.5	315	206	1565	1019	213
32-110	18.5	315	206	1614	1068	215
32-120	22	350	225	1711	1116	254

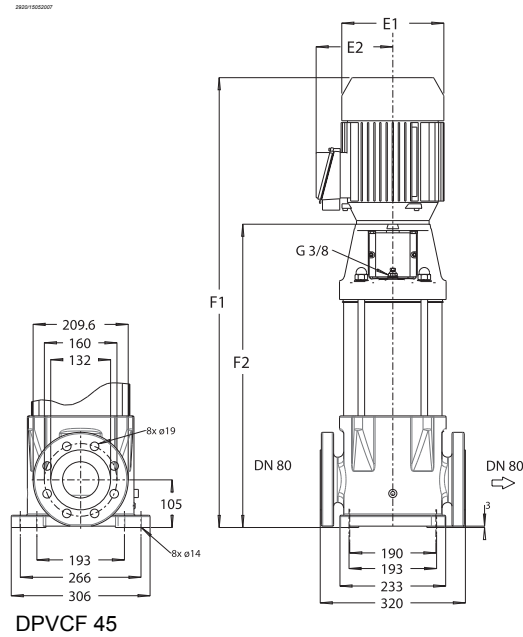
20000600-I

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.38 Hydraulic performance DPVCF 32 50 Hz ~2900 1/min



3.39 Dimensions and weights DPVCF 45 50 Hz

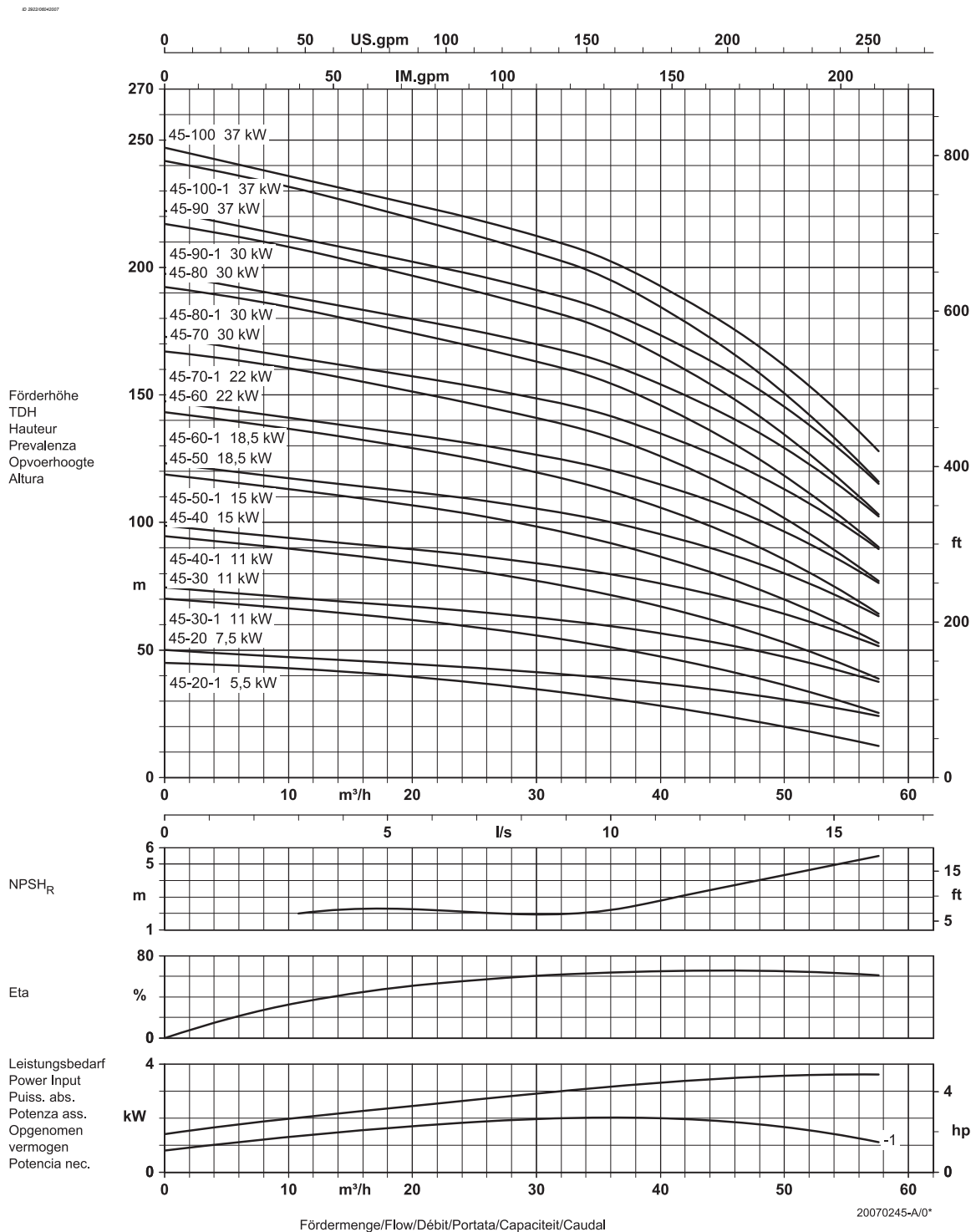


DPVCF 45 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
45-20-1	5.5	233	162	855	526	96
45-20	7.5	233	162	883	526	100
45-30-1	11	315	206	1182	680	172
45-30	11	315	206	1182	680	172
45-40-1	11	315	206	1230	728	174
45-40	15	315	206	1230	728	188
45-50-1	15	315	206	1279	777	190
45-50	18.5	315	206	1323	777	206
45-60-1	18.5	315	206	1371	825	208
45-60	22	350	225	1420	825	244
45-70-1	22	350	225	1469	874	246
45-70	30	400	290	1524	874	319
45-80-1	30	400	290	1572	922	322
45-80	30	400	290	1572	922	322
45-90-1	30	400	290	1621	971	324
45-90	37	400	290	1621	971	338
45-100-1	37	400	290	1669	1019	340
45-100	37	400	290	1669	1019	340

20000631-I

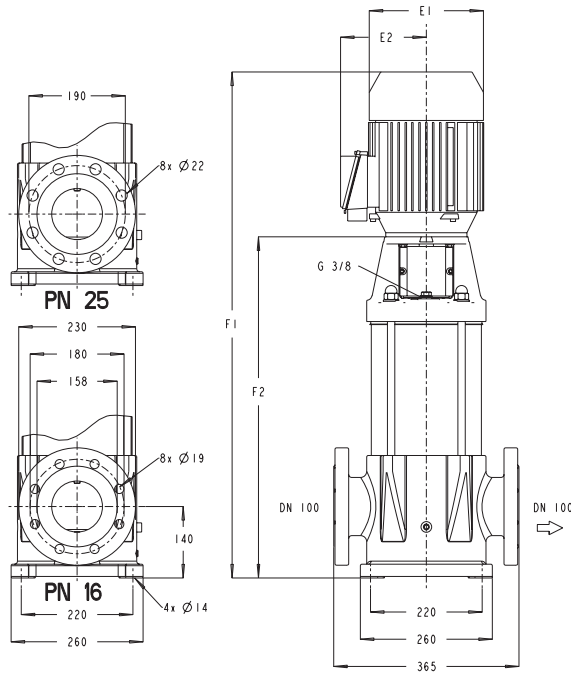
1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.40 Hydraulic performance DPVCF 45 50 Hz ~2900 1/min



3.41 Dimensions and weights DPVCF 65 50 Hz

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DPVCF 65

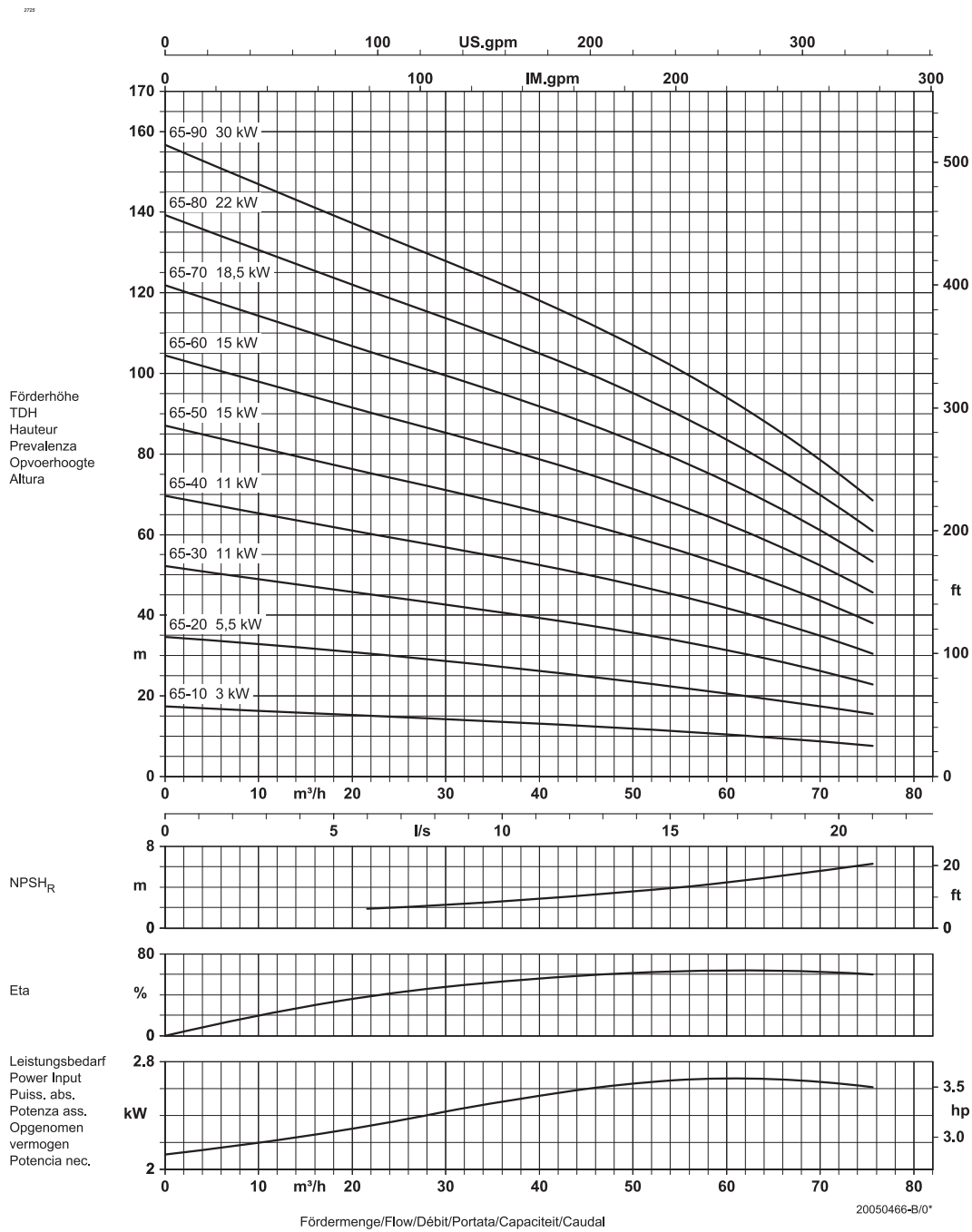
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DPVCF 65 50 Hz		General				
Model	P [kW]	E1 [mm] ¹	E2 [mm]	F1 [mm]	F2 [mm]	Net weight [kg]
65- 10	3	194	147	961	645	83
65- 20	5.5	233	162	1083	754	102
65- 30	7.5	233	162	1200	843	109
65- 40	11	315	206	1464	962	178
65- 50	15	315	206	1553	1051	196
65- 60	15	315	206	1642	1140	199
65- 70	18.5	315	206	1775	1229	218
65- 80	22	350	225	1913	1318	257
65- 90	22	350	225	2002	1407	260

99000286-H

1. Diameter adapter flange 5.5-7.5 kW = 300 mm, 11-22 kW = 350 mm, 30-37 kW = 400 mm

3.42 Hydraulic performance DPVCF 65 50 Hz ~2900 1/min



4 Materials

4.1 Overview of materials

Pos. nr.	Description	DPVE	DPV	DPVS	DPVCF	DPLHS
101	Pump casing	1.4308	1.4301	1.4404	JL 1040	1.4408
108	Stage casing	1.4301		1.4404	1.4301	1.4404
160	Cover	1.4301		1.4404	1.4301	1.4404
171	Diffuser	-		1.4404	1.4301	-
10-6	Pump shroud	1.4301		1.4404	1.4301	1.4404
210	Shaft	1.4305		1.4401	1.4305	1.4401
230	Impeller	1.4301		1.4404	1.4301	1.4404
341	Motor stool	JL 1040				1.4408
412	O-ring	EPDM		Viton	EPDM E425	Viton
525	Spacer sleeve	1.4301		1.4401	1.4301	1.4404
529	Bearing sleeve	-	Tungsten-carbide			
1)	Bearing	-	Ceramic			
890	Base plate	JL 1040				-
905	Tie bolt	1.4057				
920	Nut	1.4301		1.4404	1.4301	1.4404
932	Circlip	1.4571				


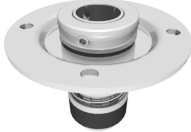

1. The bearing has no pos.nr. because it is a fixed part of the stage casing (108) or diffuser (171)

4.2 Materials conversion

Material	Description	Code and material nr.	Standard	ASTM / AISI ¹
JL 1040	Cast iron	GJL-250	EN 1561	A48:40B
1.4301	Chromium-nickel steel	X5CrNi18-10	EN 10088	A276:304
1.4404	Chromium-nickel-molybdenum steel	X2CrNiMo 17-12-2	EN 10088	A276:316L
1.4408	Chromium-nickel-molybdenum cast steel	GX5CrNiMo 19-11-2	EN 10213	A743CF8M
1.4571	Chromium-nickel-molybdenum steel	X6CrNiMoTi17-12-2	EN 10088	A276:316Ti
1.4057	Chromium-nickel steel	X17CrNi16-2--QT800	EN 10088-3	A276:431
1.4305	Chromium-nickel steel	X8CrNiS 18-9	EN 10088	A276:303
1.4401	Chromium-nickel-molybdenum steel	X5CrNiMo 17-12-2	EN 10088	A276:316
1.4308	Chromium-nickel cast steel	GX5CrNi 19-10	EN 10283	A743:CF8
1.4460	Chromium-nickel-molybdenum steel	X3CrNiMoN 27 5 2	EN 10088	--:329







1. Note: The indication of the material designations to ASTM / AISI is not binding

4.3 Mechanical seal specifications

Pump series	DPVE / DPV(F)(V)	DPVS(F)(V)	DPVCF	DPVF 24, 32, 45 > 7.5 kW DPVF 65	DPVSF 24, 32, 45 > 7.5 kW DPVSF 65	DPVCF 32, 45 > 7.5 kW DPVCF 65	DPLHS 6
Mechanical seal type							
Max. pressure	1000 kPa	1000 kPa		1000 kPa	1000 kPa		
Dynamic part	Carbon	Carbon		Carbon	Carbon		
Static part	Silicon carbide	Silicon carbide		Silicon carbide	Silicon carbide		
Elastomer	EPDM	Viton		EPDM	Viton		
Max. pressure	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	
Dynamic part	Silicon carbide	Silicon carbide	Tungsten carbide	Silicon carbide	Silicon carbide	Tungsten carbide	
Static part	Carbon	Carbon	Carbon	Carbon	Carbon	Carbon	
Elastomer	EPDM	Viton	EPDM E425	EPDM	Viton	EPDM E425	
Max. pressure							4000 kPa
Dynamic part							Carbon
Static part							Tungsten carbide
Elastomer							Viton



5 Connections

5.1 Suction and discharge connections (standard G and DIN)

Pump model key	DPVE	DPV(S)	DPV(S)F	DPV(S)V	DPVCF	DPLHS
						
Connection	Male thread with built-in non-return valve at discharge side	Oval flange with female thread counter flange	Round sliding flange	Stub end fitting on Victaulic coupling	Round flange ridged cast to pump casing	Round flange ridged cast to pump casing
Norm	G EN ISO 228	G EN ISO 228	DIN EN 1092-2 PN 25	-	DIN EN 1092-2 PN25	DIN EN 1092-2 PN 40
Pressure class	PN 10	PN 16	PN 25			PN 40
DPVE 2	G 1½	-	-	-	-	-
DPVE 4	G 1½	-	-	-	-	-
DPVE 10	G 2	-	-	-	-	-
DPVE 14	G 2	-	-	-	-	-
DPV(S/C)(F)(V) 2	-	G 1	DN 25	42 mm	DN 25	-
DPV(S/C)(F)(V) 4	-	G 1¼	DN 32	42 mm	DN 32	-
DPV(S/C)(F)(V) 10	-	G 1½	DN 40	60.3 mm	DN 40	-
DPV(S/C)(F)(V) 14	-	G 1½	-	60.3 mm	-	-
DPV(S/C)(F)(V) 18	-	G 2	DN 50	60.3 mm	DN 50	-
DPV(S)F 24	-	-	DN 65	-	-	-
DPV(S/C)F 32	-	-	DN 65	-	DN 65	-
DPV(S/C)F 45	-	-	DN 80	-	DN 80	-
DPV(S/C)F 65	-	-	DN 100 ¹	-	DN 100	-
DPLHS 6	-	-	-	-	-	DN 32



1. PN 16

5.2 Suction and discharge connections (optional ASME)

Pump model key			DPV(S)F			DPLHS
						
Connection			Round sliding flange			Round flange ridged cast to pump casing
Norm			ASME B 16.1 cl.250			ASME B 16.5 cl.600
Pressure class						PN40
DPV(S)(F)(V) 2			1¼"			-
DPV(S)(F)(V) 4			1¼"			-
DPV(S)(F)(V) 10			2"			-
DPV(S)(F)(V) 14			-			-
DPV(S)(F)(V) 18			2"			-
DPV(S)F 24			-			-
DPV(S)F 32			2½"			-
DPV(S)F 45			3"			-
DPV(S)F 65			4" ¹			-
DPLHS 6			-			1¼"

1. class 125

5.3 Suction and discharge connections (optional Rc and JIS)

Pump model key		DPV(S)	DPV(S)F			
						
Connection		Oval flange with female thread counter flange	Round sliding flange			
Norm		Rc EN 10226	JIS B2238			
Pressure class		PN 16	16 K			
DPV(S)(F)(V) 2		Rc 1	JIS 25			
DPV(S)(F)(V) 4		Rc 1¼	JIS 32			
DPV(S)(F)(V) 10		Rc 1½	JIS 40			
DPV(S)(F)(V) 14		Rc 1½	-			
DPV(S)(F)(V) 18		Rc 2	JIS 50			
DPV(S)F 24		-	JIS 65			
DPV(S)F 32		-	JIS 65			
DPV(S)F 45		-	JIS 80			
DPV(S)F 65		-	JIS 100			

6 Factory options

6.1 Factory options

Description:	Applicable model:	Standard:	Options
Sealing:			
Sleeve and stage O-rings:	DPV	EPDM	Viton
	DPVS	Viton	HNBR
			E425 EPDM EPDM
Mechanical seal:	DPV	Ca/SiC/EPDM SiC/Ca/EPDM	Ca/SiC/EPDM SiC/Ca/EPDM
	DPVS	Ca/SiC/Viton SiC/Ca/Viton	Ca/SiC/Viton SiC/Ca/Viton
	DPVCF	TuC/Ca/EPDM	TuC/Ca/EPDM SiC/SiC/EPDM SiC/SiC/Viton TuC/TuC/Viton TuC/TuC/HNBR
Mechanical:			
Vent and drain plugs AISI 316	DPV	Vent and drain plugs brass	Vent and drain plugs AISI 316
Safety vent plug AISI 316	All	Standard vent plug	Safety vent plug AISI 316
Non-return valve	DPVE	With pre-assembled NRV	No pre-assembled NRV
Color finish	All	Pump and motor RAL 5001	RAL 3000 (fire red)
De-staging	All	Intermediate impeller stage	Stage without impeller
DIN flanges	DPV	Oval flange PN 16	Round flange DIN PN 25
JIS flanges	DPVF	Round flange DIN PN 25	Round flange JIS PN 25
ASME flanges	DPVF	Round flange DIN PN 25	Round flange ASME B 16.1 cl. 250
Motor:			
High efficiency motor	3 phase 2-pole 0.37 kW - 37 kW	Eff class 2	Eff class 1
Anti condensation heater	3 phase 0.37 kW - 37 kW	None	With anti condensation heater 1~230 V
Rain cover	3 phase 0..37 kW - 37 kW	None	Rain cover on fan hood
PTC thermistors	3 phase 0.37 kW - 37 kW	None	With 3 PTC thermistors
Harting stecker	3 phase 0.37 kW - 37 kW	None	Cable connection provided with 10-pole Harting stecker
Connection box position	0.37 kW - 37 kW	9h	0h, 3h, 6h
Increased motor power	0.37 kW - 37 kW	Standard motor power	One step higher motor power
Enlarged motor lantern	0.37 kW - 37 kW	Standard motor lantern	Motor lantern to fit one step higher motorpower
Winding configuration	3 phase 0.37 kW - 2.2 kW	230 / 400 V	400 / 692 V
	3 phase 3 kW - 37 kW	400 / 692 V	230 / 400 V
Winding Voltage	3 phase 0.37 kW - 37 kW	400 V Y or Δ	500 V Y or Δ

7 Accessories

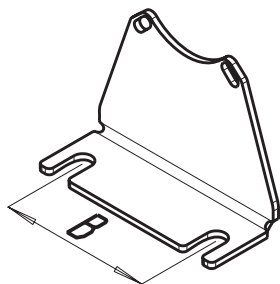
7.1 Horizontal mounting kit

In special applications it could be a solution to mount the pump in a horizontal position. Although the pump is designed for vertical positioning the hydraulic parts of the pump are also capable of functioning in a horizontal position. This option is limited by the motor rating. The **motors of 11kW** and above are equipped with a co-axial bearing which is **not suitable for horizontal positioning**.

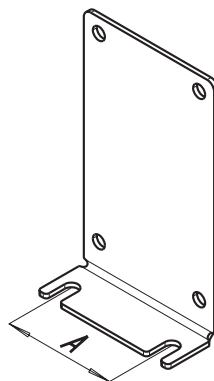
To ensure a proper and stable horizontal mounting position for the pump, stainless steel AISI 304 support frames are available. To mount the support frames, bolts up to a maximum of M12 can be used.

The horizontal mounting kit includes the following parts:

- Pump bracket support
- Motor flange support
- 4 bolts M12
- 4 washers 12mm
- 4 nuts M12



Motor flange support



Pump bracket support

20050451-F

7.1.1 Dimensions of pumps fitted with horizontal mounting kit

Dimensions are related to the dimensions of the complete pump in standard vertical position and are mentioned in [mm].

DPV(S)(V) 2/4			D = 82				
DPV(S)(C)(F) 2/4			D = 107				
Motor [kW]		Art. nr.	C	H	A	B	Weight [kg]
0.37	1.1	18707001	F2+47	120	100	100	1.70
1.5	2.2	18707004					
3	4	18707002	F2+39	170		210	2.60
5.5	7.5	18707003	F2-17				

20050451-F

DPV(S)(V) 10/18			D = 112				
DPV(S)(C)(F) 10			D = 122				
Motor [kW]		Art. nr.	C	H	A	B	Weight [kg]
0.55	1.1	18707011	F2+47	140	130	130	2.50
1.5	2.2	18707014					
3	4	18707012	F2+39	170		210	2.40
5.5	7.5	18707013	F2-17				2.90

20050451-F

20050451-F

DPV(S)(V)(F) 14			D = 112				
Motor [kW]	Art. nr.	C	H	A	B	Weight [kg]	
0.55	0.75	18707021	F2+47	140	130	130	2.50
1.1	1.5	18707023					
2.2	4	18707022	F2+39				2.40

20050451-F

DPV(S)(F) 24			D = 137				
Motor [kW]	Art. nr.	C	H	A	B	Weight [kg]	
1.1	1.5	18707031	F2+47	170	210	180	4.00
2.2	4	18707032	F2+39				
5.5	7.5	18707033	F2-17				3.90

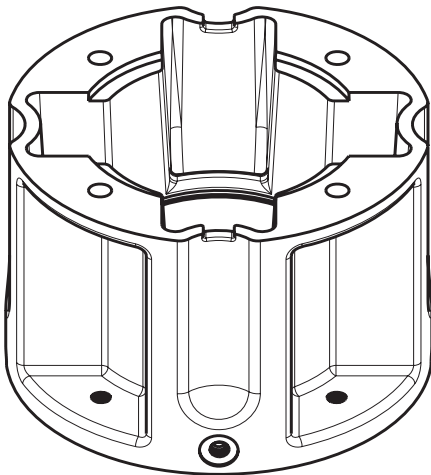
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DPV(S)(C)F 32/45			D = 137				
DPV(S)(C)F 65			D = 172				
Motor [kW]	Art. nr.	C	H	A	B	Weight [kg]	
1.5	2.2	18707041	F2+47	170	210	180	4.00
3	4	18707042	F2+39				
5.5	7.5	18707043	F2-17				3.90

20050451-F

7.2 Thrust bearing housing

20041107200



Thrust bearing housing

20050227-B

The standard DP-Pumps motors are specially designed to drive the pump. When a standard IEC or NEMA norm motor has to be installed (or a special motor to fulfill the applications requirement, like explosion proof, high efficiency) a special bearing housing must be installed to relieve the motor of the axial force created by the pump.



ATTENTION

This option is not applicable for pump model DPVE.



ATTENTION

Only a motor with a standard key can be installed with a thrust bearing housing.



ATTENTION

There is no need to change the motor stool of the pump. The bearing flange can be mounted on the standard motor stool of the pump.

7.2.1 Dimensions and weights.

The total height increase of the pump will be 113.5 mm / 4.47 inch. The weight of the thrust bearing housing kits are given in the table below:

Table 4: weight of the thrust bearing housings kits

Frame size	Motor-shaft	Kit art. nr.	Weight [kg]	Weight [lbs]
132	38	18708020	7.97	17.57
160	42	18708021	8.25	18.19
180	48	18708022	9.30	20.50
200	55	18708023	9.44	20.81

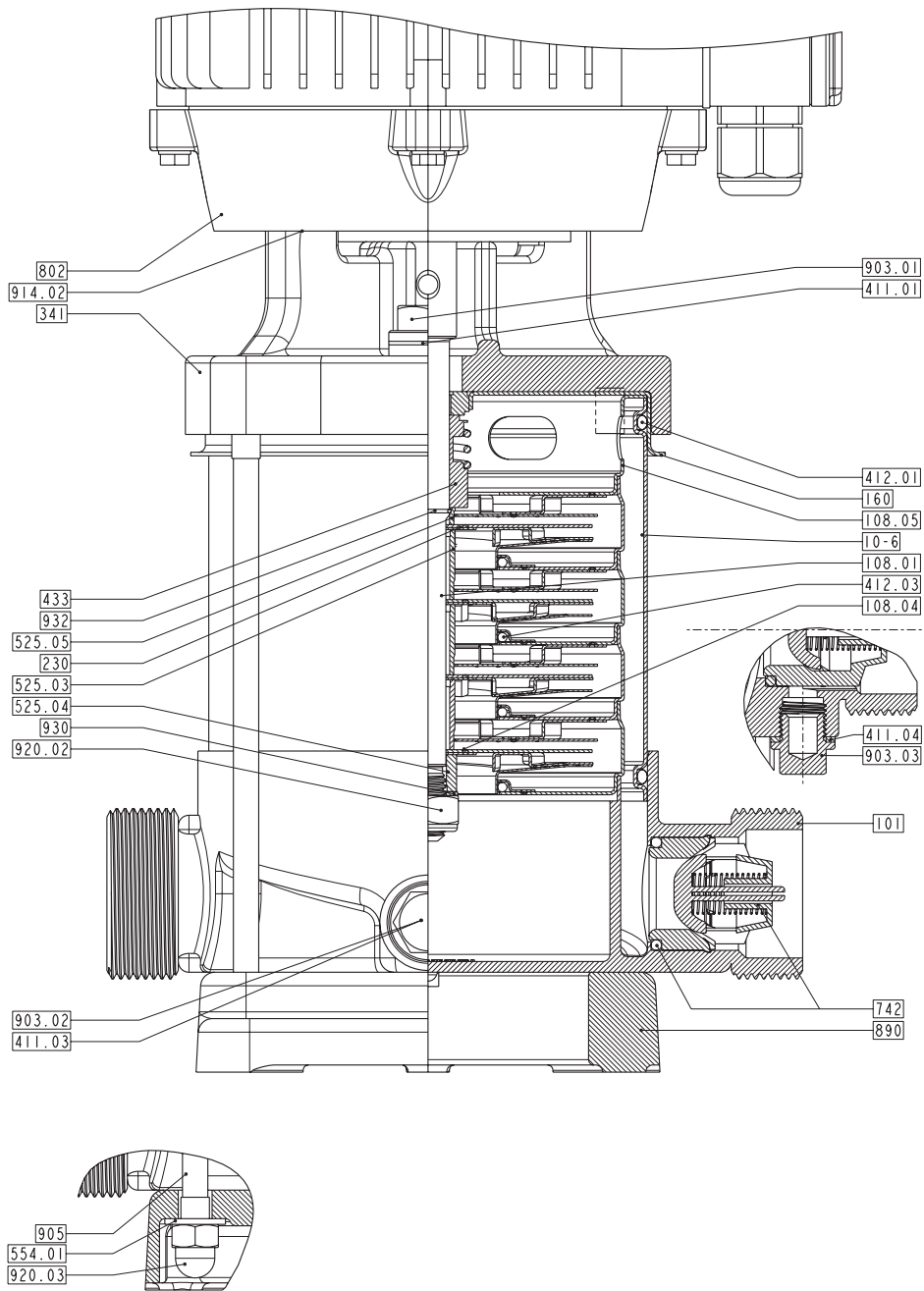
8 Sectional drawings

8.1 Parts list

Number (ZN)	Description:
101	Pump casing
108	Stage casing
160	Cover
171	Diffuser
210	Shaft
230	Impeller
341	Motor stool
400	Gasket
411	Joint ring
412	O-ring
433	Mechanical seal
471	Seal cover
500	Ring
509	Intermediate ring
525	Spacer sleeve
525.08	Spacer sleeve
529	Bearing sleeve
554	Washer
560	Pin
681	Coupling guard
722	Taper piece, flanged
723	Flange
742	Non-return valve
800	Motor
801	Flanged motor
802	Motor for close coupling
831	Fan impeller
832	Fan hood
833	Terminal box
835	Terminal board
837	Condenser
862	Coupling shell
890	Baseplate fabricated or cast
900	Screw
901	Hexagon head bolt
903	Screwed plug
904	Grub screw
905	Tie bolt
913	Vent plug
914	Hexagon socket head cap scr.
920	Nut
930	Safety device
932	Circlip
10-6	Pump shroud
81-37	Terminal box coverplate

8.2 Sectional drawing DPVE 2/4/10/14

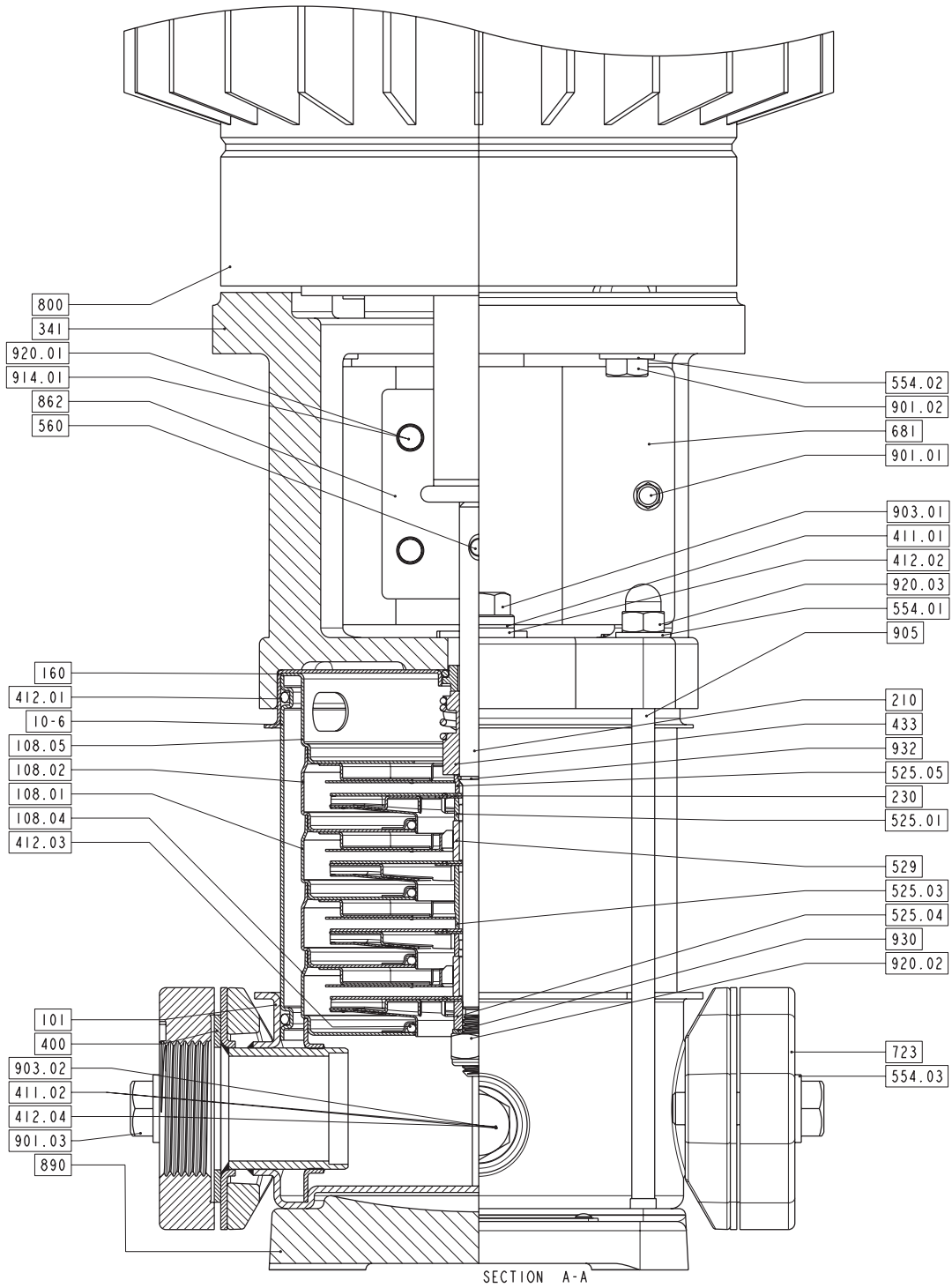
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20030219-D

8.3 Sectional drawing DPV(S) 2/4/10/14/18

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- 800
- 341
- 920.01
- 914.01
- 862
- 560

- 160
- 412.01
- 10-6
- 108.05
- 108.02
- 108.01
- 108.04
- 412.03

- 101
- 400
- 903.02
- 411.02
- 412.04
- 901.03
- 890

- 554.02
- 901.02
- 681
- 901.01

- 903.01
- 411.01
- 412.02
- 920.03
- 554.01
- 905

- 210
- 433
- 932
- 525.05
- 230
- 525.01

- 529
- 525.03
- 525.04
- 930
- 920.02

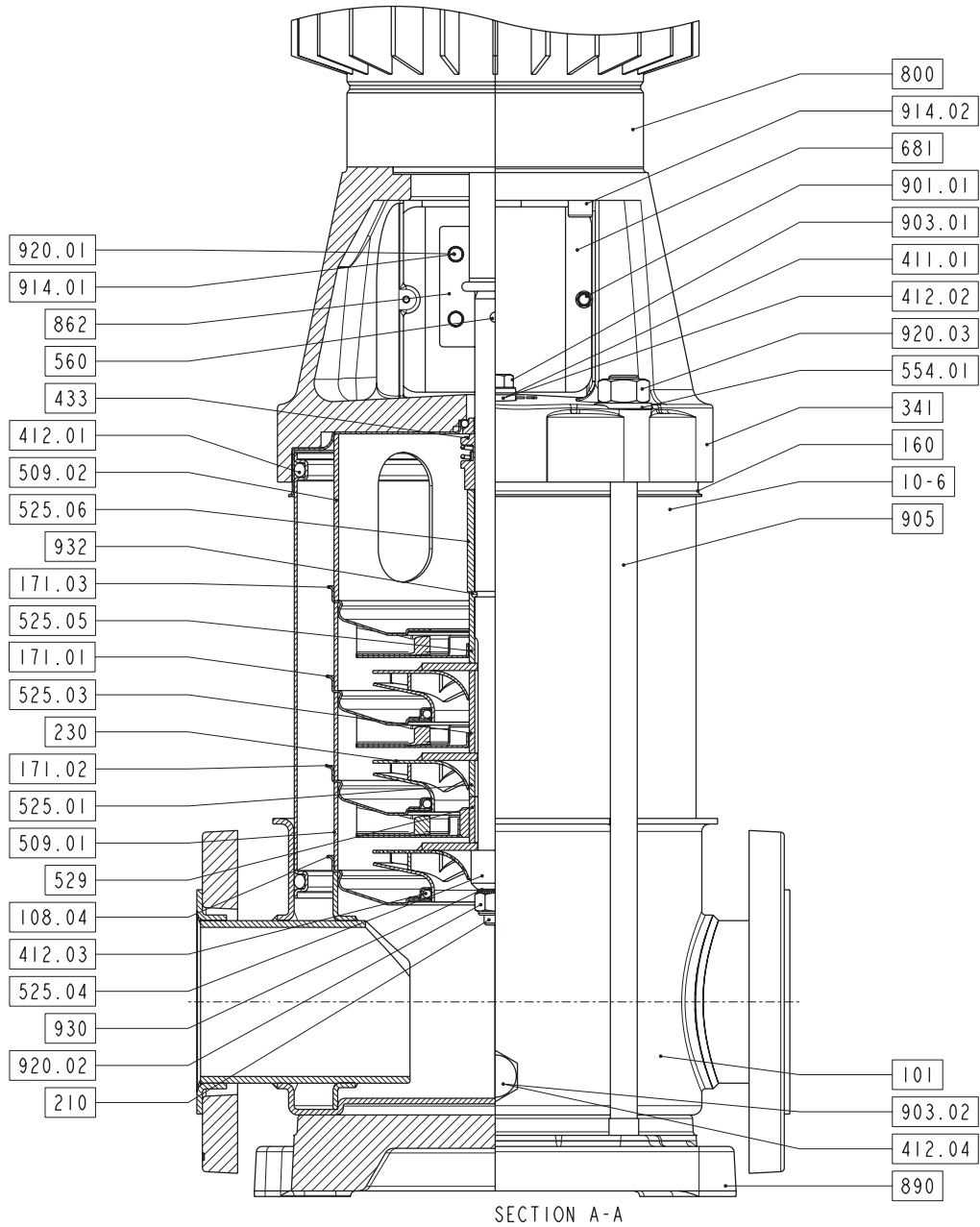
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8.4 Sectional drawing DPV(S)F 24/32

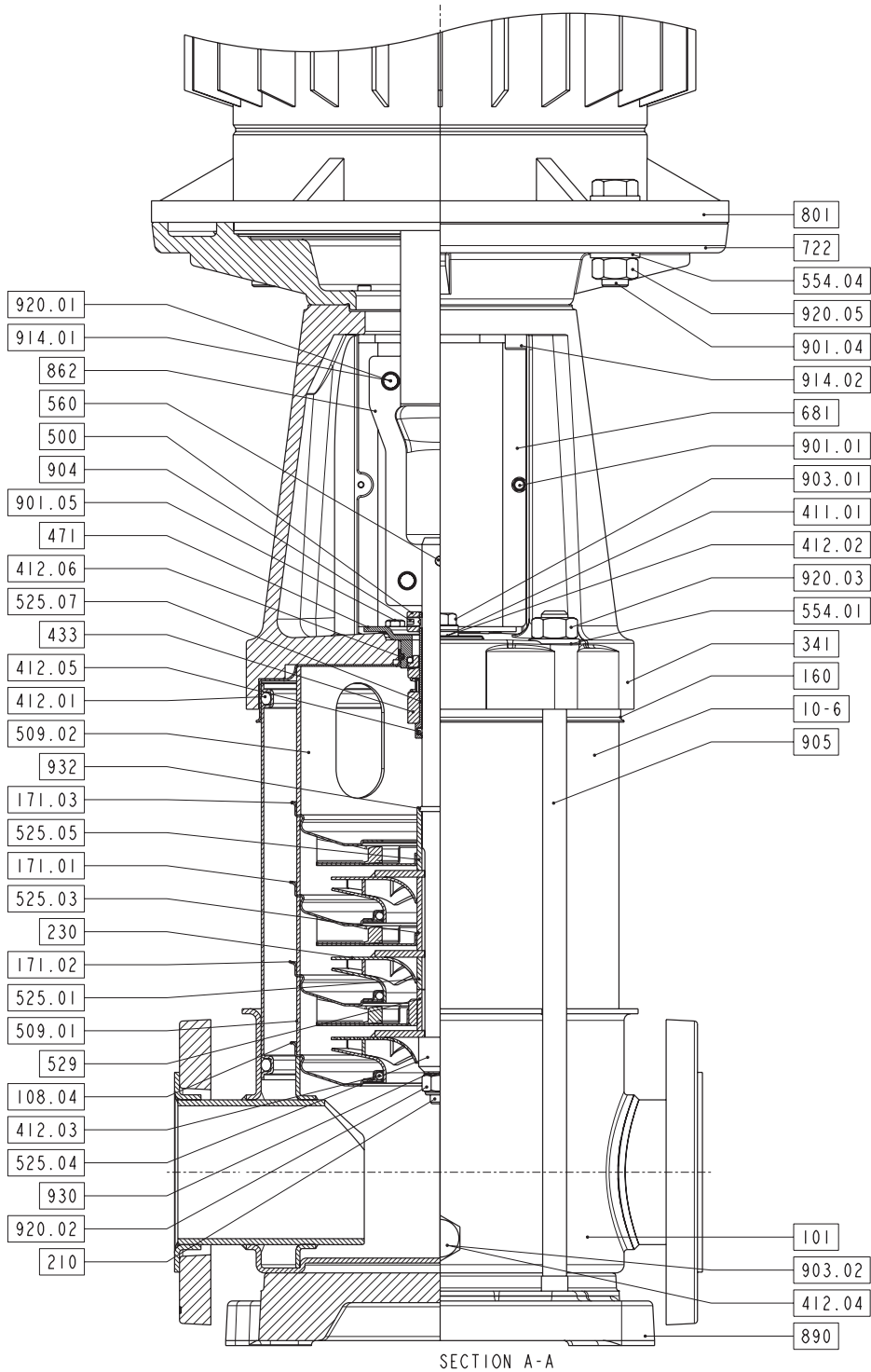
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8.5 Sectional drawing DPV(S)F 24/32 with cartridge seal

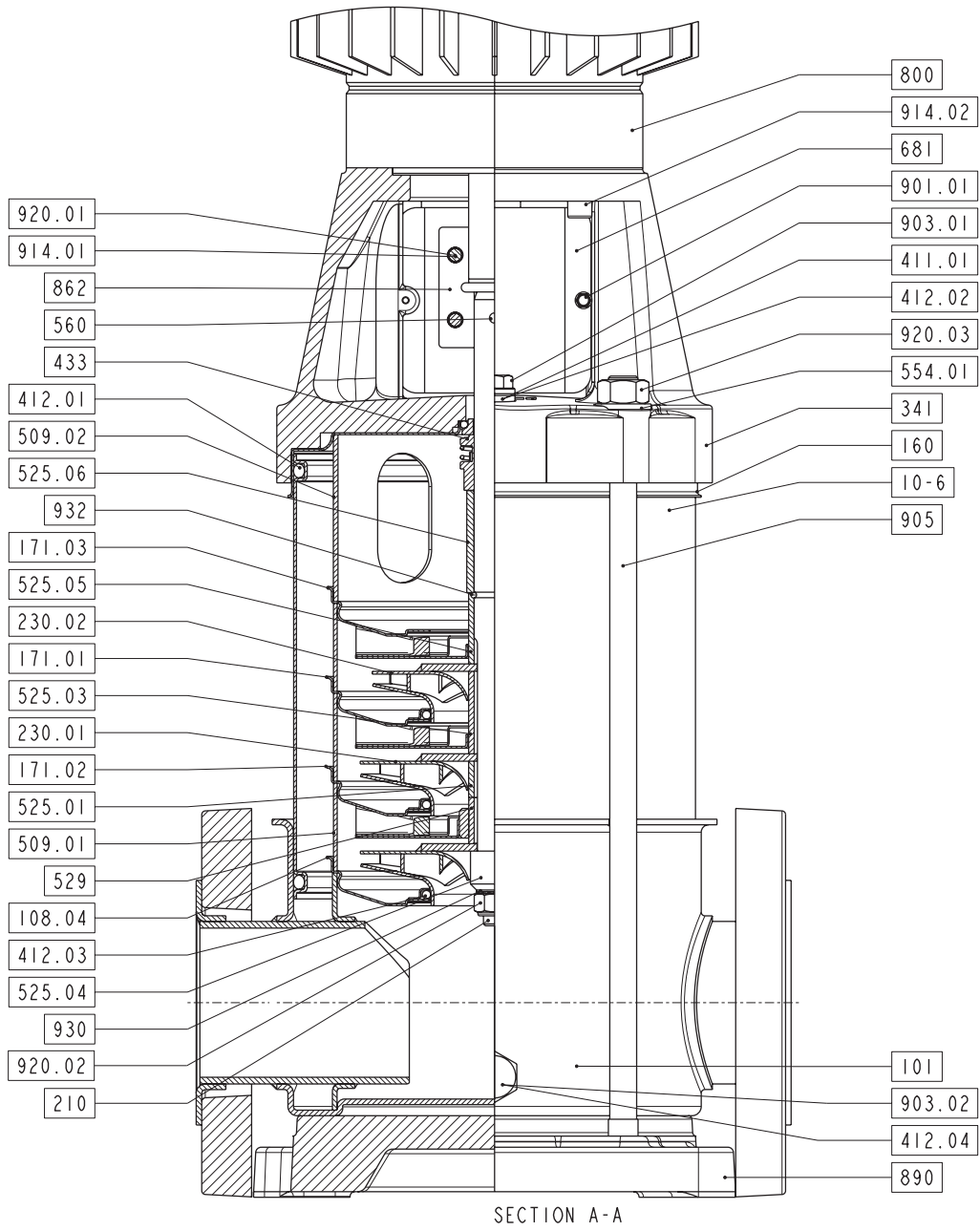
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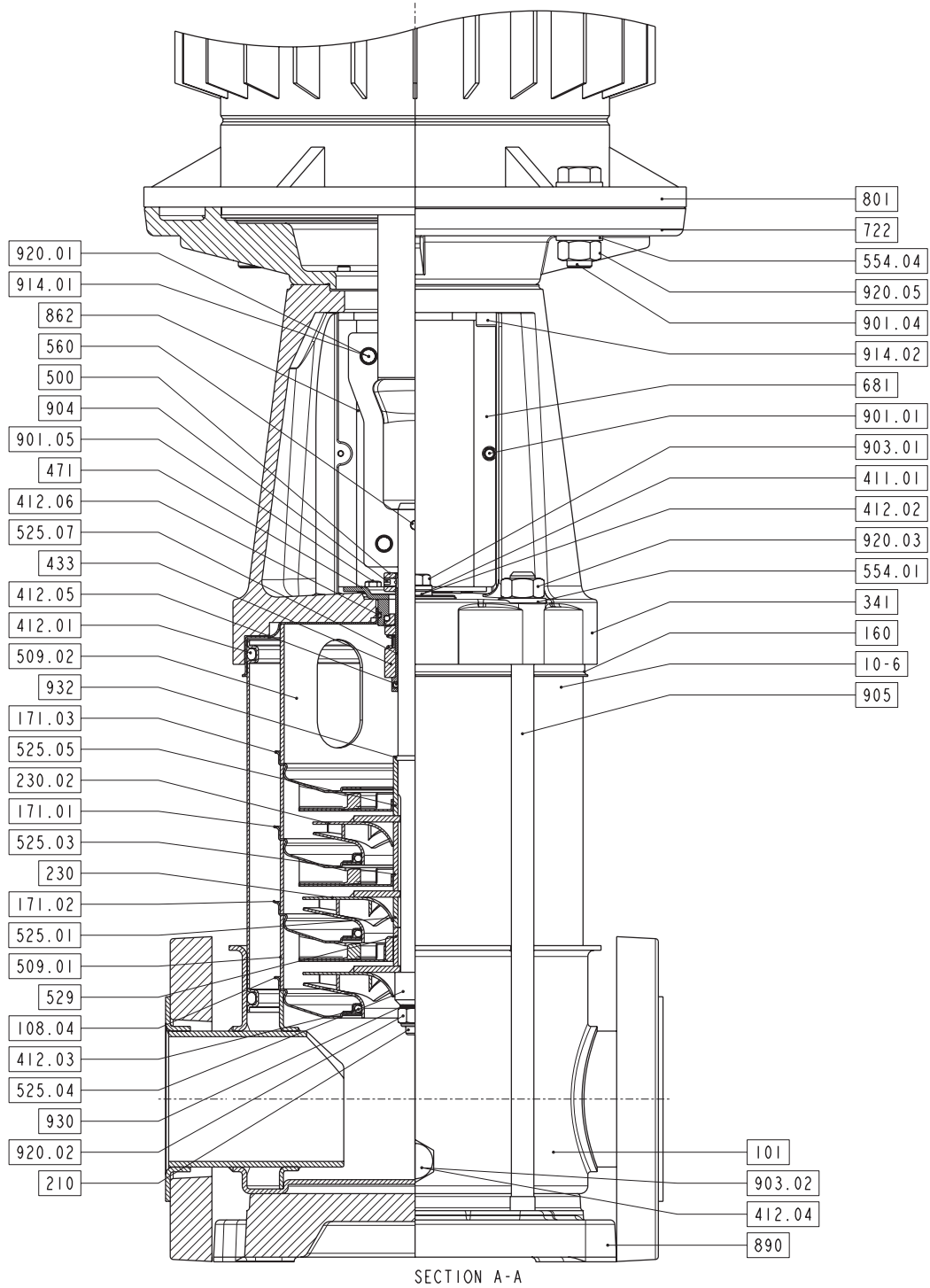
8.6 Sectional drawing DPV(S)F 45

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8.7 Sectional drawing DPV(S)F 45 with cartridge seal

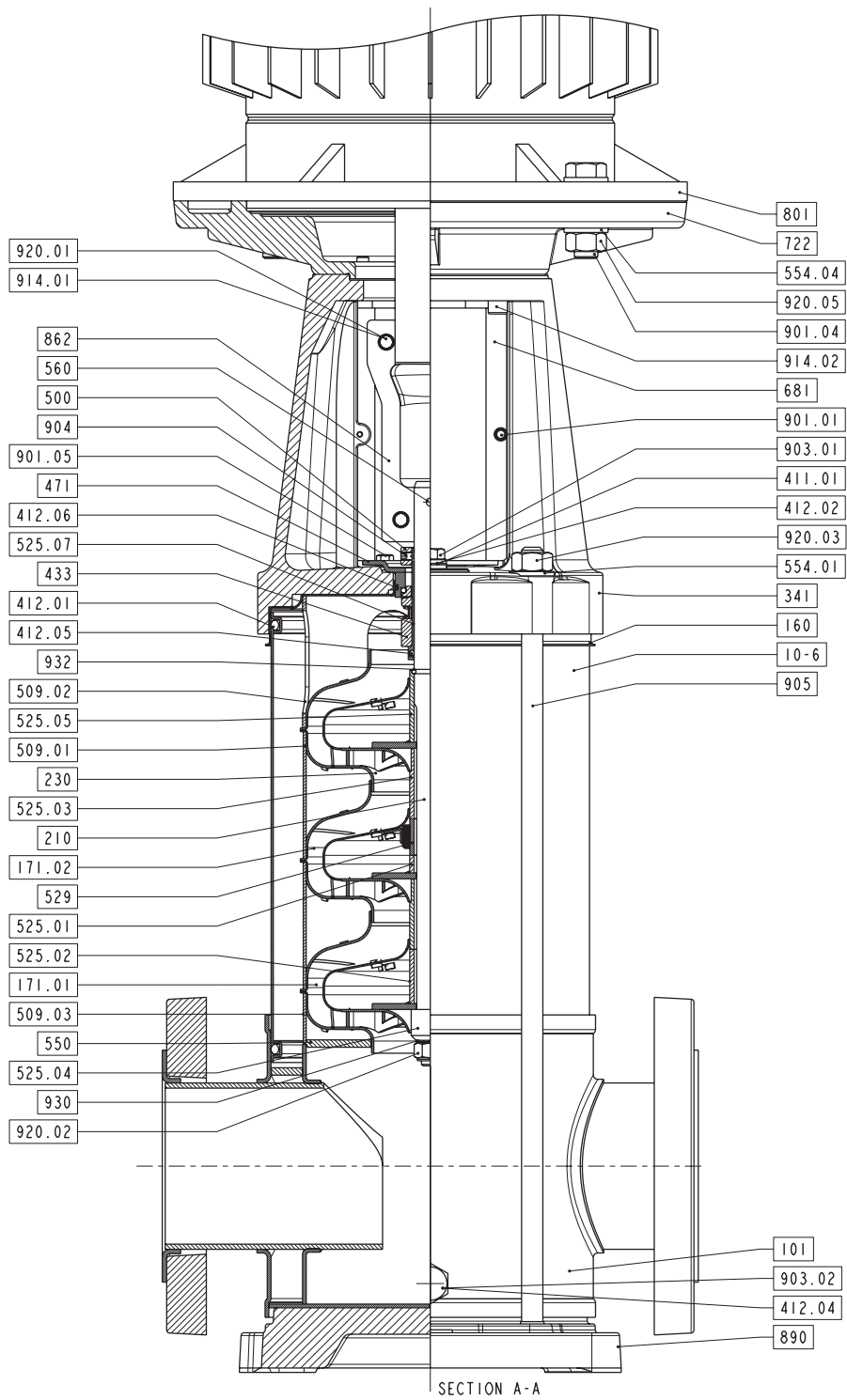
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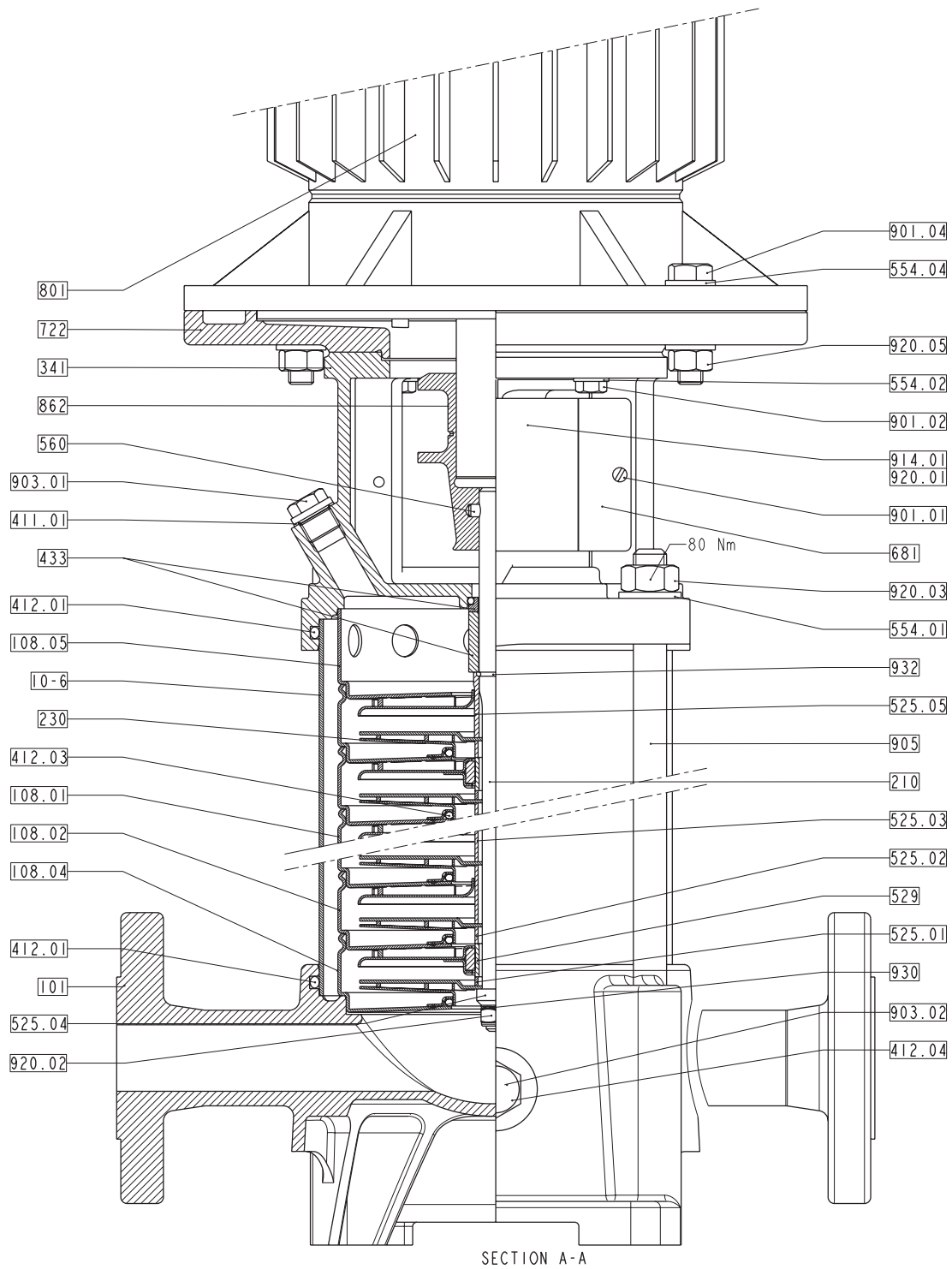
8.8 Sectional drawing DPV(S)F 65

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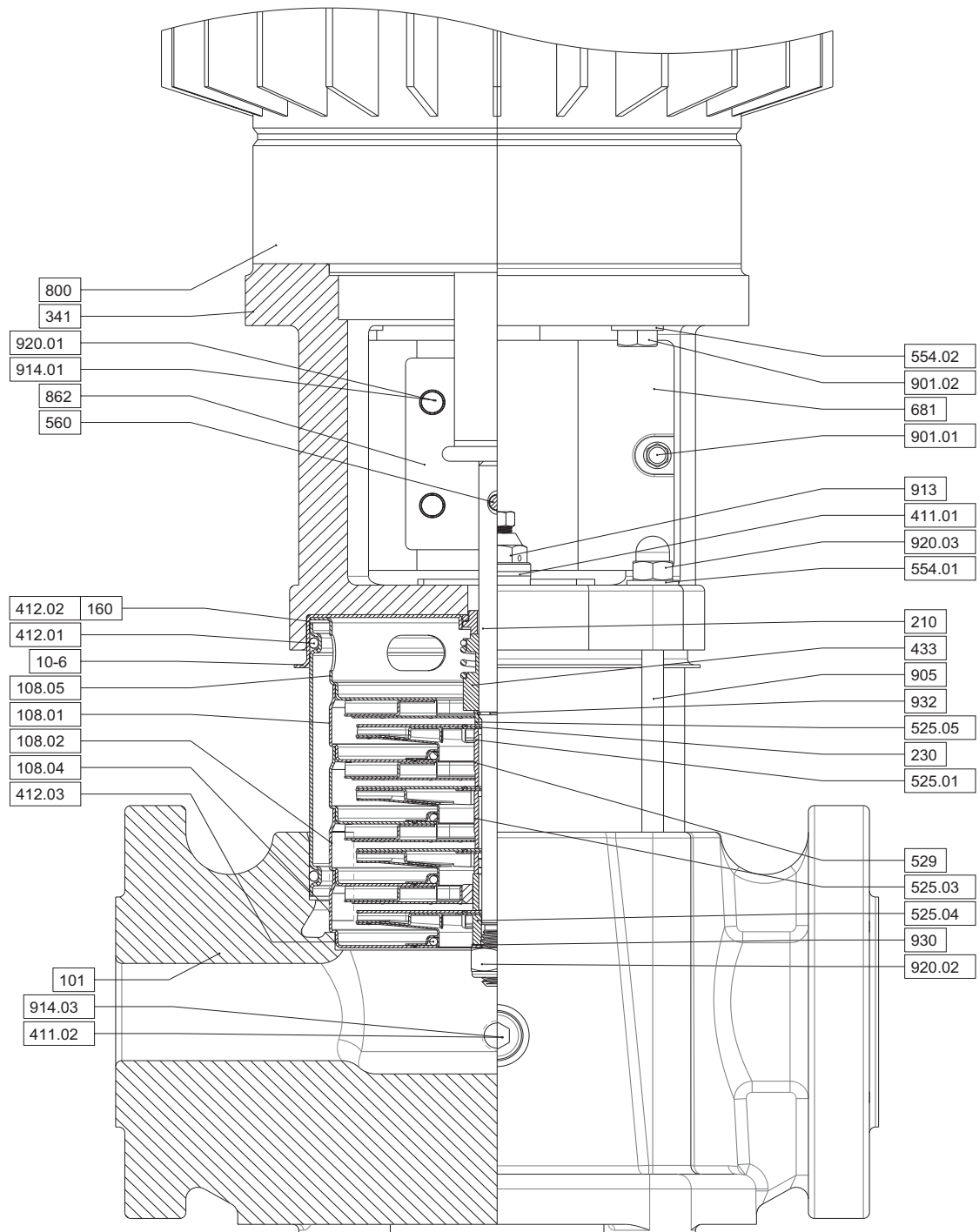
8.9 Sectional drawing DPLHS 6

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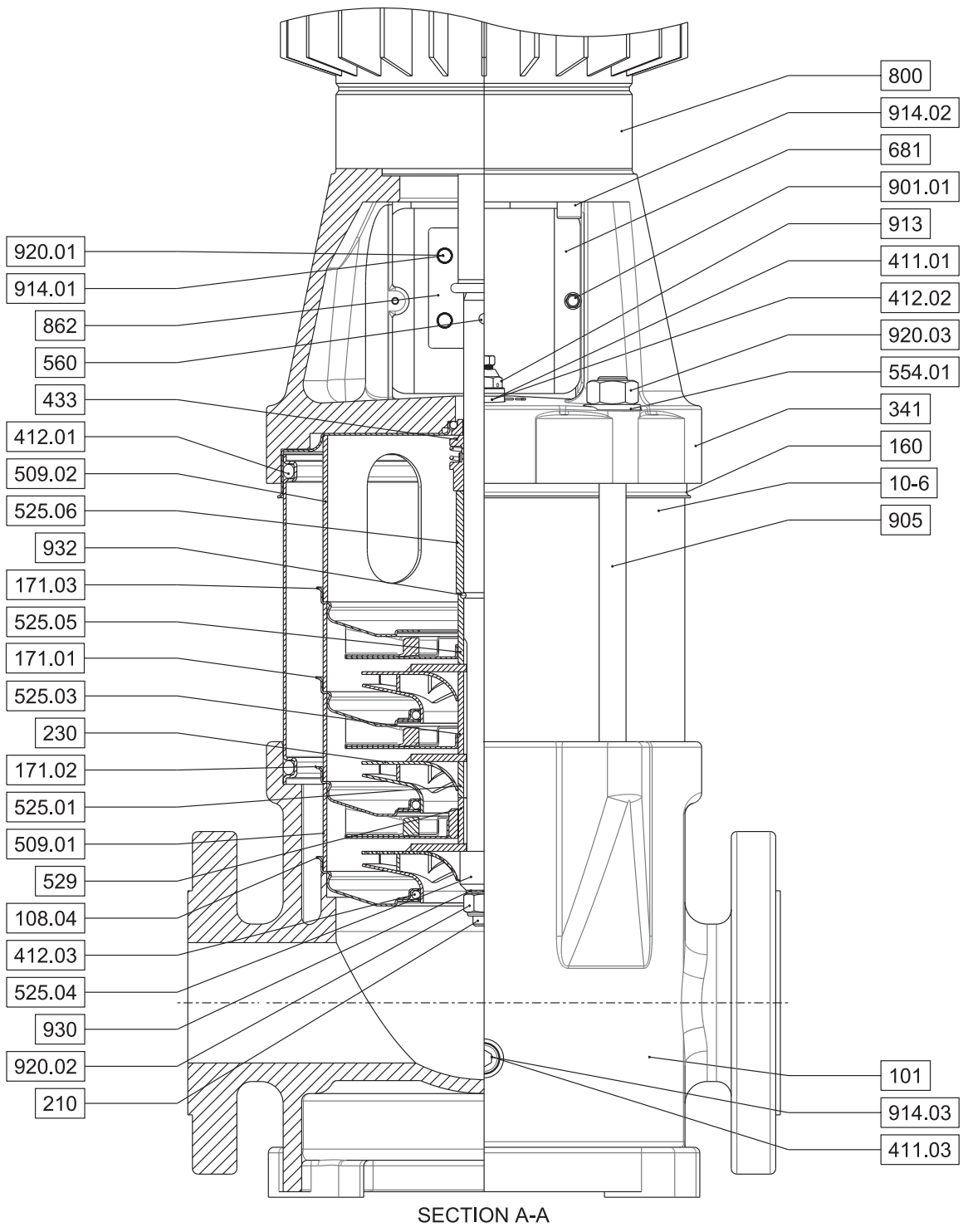
8.10 Sectional drawing DPVCF 2/4/10/18

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8.11 Sectional drawing DPVCF 32

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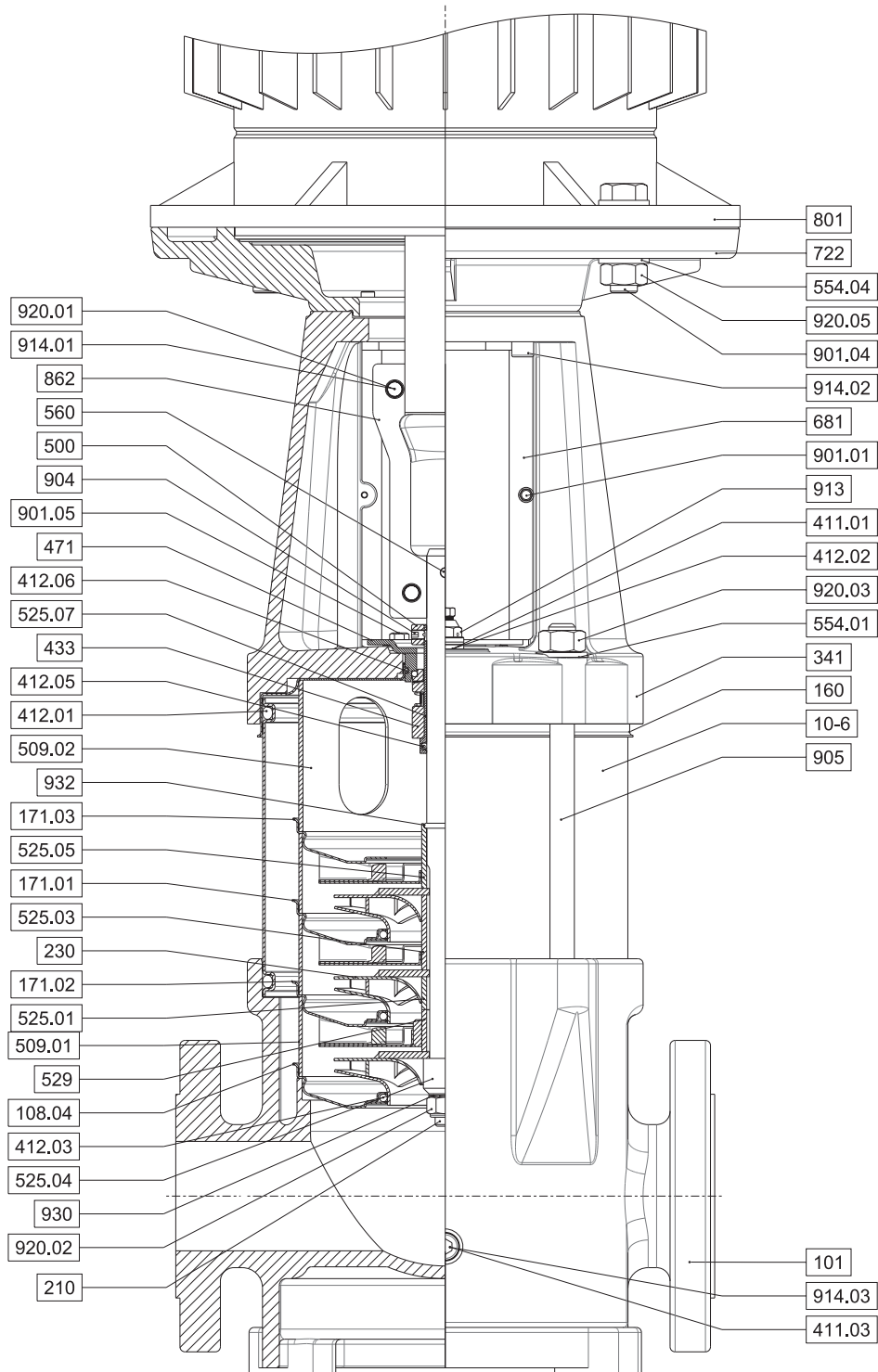


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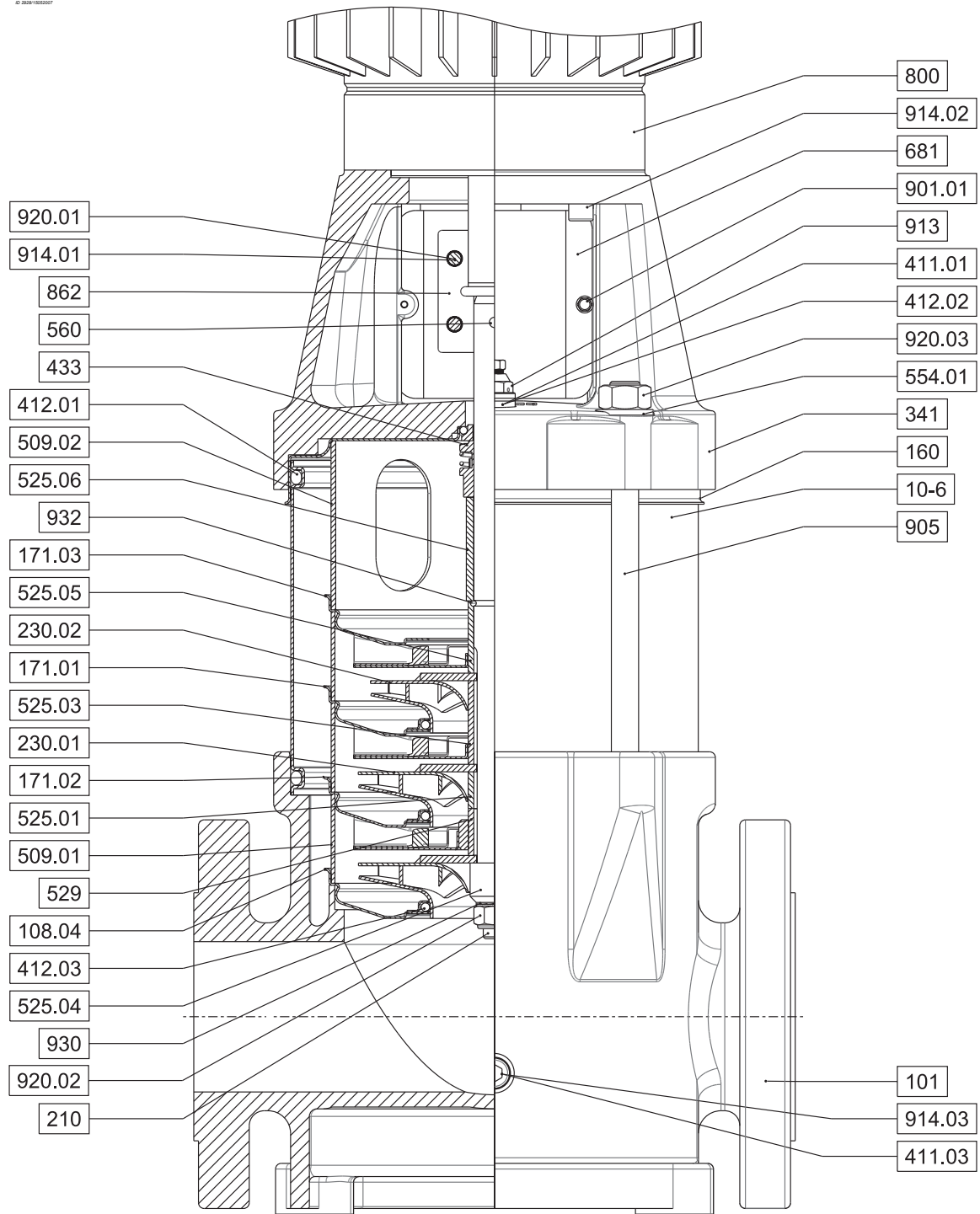
8.12 Sectional drawing DPVCF 32 with cartridge seal

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8.13 Sectional drawing DPVCF 45

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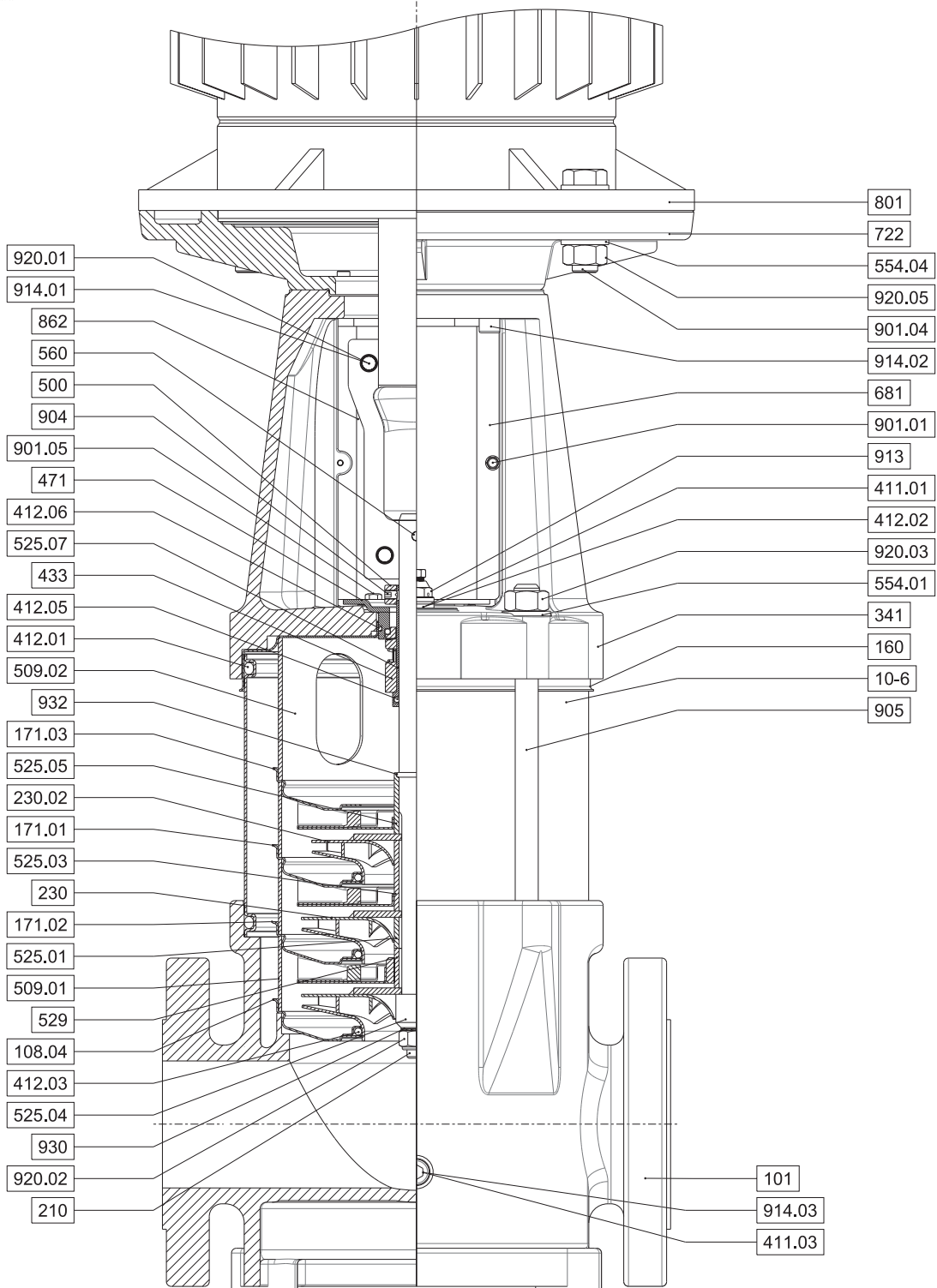


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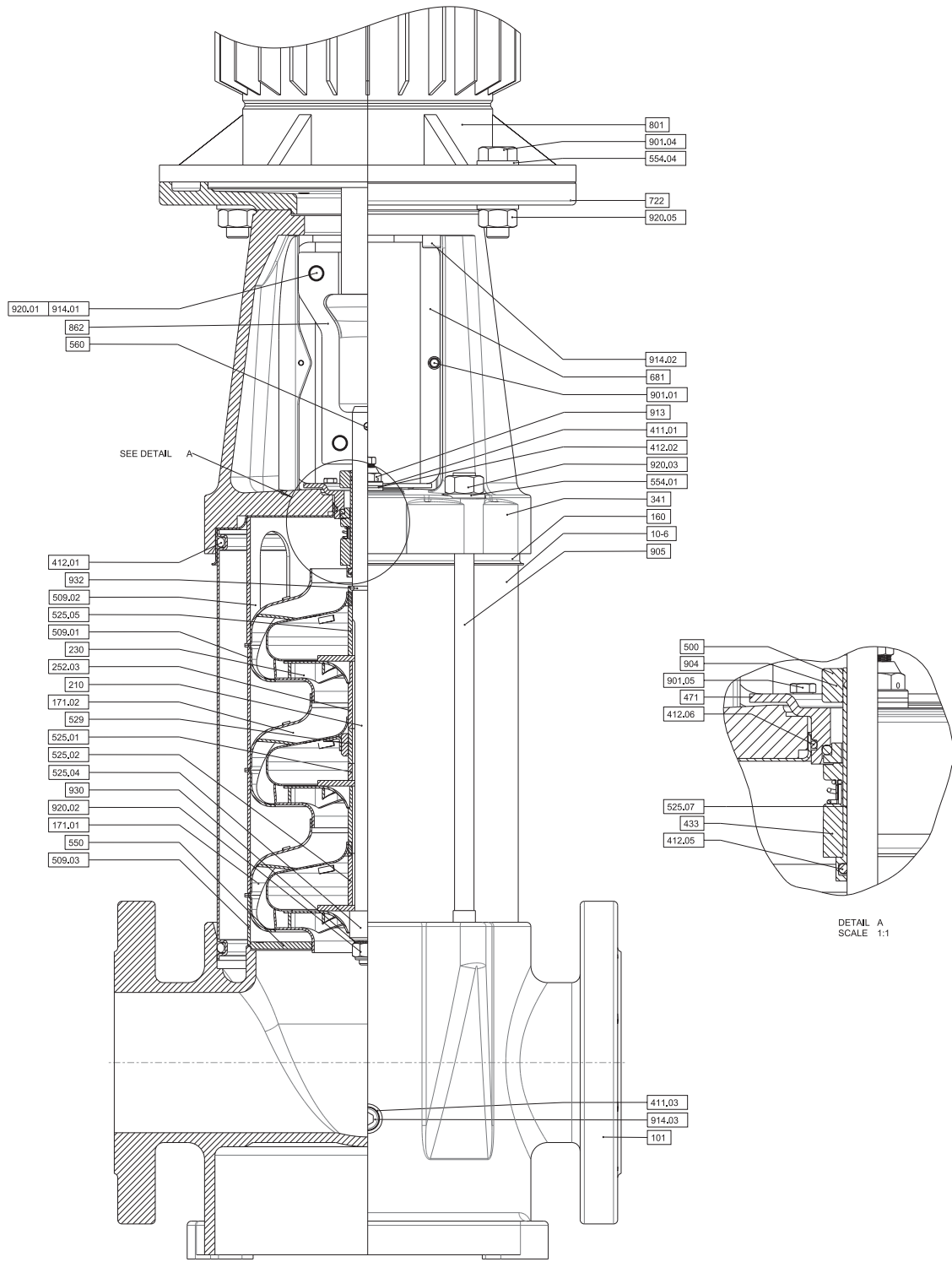
8.14 Sectional drawing DPVCF 45 with cartridge seal

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8.15 Sectional drawing DPVCF 65

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