

Multi-stage centrifugal pump DPV

Technical specification booklet

series: DPV(C/S) 2 - 4 - 6 - 10 - 15 - 25 - 40 - 60 - 85 - 125

50 Hz (DIN/IEC)



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1 Pump introduction

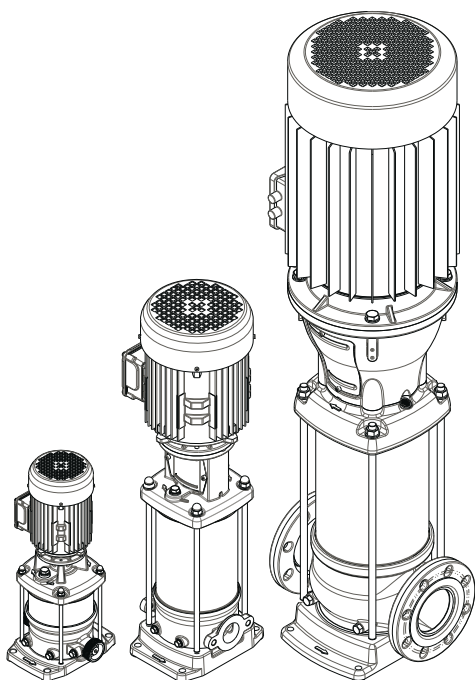
1.1 General

The vertical, single or multi-stage centrifugal pump series are designed for pumping clean, or lightly aggressive, watery mediums.

Suction and discharge of the pump are in-line, making the pump easy to install.

The hydraulic assembly is driven by an electric motor. All hydraulic parts of the pump are made of stainless steel.

The vertical, multi-stage centrifugal DPV pumps are produced by DP-Pumps.



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DPV
2,4,6 B

DPV
10,15 B

DPV
25,40,60,85,125 B

1.2 Model key

Table 1: Model key Example DPVSF 85/3-1 B

	DP	VS	F	85	/3	-1	B	
Label	DP							Product Label
Material/Construction		VC						Cast Iron pump foot and top bracket, hydraulics 1.4301 / AISI 304
		V						All wetted parts Stainless Steel 1.4301 / AISI 304
		VM						All wetted parts Stainless Steel 1.4301 / AISI 304 with closed coupled motor
		VS						All wetted parts Stainless Steel 1.4401 / AISI 316
Connections			E					Male thread (with non-return valve insert)
								Oval flange with female thread
			F					Round flange
			V					Victaulic connections
			T					Tri-clamp connections
				85				Capacity in m ³ /h at Q _{opt.}
					/3			Number of stages
					/3	-1		Number of stages of which one stage with reduced head
						L		Impeller low NPSH (model 2,4,6,10 and 15)
							B	Design version

1.3 Operation

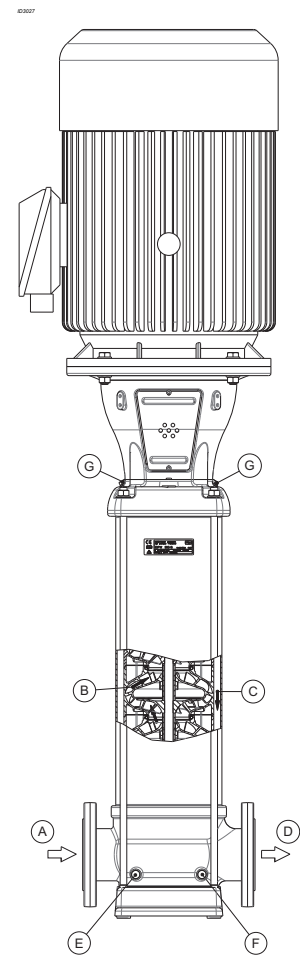


Figure 1: DPVF 85

During centrifugal operation of the pump a negative pressure is created at the inlet of the impeller. This negative pressure enables the medium to enter the pump at the suction connection (A). Every stage (B) consists of an impeller and diffuser. The passage of this stage determines the capacity of the pump. The diameter of the stages is related to the centrifugal forces and its “stage pressure”: the more stages, the more pressure. This total capacity and raised pressure will be guided to the outside of the pump, between the pump stages and the outer sleeve (C) and the medium will leave the pump at the discharge connection (D).

1.4 Measuring, draining and venting

The pump is provided with plugs for measuring, draining and venting. Connection (E) is meant to drain the inlet part of the pump. Or to measure the inlet / suction pressure using a G ¼ connection. Connection (F) is meant to drain the outlet part of the pump. Or to measure the discharge pressure using a G ¼ connection. Connections (G) are meant to vent the pump system when the pump is not in operation. Or to measure the discharge pressure of the pump using a G 3/8 connection.

1.5 Working range

The working range is depending on the application and a combination of pressure and temperature. For specific and detailed limits please consult the working ranges as described in the chapter 1.8Modular selection. The overall working range of the pumps can be summarised as follows:

Table 2: Specification of the working range

Pump type	DPV	note
Ambient temperature [°C]	-20 up to 40	¹
Minimum inlet pressure	NPSH _{req.} + 1m	
Viscosity [cSt]	1-100	²
Density [kg/m ³]	1000-2500	²
Cooling	forced motor cooling	³
Minimum frequency [Hz]	30	
Maximum frequency [Hz]	60	⁴
Allowable size of solids pumped	5µm to 1mm	

1. If the ambient temperature exceeds the above value or the motor is located more than 1000 m above sea level, the motor cooling is less effective and could require an adapted motor power. See table 5: Motor load dep. sea level or amb. temp or please contact your supplier for more detailed advice.
2. Deviation in viscosity and/or density could require an adapted motor power. Please contact your supplier for more detailed advice.
3. The free space above the motor cooling fan must be at least 1/4 of the diameter of the inlet of the cooling fan in order to have a sufficient flow of (cooling) air.
4. Pumps that are intended for 50 Hz operation, may not be connected to 60Hz power supply.

1.5.1 Minimum capacity

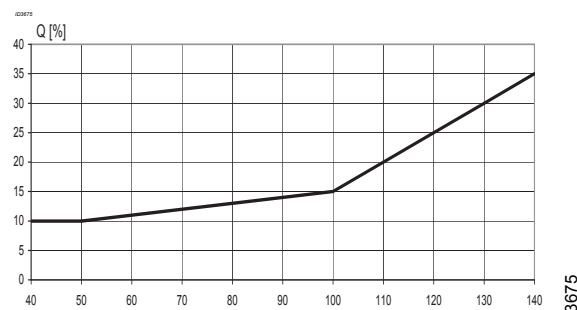
For minimum capacity at medium temperature of 20 °C, see table: 3Minimum capacity (Q_{min}); for higher temperatures, see table: 4Minimum capacity vs.temperature (in % of Q optimum).

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

Table 3: Minimum capacity (Q_{min})

size	Q _{min} [m ³ /h]			
	50 Hz		60 Hz	
	2 pole	4 pole	2 pole	4 pole
2	0,2		0,2	
4	0,4		0,5	
6	0,6		0,8	
10	1,1	0,5	1,3	0,6
15	1,6	0,8	2,0	1,0
25	2,6	1,3	3,2	1,6
40	4	2	4,8	2,4
60	6	3	7,2	3,6
85	8,5	4,3	10,2	5,1
125	13,1		15,8	

Table 4: Minimum capacity vs.temperature (in % of Q optimum)



1.5.2 Ambient temperature and higher altitude

If the ambient temperature exceeds the above value, or if the motor is located more than 1000 m above sea level, the motor cooling is less effective and could require an adapted motor power. See below table for the increased percentage of the motor power or contact your supplier for more detailed advice.

Table 5: Increase of required motor power

Ambient temperature [°C]	Above sea level [m]	Increase of required power
40	1000	0%
45	1625	2%
50	2250	5%
55	2875	11%
60	3500	18%
65	4125	25%
70	4750	33%

1.6 Basic material variants

Table 6: Basic material variants

Model	Hydraulic	Casing	Sealing
V	1.4301	1.4308	EPDM
VS	1.4404	1.4408	FPM
VC 2-15	1.4301	JS1030	EPDM
VC 25-125	1.4301	JL1040	EPDM

1.7 Pump bearing

Medium lubricated stage bearing
Tungsten Carbide against Ceramic

1.8 Modular selection

To suit almost every application the pump is assembled out of modules which can be selected depending on the required working range. Basic modules are:

- **Basic pump model**, which defines the capacity, pressure and basic material.
Temperature range -20 up to 140 °C, with the exception of the DPV 125 this pump can be used upto 120 °C.
- **Connections**, which define the suction and discharge connection as well as the base plate.
VE casing (with non return valve) max. temperature 90 °C. Other connections have same temperature range as basic pump model.
- **Sealings**, which define the elastomers, the mechanical seal and the shaft seal type.
Temperature range, see chapter 4.1
- **Electric motor**, which defines all requirements of the motor such as motor size, power, voltage, frequency and all possible motor accessories.
Due to mono-block motor version VM, max. fluid temperature is 60 °C

1.9 Approvals

CE Conformity with European Safety Directive
ACS Drinking Water Approval (F)
WRAS Drinking Water Approval (GB)
ATEX Conformity with “ATmosphères EXplosibles”
 Directive

2 Performance characteristics

2.1 Performance range

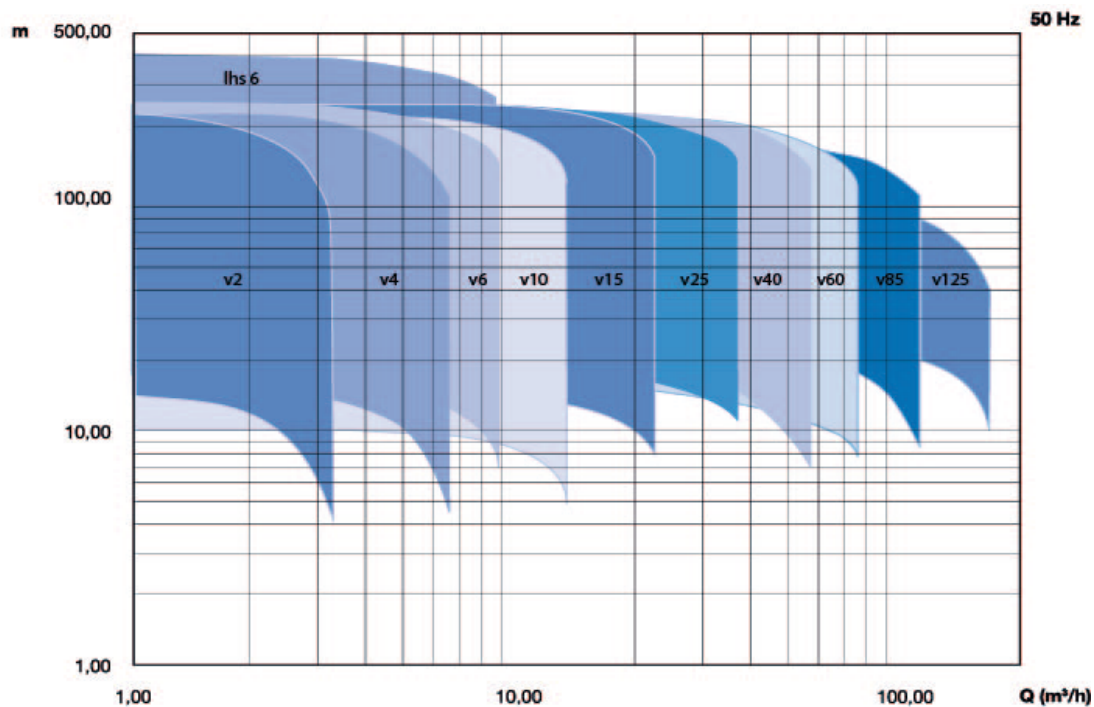


Figure 2: Performance range DPV (C/S) B 50 Hz

2.2 Performance curve details

The performance diagrams give a global overview of all the pump models the shaded models are 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. As per example:

DPV 4/2 B:	model DPV 4 B	2 stages with 2 full head impellers
DPV 85/4-1 B	model DPV 85 B	4 stages with 3 full head impellers and 1 reduced impeller

The detailed performance curves are in accordance with ISO 9906:2012 (Grade 3B).

The pumps can be configured with multiple types of motors. Therefore the performance data, like Q/H, efficiency and shaft power used for published curves are converted to the average speed per motor power. To refine this data the published data has to be corrected accordingly.

The published curves and data mentioned on the pump are based on the following rotational speed:

Table 7: Rated motor power and speed in 2 & 4 pole

Rated motor power	Rated speed at 50 Hz [rpm] 2P	Rated speed at 60 Hz [rpm] 2P
0,37 and 0,55 kW	2800	3460
to 2,2 kW	2880	3460
to 4 kW	2920	3510
to 7,5 kW	2940	3530
to 22 kW	2950	3550
to 45 kW	2960	3550

Rated motor power	Rated speed at 50 Hz [rpm] 4P	Rated speed at 60 Hz [rpm] 4P
0,55 kW	1450	1740
0,75 kW	1440	1730
to 2,2 kW	1425	1710
to 4 kW	1450	1740
to 7,5 kW	1460'	1750

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 capacity has to be secured. The minimum capacity corresponds to a percentage of the optimum flow Q_{opt} in relation to the temperature of the liquid pumped.

2.3 Minimum efficiency index

The minimum energy-efficiency level according to the ErP regulations for water pumps is specified by the minimum efficiency index MEI. A high MEI value indicates a high efficiency of the determined pump. From 1 January 2015 on the minimum efficiency index (MEI) for standardised water pumps is ≥ 0.4 .

The following MEI values apply for the pump range design version B:

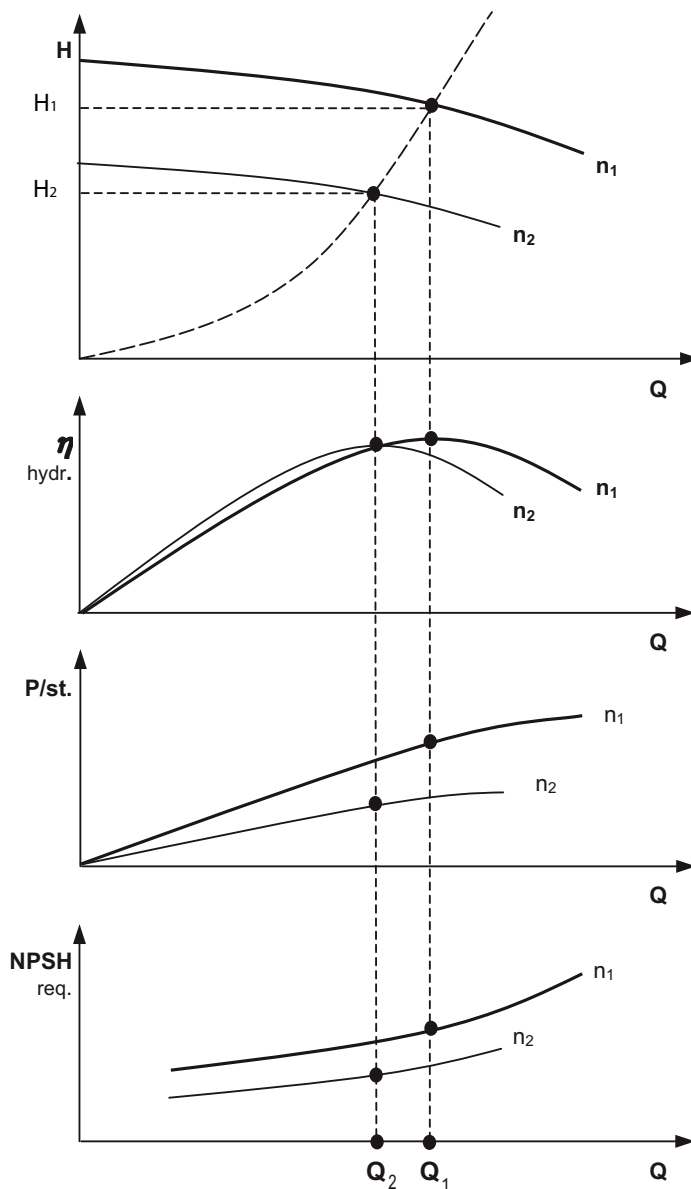
Table 8: Minimum efficiency index

Pump range	Minimum Efficiency index
DPV 2	MEI ≥ 0.70
DPV 4	MEI ≥ 0.70
DPV 6	MEI ≥ 0.70
DPV 10	MEI ≥ 0.70
DPV 15	MEI ≥ 0.40
DPV 25	MEI ≥ 0.70
DPV 40	MEI ≥ 0.70
DPV 60	MEI ≥ 0.70
DPV 85	MEI ≥ 0.60
DPV 125	MEI ≥ 0.70

2.4 Performance with variable frequency drive

The minimum frequency of the DP motor should be limited to 30 Hz. 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 performance of the pump differs from the fixed speed performance according to the recalculation scheme.



$$Q_2 = \frac{n_2}{n_1} \cdot Q_1$$

$$H_2 = \left(\frac{n_2}{n_1} \right)^2 \cdot H_1$$

$$\eta_2 = 1 - \left((1 - \eta_1) \cdot \left(\frac{n_1}{n_2} \right)^{0.1} \right)$$

$$P_2 = \left(\frac{n_2}{n_1} \right)^3 \cdot P_1$$

$$NPSH_2 = \left(\frac{n_2}{n_1} \right)^2 \cdot NPSH_1$$

Figure 3: Performance characteristics

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2.5 How to read the values from the curves

To find the required hydraulic information from the published curves, it is important to know the application in which the pump has to be installed.

There are two main distinction to be made:

- A Flow determined (like booster sets and cleaning) → Opening taps
- B Pressure determined (like boiler feed and reverse osmosis systems) → Facing counter pressure.

How to read the motor power.

The required motor power can be read in the curve 'Power input'.

Attention: the power value as mentioned in this curve is the required power per stage. For some pump types there are two lines in the curve this is related to the full impeller or reduced impeller [-1].

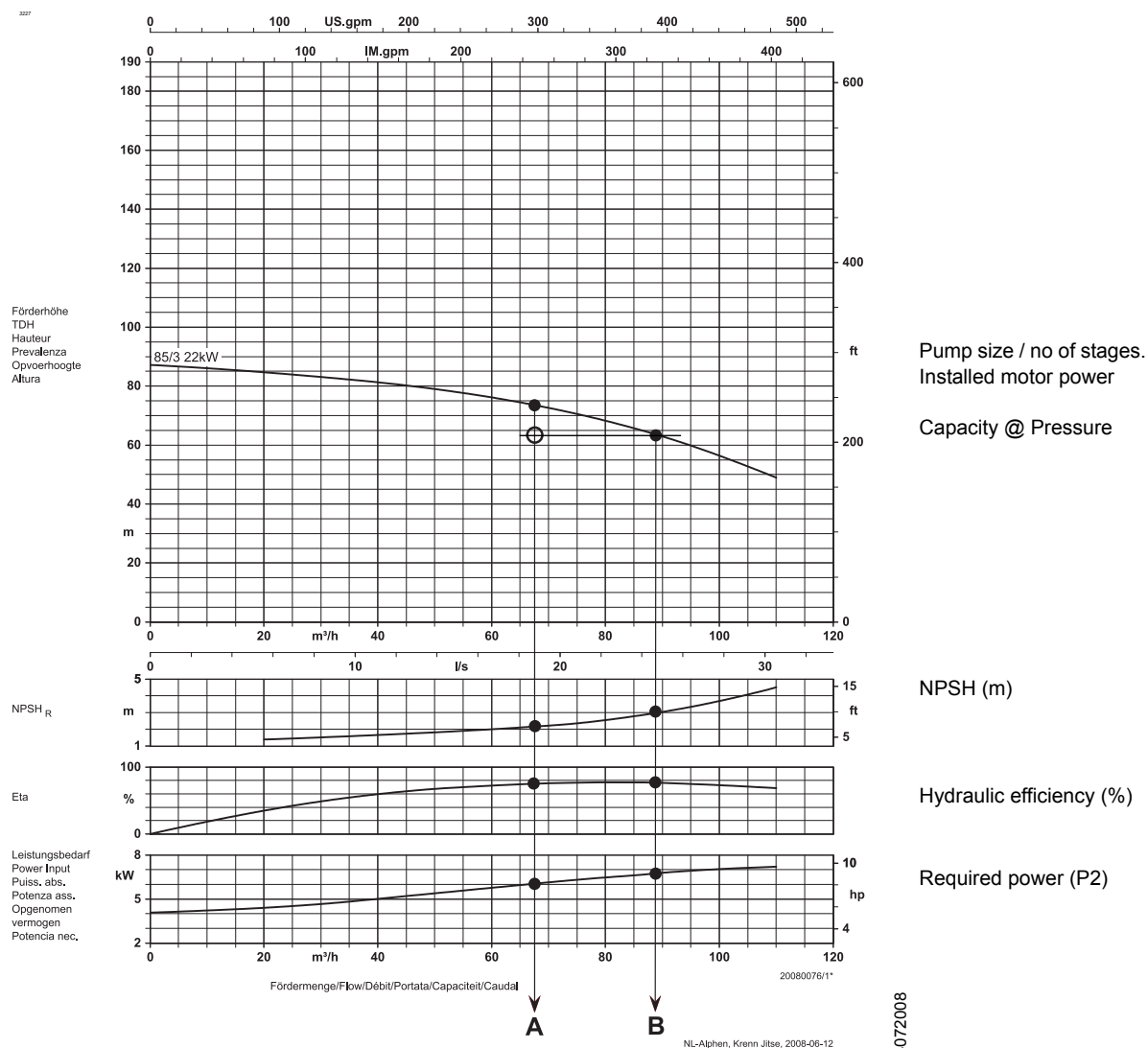


Figure 4: How to read the values from the curves

- Calculated duty point
- Actual hydraulic performance
- A Flow determined
- B Pressure determined

2.6 Hydraulic performance curve DPV(C/S) 2 B - 50Hz -2 pole

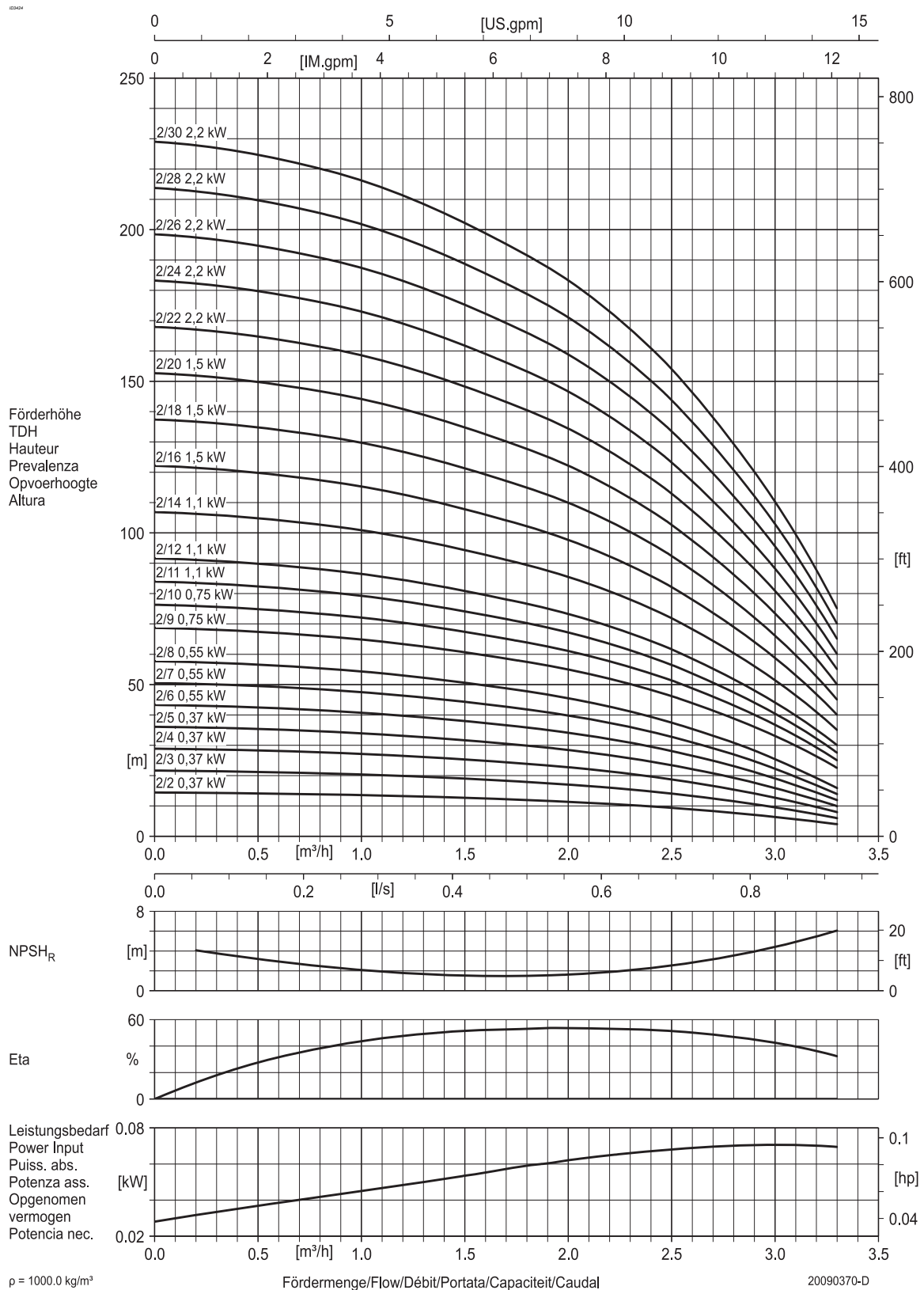


Figure 5: Performance curve DPV(C/S) 2 B - 50Hz - 2 pole

2.7 Hydraulic performance curve DPV(C/S) 4 B - 50Hz - 2 pole

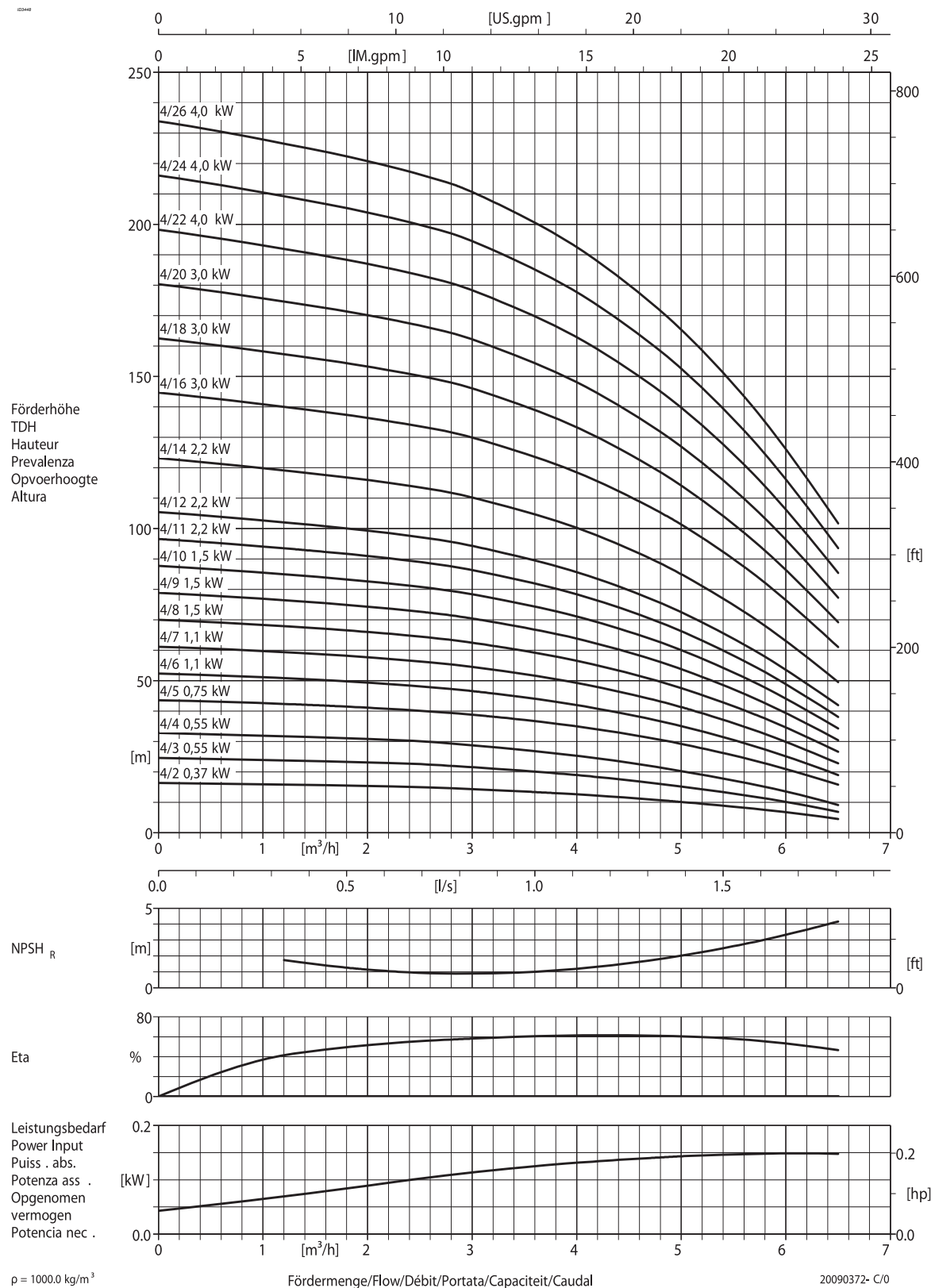


Figure 6: Performance curve DPV(C/S) 4 B - 50Hz - 2 pole

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2.8 Hydraulic performance curve DPV(C/S) 6 B - 50Hz - 2 pole

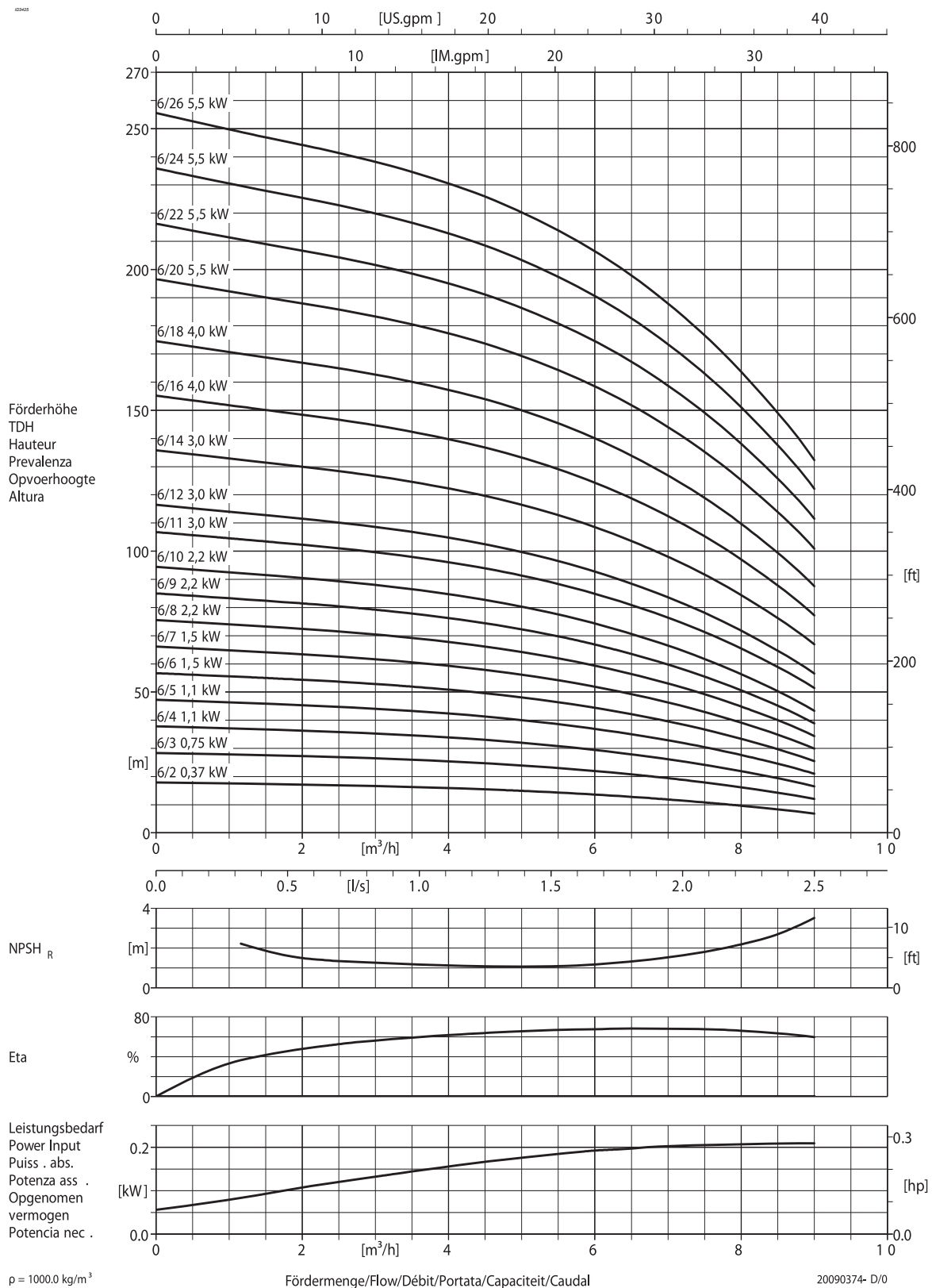


Figure 7: Performance curve DPV(C/S) 6 B - 50Hz - 2 pole

2.9 Hydraulic performance curve DPV(C/S) 10 B - 50Hz - 2 pole

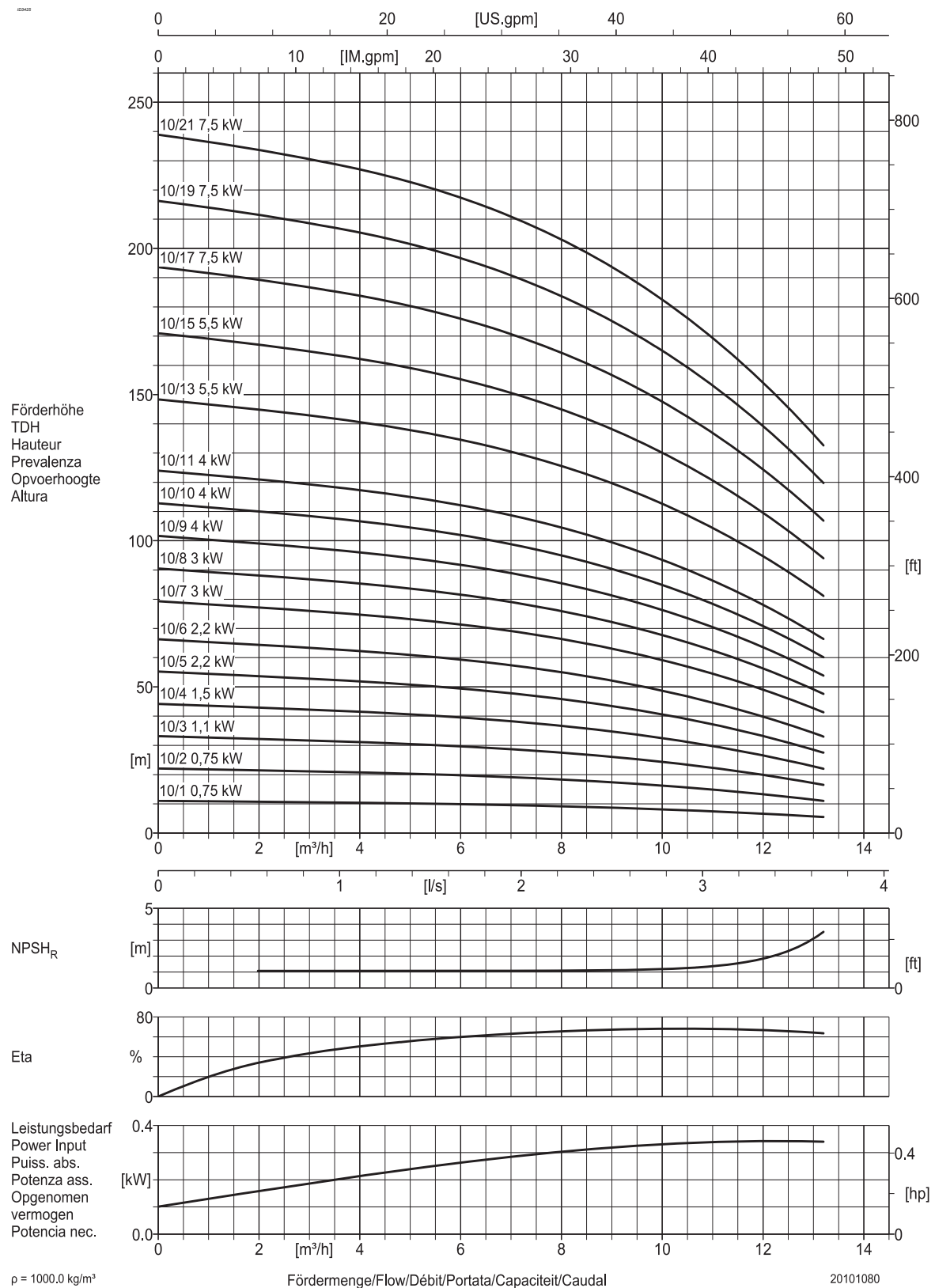


Figure 8: Performance curve DPV(C/S) 10 B - 50Hz- 2 pole

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2.10 Hydraulic performance curve DPV(C/S) 10 B - 50Hz - 4 pole

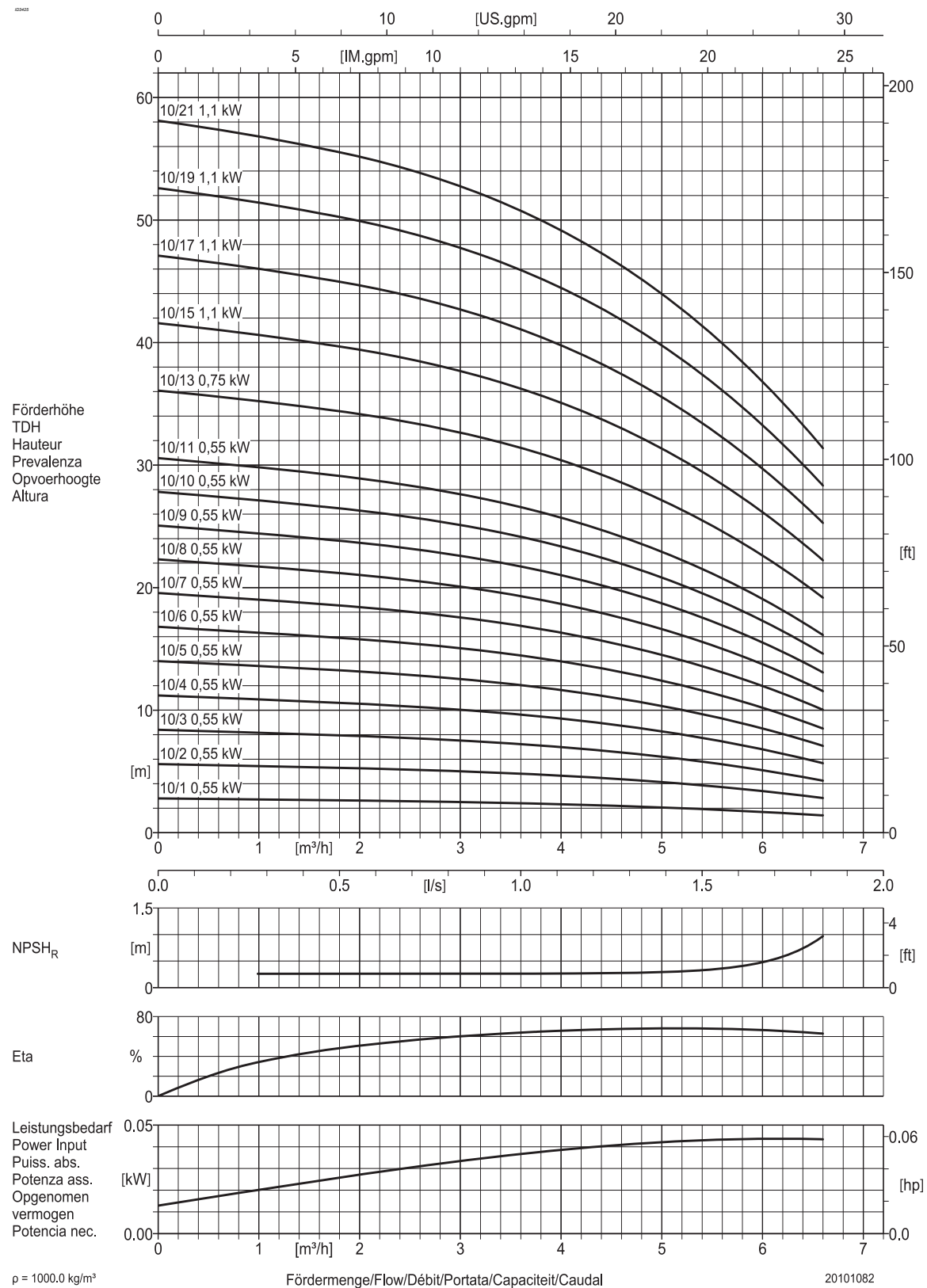


Figure 9: Performance curve DPV(C/S) 10 B - 50Hz - 4 pole

2.11 Hydraulic performance curve DPV(C/S) 15 B - 50Hz - 2 pole

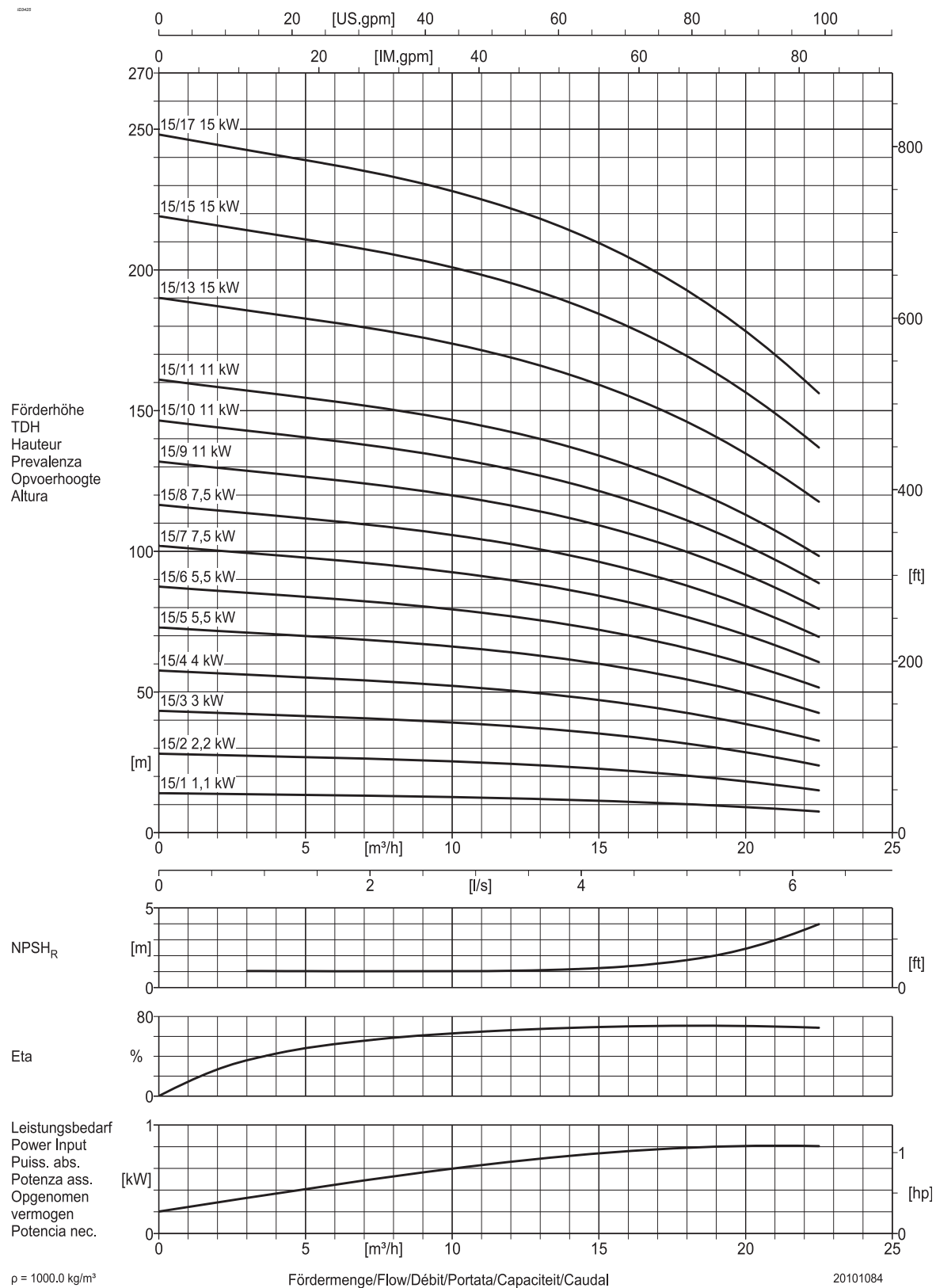


Figure 10: Performance curve DPV(C/S) 15 B - 50Hz - 2 pole

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2.12 Hydraulic performance curve DPV(C/S) 15 B - 50Hz - 4 pole

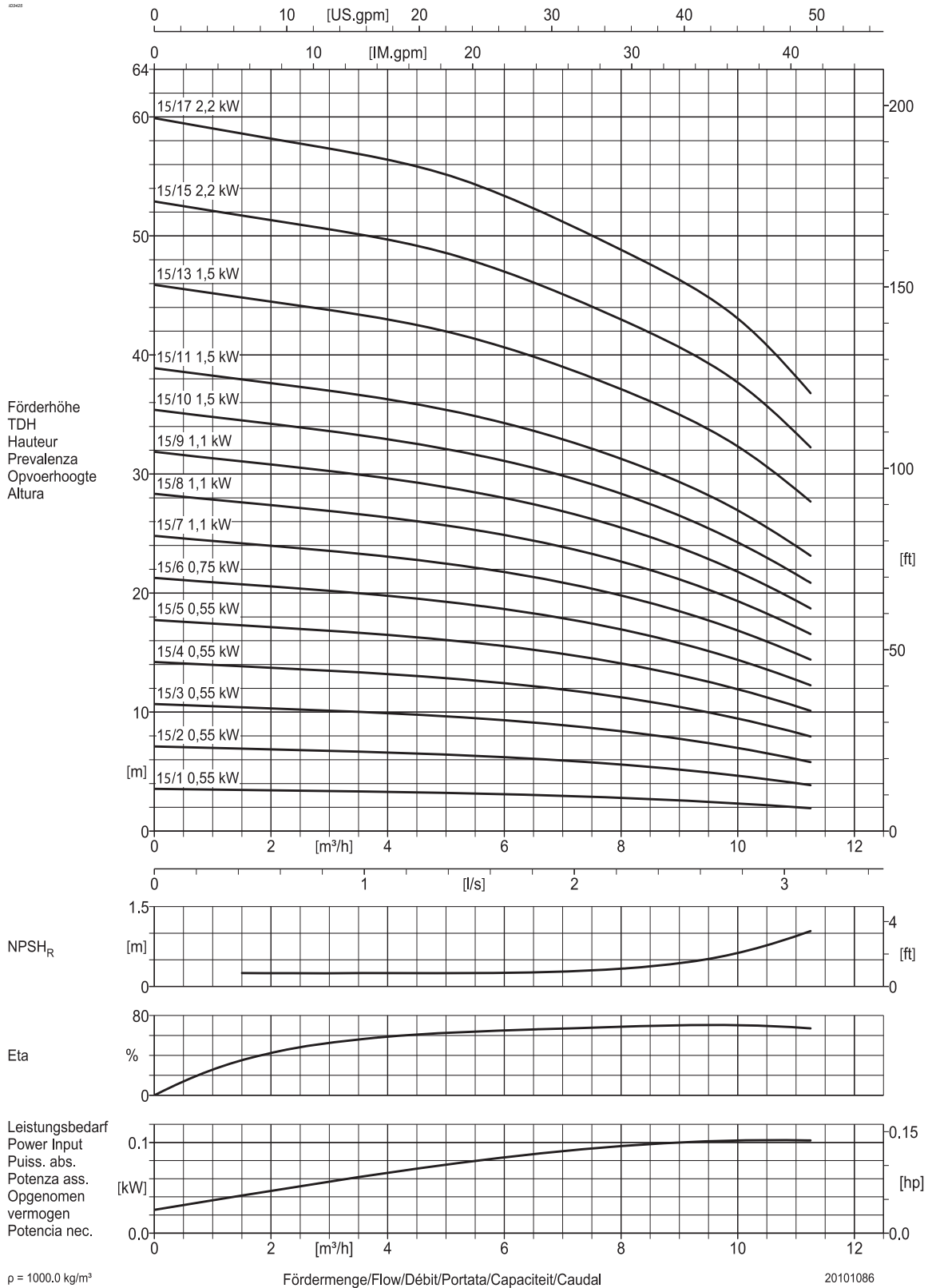


Figure 11: Performance curve DPV(C/S) 15 B - 50Hz - 4 pole

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2.13 Hydraulic performance curve DPV(C/S) 25 B - 50Hz - 2 pole

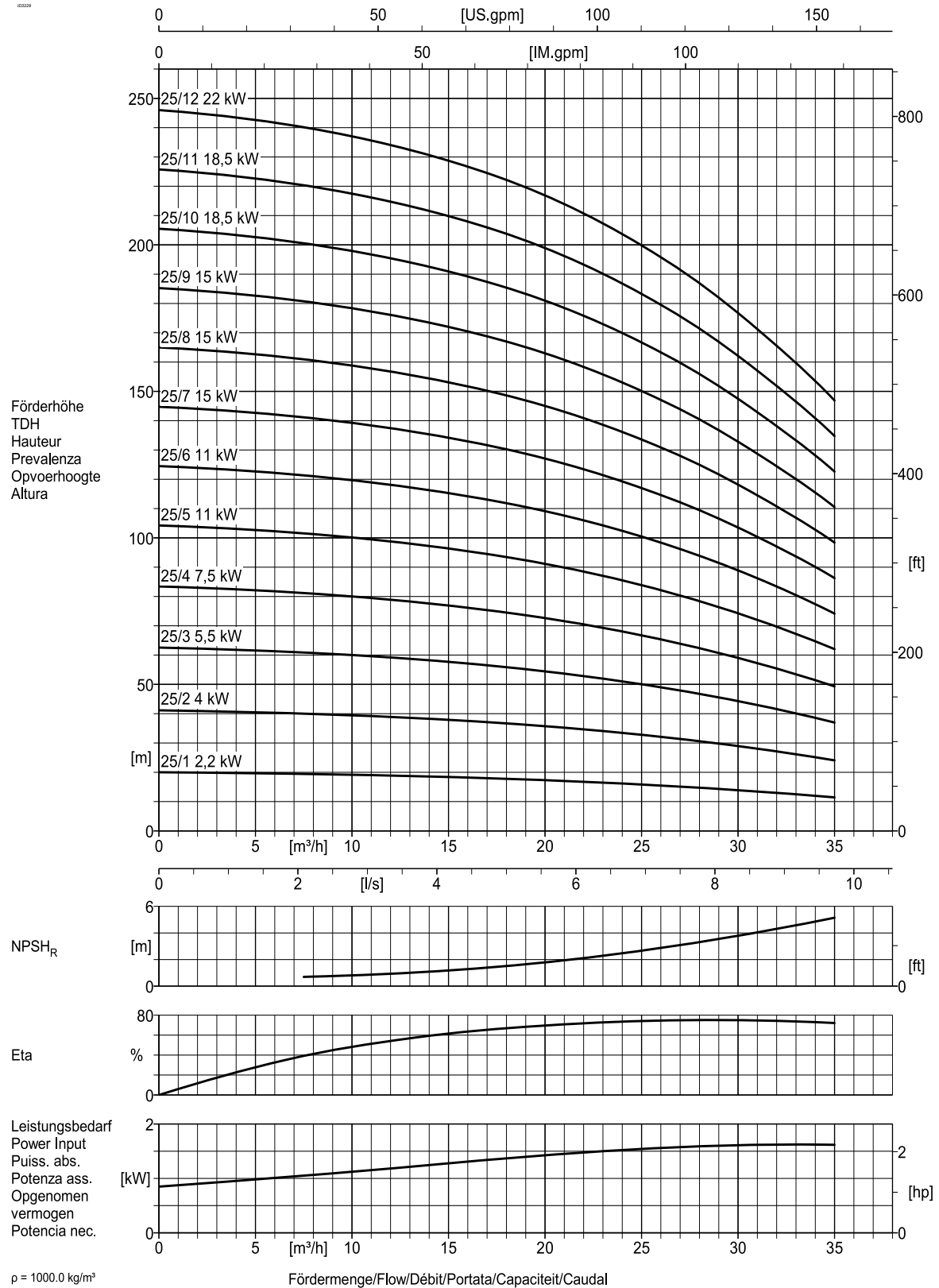


Figure 12: Performance curve DPV(C/S) 25 B - 50Hz - 2 pole

2.14 Hydraulic performance curve DPV(C/S) 25 B - 50Hz - 4 pole

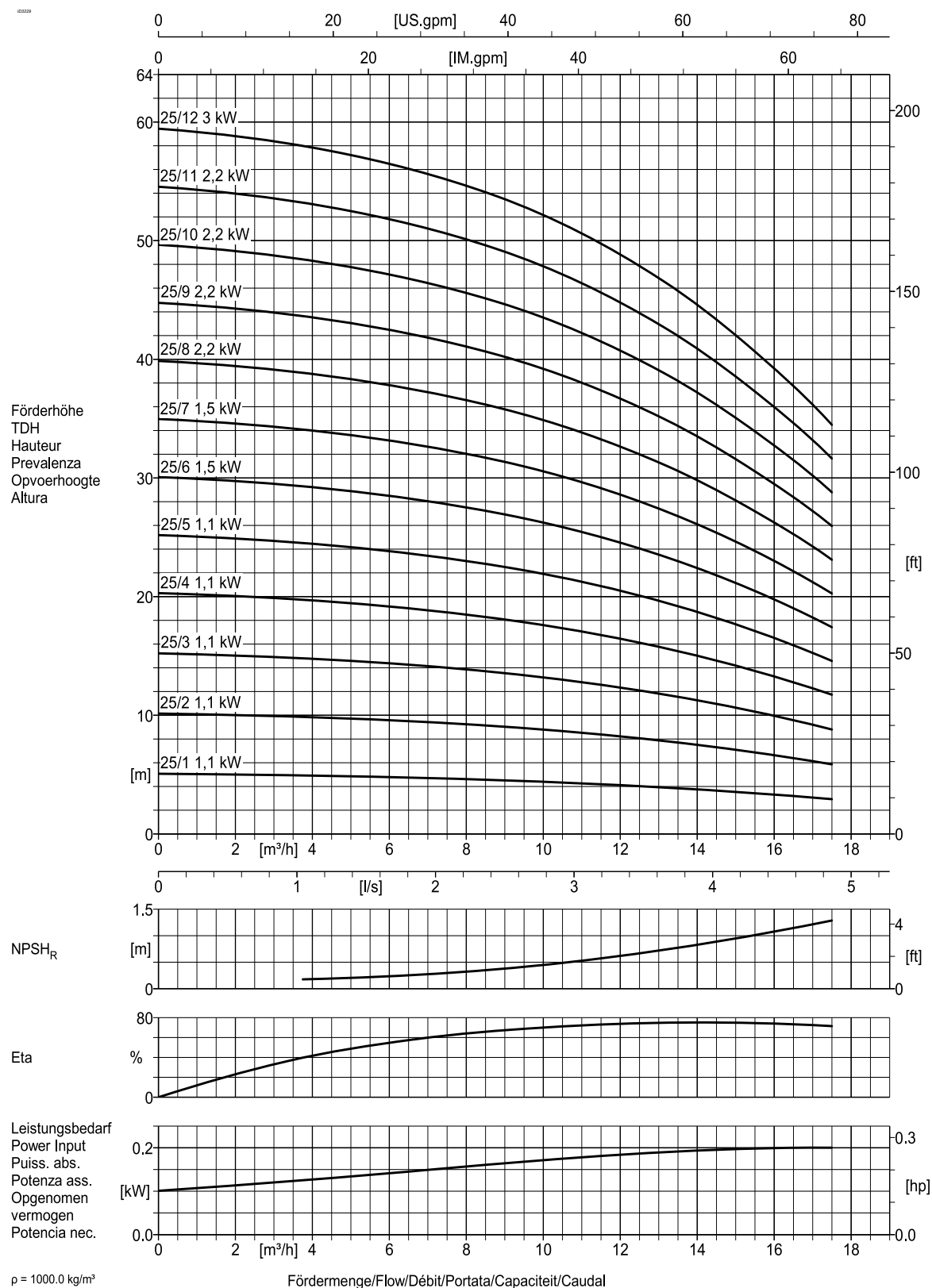


Figure 13: Performance curve DPV(C/S) 25 B - 50Hz - 4 pole

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2.15 Hydraulic performance curve DPV(C/S) 40 B - 50Hz - 2 pole

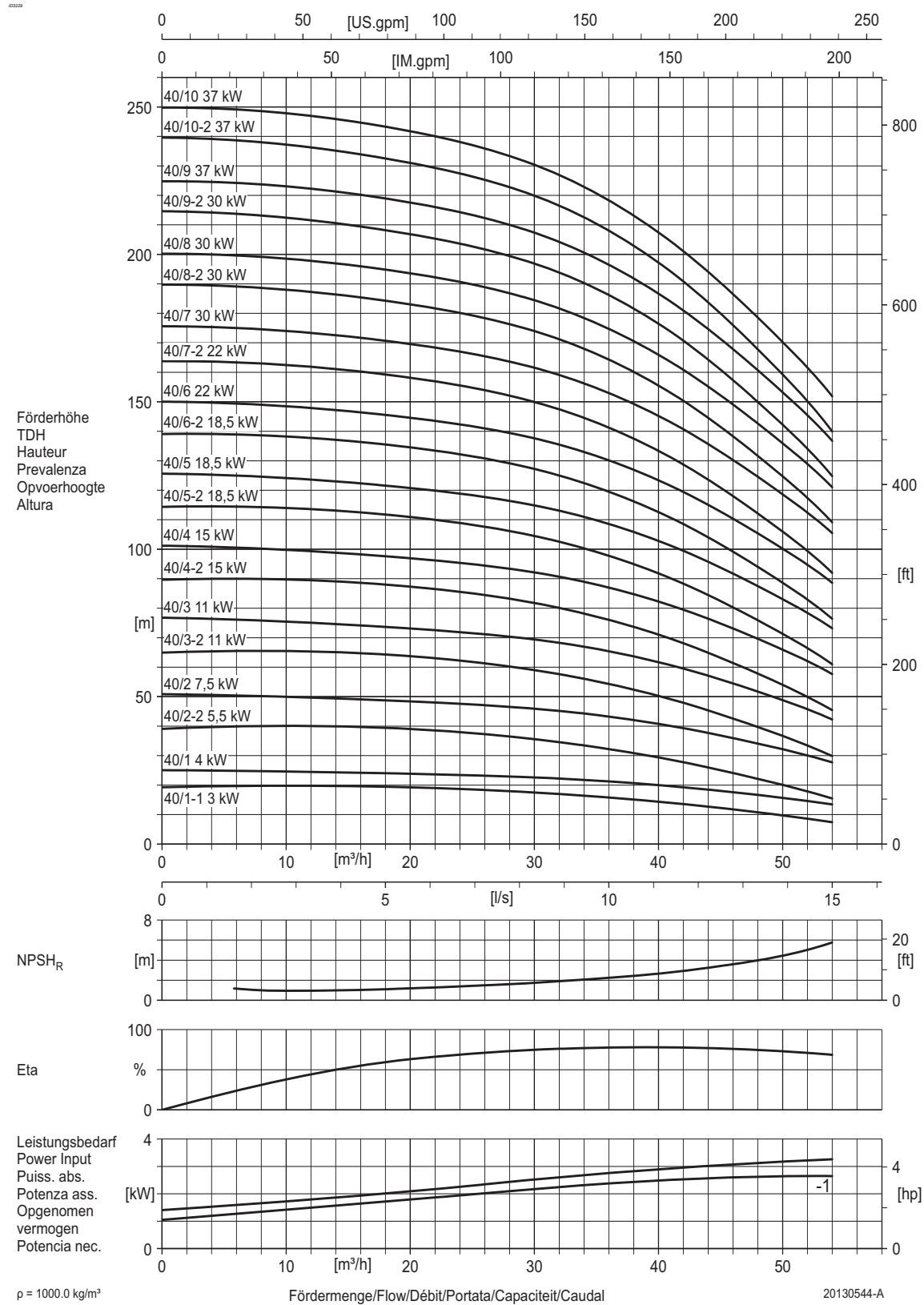


Figure 14: Performance curve DPV(C/S) 40 B - 50Hz - 2 pole

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2.16 Hydraulic performance curve DPV(C/S) 40 B - 50Hz - 4 pole

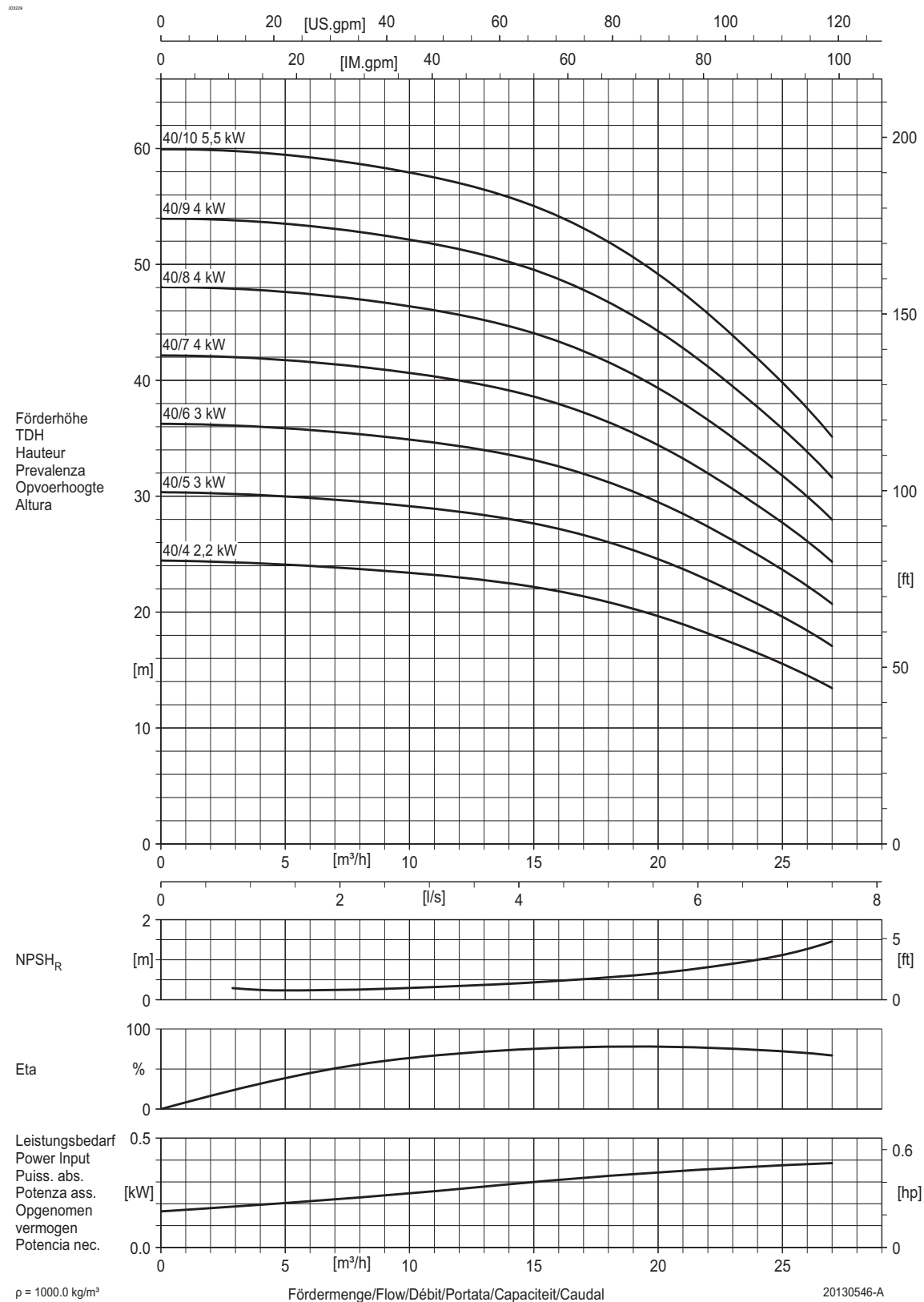


Figure 15: Performance curve DPV(C/S) 40 B - 50Hz - 4 pole

2.17 Hydraulic performance curve DPV(C/S) 60 B - 50Hz - 2 pole

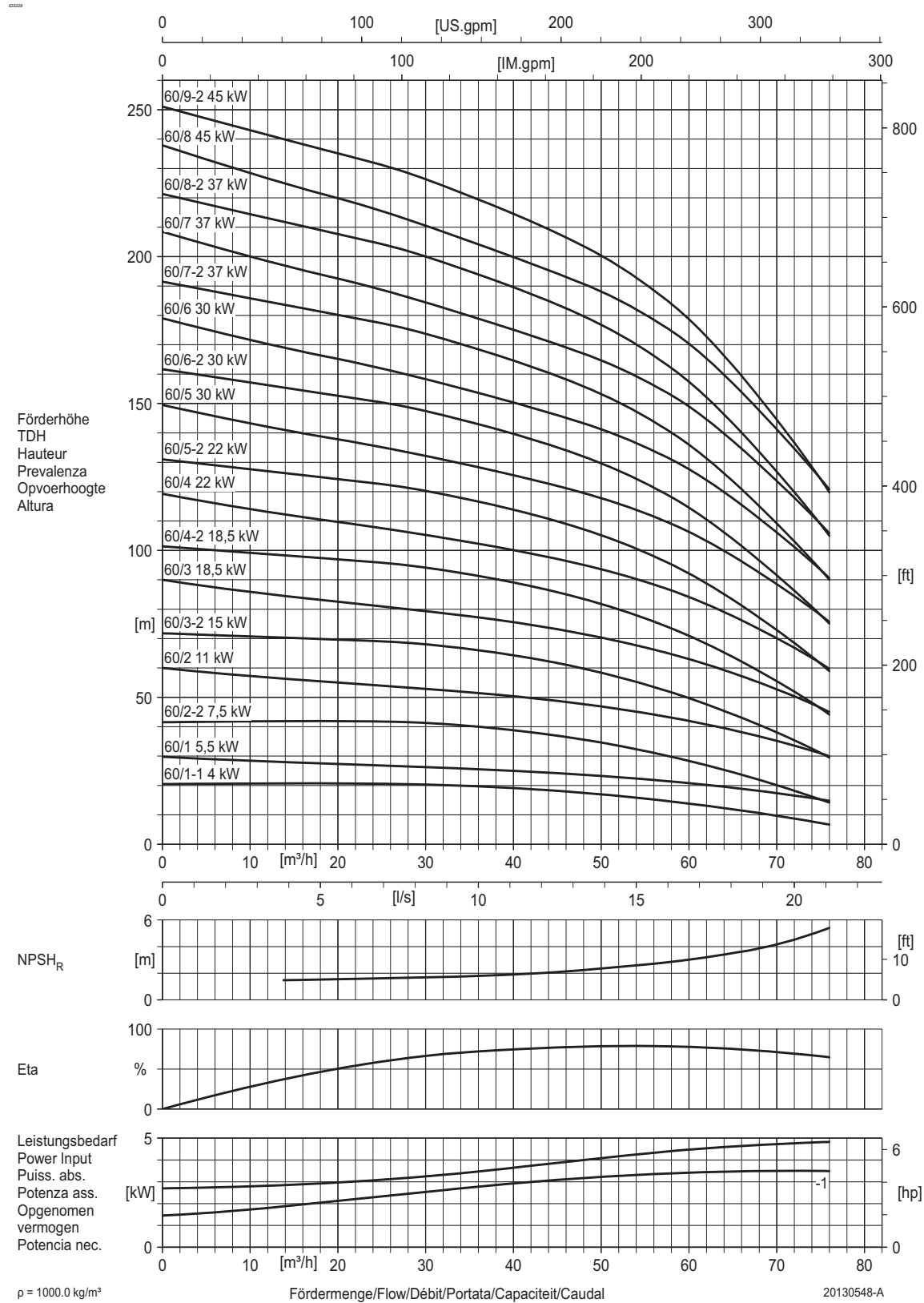


Figure 16: Performance curve DPV(C/S) 60 B - 50Hz - 2 pole

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2.18 Hydraulic performance curve DPV(C/S) 60 B - 50Hz - 4 pole

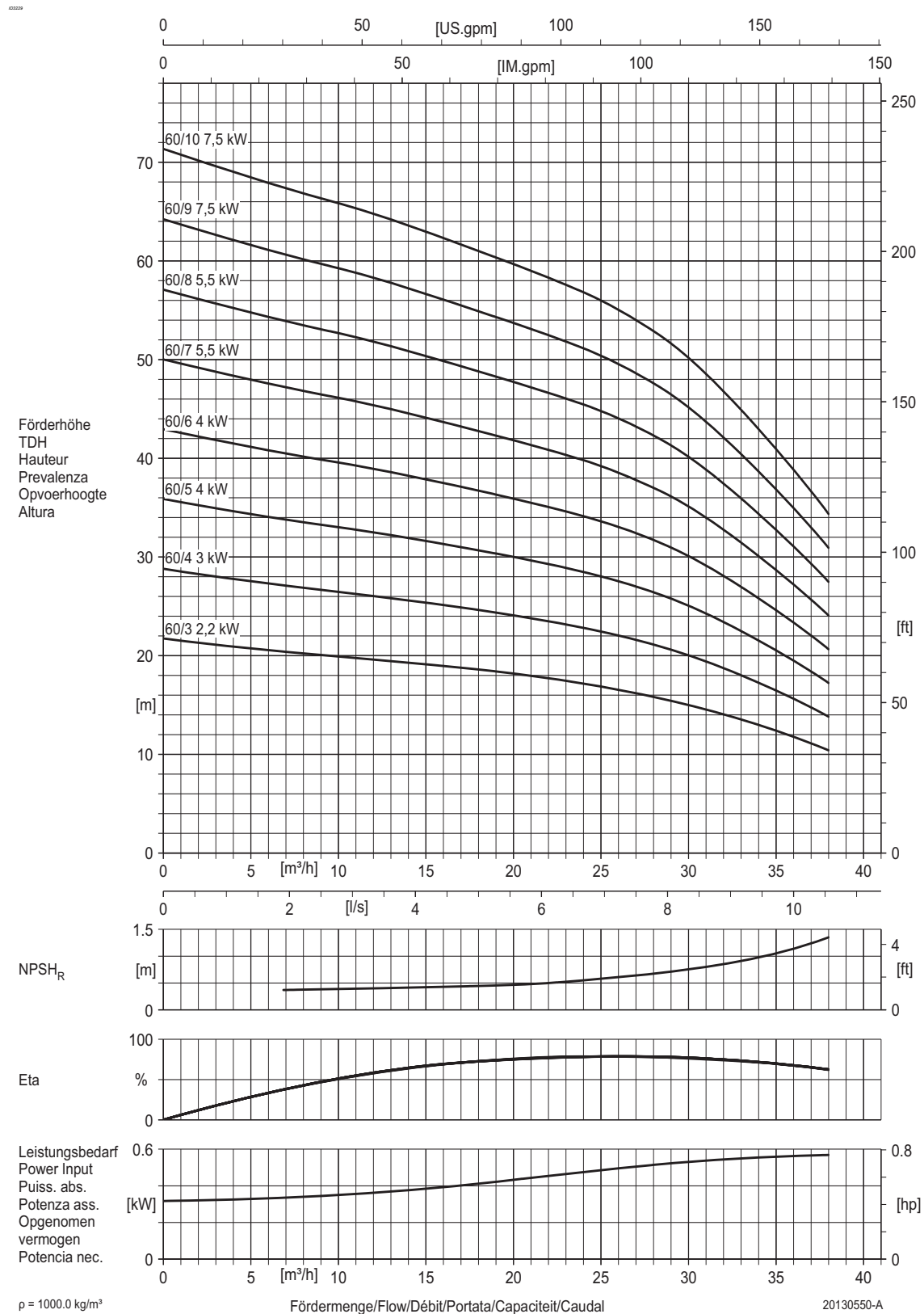


Figure 17: Performance curve DPV(C/S) 60 B - 50Hz - 4 pole

2.19 Hydraulic performance curve DPV(C/S) 85 B - 50Hz - 2 pole

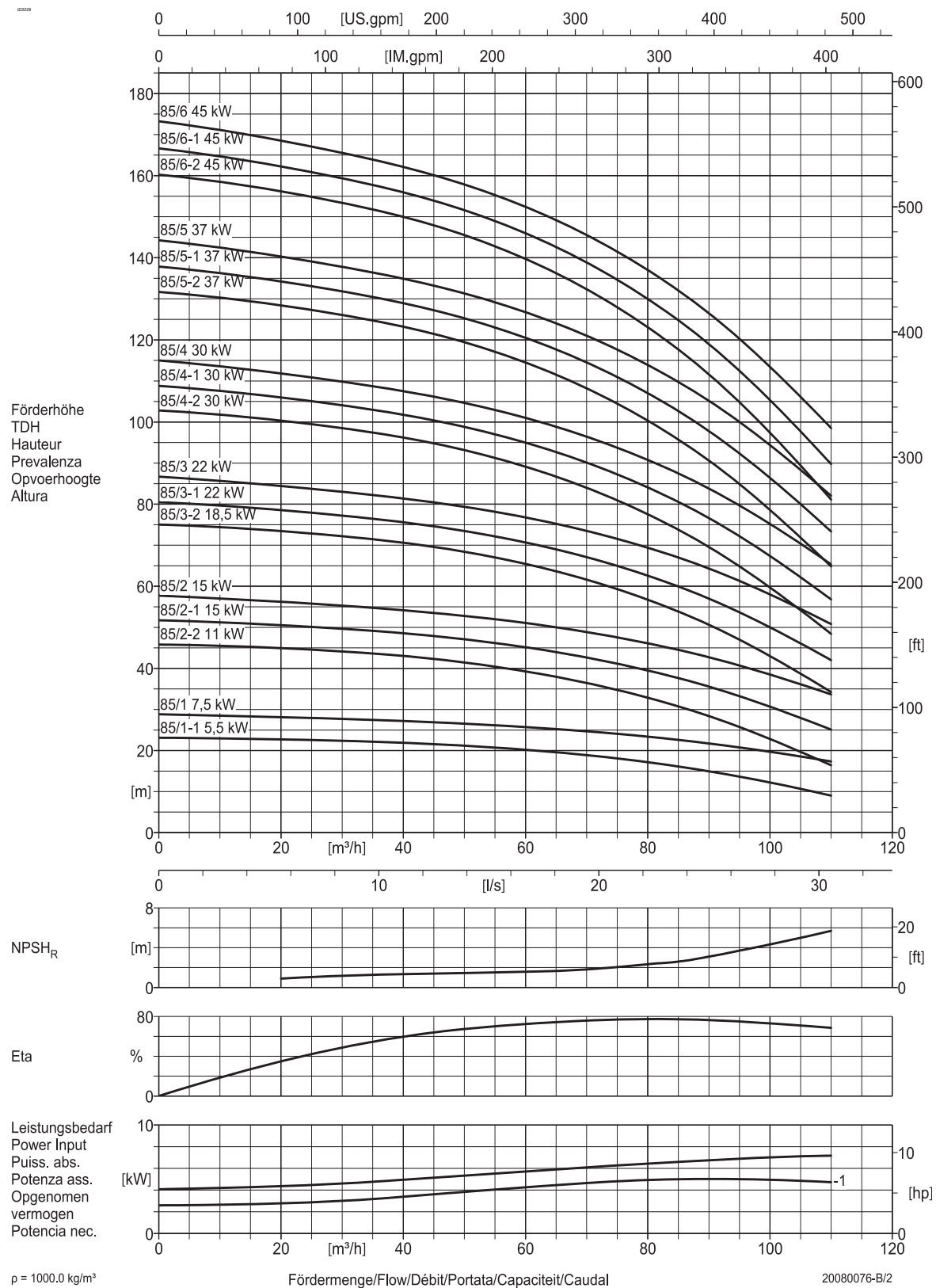


Figure 18: Performance curve DPV(C/S) 85 B - 50Hz - 2 pole

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2.20 Hydraulic performance curve DPV(C/S) 85 B - 50Hz - 4 pole

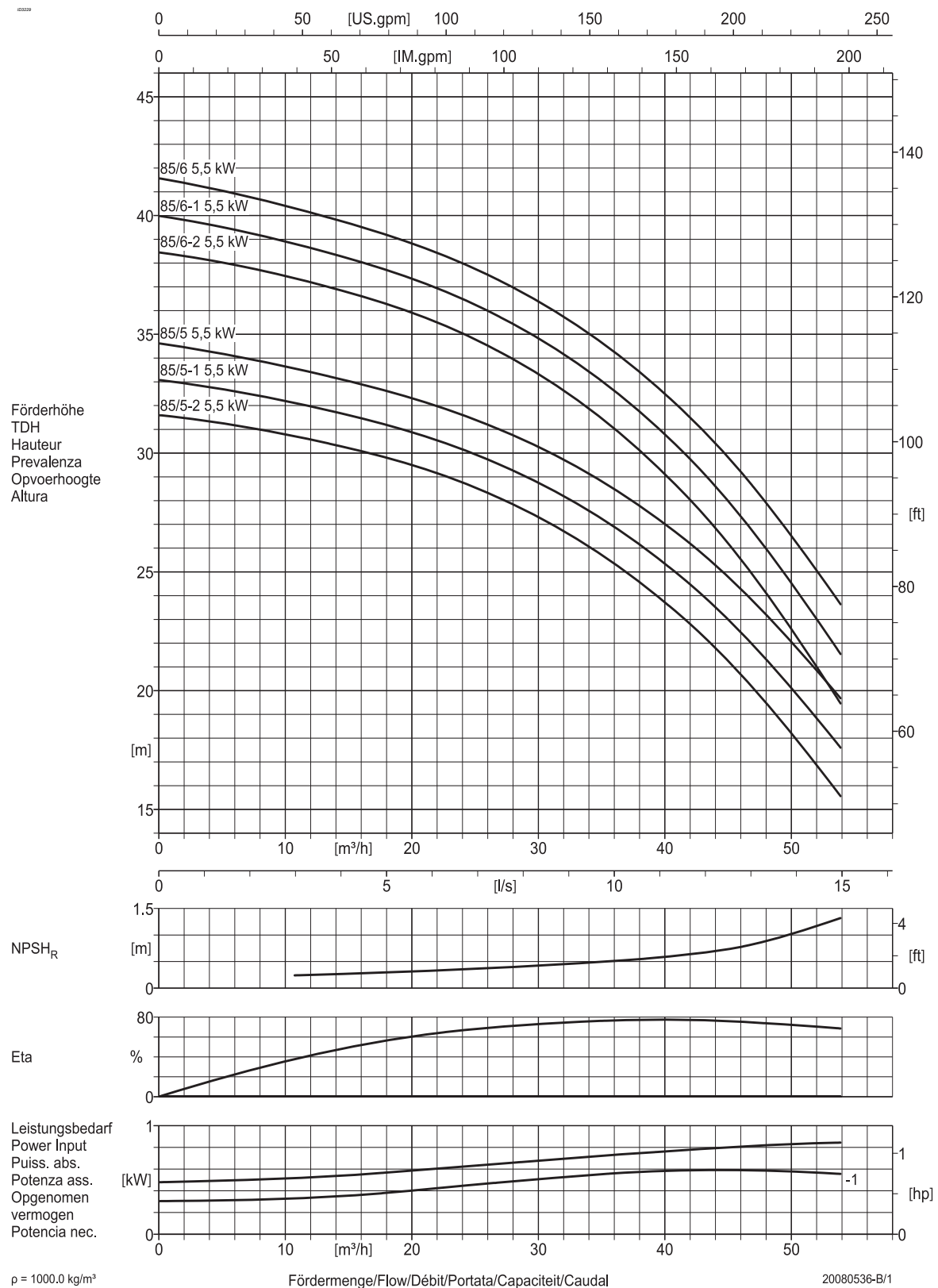


Figure 19: Performance curve DPV(C/S) 85 B - 50Hz - 4 pole

2.21 Hydraulic performance curve DPV(C/S) 125 B - 50Hz - 2 pole

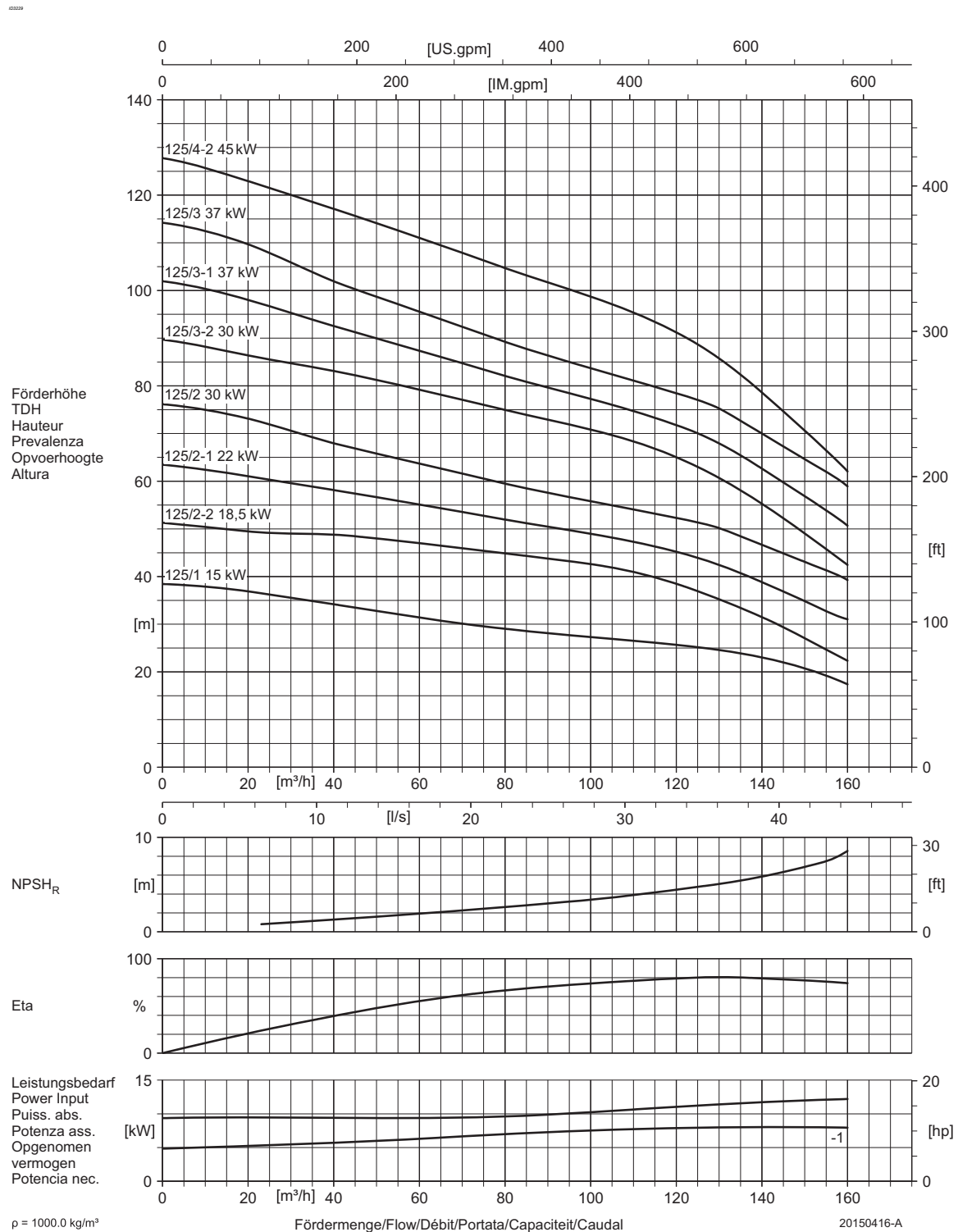


Figure 20: Performance curve DPV(C/S) 125 B - 50Hz - 2 pole

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3 Low NPSH impeller

3.1 General

Low NPSH impeller

For the pump type series DPH(S) I 2, 4, 6, 10 and 15 it is now possible to have a low NPSH solution as option. This solution based on a new designed low NPSH impeller and modified stage casing the NPSH curve of the pump will have much better values throughout its raster. This can prevent cavitation in the pump in case of critical inlet conditions.

Cavitation is the process of forming vapour-filled cavities within the liquid in areas where the available pressure has been reduced below a certain critical value. This also happens in case the pressure drops below the vapour pressure of the liquid. When the pressure raises these cavities will implode to become fluid again. These implosions generate pressure waves which are transmitted to the surfaces of the hydraulic pump parts and can damage the material. This phenomenon is called incipient cavitation and is characterized by a metallic noise produced by the hammering on the material.

3.2 Risks of cavitation:

Reduced lifetime of the pump due to damaged parts and unbalanced hydraulics.

Excessive wear of pump parts or motor bearings.

Insufficient cooling and/or lubrication of the mechanical seal and pump bearing.

3.3 Benefits of using low NPSH impeller:

"More suitable in critical inlet conditions. Easy adaption to non-optimized application parameters.

"The suction lift (H_p) can be less critical (e.g. the frame height of the de-aerating tank in case of boiler feed can be reduced)

3.4 Consequences by using a low NPSH impeller:

No change in pump height or connection.

Slight adjustments on the performance curve, see curves as published on pages 32 to 36.

3.5 Calculation of NPSHa

Calculation $NPSH_a > NPSH_r + 0,5$

Check if cavitation can be expected.

$H_b + H_o + H_p - H_v - H_i > NPSH_r + 0,5$

H_b = barometric pressure in mwc

H_o = over pressure (in case of closed tank) in mwc

H_p = suction lift in mwc

H_v = vapour pressure in mwc

H_i = friction loss in pipe work and accessories in mwc

$NPSH_r$ = net positive suction head of the pump

0.5 = safety factor

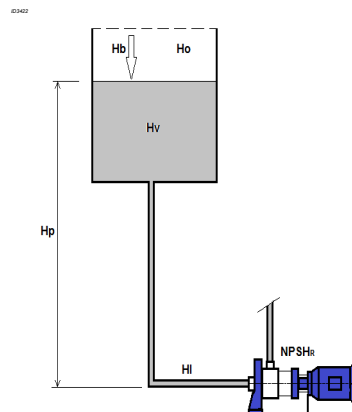
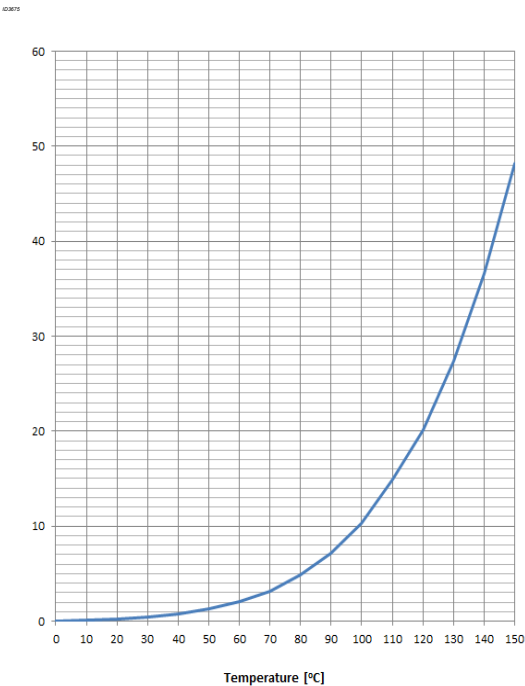


Table 9: Calculation NPSHa

Atmospheric pressure	+ 10.3 mwc
Overpressure in degassing tank	+ mwc
Positive height of degassing tank or vessel	+ mwc
Vapour pressure of feed water (see table)in degassing tank in case of boiler feed	- mwc
Loss of pressure in suction piping and strainer	- mwc
Safety factor	- 0.5 mwc
NPSHr at duty point (see pumpcurve)	- mwc
Minimal positive pressure	x mwc

If 'x' is positive there is no cavitation to be expected
If 'x' is negative cavitation can be expected, to avoid this the low NPSH impeller could solve this problem. Otherwise one of the other values can be changed so the outcome will be positive.

Table 10: Vapour pressure water:



3.6 Low NPSH grafiek DPV(C/S) 2 B - 50Hz - 2900 1/min

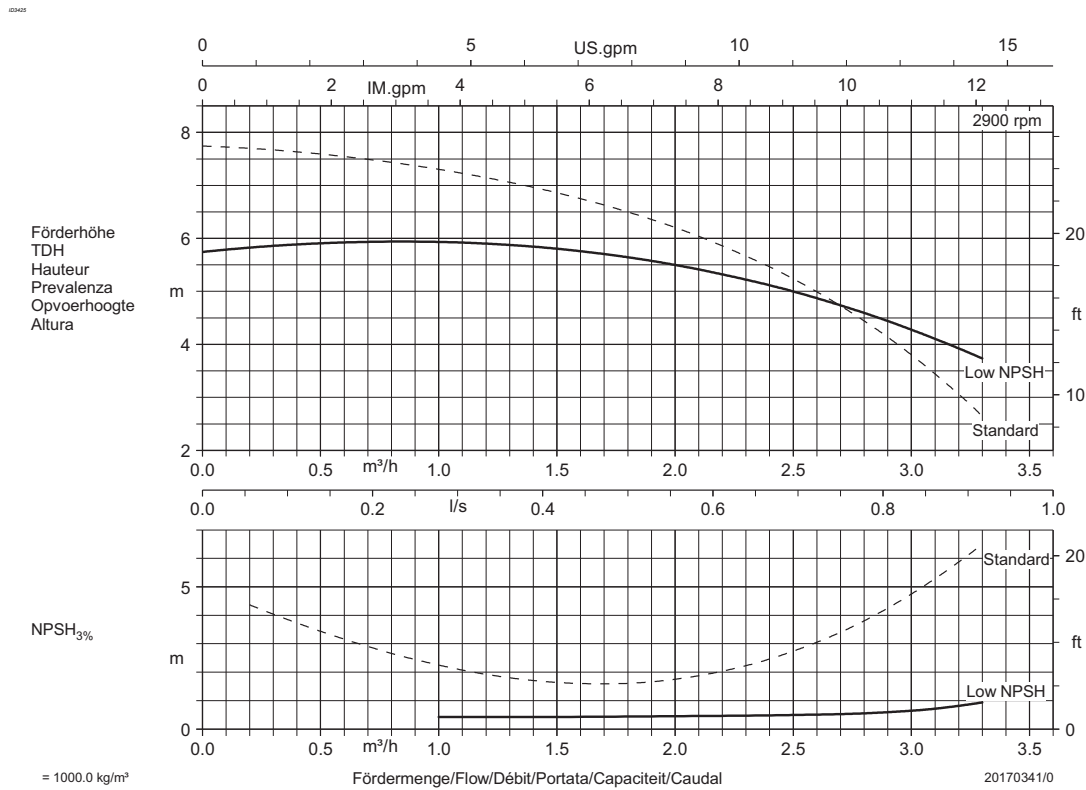


Figure 21: Grafieken DPV(C/S) 2 B - 50Hz - 2 pole

3.7 Low NPSH grafiek DPV(C/S) 4 B - 50Hz - 2900 1/min

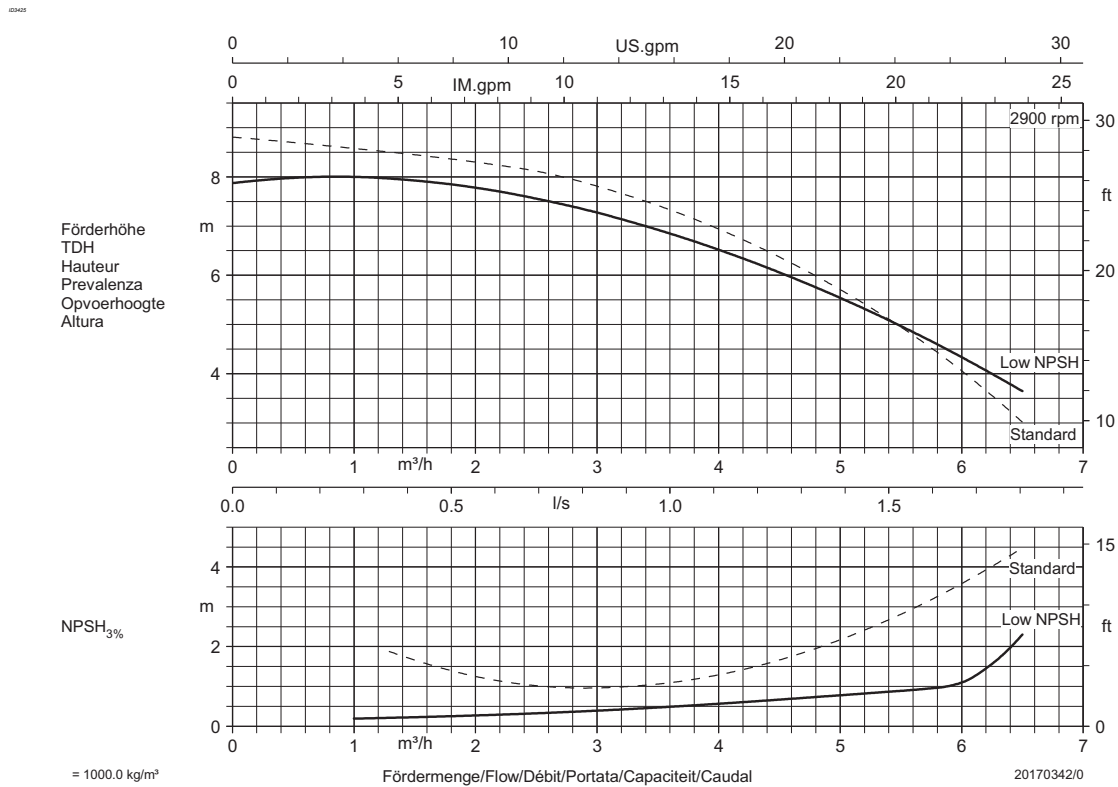


Figure 22: Grafieken curve DPV(C/S)4 B - 50Hz - 2 pole

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3.8 Low NPSH grafiek DPV(C/S) 6 B - 50Hz - 2900 1/min

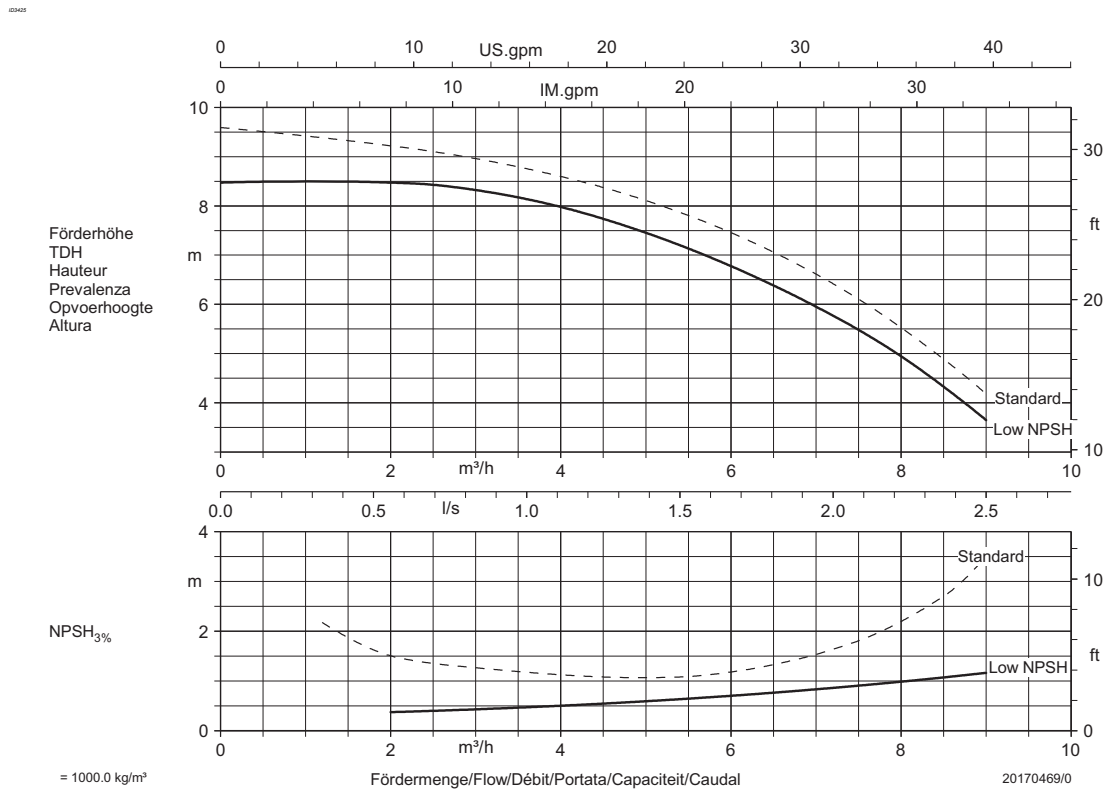


Figure 23: Grafieken DPV(C/S)6 B - 50Hz - 2 pole

3.9 Low NPSH grafiek DPV(C/S) 10 B - 50Hz - 2900/1450 1/min

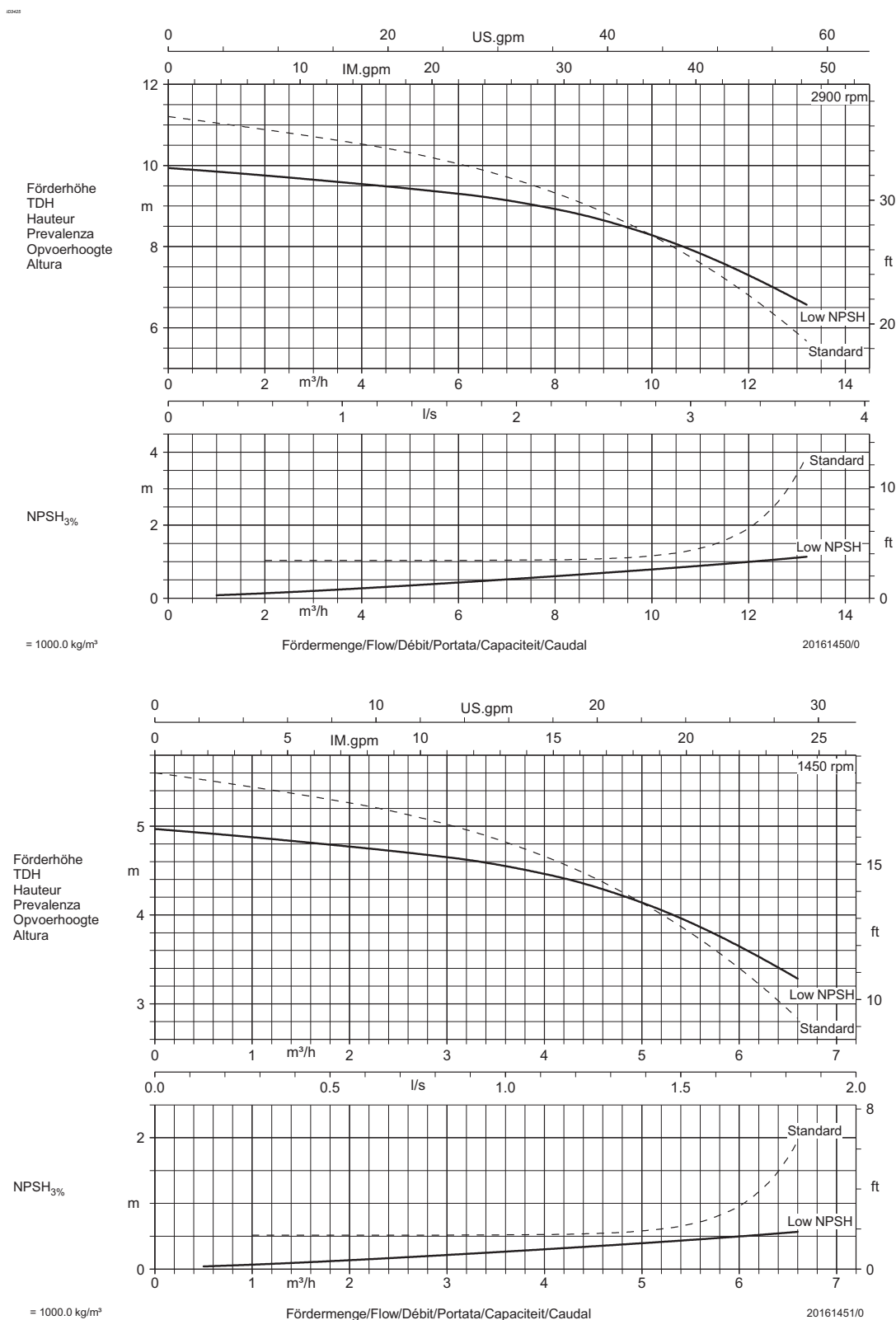


Figure 24: Grafieken DPV(C/S) 10 B - 50Hz - 2 pole / 4 pole

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3.10 Low NPSH grafiek DPV(C/S) 15 B - 50Hz - 2900/1450 1/min

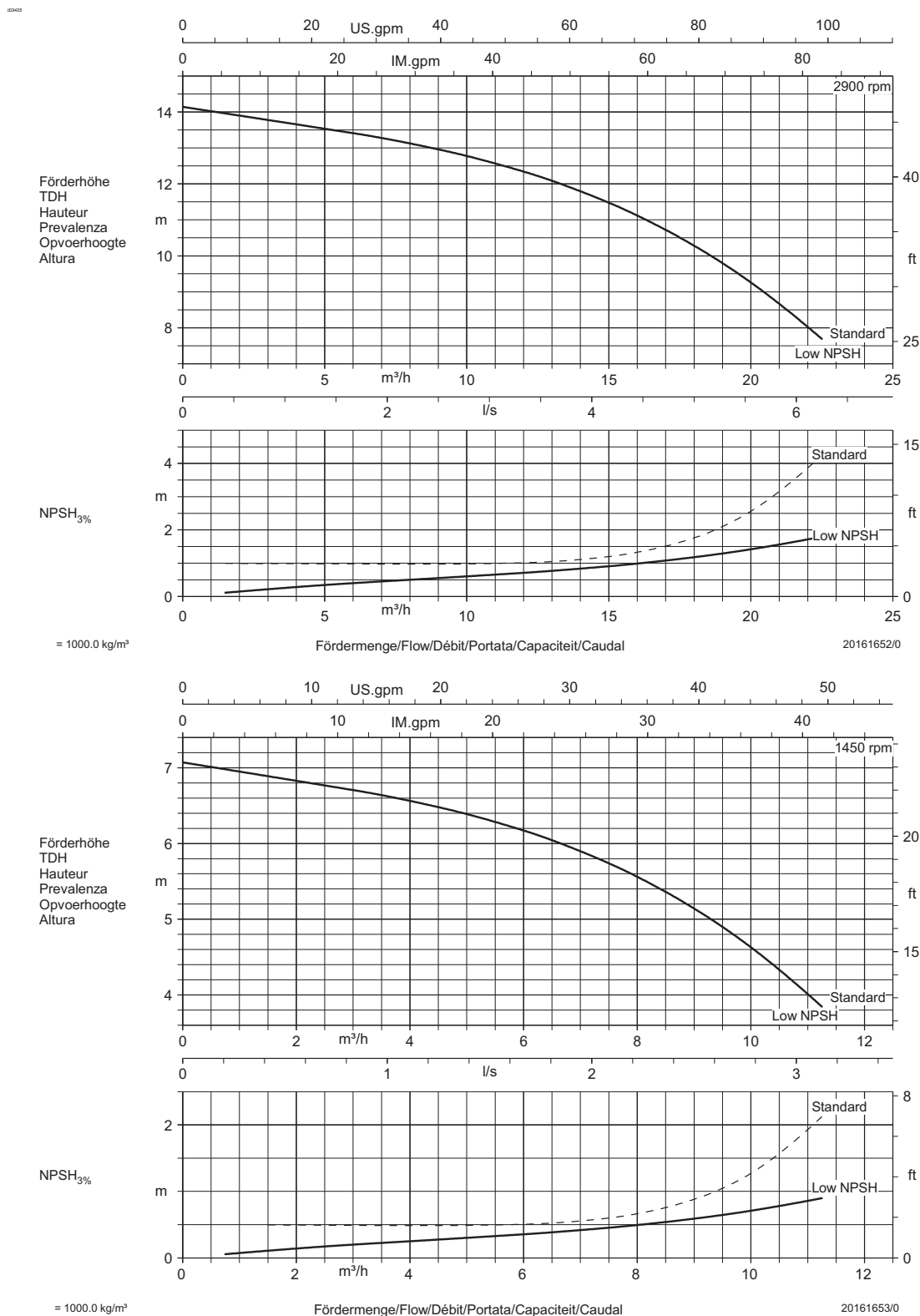


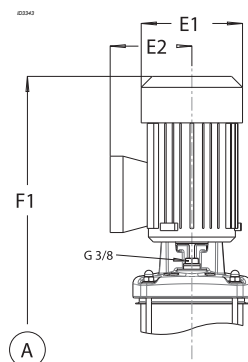
Figure 25: Grafieken DPV(C/S) 15 B - 50Hz - 2 pole / 4pole

4 Dimensions

All below mentioned dimensions in mm. weight in kg

4.1 DPV(C/S) 2 B - 50Hz - 2 pole - DIN

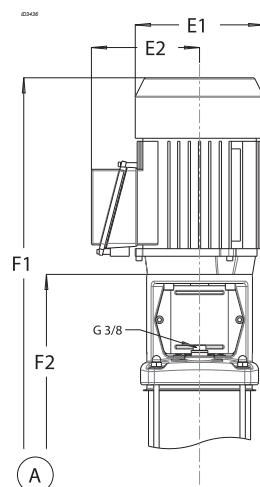
Table 11: VM CLOSED coupled motor construction type; IM 3619



20081033-E

Model	Pressure class	Power [kW]	Motor dimensions			DPVM (-E/V/T)			DPVMF		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
2/2	PN10	0,37	134	107		420		15	445		20
2/3		0,37	134	107		441		16	466		21
2/4		0,37	134	107		463		16	488		21
2/5		0,37	134	107		484		17	509		21
2/6		0,55	134	107		506		17	531		22

Table 12: coupled motor construction type; V18



20091216-A/30112009

Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-E/V/T) (E-casing PN16)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
2/2	PN10	0,37	134	107		478	259	18	503	284	22
2/3		0,37	134	107		499	280	18	524	305	23
2/4		0,37	134	107		521	302	18	546	327	23
2/5		0,37	134	107		542	323	19	567	348	24
2/6		0,55	134	107		588	345	19	613	370	24
2/7		0,55	134	107		609	366	20	634	391	25
2/8		0,55	134	107		641	398	20	666	423	25
2/9		0,75	150	115		653	419	27	678	444	32
2/10		0,75	150	115		675	441	27	700	466	32
2/11		1,1	150	115		726	462	28	751	487	32
2/12		1,1	150	115		748	484	28	773	509	33
2/14	PN16	1,1	150	115		791	527	29	816	552	34
2/16		1,5	185	139		861	580	36	886	605	40
2/18		1,5	185	139		904	623	36	929	648	41
2/20		1,5	185	139		947	666	37	972	691	42
2/22	PN25/40	2,2	185	139		1015	709	45	1040	734	46
2/24		2,2	185	139		1058	752	46	1083	777	46
2/26		2,2	185	139		1101	795	46	1126	820	47
2/28		2,2	185	139		1144	838	47	1169	863	48
2/30		2,2	185	139		1187	881	64	1212	906	64

- All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 6/4 Pressure Class: PN16 Option: Base plate in Cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G1 Pressure Class: PN16 Option: SS 1.4308 flange and base plate
	DPV (S) V Victaulic Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

4.2 DPV(C/S) 4 B - 50Hz - 2 pole - DIN

Table 13: VM CLOSED coupled motor construction type; IM 3619

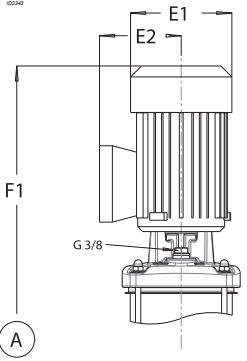
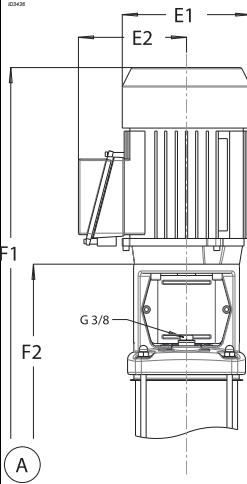
 20081033-E	Model	Pressure class	Power	Motor dimensions			DPVM(-E/V/T)			DPVMF		
			[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
	4/2	PN10	0,37	134	107		420		15	453		20
	4/3		0,55	134	107		441		16	466		21
	4/4		0,55	134	107		463		16	488		21
	4/5		0,75	150	115		528		23	553		27
	4/6		1,1	150	115		550		23	573		28

Table 14: coupled motor construction type; V18

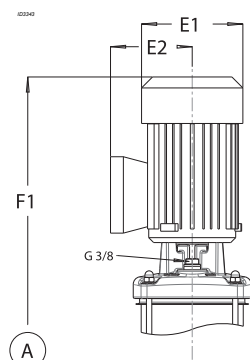
 20091216-A/30112009	Model	Pressure class	Power	Motor dimensions ¹			DPV(S)(-E/V/T) (E-casing PN16)			DPV(C/S)F		
			[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
	4/2	PN10	0,37	134	107		478	259	18	503	284	22
	4/3		0,55	134	107		523	280	18	548	305	23
	4/4		0,55	134	107		545	302	19	570	327	23
	4/5		0,75	150	115		567	333	25	592	358	30
	4/6		1,1	150	115		619	355	26	644	380	30
	4/7		1,1	150	115		640	376	26	665	401	31
	4/8		1,5	185	139		689	408	32	714	433	37
	4/9		1,5	185	139		710	429	33	735	454	37
	4/10		1,5	185	139		732	451	33	757	476	38
	4/11		2,2	185	139		778	472	34	803	497	39
	4/12	PN16	2,2	185	139		800	494	35	825	519	40
	4/14		2,2	185	139		843	537	36	868	562	41
	4/16		3	199	150		907	590	47	932	615	52
	4/18	PN25/40	3	199	150		950	633	52	975	658	53
	4/20		3	199	150		993	676	53	1018	701	53
	4/22		4	241	165		1075	719	60	1100	744	61
	4/24		4	241	165		1118	762	61	1143	787	62
	4/26		4	241	165		1161	805	61	1186	830	62

1. All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75$ kW). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 6/4 Pressure Class: PN16 Option: Base plate in cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G1 Pressure Class: PN16 Option: Base plate & flange in SS 1.4308
	DPV (S) V Victaulic Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

4.3 DPV(C/S) 6 B - 50Hz - 2 pole - DIN

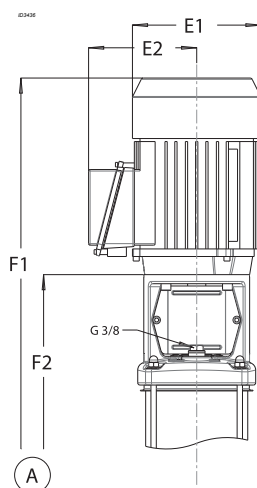
Table 15: VM CLOSED coupled motor construction type; IM 3619



20081033-E

Model	Pressure class	Power [kW]	Motor dimensions			DPVM(-E/V/T)			DPVMF		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
6/2	PN10	0,37	134	107		427		16	452		24
6/3		0,75	150	115		496		22	521		30
6/4		1,1	150	115		521		23	546		31
6/5		1,1	150	115		546		23	571		31

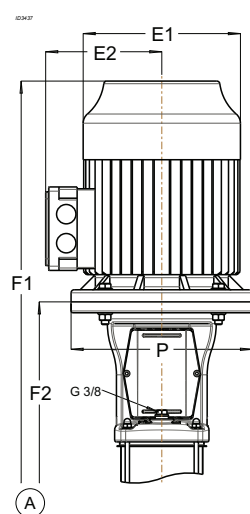
Table 16: coupled motor construction type; V18



20091216-A/30112009

Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-E/V/T) (E-casing PN16)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
6/2	PN10	0,37	134	107		485	266	18	510	291	26
6/3		0,75	150	115		535	301	25	560	326	31
6/4		1,1	150	115		590	326	25	615	351	31
6/5		1,1	150	115		615	351	26	640	376	32
6/6		1,5	185	139		667	386	32	692	411	38
6/7		1,5	185	139		692	411	32	717	436	38
6/8		2,2	185	139		742	436	34	767	461	40
6/9		2,2	185	139		767	461	34	792	486	41
6/10		2,2	185	139		792	486	35	817	511	41
6/11	PN16	3	199	150		838	521	45	863	546	51
6/12		3	199	150		863	546	46	888	571	52
6/14		3	199	150		913	596	47	938	621	53
6/16		4	241	165		1002	646	51	1027	671	61
6/18	PN25/40	4	241	165		1052	696	61	1077	721	62

Table 17: coupled motor construction type; V1



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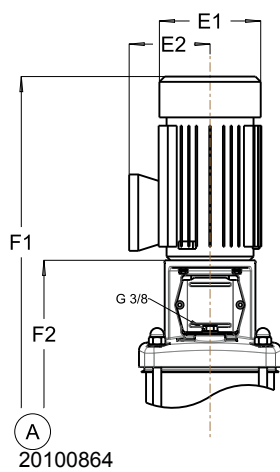
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S) (V/T)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
6/20	PN25/40	5,5	288	197	300	1254	822	96	1279	847	97
6/22		5,5	288	197	300	1304	872	97	1329	897	98
6/24		5,5	288	197	300	1354	922	98	1379	947	99
6/26		5,5	288	197	300	1404	972	99	1429	997	100

- All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 6/4 Pressure Class: PN16 Option: Base plate in cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G 5/4 Pressure Class: PN16 Option: Flange and base plate in SS1.4308
	DPV (S) V Victaulic Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW32 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW32 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

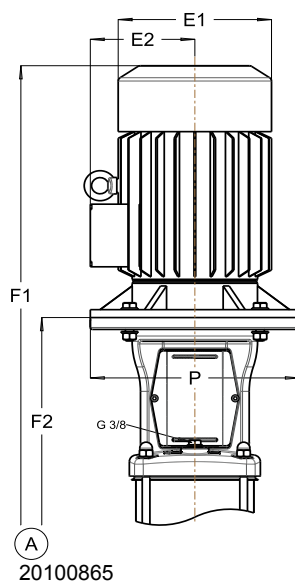
4.4 DPV(C/S) 10 B - 50Hz - 2 pole - DIN

Table 18: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-E/V/T) (E-casing PN16)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
10/1	PN10	0,75	150	115		580	346	32	621	346	36
10/2		0,75	150	115		580	346	33	621	346	36
10/3		1,1	150	115		636	372	36	636	372	39
10/4		1,5	185	139		690	409	41	690	409	45
10/5		2,2	185	139		742	435	45	742	435	48
10/6		2,2	185	139		768	462	45	768	462	49
10/7		3	199	150		816	498	54	816	498	58
10/8		3	199	150		842	525	55	842	525	59
10/9	PN16	4	241	165		908	551	62	908	551	65
10/10		4	241	165		934	578	63	934	578	66
10/11		4	241	165		961	604	64	961	604	67

Table 19: coupled motor construction type; V1



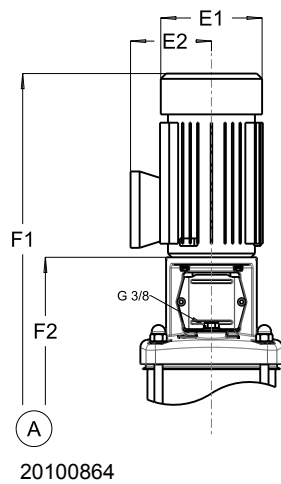
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-V/T)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
10/13	PN16	5,5	266	178	300	1169	737	104	1169	737	108
10/15	PN25/40	5,5	266	178	300	1222	790	108	1222	790	112
10/17		7,5	266	178	300	1275	843	116	1275	843	118
10/19		7,5	266	178	300	1328	896	118	1328	896	120
10/21		7,5	266	178	300	1381	949	120	1381	949	122

1. All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75$ kW). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Base plate in cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G 6/4 Pressure Class: PN16 Option: Flange and base plate in SS1.4308
	DPV (S) V Victaulic Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

4.5 DPV(C/S) 10 B - 50Hz - 4 pole - DIN

Table 20: coupled motor construction type; V18



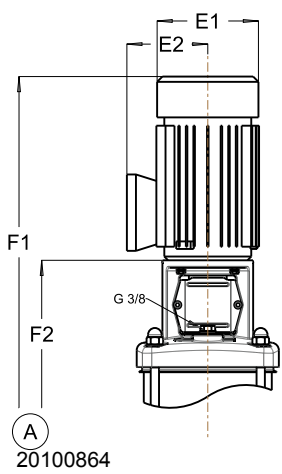
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-E/V/T)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
10/1	PN10	0,55	150	115		603	346	35	603	346	38
10/2		0,55	150	115		603	346	35	603	346	38
10/3		0,55	150	115		629	372	36	629	372	39
10/4		0,55	150	115		656	399	37	656	399	41
10/5		0,55	150	115		682	425	38	682	425	42
10/6		0,55	150	115		709	452	39	709	452	43
10/7		0,55	150	115		735	478	40	735	478	44
10/8		0,55	150	115		762	505	41	762	505	45
10/9		0,55	150	115		788	531	43	788	531	46
10/10		0,55	150	115		815	558	44	815	558	47
10/11		0,55	150	115		841	584	45	841	584	48
10/13		0,75	150	115		957	672	62	957	672	65
10/15		1,1	180	145		985	700	67	985	700	71
10/17		1,1	180	145		1038	753	71	1038	753	73
10/19		1,1	180	145		1091	806	73	1091	806	75
10/21		1,1	180	145		1144	859	75	1144	859	77

1. All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Base plate in cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G 6/4 Pressure Class: PN16 Option: Flange and base plate in SS1.4308
	DPV (S) V Victaulic Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

4.6 DPV(C/S) 15 B - 50Hz - 2 pole - DIN

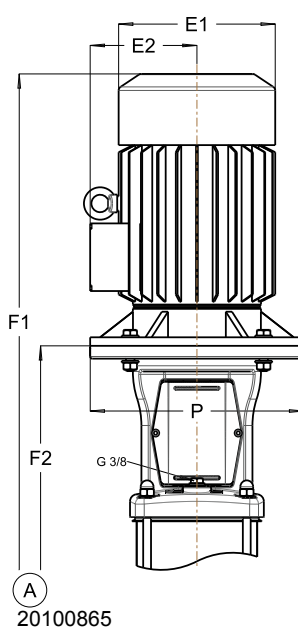
Table 21: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)			DPV(C/S)F - DPV(S)(V/T)		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/1	PN10	1,1	150	115		610	346	34	620	356	40
15/2		2,2	185	139		662	356	41	672	366	47
15/3		3	199	150		709	392	50	719	402	56
15/4		4	241	165		775	419	56	785	429	62

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Table 22: coupled motor construction type; V1



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)			DPV(C/S)F - DPV(S)(V/T)		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/5	PN10	5,5	288	197	300	957	525	95	967	535	101
15/6		5,5	288	197	300	983	551	96	993	561	102
15/7	PN16	7,5	288	197	300	1010	578	101	1020	588	107
15/8		7,5	288	197	300	1036	604	103	1046	614	109
15/9		11	340	223	350	1194	661	180	1204	671	186
15/10		11	340	223	350	1220	687	181	1230	697	187
15/11	PN25	11	340	223	350				1257	724	188
15/13		15	340	223	350				1310	777	203
15/15		15	340	223	350				1363	830	205
15/17		15	340	223	350				1416	883	207

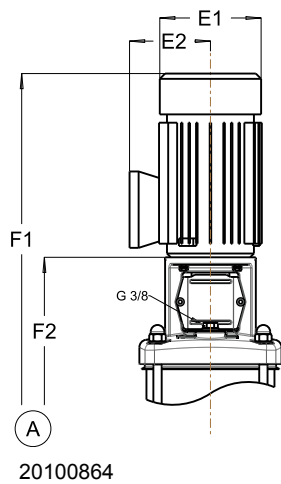
20100865

1. All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Flange and base plate in SS1.4308
	DPV (S) V Victaulic Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

4.7 DPV(C/S) 15 B - 50Hz - 4 pole - DIN

Table 23: coupled motor construction type; V18



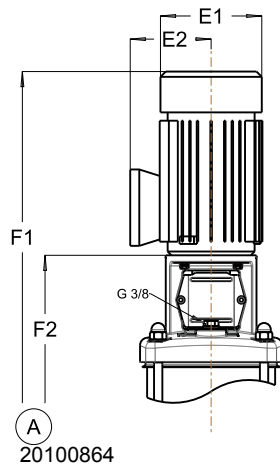
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(S)(-E)			DPV(C/S)F DPV(S)V/T		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/1	PN10	0,55	150	115		603	346	34	613	356	38
15/2		0,55	150	115		603	346	35	613	356	38
15/3		0,55	150	115		629	372	36	639	382	39
15/4		0,55	150	115		656	399	37	666	409	40
15/5		0,55	150	115		682	425	38	692	435	42
15/6		0,75	157	133		737	452	40	747	462	43
15/7		1,1	180	145		773	488	43	783	498	46
15/8		1,1	180	145		800	515	44	810	525	47
15/9		1,1	180	145		826	541	46	836	551	49
15/10		1,5	180	145		878	568	48	888	578	53
15/11		1,5	180	145		904	594	50	914	604	53
15/13		1,5	180	145		957	647	52	967	657	55
15/15		2,2	200	155		1028	710	62	1038	720	65
15/17		2,2	200	155		1081	763	64	1091	773	67

- All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power $\geq 0,75$ kW). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV E Male thread - With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Base plate in cast SS 1.4308
	DPV (S) Counter flange with female thread included DPV: Cataphoric coated cast iron DPVS: Cast Stainless steel 1.4408 Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Flange and base plate in SS1.4308
	DPV (S) V Victaulic Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308
	DPV (S) T Tri-Clamp Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

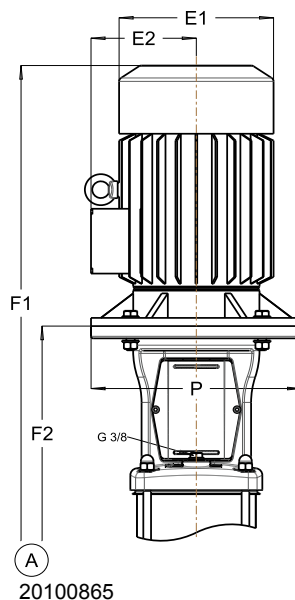
4.8 DPV(C/S) 25 B - 50Hz - 2 pole - DIN

Table 24: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	2,2	185	139		714	408	70
25/2		4	241	165		834	478	85

Table 25: coupled motor construction type; V1



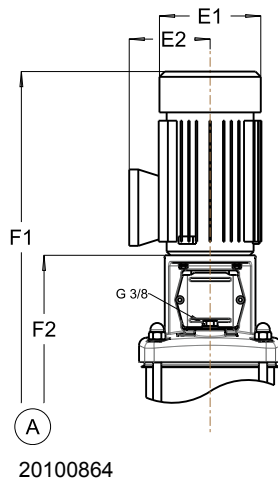
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/3	PN10	5,5	288	197	300	1066	634	114
25/4		7,5	288	197	300	1131	699	121
25/5	PN16	11	340	223	350	1327	794	203
25/6		11	340	223	350	1392	859	206
25/7		15	340	223	350	1457	924	218
25/8	PN25	15	340	223	350	1522	989	231
25/9		15	340	223	350	1587	1054	233
25/10		18,5	340	223	350	1652	1119	253
25/11		18,5	340	223	350	1717	1184	256
25/12		22	360	234	350	1897	1249	294

- All motor dimensions are only valid for Cantoni motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW65 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW65 Pressure Class: PN40 Option: Loose plate flange (PN25) in SS 1.4308

4.9 DPV(C/S) 25 B - 50Hz - 4 pole - DIN

Table 26: coupled motor construction type; V18



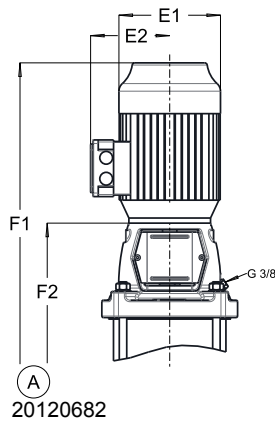
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	1,1	180	145		693	408	66
25/2		1,1	180	145		758	473	69
25/3		1,1	180	145		823	538	71
25/4		1,1	180	145		888	603	74
25/5		1,1	180	145		953	668	78
25/6		1,5	180	145		1043	733	83
25/7		1,5	180	145		1108	798	85
25/8		2,2	200	155		1186	868	98
25/9		2,2	200	155		1251	933	101
25/10		2,2	200	155		1316	998	103
25/11		2,2	200	155		1381	1063	107
25/12		3	200	155		1490	1128	109

1. All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW65 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW65 Pressure Class: PN40 Option: Loose plate flange (PN25) in SS 1.4308

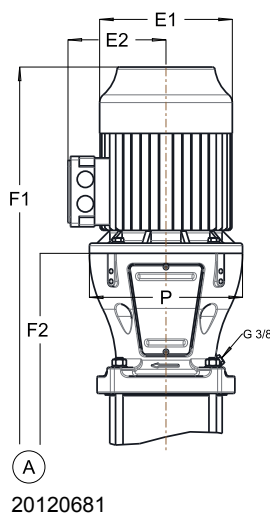
4.10 DPV(C/S) 40 B - 50Hz - 2 pole - DIN

Table 27: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/1-1	PN10	3	199	150		804	487	92
40/1		4	241	165		843	487	98

Table 28: coupled motor construction type; V1



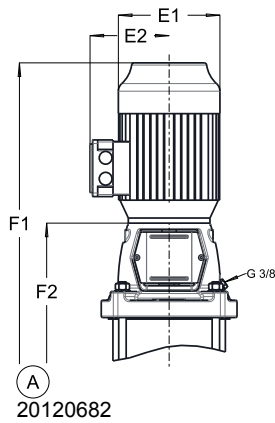
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/2-2	PN10	5,5	288	197	300	1087	655	129
40/2		7,5	288	197	300	1087	655	133
40/3-2		11	340	223	350	1296	763	214
40/3		11	340	223	350	1296	763	214
40/4-2	PN16	15	340	223	350	1374	841	230
40/4		15	340	223	350	1374	841	230
40/5-2		18,5	340	223	350	1452	919	261
40/5		18,5	340	223	350	1452	919	261
40/6-2	PN25	18,5	340	223	350	1530	997	264
40/6		22	360	234	350	1645	997	300
40/7-2		22	360	234	350	1723	1075	308
40/7		30	400	340	400	1745	1075	374
40/8-2		30	400	340	400	1823	1153	397
40/8		30	400	340	400	1823	1153	397
40/9-2		30	400	340	400	1901	1231	402
40/9		37	400	340	400	1901	1231	406
40/10-2		37	400	340	400	1979	1309	410
40/10		37	400	340	400	1979	1309	410

1. **0,75kW ≤ motor power ≤ 22kW:** All dimensions are only valid for Cantoni motors with efficiency class IE3. **Motor power ≥ 30kW:** All dimensions are only valid for Wonder motors with efficiency class IE3. The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN16/25/40
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW65 Pressure Class: PN16/25/40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN16/25 Option: Loose plate flange cast SS1.4308
	DPV (S) F Stainless steel flanges DPVSF: SS 1.4308 / DPVSF: SS 1.4408 Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW80 interchangeable range 45 Pressure Class: PN16/25

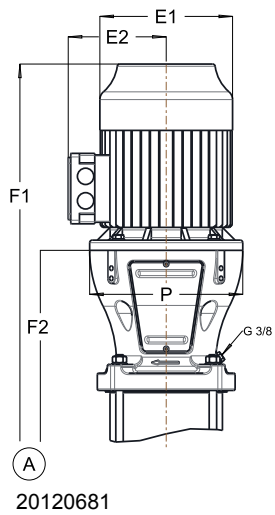
4.11 DPV(C/S) 40 B - 50Hz - 4 pole - DIN

Table 29: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/4	PN10	2,2	200	155		1039	721	103
40/5		3	200	155		1161	799	110
40/6		3	200	155		1239	877	113
40/7		4	223	166		1280	955	131
40/8		4	223	166		1358	1033	144
40/9		4	223	166		1436	1111	158

Table 30: coupled motor construction type; V1



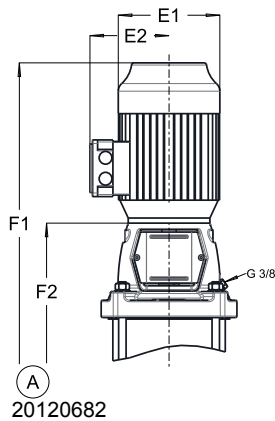
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/10	PN10	5,5	260	190	300	1629	1279	197

1. All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN16
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN16 Option: Loose plate flange cast SS1.4308
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW80 interchangeable range 45 Pressure Class: PN16 Option: Loose plate flange cast SS1.4308

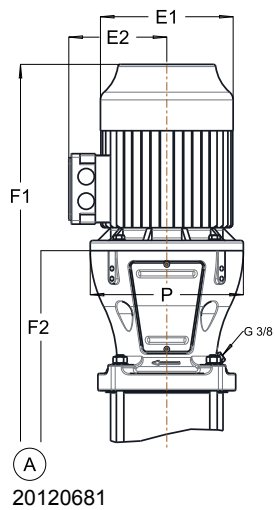
4.12 DPV(C/S) 60 B - 50Hz - 2 pole - DIN

Table 31: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/1-1	PN10	4	241	165		843	487	102

Table 32: coupled motor construction type; V1



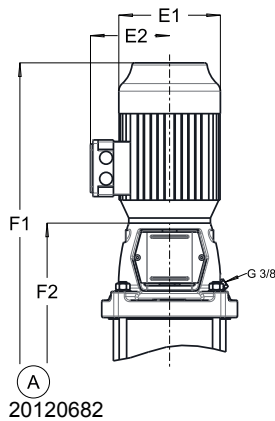
Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/1	PN10	5,5	288	197	300	1009	577	130
60/2-2		7,5	288	197	300	1087	655	138
60/2		11	340	223	350	1218	685	215
60/3-2		15	340	223	350	1296	763	228
60/3	PN16	18,5	340	223	350	1296	763	245
60/4-2		18,5	340	223	350	1374	841	251
60/4		22	360	234	350	1489	841	287
60/5-2		22	360	234	350	1567	919	300
60/5	PN25	30	400	340	400	1569	919	362
60/6-2		30	400	340	400	1647	997	370
60/6		30	400	340	400	1647	997	376
60/7-2		37	400	340	400	1745	1075	384
60/7	PN40	37	400	340	400	1745	1075	384
60/8-2		37	400	340	400	1823	1153	407
60/8		45	450	365	450	1863	1153	484
60/9-2		45	450	365	450	1941	1231	488

1. **0,75kW ≤ motor power ≤ 22kW:** All dimensions are only valid for Cantoni motors with efficiency class IE3. **Motor power ≥ 30kW:** All dimensions are only valid for Wonder motors with efficiency class IE3. The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN16
	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN25/40
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN16 Option: Loose plate flange cast SS1.4308
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN25/40 Option: Loose plate flange cast SS1.4308
	DPV (S) F Stainless steel flanges DPVF: SS 1.4308 / DPVSF: SS 1.4408 Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN40

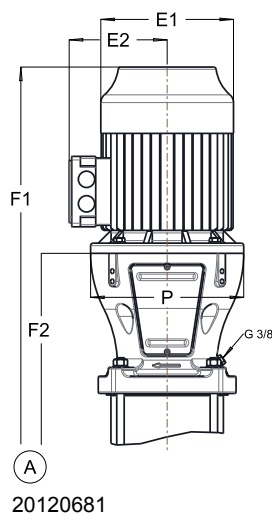
4.13 DPV(C/S) 60 B - 50Hz - 4 pole - DIN

Table 33: coupled motor construction type; V18



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/3	PN10	2,2	200	155		961	643	103
60/4		3	200	155		1083	721	108
60/5		4	223	166		1124	799	123
60/6		4	223	166		1202	877	127

Table 34: coupled motor construction type; V1



Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/7	PN10	5,5	260	190	300	1395	1045	179
60/8		5,5	260	190	300	1473	1123	193
60/9		7,5	260	190	300	1588	1201	209
60/10		7,5	260	190	300	1666	1279	213

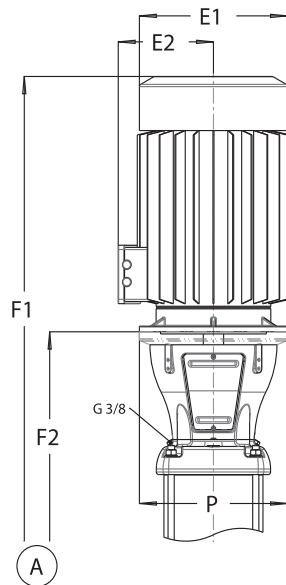
1. All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power $\geq 0,75\text{kW}$). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN16
	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN16 Option: Loose plate flange cast SS1.4308

4.14 DPV(C/S) 85 B - 50Hz - 2 and 4 pole - DIN

Table 35: coupled motor construction type; V1

20091237



20091237

Model	Pressure class	Power	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/1-1	PN10	5,5	288	197	300	1073	641	143
85/1		7,5	288	197	300	1073	641	147
85/2-2		11	340	223	350	1313	780	234
85/2-1		15	340	223	350	1313	780	248
85/2		15	340	223	350	1313	780	248
85/3-2		18,5	340	223	350	1422	889	276
85/3-1		22	360	234	350	1537	889	312
85/3		22	360	234	350	1537	889	312
85/4-2	PN16	30	400	340	400	1668	998	406
85/4-1		30	400	340	400	1668	998	406
85/4		30	400	340	400	1668	998	406
85/5-2		37	400	340	400	1777	1107	438
85/5-1		37	400	340	400	1777	1107	438
85/5		37	400	340	400	1777	1107	438
85/6-2	PN25/40	45	450	365	450	1926	1216	574
85/6-1		45	450	365	450	1926	1216	575
85/6		45	450	365	450	1926	1216	575

1. **0,75kW ≤ motor power ≤ 22kW:** All dimensions are only valid for Cantoni motors with efficiency class IE3. **Motor power ≥ 30kW:** All dimensions are only valid for Wonder motors with efficiency class IE3. The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

Table 36: coupled motor construction type; V1, 4 pole

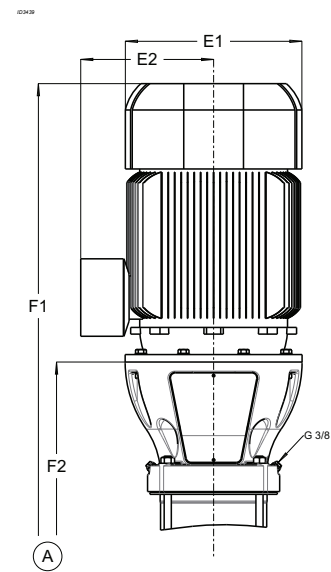
Model	Pressure class	Power	Motor dimensions ¹			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/5-2	PN10	5,5	260	190	300	1427	1077	217
85/5-1		5,5	260	190	300	1427	1077	217
85/5		5,5	260	190	300	1427	1077	217
85/6-2		5,5	260	190	300	1536	1186	227
85/6-1		5,5	260	190	300	1536	1186	227
85/6		5,5	260	190	300	1536	1186	227

1. All motor dimensions are only valid for Wonder motors with efficiency class IE3 (motor power ≥ 0,75kW). The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	20090642	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN16
	20090643	DPV C F Cast iron flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN25/40
	20090642	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN16 Option: Loose plate flange and baseplate in cast SS1.4308
	20090643	DPV (S) F Loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN25/40 Option: Loose plate flange and baseplate in cast SS1.4308

4.15 DPV(C/S) 125 B - 50Hz - 2 pole - DIN

Table 37: coupled motor construction type; V1



20150648

Model	Pressure class	Power [kW]	Motor dimensions ¹			DPV(C/S)F		DPVCF	DPV(S)F
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Mass [kg]
125/1	PN10	15	340	223	350	1277	739	264	284
125/2-2		18,5	340	223	350	1407	869	291	311
125/2-1		22	360	234	350	1519	869	329	349
125/2		30	400	340	400	1539	869	426	445
125/3-2		30	400	340	400	1669	999	442	462
125/3-1	PN16	37	400	340	400	1669	999	462	482
125/3		37	400	340	400	1669	999	462	482
125/4-2		45	450	365	450	1829	1119	535	555

1. **0,75kW <= motor power <= 22kW:** All dimensions are only valid for Cantoni motors with efficiency class IE3. **Motor power >= 30kW:** All dimensions are only valid for Wonder motors with efficiency class IE3. The dimensions of IE2 motors may diverge minimally. The data for IE2 motors is available on DP Select.

	DPV C F with cast iron flange Norm: EN 1092-1/1092-2 Size: NW125 Pressure Class: PN16
	DPV C F with cast iron flange Norm: EN 1092-1/1092-2 Size: NW125 Pressure Class: PN25
	DPV (S) F with loose plate flange Cataphoric coated loose plate flange Norm: EN 1092-1/1092-2 Size: NW125 Pressure Class: PN16 Option: Loose plate flange in cast SS1.4308
	DPV (S) F with stainless steel flange Norm: EN 1092-1/1092-2 Size: NW125 Pressure Class: PN25

5 Seals

5.1 Mechanical seal option specifications

Table 38: Seal code

Shaft seal Type	Material mechanical seal	Seal code	Material shaft seal	Material pump elastomer	Temperature range shaft seal [°C]	Max. pressure [bar]	Fixed	Easy Access	Cartridge
MG-G60	B Q1 E GG	11	Ca / SiC / EPDM	EPDM	-20 - 100	10	●	●	●
MG-G60	B Q1 V GG	12	Ca / SiC / FPM	FPM	-20 - 120	10	●	●	●
RMG-G606	Q1 B E GG	13	SiC / Ca / EPDM	EPDM WRAS / ACS	-20 - 100	25	●	●	●
RMG-G606	Q1 B V GG	14	SiC / Ca / FPM	FPM	-20 - 120	25	●	●	●
RMG-G606	U3 U3 X4 GG	15	TuC / TuC / HNBR	HNBR	-20 - 120 (140)	25 (16)	●	●	●
RMG-G606	U3 U3 V GG	16	TuC / TuC / FPM	FPM	-20 - 120 (140)	25 (16)	●	●	●
RMG-G606	U3 B E GG	18	TuC / Ca / EPDM	EPDM 559236	-20 - 120 (140)	25 (16)	●	●	●
H7N	Q1 A E GG	20	SiC / Ca / EPDM	EPDM 559236	-20 - 120 (140)	40 (25)			●
H7N	Q1 A V GG	21	SiC / Ca / FPM	FPM	-20 - 120 (140)	40 (25)			●
H7N	Q1 A X4 GG	22	SiC / Ca / HNBR	HNBR	-20 - 120 (140)	40 (25)			●
RMG-G606	Q1 B E GG	23	SiC / Ca / EPDM	EPDM	-20 - 100	25	●	●	●
MG-G606	Q1 Q1 V GG	24	SiC / SiC / FPM	FPM	-20 - 120	10	●	●	●
MG-G606	Q1 Q1 X4 GG	28	SiC / SiC / HNBR	HNBR	-20 - 120	10	●	●	●
MG-G606	Q1 Q1 E GG	29	SiC / SiC / EPDM	EPDM	-20 - 100	10	●	●	●
MG-G60	Q1 Q1 V GG	30	SiC / SiC / FPM	FPM / PTFE	-20 - 120	10		●	
RMG-G606	Q1 B E GG	33	SiC / Ca / EPDM	EPDM NSF	-20 - 100	25	●	●	●
RMG-G6	eCa eSiC E GG	35	eCa / eSiC / EPDM	EPDM WRAS / ACS	-20 - 120	25			●
MG-G6	eCa eSiC V GG	36	eCa / eSiC / FPM	FPM	-20 - 120	25			●
RMG-G606	U3 A V GG	37	TuC / Ca / FPM	FPM	-20 - 120 (140)	25 (16)			●



ATTENTION

Seal dimensions according to EN24960

5.1.1 Seal material description

Seal part		Code	Description
Face material	synthetic carbon	A	Carbon graphite antimony impregnated
		B	Carbon graphite resin impregnated
	carbides	Q1	SiC, silicon carbide, sintered
		U3	Tungsten carbide, NiCrMo-binder
Elastomer		E	Ethylene propylene rubber (EPDM)
		V	Fluorcarbon rubber (FKM)
		X4	Hydrogenated Nitrile-rubber (HNBR)
Spring material		G	CrNiMo steel (1.4571)
Construction material		G	CrNiMo steel (1.4571)

6 Motors and motor options

6.1 General

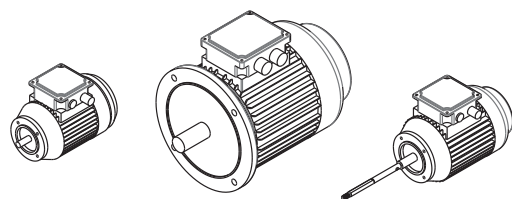
The standard DP motors are produced in conformity with the latest technical design, and comply with the international standards and EU directives regarding safety measures.

The motors can be specified as:

- Efficiency class for motors $\geq 0,75\text{kW}$: IE2 or IE3
- T.E.F.C. (totally enclosed fan cooled) Squirrel cage.
- AC induction motor.
- Protection IP55.
- Insulation class F.
- Temperature rise class B.
- Duty class S1, maximum 20 starts per hour.
- Noise levels conform IEC 60034-9.
- $> 2,2\text{ kW}$ standard 3 x PTC.

The motors are available in three different construction types. Mounting in acc. with IEC60034-7 and dimensions in acc. with IEC 60072-1.

COMO



V18 flange

V1 flange

close coupled (VM)

20091254

6.2 Options

- Standard motors as per above, but in **4 pole** version (low speed) (for sizes 10, 15, 25, 40, 60 and 85).
- Standard motors as per above, in **single phase** (1x230V).
- Provided with 10 pole **industrial connector** "Harting stecker" HAN 10, mounted in stead of the motor connection box, $\leq 7,5\text{kW}$.
- Provided with **Rain cover** on top of the fan hood.
- For motors $< 3\text{kW}$ provided with **3 x PTC** and/or **anti condensation heater (1x230V)**.
- Motors from other manufacturers like **Siemens** and **VEM**
- Explosion proof, class **Ex e II T3**.
- Explosion proof, class **Ex d II T4**.
- Marine approved variant according to Bureau Veritas

6.3 Standard motor data

Table 39: Motor data 1 and 3 phase, 2p 50 Hz

Article number	Rated power output [kW]	Frame size	Motor efficiency class	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency 50%	Motor efficiency 75%	Motor efficiency 100%	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3700000003	0,37	71-1	-	1x230	2,6	3,7	0,92	10%	2750	-	-	67	58	1xM18x1,5	20
3700000005	0,55	71-2	-	1x230	3,69	3,9	0,92	10%	2760	-	-	70	56	1xM18x1,5	20
3700000007	0,75	80-1	-	1x230	5,0	3,9	0,92	10%	2780	-	-	72	56	1xM20x1,5	20
3700000011	1,1	80-2	-	1x230	6,68	4,3	0,95	10%	2790	-	-	75	58	1xM20x1,5	20
3700000015	1,5	90S	-	1x230	8,99	4,8	0,95	10%	2800	-	-	76	58	1xM20x1,5	20

Article number	Rated power output [kW]	Frame size	Motor efficiency class	Rated Voltage [V]	Rated current [A]	Starting current Ia/I _n	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency 50%	Motor efficiency 75%	Motor efficiency 100%	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3700000022	2,2	90L	-	1x230	13,04	4,8	0,95	10%	2800	-	-	77	58	1xM20x1,5	20
3710021003	0,37	71B	-	230/400	1,6/0,95	4,5	0,76	10%	2865	-	-	76	60	1xM20x1,5	50
3710021005	0,55	71C	-	230/400	2,1/1,2	5,3	0,8	10%	2880	-	-	82	60	1xM20x1,5	50
3710011007	0,75	80B	IE2	230/400	3,1/1,8	6,0	0,77	10%	2865	-	-	80	60	1xM20x1,5	50
3710051007	0,75	80A	IE3	230/400	3,1/1,8	6,6	0,76	10%	2880	75,5	79,5	80,7	55	1xM20x1,5	180
3710011011	1,1	80C	IE2	230/400	4,2/2,4	6,8	0,81	10%	2870	-	-	82,5	60	1xM20x1,5	50
3710051011	1,1	80B	IE3	230/400	4,0/2,3	6,4	0,81	10%	2880	83,9	85,1	84,0	55	1xM20x1,5	180
3710011015	1,5	90S	IE2	230/400	5,7/3,3	7,6	0,81	10%	2880	-	-	81,8	56	1xM20x1,5	50
3710051015	1,5	90S	IE3	230/400	5,5/3,2	8,0	0,81	10%	2880	82,8	84,5	84,2	55	1xM20x1,5	50
3710011022	2,2	90L	IE2	230/400	8,2/4,7	7,3	0,81	10%	2870	-	-	83,5	56	1xM20x1,5	30
3710051022	2,2	90L	IE3	230/400	8,0/4,6	8,8	0,8	10%	2900	84,3	85,8	85,9	55	1xM20x1,5	30
3710111030	3	100L	IE2	230/400	10,2/6,2	9,0	0,83	10%	2905	-	-	84,6	58	2xM20x1,5	30
3710151030	3	100L	IE3	230/400	10,2/5,8	9,3	0,85	10%	2920	86,2	87,7	87,1	57	2xM20x1,5	30
3710112030	3	100L	IE2	400/690	6,2/3,6	9,0	0,83	10%	2905	-	-	84,6	58	2xM20x1,5	30
3710152030	3	100L	IE3	400/690	5,8/3,3	9,3	0,85	10%	2920	86,2	87,7	87,1	57	2xM20x1,5	30
3710111040	4	112M	IE2	230/400	13,4/7,7	8,5	0,87	10%	2915	-	-	86,3	59	2xM20x1,5	30
3710151040	4	112M	IE3	230/400	12,8/7,4	9,5	0,89	10%	2930	88,1	88,8	88,1	58	2xM20x1,5	30
3710112040	4	112M	IE2	400/690	7,7/4,5	8,5	0,87	10%	2915	-	-	86,3	59	2xM20x1,5	30
3710152040	4	112M	IE3	400/690	7,4/4,3	9,5	0,89	10%	2930	88,1	88,8	88,1	58	2xM20x1,5	30
3710111055	5,5	132S	IE2	230/400	17,5/10,1	8,8	0,9	10%	2930	-	-	87,5	64	2xM25x1,5	20
3710151055	5,5	132S	IE3	230/400	17,3/10,0	8,8	0,89	10%	2940	87,7	89,2	89,2	63	2xM25x1,5	20
3710112055	5,5	132S	IE2	400/690	10,1/5,9	8,8	0,9	10%	2930	-	-	87,5	64	2xM25x1,5	20
3710152055	5,5	132S	IE3	400/690	10,0/5,8	8,8	0,89	10%	2940	87,7	89,2	89,2	63	2xM25x1,5	20
3710111075	7,5	132S	IE2	230/400	22,9/13,2	8,5	0,92	10%	2920	-	-	88,6	64	2xM25x1,5	20
3710151075	7,5	132S	IE3	230/400	23,0/13,3	9,2	0,89	10%	2940	89,0	90,3	90,1	63	2xM25x1,5	20
3710112075	7,5	132S	IE2	400/690	13,2/7,7	8,5	0,92	10%	2920	-	-	88,6	64	2xM25x1,5	20
3710152075	7,5	132S	IE3	400/690	13,3/7,7	9,2	0,89	10%	2940	89,0	90,3	90,1	63	2xM25x1,5	20
3710111110	11	160M	IE2	230/400	36,5/21,0	7,8	0,84	10%	2950	-	-	90,0	71	2xM32x1,5	15
3710151110	11	160M	IE3	230/400	33,4/19,3	7,3	0,9	10%	2945	89,7	91,0	91,2	69	2xM32x1,5	15
3710112110	11	160M	IE2	400/690	21,0/12,2	7,8	0,84	10%	2950	-	-	90,0	71	2xM32x1,5	15
3710152110	11	160M	IE3	400/690	19,3/11,2	7,3	0,9	10%	2945	89,7	91,0	91,2	69	2xM32x1,5	15
3710111150	15	160M	IE2	230/400	49,0/28,2	7,6	0,85	10%	2945	-	-	90,3	70	2xM32x1,5	15
3710151150	15	160M	IE3	230/400	45,4/26,2	7,4	0,9	10%	2945	89,8	91,9	91,9	69	2xM32x1,5	15
3710112150	15	160M	IE2	400/690	28,2/16,3	7,6	0,85	10%	2945	-	-	90,3	70	2xM32x1,5	15
3710152150	15	160M	IE3	400/690	26,2/15,2	7,4	0,9	10%	2945	89,8	91,9	91,9	69	2xM32x1,5	15
3710111185	18,5	160L	IE2	230/400	58,5/33,6	9,3	0,87	10%	2950	-	-	91,3	73	2xM32x1,5	15
3710151185	18,5	160L	IE3	230/400	55,6/32,1	7,7	0,9	10%	2940	92,2	92,8	92,4	69	2xM32x1,5	15
3710112185	18,5	160L	IE2	400/690	33,6/19,5	9,3	0,87	10%	2950	-	-	91,3	73	2xM32x1,5	15
3710152185	18,5	160L	IE3	400/690	32,1/18,6	7,7	0,9	10%	2940	92,2	92,8	92,4	69	2xM32x1,5	15
3710111220	22	180M	IE2	230/400	68,7/39,5	7,5	0,88	10%	2945	-	-	91,3	75	2xM32x1,5	12
3710151220	22	180M	IE3	230/400	66,0/38,1	9,2	0,9	10%	2955	92,1	92,9	92,7	74	2xM32x1,5	12
3710112220	22	180M	IE2	400/690	39,5/22,9	7,5	0,88	10%	2945	-	-	91,3	75	2xM32x1,5	12
3710152220	22	180M	IE3	400/690	38,1/22,1	9,2	0,9	10%	2955	92,1	92,9	92,7	74	2xM32x1,5	12
3700111300	30	200L	IE2	230/400	89,7/51,8	7,5	0,91	10%	2955	-	-	92,9	80	2xM50x1,5	12
3700151300	30	200L	IE3	230/400	89,7/51,6	8,5	0,9	10%	2965	92,3	93,2	93,3	73	2xM50x1,5	12
3700112300	30	200L	IE2	400/690	51,8/29,9	7,5	0,91	10%	2955	-	-	92,9	80	2xM50x1,5	12
3700152300	30	200L	IE3	400/690	51,6/29,9	8,5	0,9	10%	2965	92,3	93,2	93,3	73	2xM50x1,5	15
3700111370	37	200L	IE2	230/400	110/63,5	7,5	0,91	10%	2957	-	-	93,3	80	2xM50x1,5	20

Article number	Rated power output [kW]	Frame size	Motor efficiency class	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency 50%	Motor efficiency 75%	Motor efficiency 100%	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3700151370	37	200L	IE3	230/400	110/63,3	8,5	0,9	10%	2965	92,8	93,8	93,7	73	2xM50x1,5	15
3700112370	37	200L	IE2	400/690	63,5/36,7	7,5	0,91	10%	2950	-	-	93,3	80	2xM50x1,5	12
3700152370	37	200L	IE3	400/690	63,3/36,7	8,5	0,9	10%	2965	92,8	93,8	93,7	73	2xM50x1,5	15
3700111450	45	225M	IE2	230/400	131,6/76	7,5	0,91	10%	2969	-	-	93,7	80	2xM50x1,5	20
3700151450	45	225M	IE3	230/400	134/76,8	8,5	0,9	10%	2970	93,2	94,2	94,0	75	2xM50x1,5	15
3700112450	45	225M	IE2	400/690	76/43,9	7,5	0,91	10%	2969	-	-	93,7	80	2xM50x1,5	12
3700152450	45	225M	IE3	400/690	76,8/44,5	8,5	0,9	10%	2970	93,2	94,2	94,0	75	2xM50x1,5	15

Table 40: Motor data 3 phase, 4p 50 Hz

Article number	Rated power output [kW]	Frame size	Motor efficiency class	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency 50%	Motor efficiency 75%	Motor efficiency 100%	Sound pressure [dB(A)]	Cable gland	Starts per hour
3700041005	0,55	80M1	-	230/400	2,34/1,34	5,3	0,73	10%	1425	-	-	80,7	57	1xM20x1,5	20
3700041007	0,75	80M2	IE2	230/400	3,09/1,78	7,4	0,74	10%	1425	-	-	82,3	56	1xM20x1,5	20
3700061007	0,75	80	IE3	230/400	3,13/1,8	6,5	0,73	10%	1425	80,0	82,6	82,5	57	2xM20x1,5	25
3700031011	1,1	90S	IE2	230/400	4,17/2,4	8,8	0,79	10%	1445	-	-	83,8	58	1xM20x1,5	20
3700061011	1,1	90	IE3	230/400	4,21/2,42	6,5	0,78	10%	1440	82,9	84,4	84,4	58	2xM25x1,5	25
3700031015	1,5	90L	IE2	230/400	5,61/3,22	8,5	0,79	10%	1445	-	-	85,0	58	1xM25x1,5	20
3700061015	1,5	90	IE3	230/400	5,59/3,21	7,0	0,79	10%	1440	83,8	85,5	85,3	58	2xM25x1,5	25
3700031022	2,2	100L	IE2	230/400	8,19/4,71	8,4	0,78	10%	1435	-	-	86,4	57	2xM25x1,5	20
3700061022	2,2	100	IE3	230/400	7,86/4,52	7,5	0,81	10%	1445	86,1	87,1	86,7	59	2xM25x1,5	20
3700131030	3	100L	IE2	230/400	10,46/6,04	9,0	0,82	10%	1435	-	-	87,4	57	2xM25x1,5	20
3700161030	3	100	IE3	230/400	10,6/6,1	7,5	0,81	10%	1445	87,1	88,2	87,7	59	2xM25x1,5	20
3700132030	3	100L	IE2	400/690	6,35/3,68	9,0	0,78	10%	1435	-	-	87,4	57	2xM25x1,5	20
3700162030	3	100	IE3	400/690	6,1/3,53	7,5	0,81	10%	1445	87,1	88,2	87,7	59	2xM25x1,5	20
3700131040	4	112M	IE2	230/400	13,64/7,88	7,0	0,83	10%	1455	-	-	88,3	60	2xM25x1,5	20
3700161040	4	112	IE3	230/400	14,0/8,05	8,5	0,81	10%	1450	88,1	89,3	88,5	60	2xM25x1,5	20
3700132040	4	112M	IE2	400/690	7,88/4,57	7,0	0,83	10%	1455	-	-	88,3	60	2xM25x1,5	20
3700162040	4	112	IE3	400/690	8,05/4,66	8,5	0,81	10%	1450	88,1	89,3	88,6	60	2xM25x1,5	20
3700131055	5,5	132S	IE2	230/400	18,8/10,85	7,0	0,82	10%	1460	-	-	89,2	62	2xM32x1,5	20
3700161055	5,5	132	IE3	230/400	19,0/10,9	8,5	0,81	10%	1460	88,3	89,7	89,9	60	2xM32x1,5	20
3700132055	5,5	132S	IE2	400/690	10,85/6,26	7,0	0,82	10%	1460	-	-	89,2	62	2xM32x1,5	20
3700162055	5,5	132	IE3	400/690	10,9/6,34	8,5	0,81	10%	1460	88,3	89,7	89,6	60	2xM32x1,5	20
3700131075	7,5	132M	IE2	230/400	25,1/14,48	7,0	0,83	10%	1460	-	-	90,1	62	2xM32x1,5	20
3700161075	7,5	132	IE3	230/400	25,4/14,6	8,5	0,82	10%	1460	89,3	90,5	90,4	60	2xM32x1,5	20
3700132075	7,5	132M	IE2	400/690	14,48/8,39	7,0	0,83	10%	1460	-	-	90,1	62	2xM32x1,5	20
3700162075	7,5	132	IE3	400/690	14,6/8,47	8,5	0,82	10%	1460	89,3	90,5	90,4	60	2xM32x1,5	20

7 Frequency drive

7.1 General

For the motor range up to 2,2kW DP-Pumps has a 1x230Volts frequency inverter range of the brand Lenze available. The inverter series SMVector are mounted on a support bracket at the side of the motor.

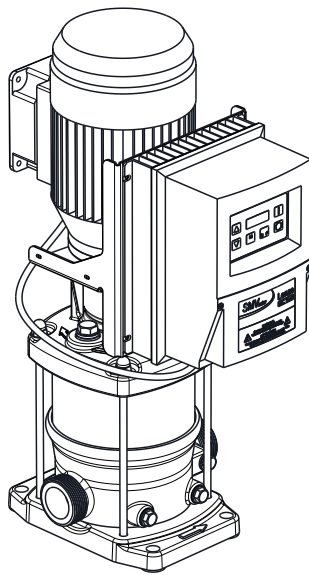
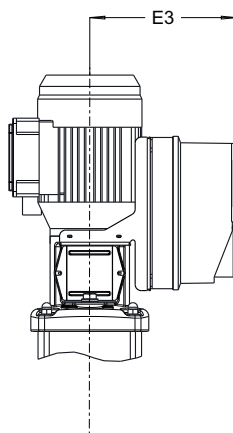


Figure 26: Example layout

7.4 Specifications



Type	371NO2FSFC	751NO2FSFC	112NO2FSFC	152NOSFSFC	222NO2FSFC
Power [kW]	0,37	0,75	1,1	1,5	2,2
I (mains) [A]	5,1	8,8	12,0	13,5	17,1
I (motor) [A]	2,4	4,2	6,0	7,0	9,6
Fuse [A]	10	16	20	25	32
E3 [mm]	194	194	204	260	272
Mass [kg]*	2,9	2,9	4	4	4,5

* Mass is in including support bracket

7.2 Working range

In addition to the working range of the pumps in case of using a frequency inverter the following needs to be considered:

Table 41: Working range

Ambient temperature [°C]	-10 up to 55
Maximum altitude [m]	2000

7.3 General specifications

Table 42: General specifications

Voltage range (net) [VAC] (input)	1 x 170 - 264
Voltage range motor [VAC] (output)	3 x 170 - 264
I (max) [%] (output)	200
Protection class	IP65
Dimensions 0,37-0,75 kW HxWxD [mm]	203x160x114
Dimensions 1,1-1,5 kW HxWxD [mm]	203x160x160
Dimensions 2,2 kW HxWxD [mm]	203x181x172
Integrated EMC filter	yes
Cooling	convection

8 Accessories

8.1 Horizontal mounting kit (optional)

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 11 kW 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

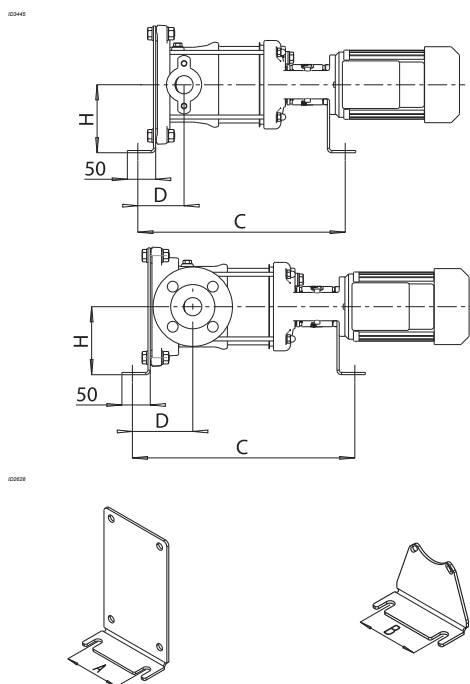


Figure 27: V(C/S) 2-25 B horizontal

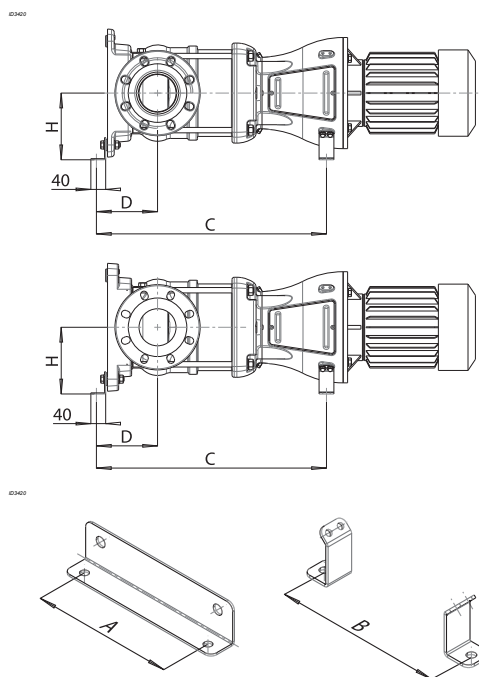


Figure 28: V(C/S) 40-85 B horizontal

8.1.1 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 2/4/6 B		V(S)(V) D = 82			
		V(C/S)F D = 107			
Motor [kW]	Part no.	C	H	A	B
0,37 - 0,55 2p / 0,25 - 0,37 4p	18707065	F2+49	120	100	100
0,75 - 1,1 2p / 0,55 - 0,75 4p	18707066				
1,5 - 2,2 2p / 1,1 - 1,5 4p	18707067				
3 - 4 2p / 2,2 - 4 4p	18707068	F2+47	170		210
5,5 - 7,5 2p/4p	18707069				

20090417-A

DPV 10/15 B		V(S)(V) D = 111.5			
		V(C/S)F D = 121.5			
Motor [kW]	Part no.	C	H	A	B
0,75 - 1,1 2p / 0,55 - 0,75 4p	18707070	F2+49	140	130	130
1,5 - 2,2 2p / 1,1 - 1,5 4p	18707071				
3 - 4 2p / 2,2 - 4 4p	18707072				
5,5 - 7,5 2p/4p	18707073	F2-18	170		210

20091236

DPV 25 B		V(C/S)F D = 136.5			
Motor [kW]	Part no.	C	H	A	B
1,5 - 2, 2p / 1,1 -1,5 4p	18707074	F2+47	170	170	180
3 - 4 2p / 2,2 -4 4p	18707075				
5,5 - 7,5 2p/4p	18707076	F2-16			180

20120486

DPV 40/60 B		V(C/S)F D = 165			
Motor [kW]	Part no.	C	H	A	B
3 - 4 2p / 2,2 -4 4p	18707077	F2-16	180	190	180
5,5 - 7,5 2p/4p	18707078				

20120487

DPV 85 B		V(S)F D = 165			
Motor [kW]	Part no.	C	H	A	B
5,5 - 7,5	18707064	F2- 16	180	210	250

20071047-B

8.2 Thrust bearing housing (optional)

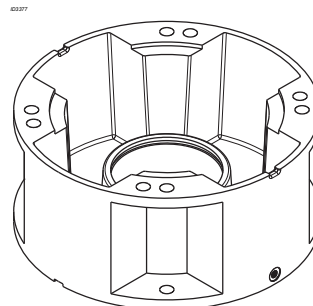


Figure 29: Thrust bearing housing

20070627-E

The standard DP-Pumps motors are specially designed to drive the pump. When a standard motor has to be installed (or a special motor to fulfil 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 DPVM.



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.

9 Materials

9.1 Parts overview

9.1.1 Part list

Part. no.	part description	material code	Wetted part	VC	V	VS
10-6	Pump shroud	1.4301	X	●	●	
		1.4404	X			●
45-4	Spacer DPV(C/S) 85 B	EPDM	X	●	●	○
		FPM	X	○	○	●
		HNBR	X	○	○	○
68.3.02	Cover plate for casing bearing	1.4404	X	●	●	●
101	Pump casing DPV 2-15 (B)	JS1030	X	●		
	Pump casing DPV 25-125 (B)	JL1040	X	●		
		1.4308	X		●	
		1.4408	X			●
	(Loose plate) flange	JL1040			●	●
		1.4308			○	○
108	Stage Casing DPV 2-60 B	1.4301	X	●	●	
		1.4404	X			●
108	Stage Casing DPV 85 B - 125	1.4308	X	●	●	
		1.4408	X			●
131	Inlet ring DPV2-15 B	1.4308	X	●	●	
		1.4408	X			●
160	Cover DPV 2-60 B	1.4301	X		●	
		1.4404	X			●
160	Cover DPV 85 B	1.4308	X	●	●	
		1.4408	X			●
171	Diffuser DPV 25 B	1.4301	X	●	●	
		1.4404	X			●
210	Shaft	1.4057	X	●	●	
		1.4460	X			●
230	Impeller DPV 2-60 B	1.4301	X	●	●	
		1.4404	X			●
230	Impeller DPV 85 B	1.4308	X	●	●	
		1.4408	X			●
230	Impeller DPV 125	1.4308 / 1.4301	X	●	●	
		1.4408 / 1.4404	X			●
341	Motor stool	JL1040		●	●	●
412	Pump sealing elastomers	EPDM	X	●	●	○
		EPDM WRAS/ACS	X	○	○	○
		FPM	X	○	○	●
		EPDM 559236	X	○	○	○
		HNBR	X	○	○	○
433	Shaft seal LP (P at Q=0 < 9.2bar)	B Q 1 E GG LP	X	●	●	○
		Q1 B E GG HP ¹	X	●	●	○
	Shaft seal LP (P at Q=0 < 9.2bar)	B Q1 V GG LP	X	○	○	●
		Q1 B V GG HP ¹	X	○	○	●
471	Seal cover	1.4308	X	●	●	○
		1.4408	X	○	○	●

Part. no.	part description	material code	Wetted part	VC	V	VS
502.02	Casing bearing	PEEK 450CA30	X	●	●	●
503	Impeller wear ring DPV 85 B	1.4404	X	●	●	●
511	Center ring DPV 25B	1.4301		●	●	●
525	Spacer sleeve	1.4301	X	●	●	
		1.4404	X			●
529	Bearing sleeve	Tungsten Carbide	X	●	●	●
Part of 108	Bearing	Aluminium Oxide	X	●	●	●
532.01	Extension sleeve	1.4404	X	●	●	●
722	Taper piece	JL1040		●	●	●
723	Counter flange	JL1040	X		●	
		1.4308	X		○	
		1.4408	X			○
862	Coupling from 5.5 kW	JS1030		●	●	●
	Coupling up to 4 kW	Aluminium		●	●	●
890	Base plate	JS1030		●	●	●
	Base plate	1.4308			○	○
	Base plate (for F connection)	JL1040			●	●
901.07	Hexagon head bolt	1.4404	X	●	●	●
903.01	Screwed plug (vent)	1.4301 (A2)	X	●	●	
		1.4404 (A4)	X			●
903.02	Screwed plug (drain)	1.4301 (A2)	X	●	●	
		1.4404 (A4)	X			●
905	Tie bolt	1.4057		●	●	●
914.06	Hexagon socked head cap screw	1.4404	X	●	●	●
920.01	Lock nut	1.4301	X	●	●	
		1.4404	X			●
930	Safety device Nord-lock	1.4404	X	●	●	●
932	Circlip	1.4571	X	●	●	●
950	Wave spring DPV(C/S) 2-15 B	1.4300	X	●	●	○
		1.4401	X	○	○	●

1. HP: high pressure version > 10 bar (P at Q=0 > 9.2 bar)

● Standard ○ Option

9.1.2 Materials conversion

Material	Description	Code and material nr.	Standard	ASTM / AISI ¹
JL 1040	Cast iron	GJL-250	EN 1561	A48:40B
JS1030	Cast iron	GJS-400	EN 1563	
1.4057	Chromium-nickel steel	X17CrNi16-2--QT800	EN 10088-3	A276:431
1.4300	Chromium-nickel steel	X12CrNi 18-8	EN 10088	A276:302
1.4301	Chromium-nickel steel	X5CrNi 18-10	EN 10088	A276:304
1.4305	Chromium-nickel steel	X8CrNiS 18-9	EN 10088	A276:303
1.4308	Chromium-nickel cast steel	GX5CrNi 19-10	EN 10283	A743:CF8
1.4401	Chromium-nickel-molybdenum steel	X5CrNiMo 17-12-2	EN 10088	A276:316
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
1.4460	Chromium-nickel-molybdenum steel	X3CrNiMoN 27 5 2	EN 10088	--:329
1.4571	Chromium-nickel-molybdenum steel	X6CrNiMoTi 17-12-2	EN 10088	A276:316Ti

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

9.1.3 Sectional drawing DPVCF 2/4/6 B

82914

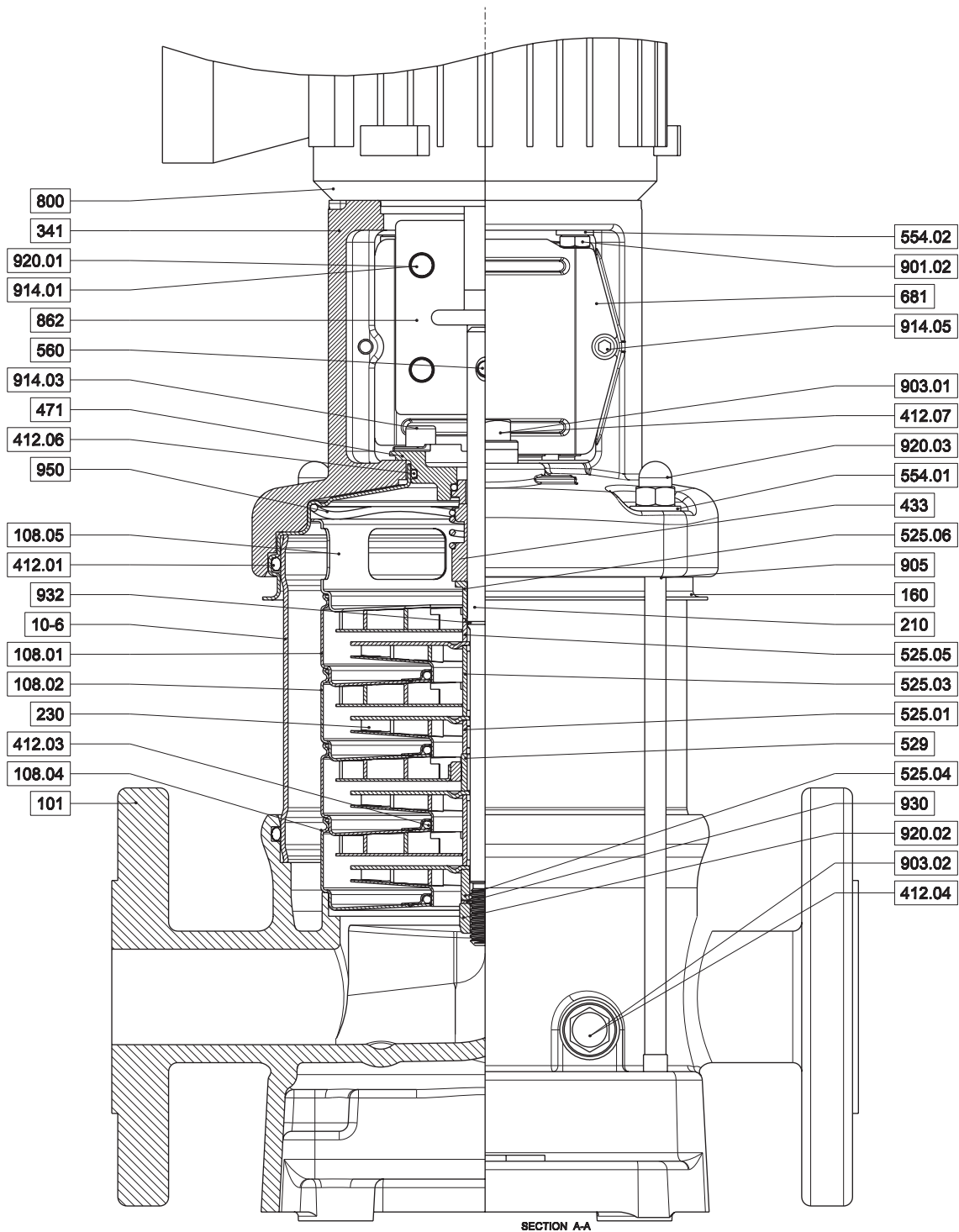


Figure 30: Sectional drawing DPVCF 2/4/6 B

9.1.4 Sectional drawing DPV(S) 2/4/6 B

82913

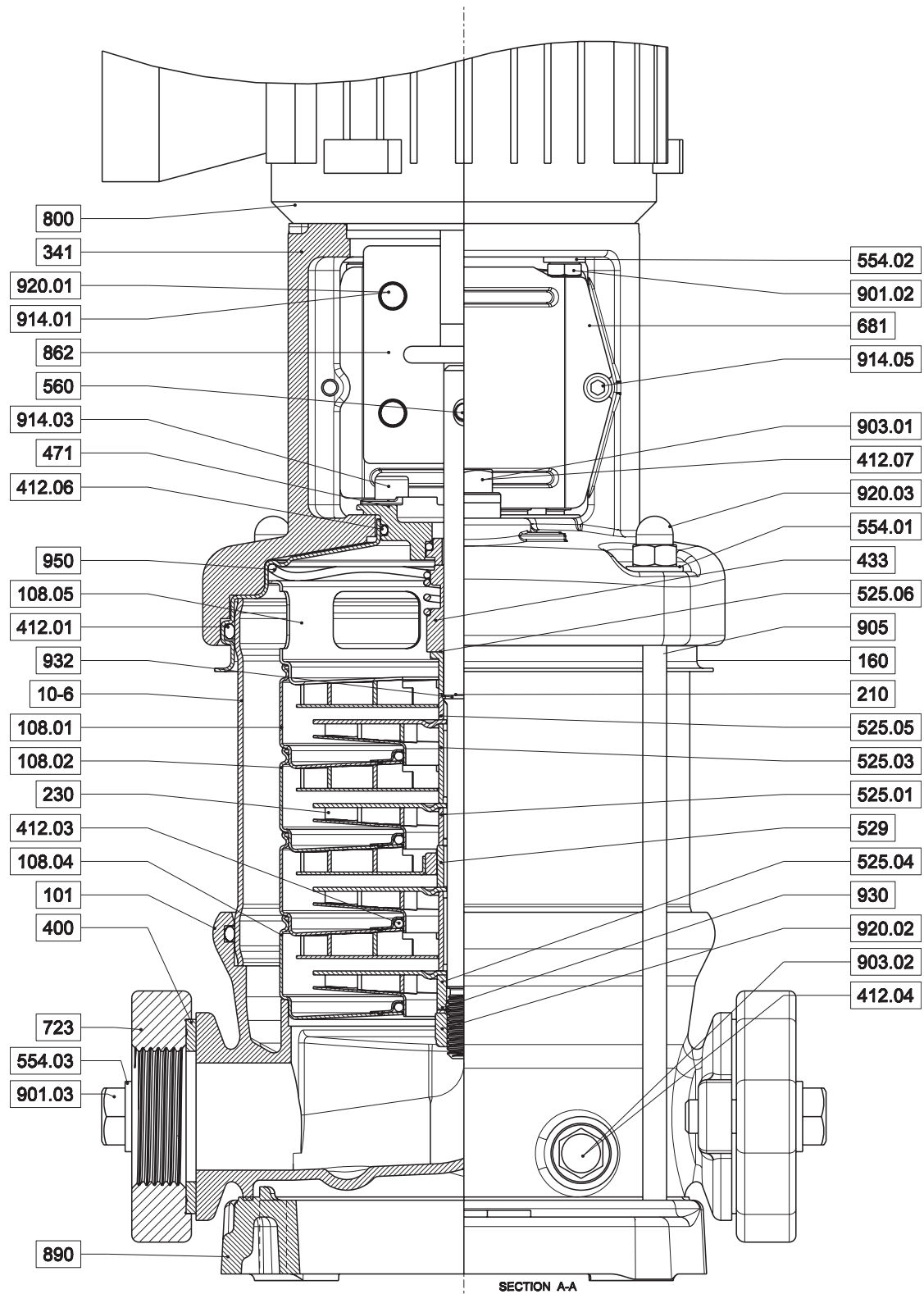


Figure 31: Sectional drawing DPV(S) 2/4/6 B

20080766-F

9.1.5 Sectional drawing DPVCF 10 B

82914

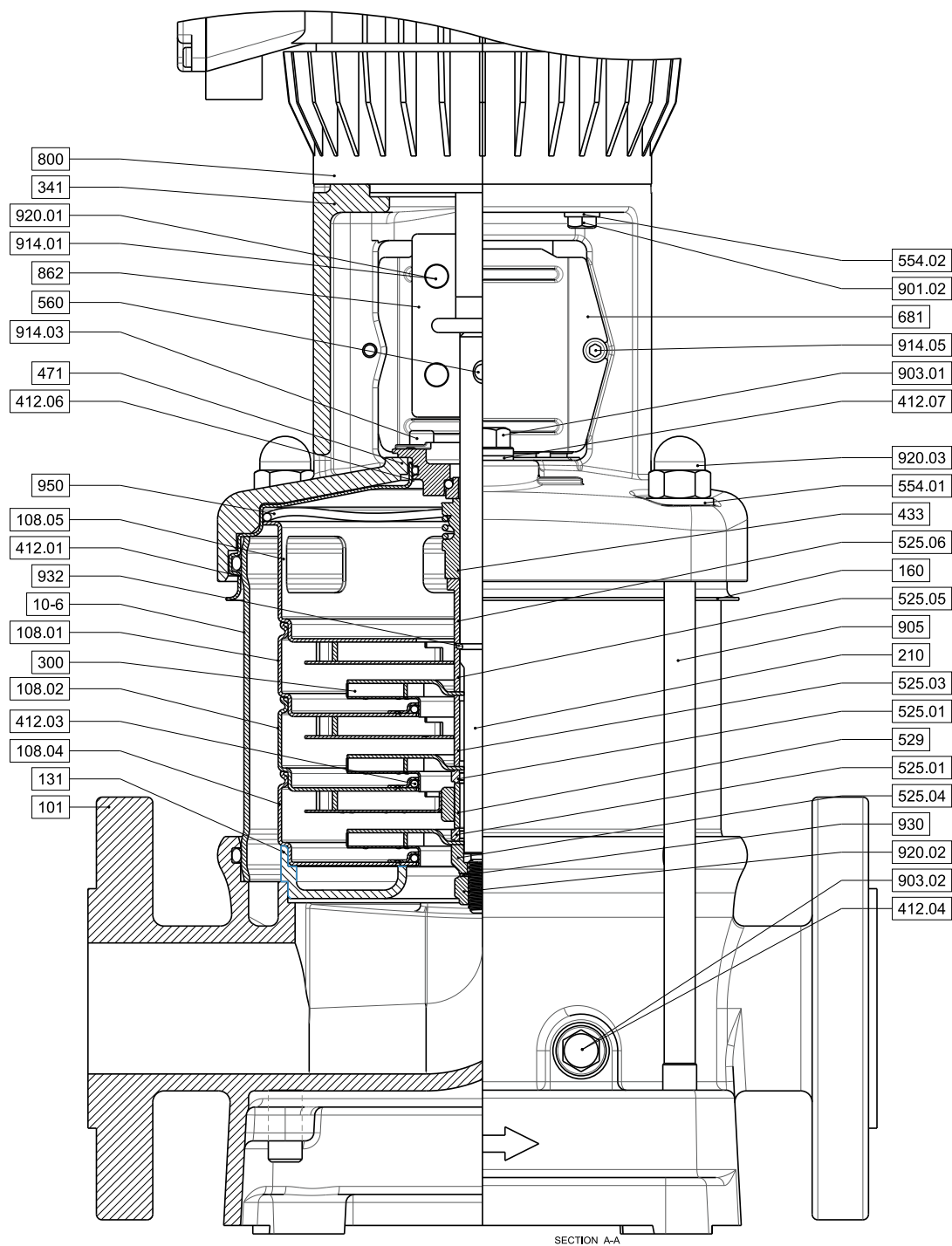


Figure 32: Sectional drawing DPVCF 10 B

20081021-B

9.1.6 Sectional drawing DPV(S) 10 B / 15B

82913

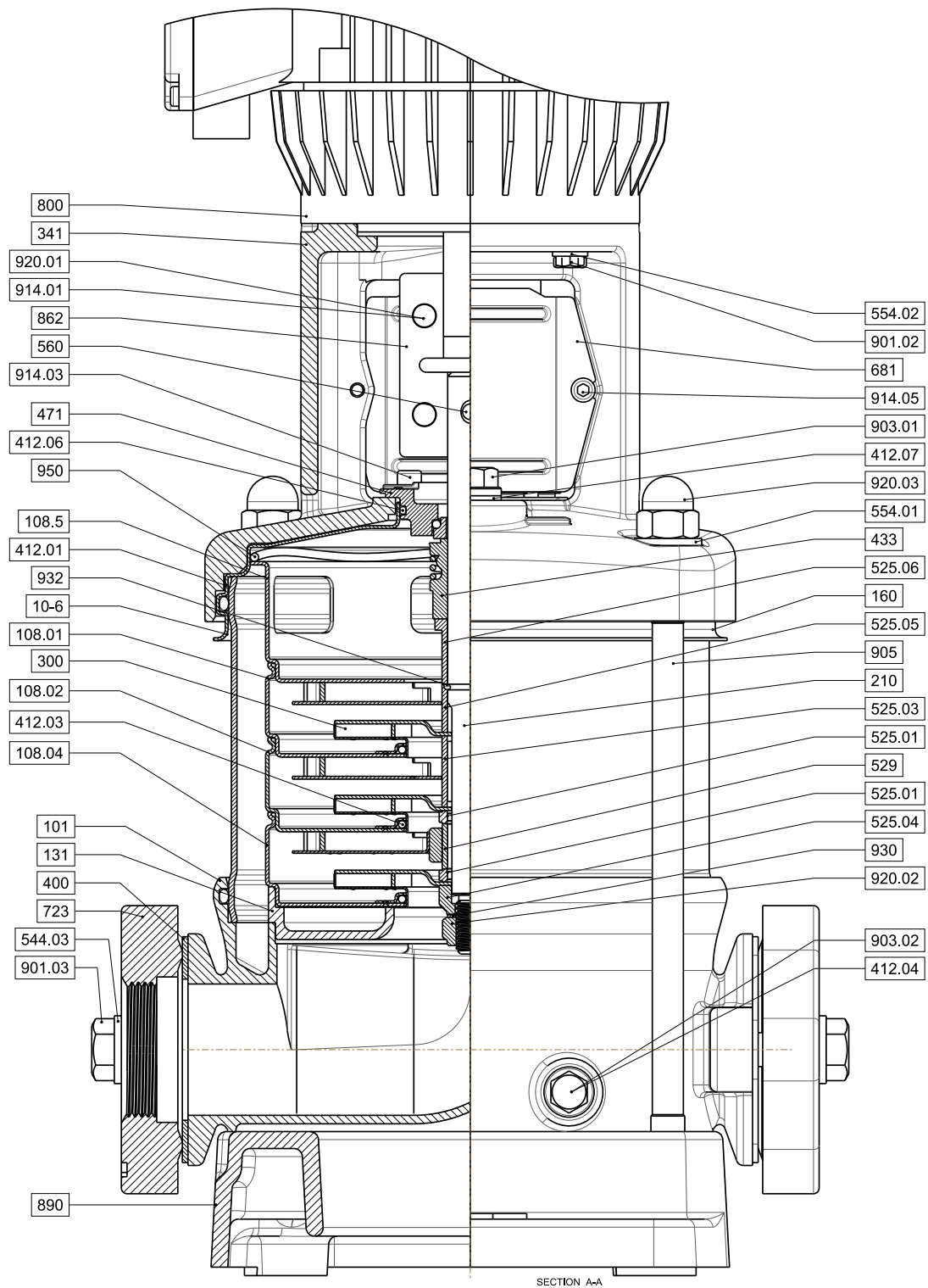


Figure 33: Sectional drawing DPV(S) 10 B

20080645-C

9.1.7 Sectional drawing DPVF(S) 25, 40, 60 B

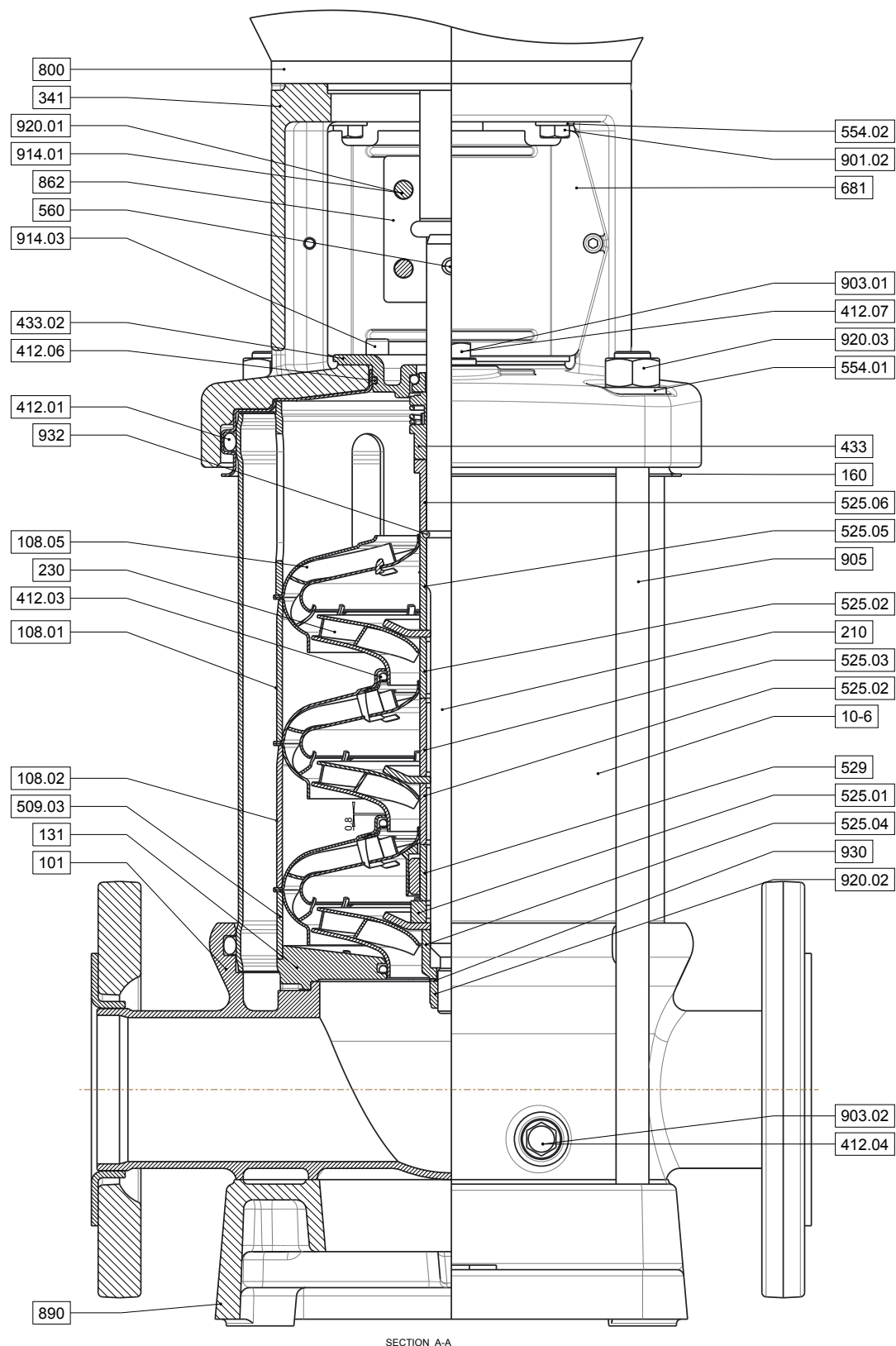


Figure 34: Sectional drawing DPVF(S) 25, 40, 60 B

9.1.8 Sectional drawing DPVCF 85 B

82222

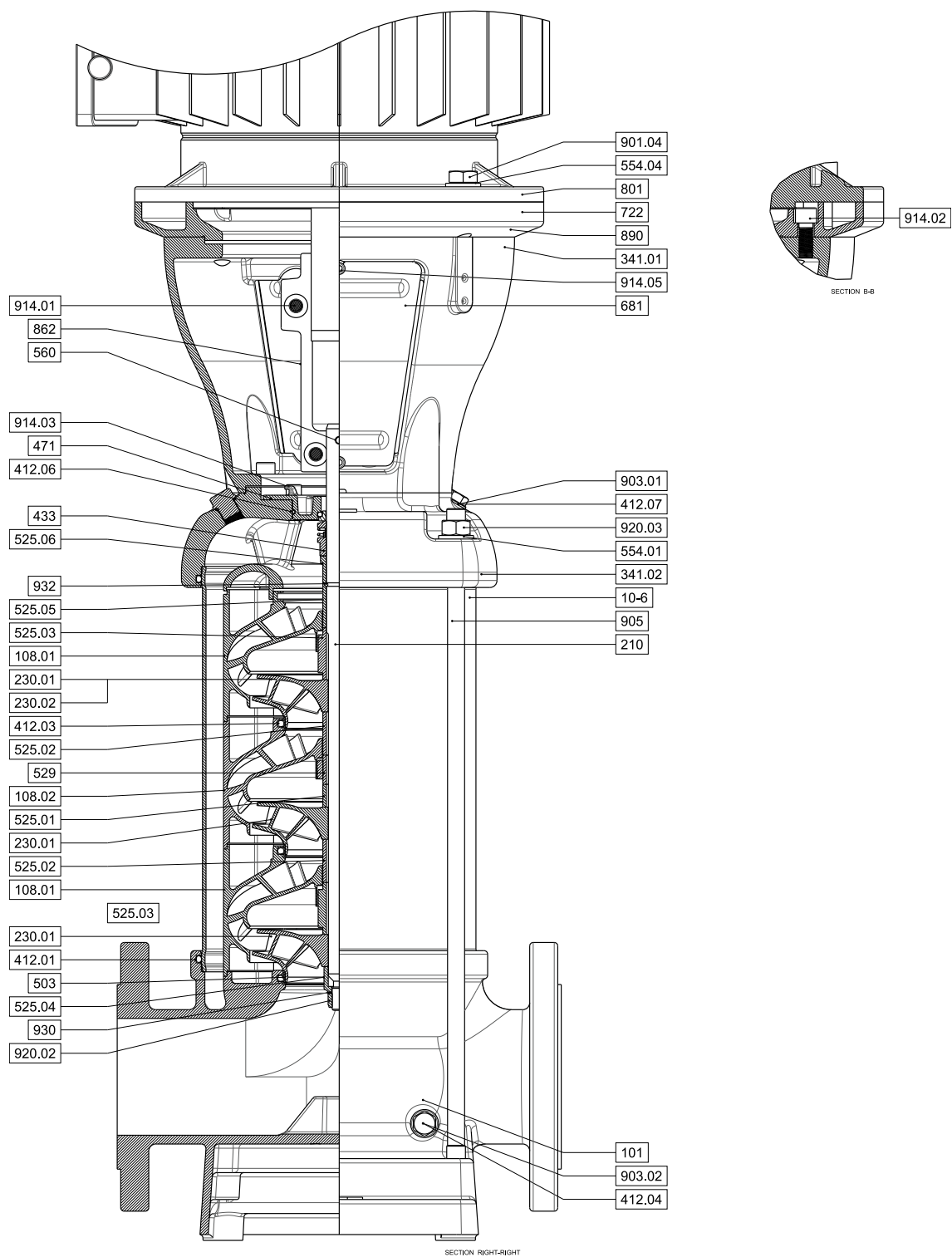
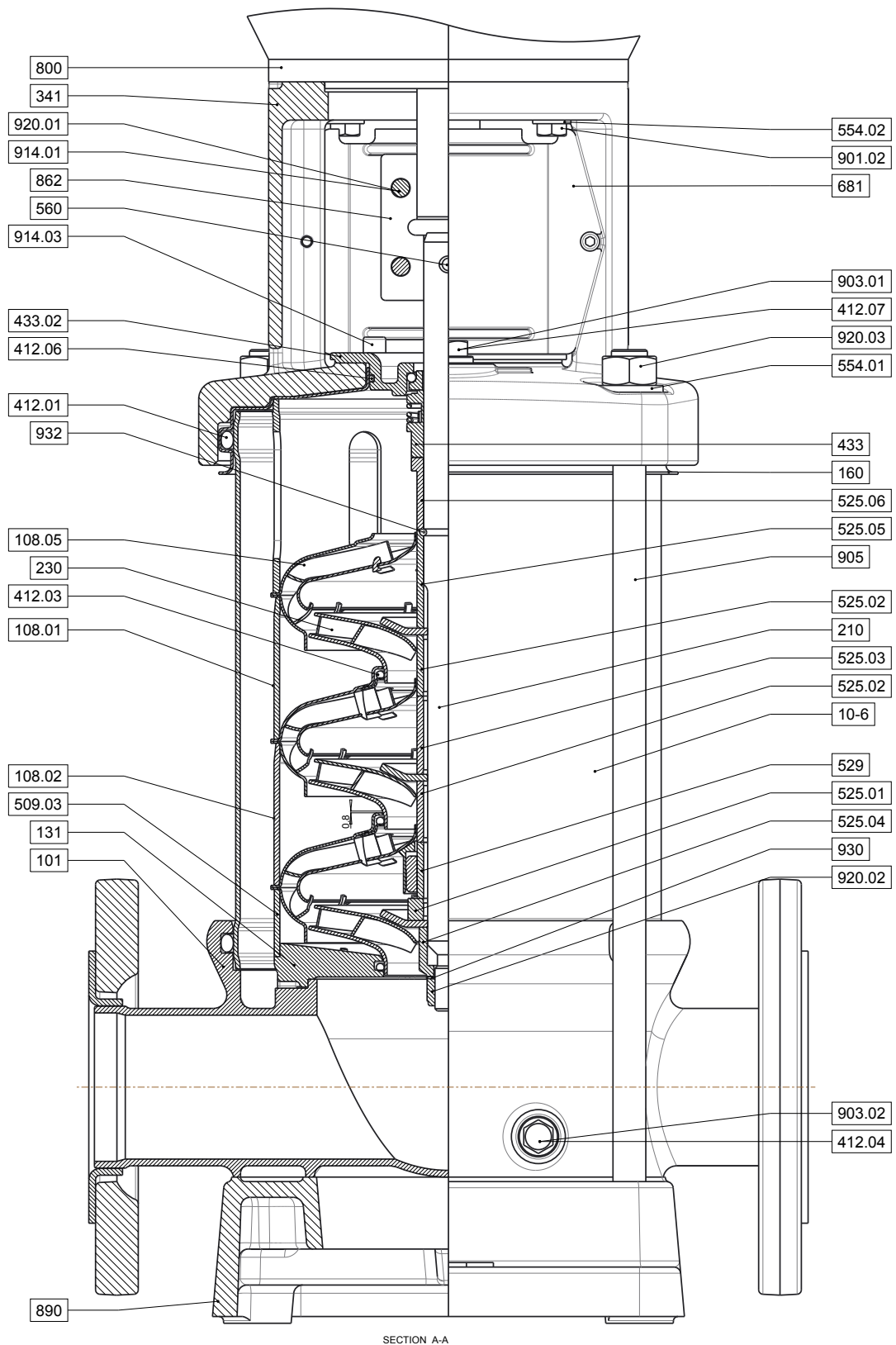


Figure 35: Sectional drawing DPVCF 85 B

20080067-F

9.1.9 Sectional drawing DPV(S)F85 B



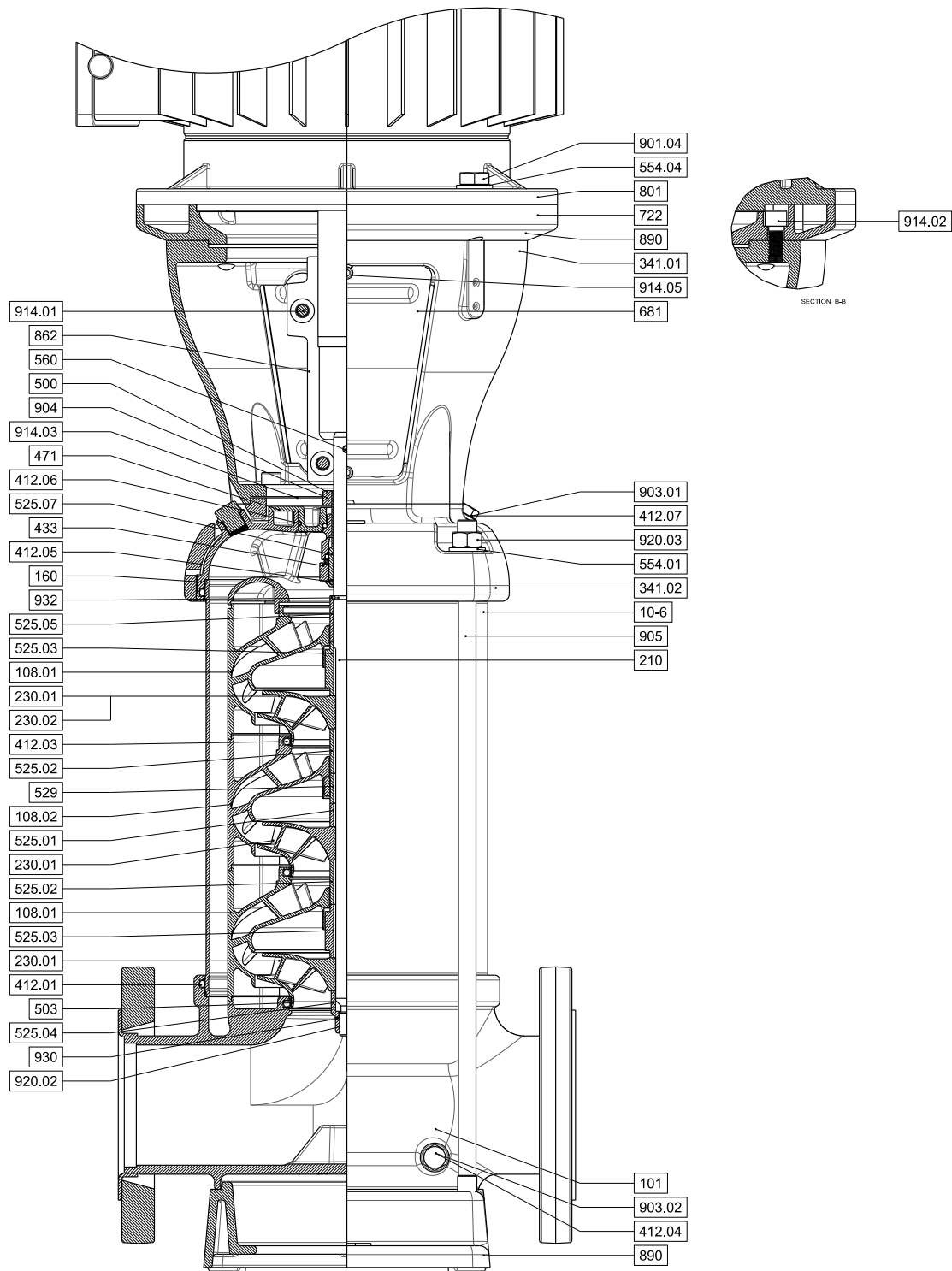


Figure 36: Sectional drawing DPV(S)F 85 B

20080066-E

9.1.10 Sectional drawing DPV(S)F125 B

82029

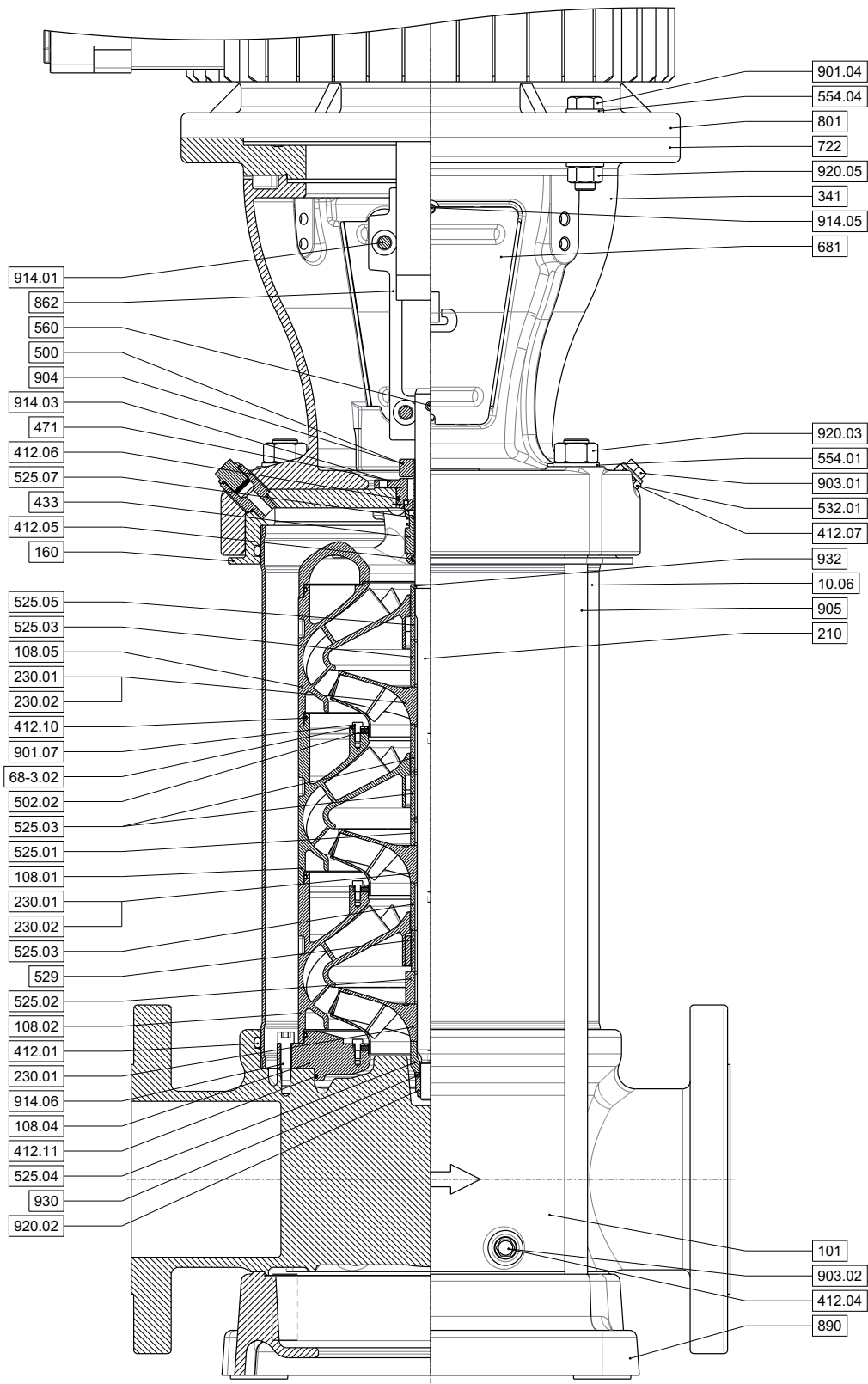


Figure 37: Sectional drawing DPV(S)F 125 B

20080066-E

10 Medium handled

10.1 Medium handled

Media description	Media group	Chemical formula	Cons. max. [%]	PH max.	Temp max. {C}	Model	Material shaft seal				Material pump
							rotor	stator	elastomer	elastomer	
Acetic acid	Acid	(CH_3COOH)	5		20	V	SiC	Ca	EPDM	EPDM	
Acetic anhydride	Weak acid derivative	$(CH_3CO)_2O$	20		20	V	SiC	Ca	EPDM	EPDM	
Acetone	Ketone	$(CH_3)_2CO$				VC	SiC	Ca	EPDM	EPDM	
Acetyl chloride		CH_3COCl			40	VS	SiC	Ca	EPDM	EPDM	
Alcaline (bottle rinse)	Rinsing		2	< 9.5	40	V	TuC	TuC	HNBR	HNBR	
Alcohol (Ethanol)	Hydrocarbon	C_2H_5OH	100		60	V	SiC	Ca	EPDM	EPDM	
Alum (potassium aluminium sulphate)	Salt	$MI\ MIII\ (SO_4)_2$	3		80	VS	SiC	Ca	FPM	FPM	
Aluminium chloride	Halide	$AlCl_3$	5		50	VS	SiC	Ca	EPDM	EPDM	
Aluminium chloride	Halide	$AlCl_3$	25		20	VS	SiC	Ca	EPDM	EPDM	
Aluminium sulphate	Salt	$Al_2(SO_4)_3$			20	V	SiC	Ca	EPDM	EPDM	
Aluminium sulphate	Salt	$Al_2(SO_4)_3$	5		Boiling	VS	SiC	Ca	EPDM	EPDM	
Ammonia	Strong base	NH_3				VC	SiC	Ca	EPDM	EPDM	
Ammonium bicarbonate	Salt	$(NH_4)HCO_3$	10		40	V	SiC	Ca	EPDM	EPDM	
Ammonium sulphate	Salt	$(NH_4)_2SO_4$	20		60	V	SiC	Ca	EPDM	EPDM	
Antifreeze (glycol base, salt-free)	Alcohol		45		110	V	SiC	Ca	EPDM	EPDM	
Beer (not lathery / under pressure)	Alcohol		100		15	V	SiC	Ca	EPDM	EPDM	
Benzene	Hydrocarbon solvent	C_6H_6				VS	SiC	Ca	FPM	FPM	
Boric acid	Acid	H_3BO_3				V	SiC	Ca	EPDM	EPDM	
Buttermilk	Dairy product	fats + water	100		60	V	SiC	Ca	EPDM	EPDM	
Butyl alcohol (butanol)	Hydrocarbon	$CH_3(CH_2)_3OH$					SiC	Ca	EPDM	EPDM	
Calcium acetate	Salt	$C_4H_6O_4Ca$	10		60	VS	SiC	Ca	EPDM	EPDM	
Calcium nitrate (non-acidic)	Salt	$Ca(NO_3)_2$	10		60	VS	TuC	TuC	FPM	FPM	
Cider (apple cider)	Alcohol	H_2O + sucrose + alcohol	100		40	V	SiC	Ca	EPDM	EPDM	
Citric acid	Acid	$C_3H_4(OH)(COOH)_3$	5		20	VS	SiC	Ca	FPM	FPM	
Copper sulphate	Salt	$CuSO_4 \cdot 5H_2O$	5		80	V	TuC	TuC	HNBR	HNBR	
Corn oil	Vegetable oil		100		100	VS	SiC	Ca	FPM	FPM	
Diesel oil	Hydrocarbons					V	SiC	Ca	FPM	FPM	
Diethylene glycol (salt-free)	Alcohol	$C_4H_{10}O_3$	100		100	VC	SiC	Ca	EPDM	EPDM	
Ethanol (alcohol)	Hydrocarbon	C_2H_5OH	100		60	V	SiC	Ca	EPDM	EPDM	
Ethylene glycol (salt-free)	Alcohol	$(CH_2OH)_2$	100		100	V	SiC	Ca	EPDM	EPDM	
Ferric-III-chloride	Salt	$FeCl_3$	5		80	V	TuC	TuC	FPM	FPM	

Media description	Media group	Chemical formula	Cons. max. [%]	PH max.	Temp max. {C}	Model	Material shaft seal				Material pump
							rotor	stator	elastomer	elastomer	
Fuel oil (light)	Hydrocarbon				80	VS	SiC	Ca	FPM	FPM	
Glycerin (glycerol)	Alcohol	C ₃ H ₈ O ₃	40		80	V	SiC	Ca	EPDM	EPDM	
Kerosene	Hydrocarbon		100		80	V	SiC	Ca	FPM	FPM	
Linseed oil	Vegetable oil		100		60	V	SiC	Ca	FPM	FPM	
Linseed oil + 3% sulphur acid	Vegetable oil		100		60	V	SiC	Ca	FPM	FPM	
Magnesium sulphate	Salt	MgSO ₄	10		80	V	SiC	Ca	FPM	FPM	
Malic acid	Acid	C ₄ H ₂ O ₃				V	SiC	Ca	FPM	FPM	
Methanol	Alcohol	CH ₃ OH				V	SiC	Ca	EPDM	EPDM	
Methyl glycol (propylene glycol)	Alcohol	C ₃ H ₆ (OH) ₂	100		20	VC	SiC	Ca	EPDM	EPDM	
Milk	Dairy product	fats + water				V	SiC	Ca	EPDM	EPDM	
Olive oil	Vegetable oil					VC	SiC	Ca	FPM	FPM	
Oxalic acid	Acid	H ₂ C ₂ O ₄	5		20	V	SiC	Ca	EPDM	EPDM	
Oxalic acid	Acid	H ₂ C ₂ O ₄	5		Boiling	VS	SiC	Ca	FPM	FPM	
Oxalic acid	Acid	H ₂ C ₂ O ₄	10		60	V	SiC	Ca	EPDM	EPDM	
Paraffins	Hydrocarbon					V	SiC	Ca	FPM	FPM	
Peanut oil	Vegetable oil		100		90	V	SiC	Ca	FPM	FPM	
Petroleum	Hydrocarbon	Hydrocarbon	100		80	V	SiC	Ca	FPM	FPM	
Potassium chlorate	Salt	KClO ₃				VS	TuC	TuC	HNBR	HNBR	
Potassium chloride	Salt	KCl				V	SiC	Ca	EPDM	EPDM	
Potassium hydroxide	Salt	KOH	5		40	VS	SiC	Ca	EPDM	EPDM	
Potassium nitrate	Salt	KNO ₃	5		30	VS	TuC	TuC	HNBR	HNBR	
Potassium sulphate	Salt	K ₂ SO ₄	3		20	VS	SiC	Ca	FPM	FPM	
Rape-seed oil	Vegetable oil	mixture			100	VS	SiC	Ca	FPM	FPM	
Sodium carbonate	Salt	Na ₂ CO ₃	6		60	V	SiC	Ca	EPDM	EPDM	
Sodium chloride	See sea water	NaCl									
Sodium hydroxide (soda lye)	Salt	NaOH	5		50	VS	TuC	TuC	HNBR	HNBR	
Sodium nitrate (non acidic)	Salt	NaNO ₃	10		60	V	SiC	Ca	EPDM	EPDM	
Sodium phosphate	Salt	Na ₃ PO ₄				V	SiC	Ca	EPDM	EPDM	
Sodium sulphate (non acidic)	Salt	Na ₂ SO ₄	5		60	V	SiC	Ca	EPDM	EPDM	
Soybean oil	Vegetable oil		100		100	V	SiC	Ca	FPM	FPM	
Spirits	Alcohol	H ₂ O + sucrose + alcohol	40		60	V	SiC	Ca	EPDM	EPDM	
Sulphuric acid	Acid	H ₂ SO ₄	5		30	VS	TuC	TuC	FPM	FPM	
Tannic acid	Acid	C ₇₆ H ₅₂ O ₄₆	20		80	V	SiC	Ca	FPM	FPM	
Tartaric acid	Acid	C ₄ H ₆ O ₆	8		40	VS	SiC	Ca	FPM	FPM	
Vinegar (wine vinegar)	Acid	CH ₃ COOH	10		60	VS	SiC	Ca	EPDM	EPDM	
Water, untreated / suspended solids <20 ppm	Water	H ₂ O + ...	100		60	VC	TuC	Ca	EPDM	EPDM	
Water, boiler feed water (conform. Vd TÜV 1466	Water	H ₂ O + ...	100		120	VC	TuC	Ca	EPDM	EPDM E425	
Water, brackish	Sea water	H ₂ O + ...	100	7	5	V	TuC	TuC	FPM	FPM	
Water, brackish	Sea water	H ₂ O + ...	100	7	10	V	TuC	TuC	FPM	FPM	
Water, brackish	Sea water	H ₂ O + ...	100	7	15	VS	TuC	TuC	FPM	FPM	

Media description	Media group	Chemical formula	Cons. max. [%]	PH max.	Temp max. [C]	Model	Material shaft seal			Material pump
							rotor	stator	elastomer	
Water, brackish	Sea water	H ₂ O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H ₂ O + ...	100	7	25	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H ₂ O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H ₂ O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H ₂ O + ...		7	15	VS	TuC	TuC	FPM	FPM
Water, condensate (conform Vd TÜV 1466)	Water	H ₂ O + ...	100		100	VS	TuC	Ca	EPDM	EPDM
Water, cooling water	Water	H ₂ O + ...			100	VS	TuC	TuC	HNBR	HNBR
Water, de-carbonised (softened)	Water	H ₂ O + ...	100		120	V	TuC	TuC	HNBR	HNBR
Water, de-ionised	Water	H ₂ O + ...			120	V	SiC	Ca	EPDM	EPDM
Water, distilled	Water	H ₂ O + ...				V	SiC	Ca	EPDM	EPDM
Water, fire fighting	Water	H ₂ O + ...	100		60	VC	TuC	TuC	HNBR	HNBR
Water, harbour	Sea water	H ₂ O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, harbour	Sea water	H ₂ O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, heating (conform Vd TÜV 1466)	Water	H ₂ O + ...	100		120	VC	SiC	Ca	EPDM	EPDM
Water, (conform VDI 2035)	Water	H ₂ O + ...	100		100	VC	TuC	Ca	EPDM	EPDM
Water, oil water mixture	Water		5		80	V	SiC	Ca	FPM	FPM
Water, ordinary sea water	Sea water	H ₂ O + ...	100	7	5	V	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H ₂ O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H ₂ O + ...	100	7	15	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H ₂ O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water (Ozon 0.5 mg/l)	Water	H ₂ O + ...			25	V	SiC	Ca	EPDM	EPDM
Water, pure (chemically neutral)	Water	H ₂ O + ...	100		60	V	SiC	Ca	EPDM	EPDM
Water, rinsing	Water	H ₂ O + ...			70	VS	TuC	TuC	FPM	FPM
Water, swimming-pool (chlorine 0.8 mg/l)	Water	H ₂ O + ...			25	VS	SiC	Ca	FPM	FPM
Water, tap (drinking water)	Water	H ₂ O + ...	100		60	V	SiC	Ca	EPDM	EPDM WRC/ACS

dp pumps

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