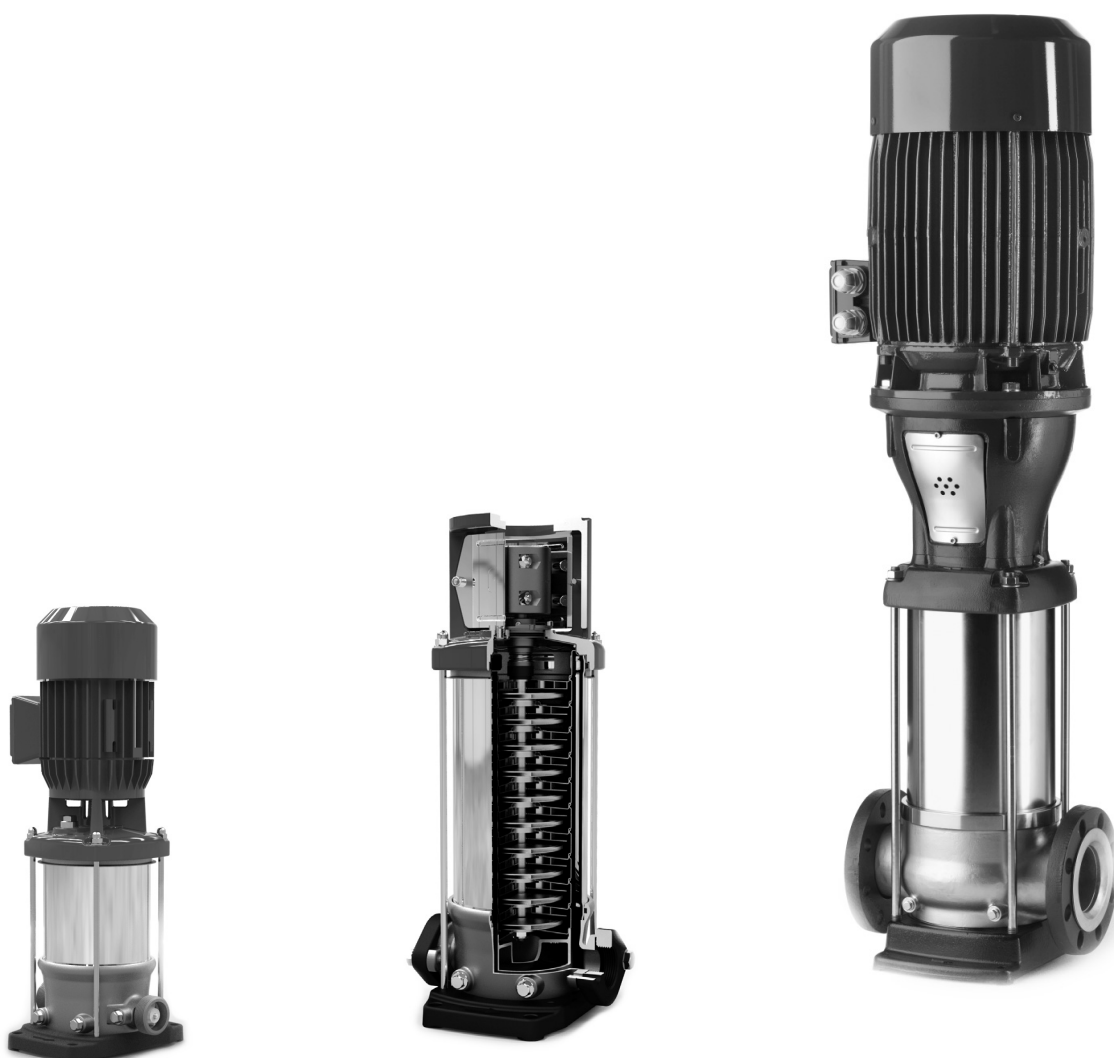


# Technical Data 60 Hz DIN/IEC

Vertical centrifugal pumps  
series: DPV(C/S) 2 - 4 - 6 - 10 - 15 - 25 - 40 - 60 - 85  
Design Version B





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# 1 Pump introduction

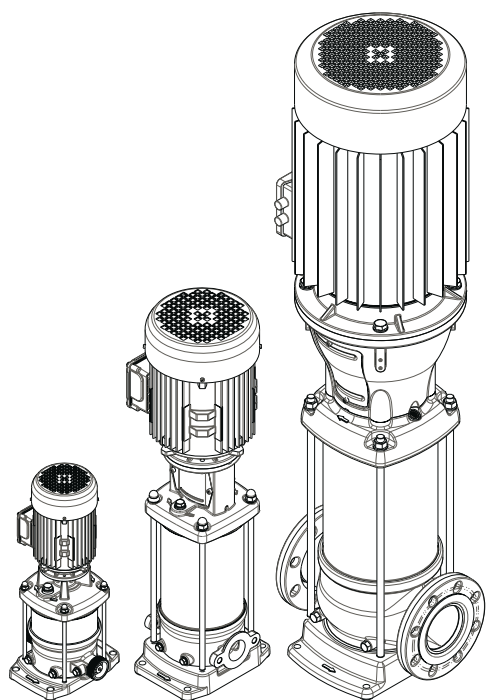
## 1.1 General

The vertical, single or multistage 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, multistage centrifugal DPV pumps are produced by DP-Pumps.



DPV2,4,6 B

DPV10,15 B

DPV 25, 85 B

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## 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 hydr. 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 <sup>3</sup> /h at Q <sub>opt</sub>
					/3			Number of stages
					/3	-1		Number of stages of which one stage with reduced head
							B	Design version

### 1.3 Operation

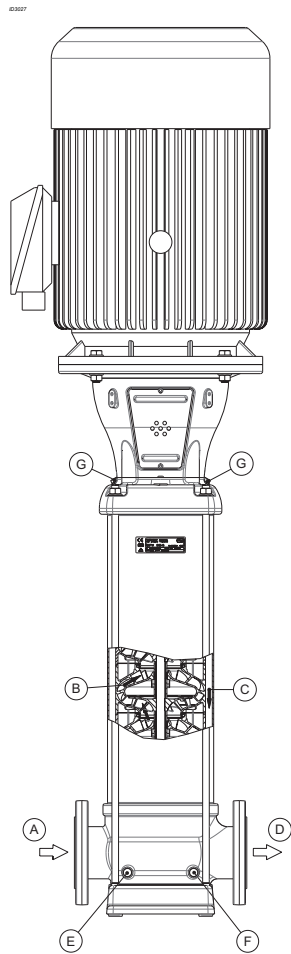


Figure 1: DPVF 85

During centrifugal operation of the pump an 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).

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### 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 advice the working ranges are 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	<sup>1</sup>
Minimum inlet pressure	NPSH <sub>req.</sub> + 1 m	
Viscosity [cSt]	1-100	<sup>2</sup>
Density [kg/m <sup>3</sup> ]	1000-2500	<sup>2</sup>
Cooling	forced motor cooling	<sup>3</sup>
Minimum frequency [Hz]	30	
Maximum frequency [Hz]	60	<sup>4</sup>
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 9: 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 60 Hz power supply.

### 1.5.1 Minimum capacity

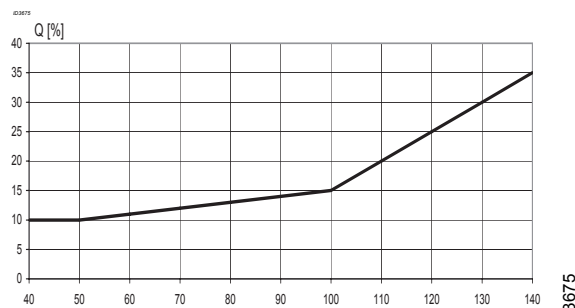
For minimum capacity at medium temperature of 20 °C, see table: 3Minimum capacity (Q<sub>min</sub>); for higher temperatures, see table: 4Minimum capacity vs.temperature (in % of Q optimum).

To prevent the pump from overheating, gathering gas, cavitation etc. a minimum capacity has to be secured. The minimum capacity corresponds to a percentage of the optimum flow Q<sub>opt</sub> in relation to the temperature of the liquid pumped.

Table 3: Minimum capacity (Q<sub>min</sub>)

size	Q <sub>min</sub> [m <sup>3</sup> /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

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	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
- **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

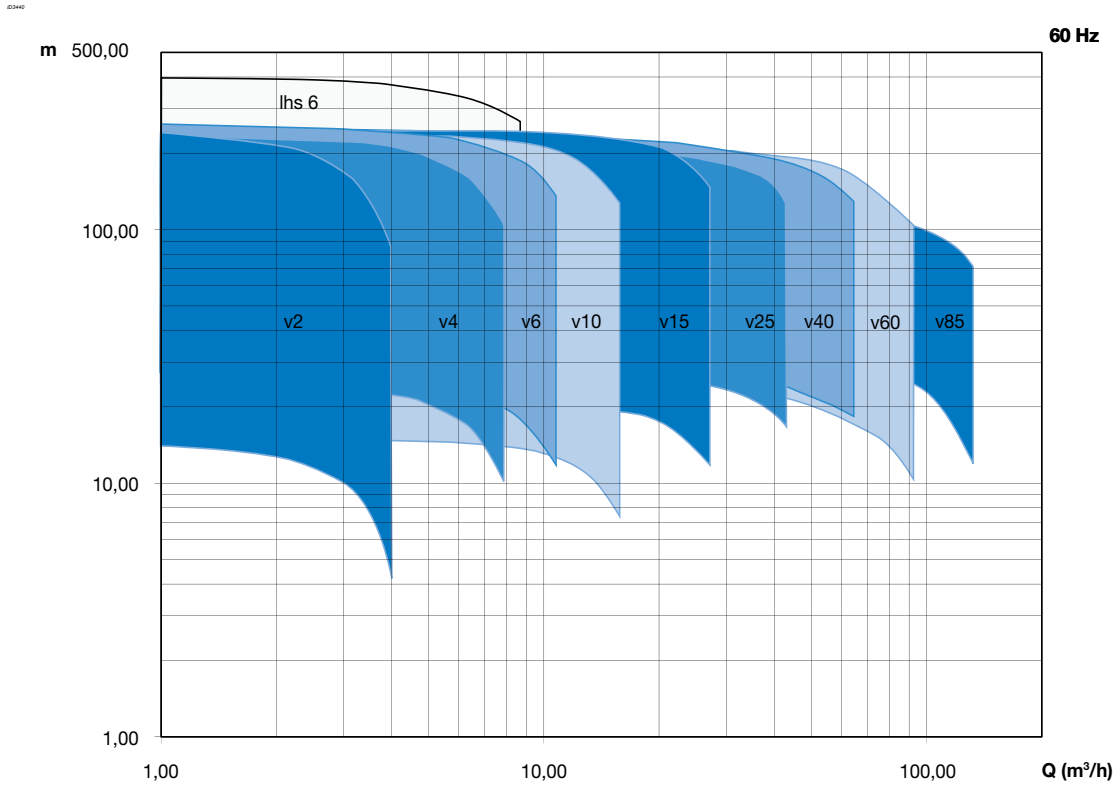


Figure 2: Performance range DPV(C/S) B 60 Hz

## 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 motors used for the measurements are calibrated motors with a specific rotational speed. 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 at 2 & 4 pole

Rated motor power	Rated speed at 50 Hz [rpm]	Rated speed at 60 Hz [rpm]
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/dm<sup>3</sup>
- Kinematical viscosity of 1 mm<sup>2</sup>/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

Per January 1st 2013 for multistage pumps (reference 50Hz and 2 poles) a new Commission Regulation (EU) No 547/2012 as part of the Directive 2009/125/EC is mandatory.

According to this the pumps need to apply to a new Minimum Efficiency Index (MEI). This value is set to be  $\geq 0.10$

For the design version B pump range the following values are applicable:

Table 8: Minimum efficiency index

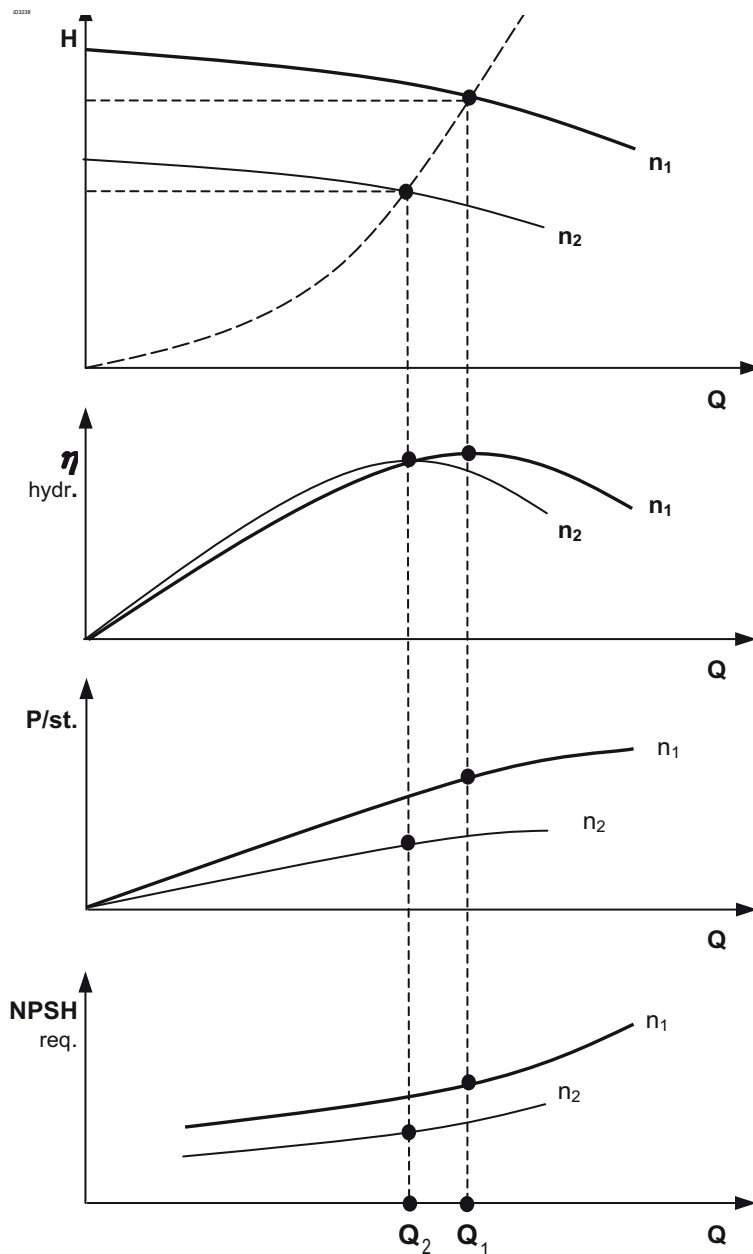
Pump range	Minimum Efficiency index
DPV 2	MEI $\geq 0.70$
DPV 4	MEI $\geq 0.70$
DPV 6	MEI $\geq 0.70$
DPV 10	MEI $\geq 0.70$

Pump range	Minimum Efficiency index
DPV 15	MEI $\geq 0.40$
DPV 25	MEI $\geq 0.70$
DPV 40	MEI $\geq 0.70$
DPV 60	MEI $\geq 0.70$
DPV 85	MEI $\geq 0.60$

## 2.4 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 performance of the pump differs from the fixed speed performance according to the recalculation scheme.



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

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

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

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

$$NPSH_{2, req.} = \frac{(n_2)^2}{(n_1)^2} \cdot NPSH_{1, req.}$$

Figure 3: Performance characteristics

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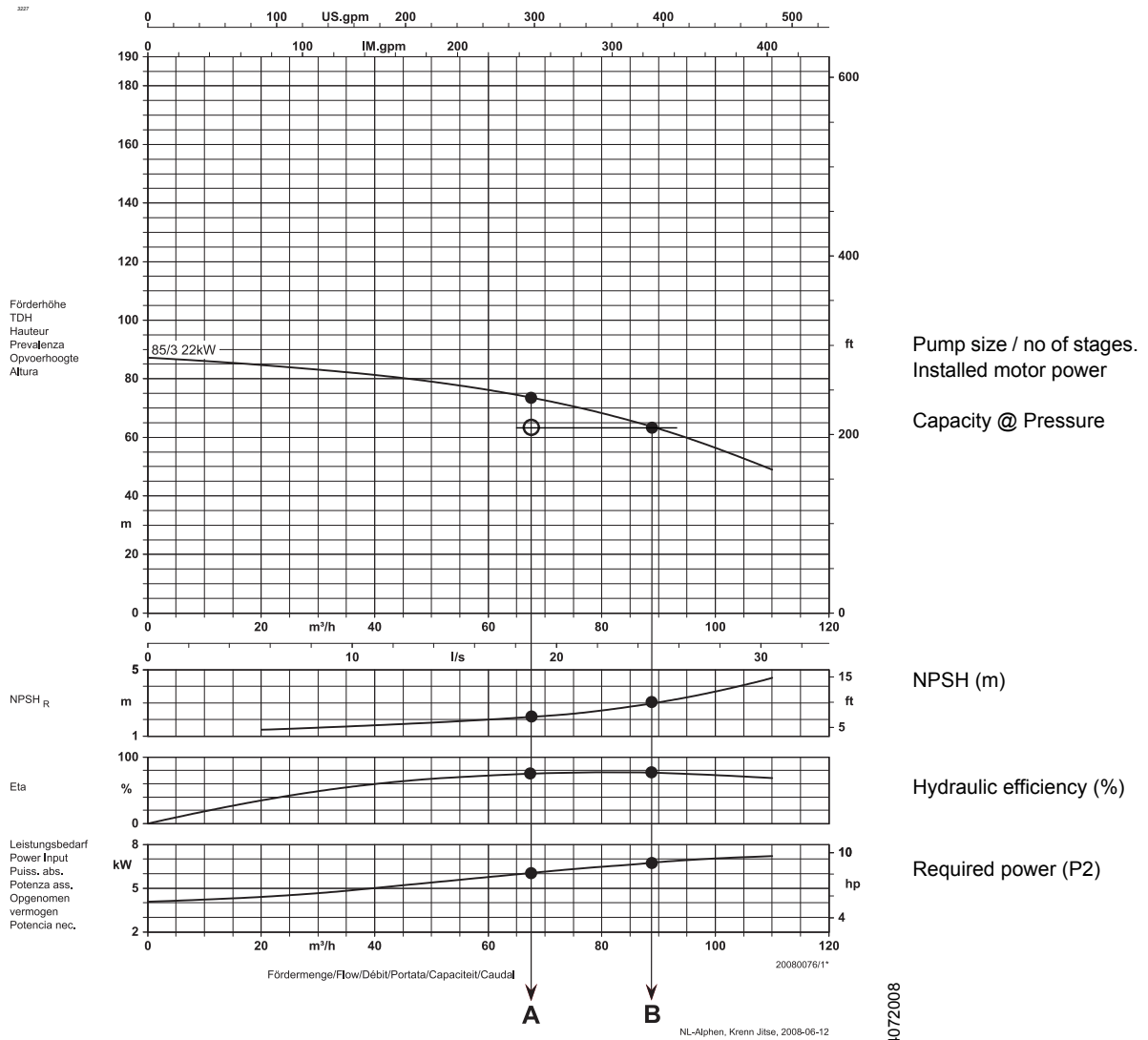
## 2.5 How to read the values from the curves

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.

3227



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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 - 60Hz - 2 pole

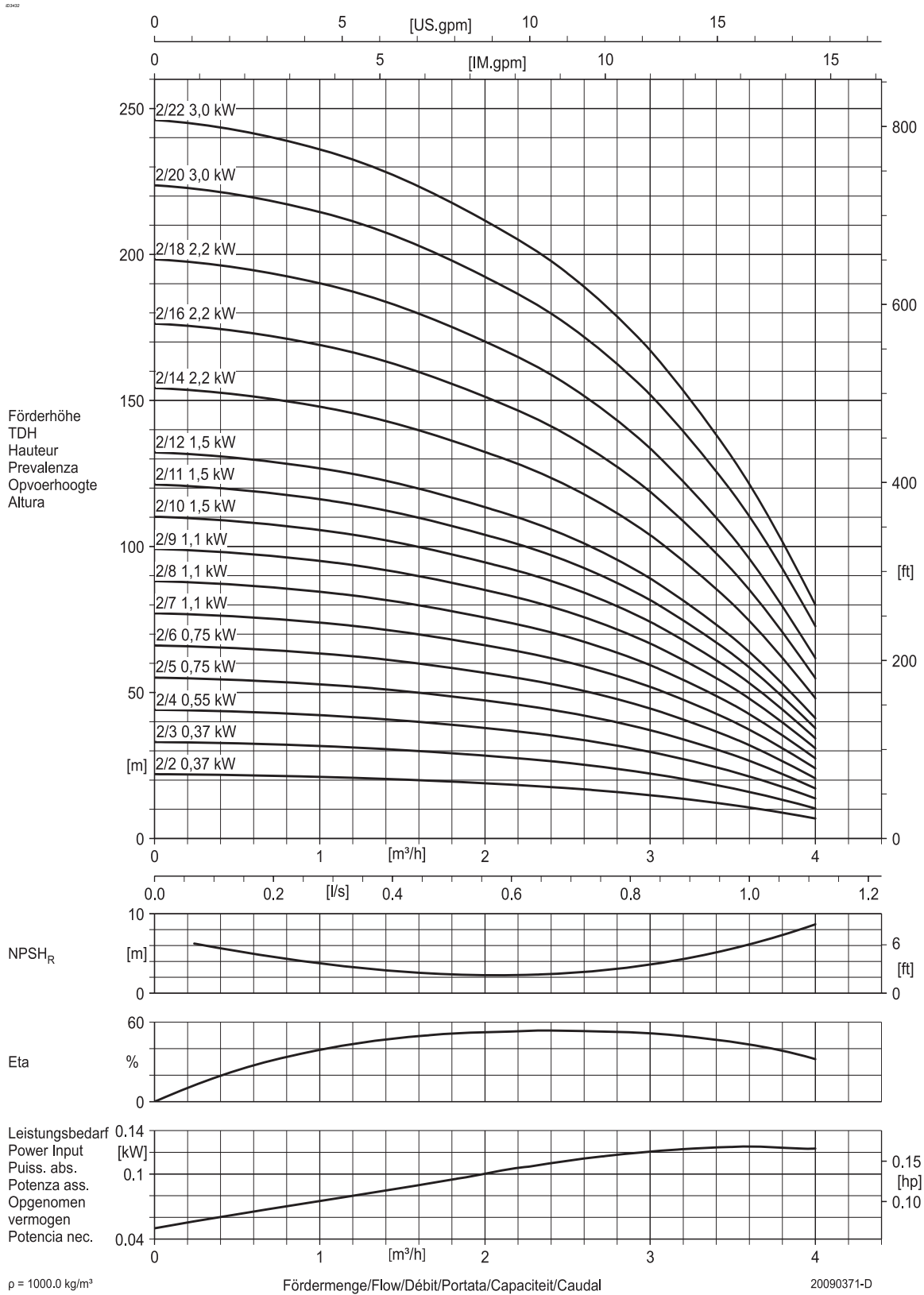


Figure 5: Performance curve DPV(C/S) 2 B - 60Hz - 2 pole



## 2.7 Hydraulic performance curve DPV(C/S) 4 B - 60Hz - 2 pole

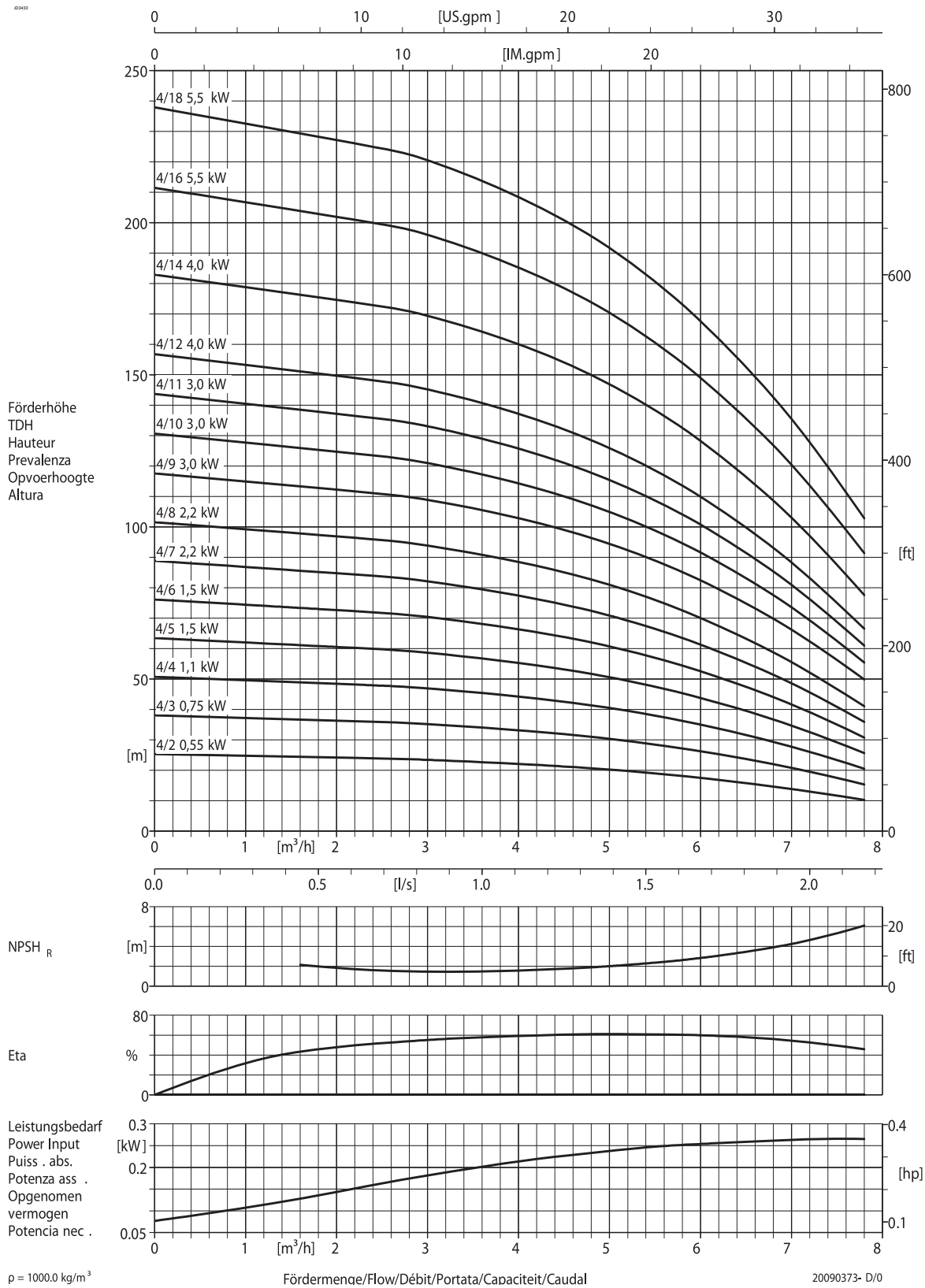


Figure 6: Performance curve DPV(C/S) 4 B - 60Hz - 2 pole

## 2.8 Hydraulic performance curve DPV(C/S) 6 B - 60Hz - 2 pole

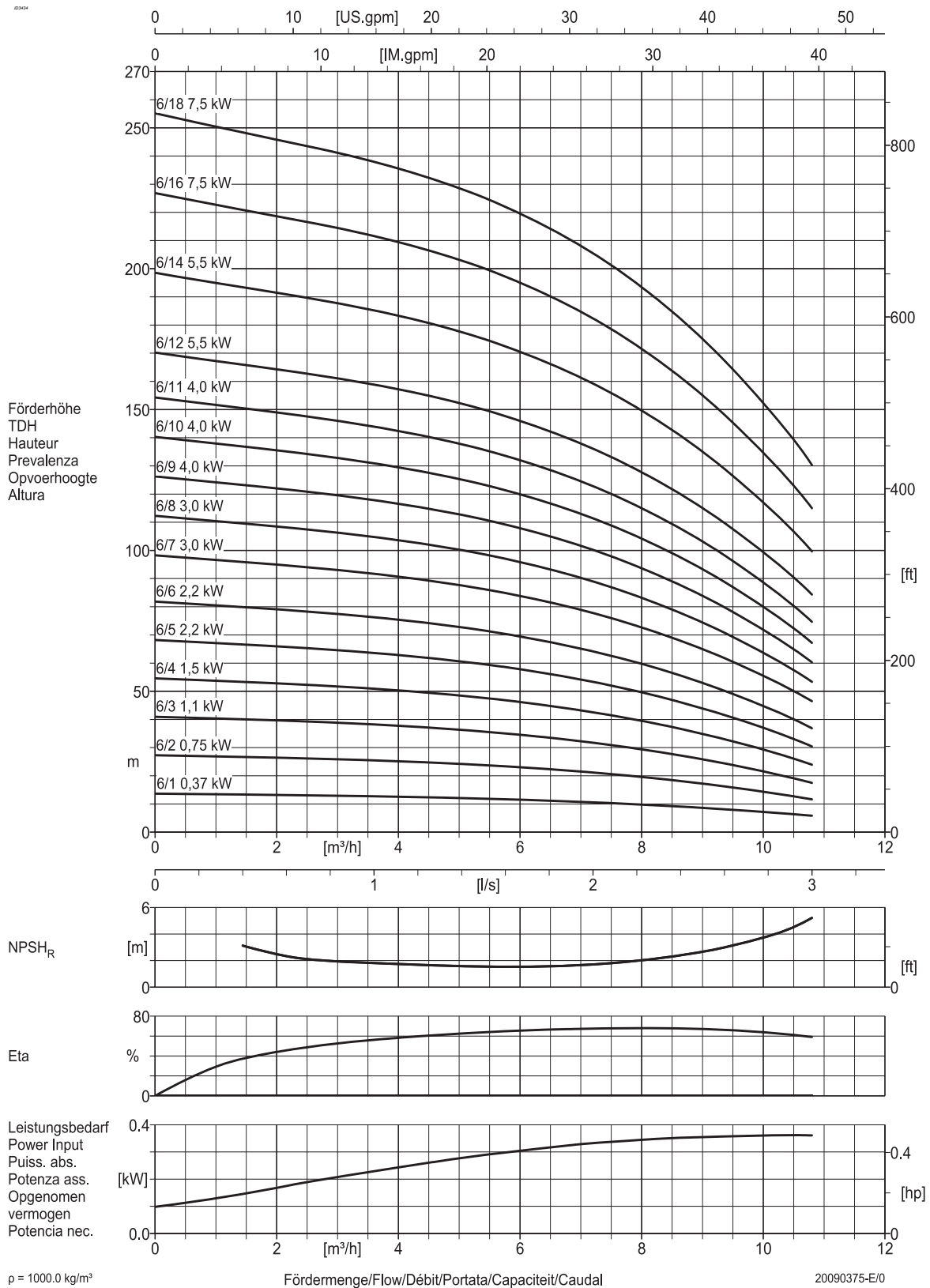


Figure 7: Performance curve DPV(C/S) 6 B - 60Hz - 2 pole



## 2.9 Hydraulic performance curve DPV(C/S) 10 B - 60Hz - 2 pole

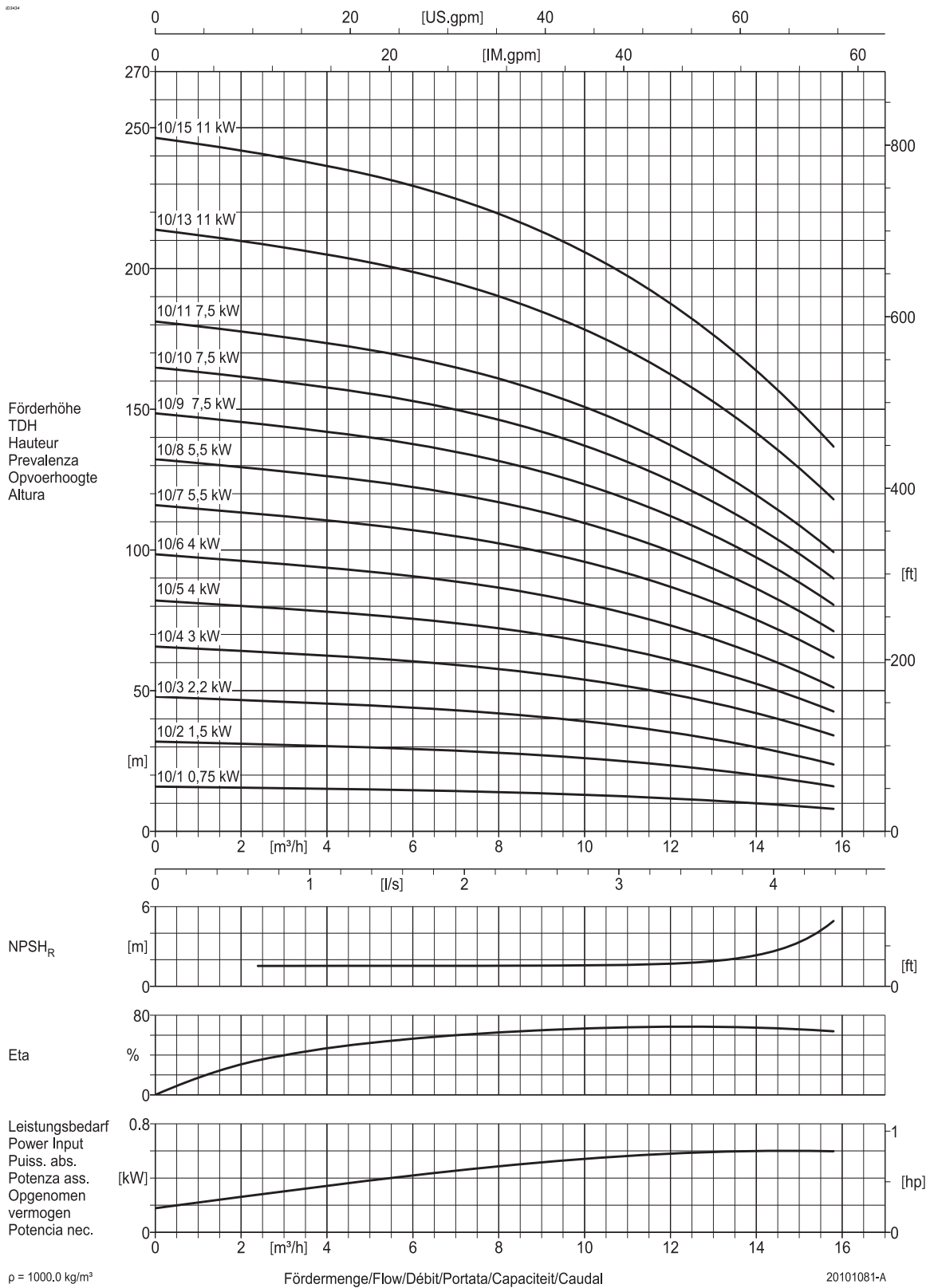


Figure 8: Performance curve DPV(C/S) 10 B - 60Hz - 2 Pole



## 2.10 Hydraulic performance curve DPV(C/S) 10 B - 60Hz - 4 pole

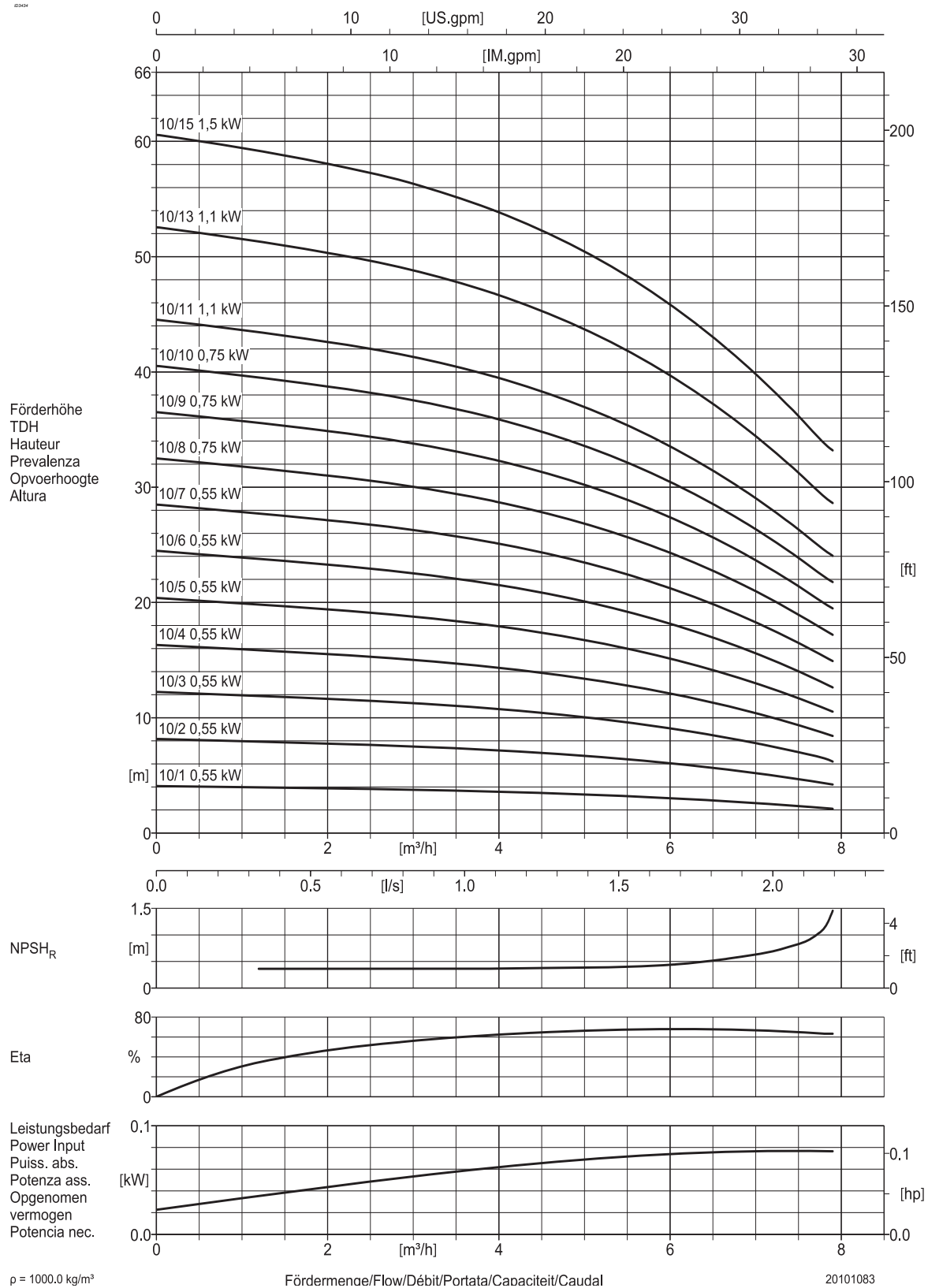


Figure 9: Performance curve DPV(C/S) 10 B - 60Hz - 4 pole



## 2.11 Hydraulic performance curve DPV(C/S) 15 B - 60Hz - 2 pole

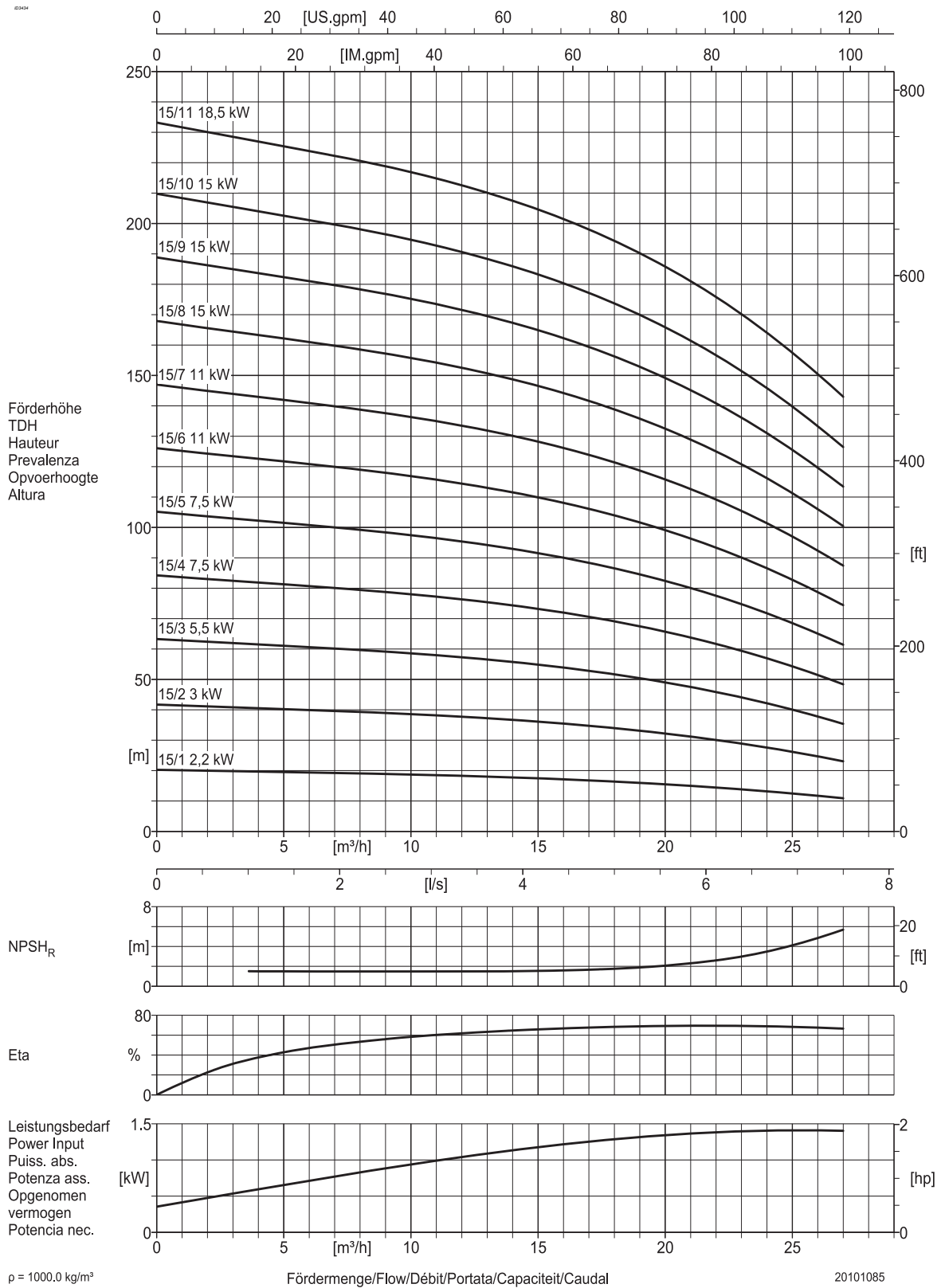


Figure 10: Performance curve DPV(C/S) 15 B - 60Hz - 2 pole

## 2.12 Hydraulic performance curve DPV(C/S) 15 B - 60Hz - 4 pole

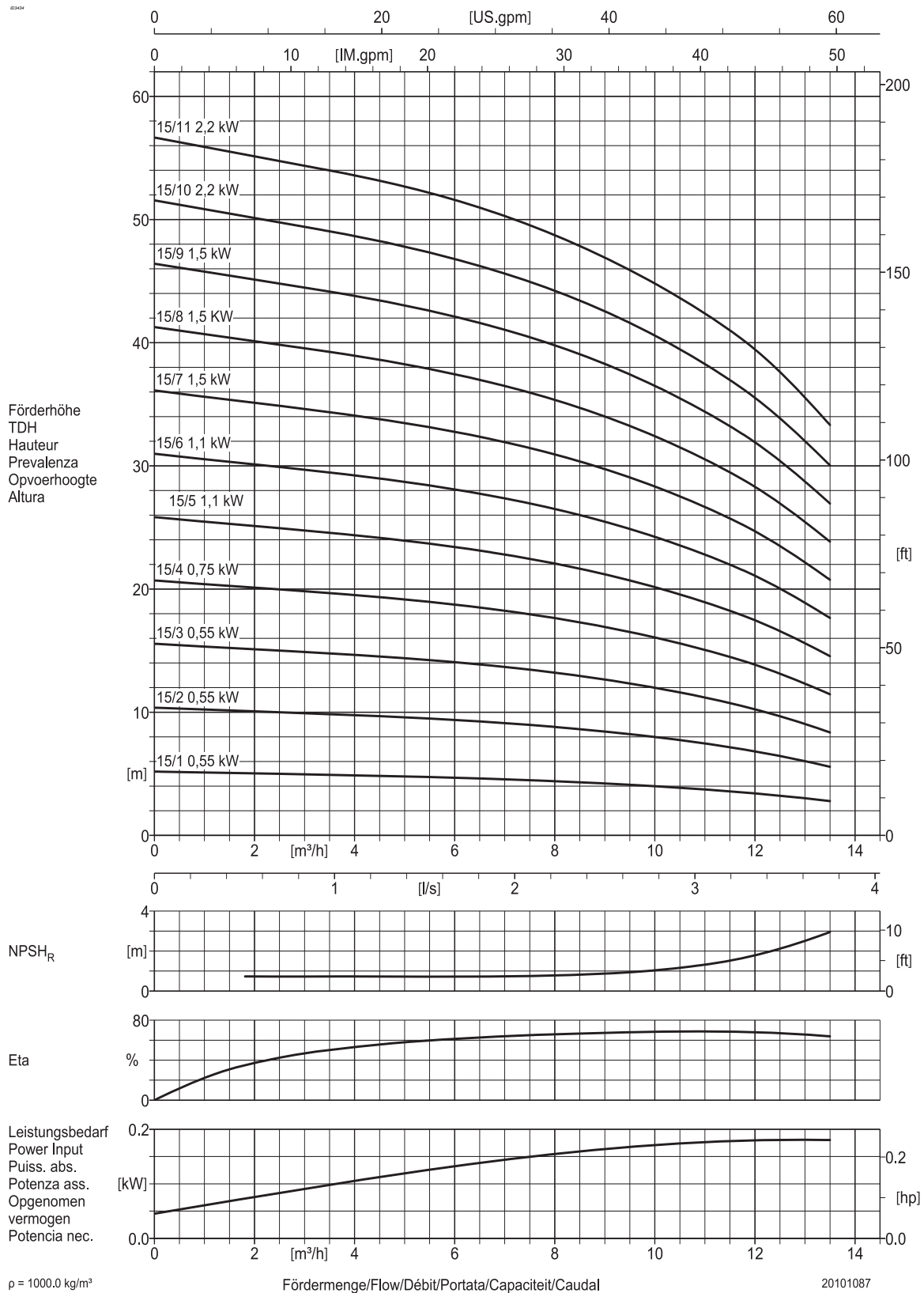


Figure 11: Performance curve DPV(C/S) 15 B - 60Hz - 4 pole



## 2.13 Hydraulic performance curve DPV(C/S) 25 B - 60Hz - 2 pole

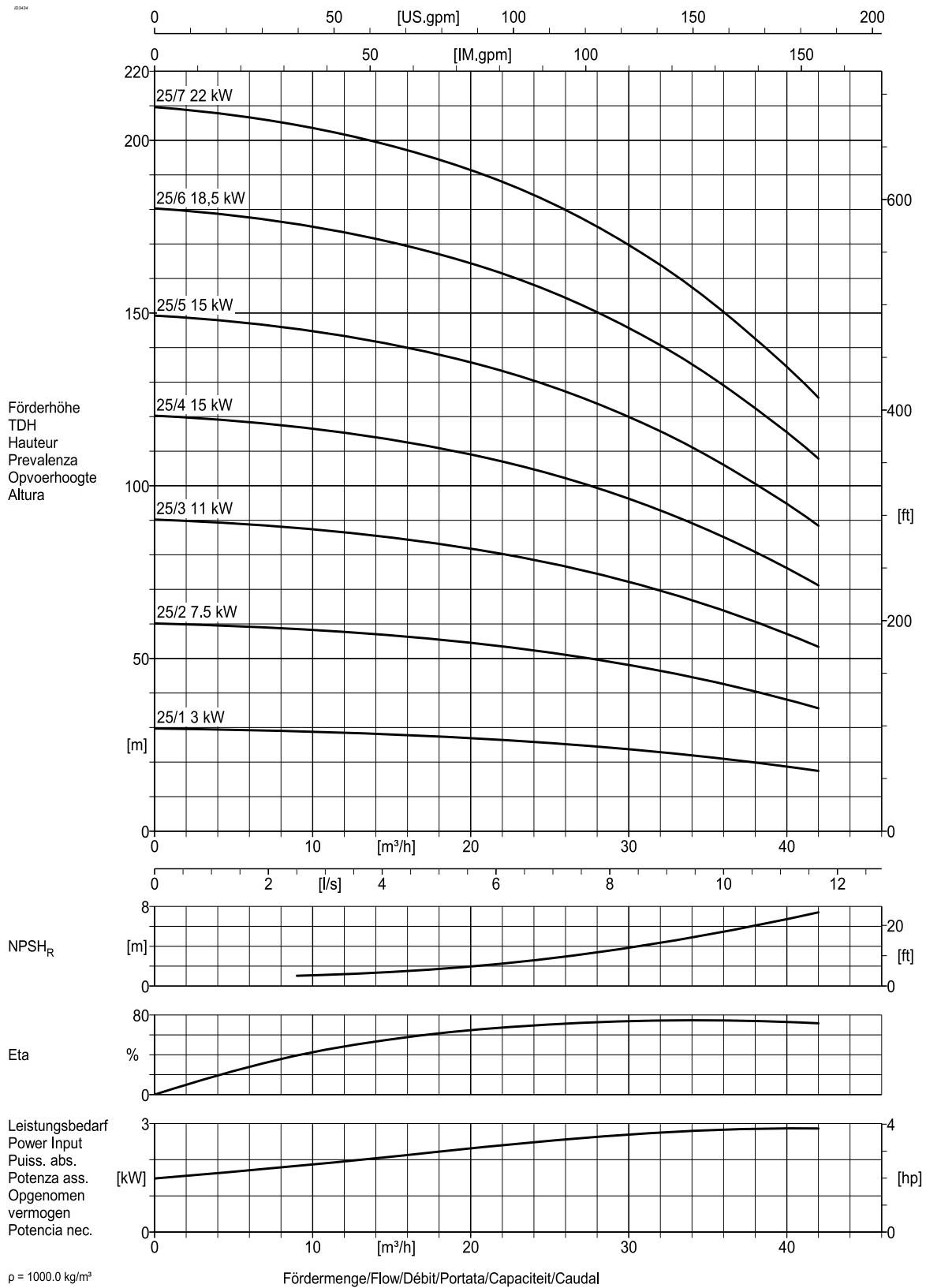


Figure 12: Performance curve DPV(C/S) 25 B - 60Hz - 2 pole

## 2.14 Hydraulic performance curve DPV(C/S) 25 B - 60Hz - 4 pole

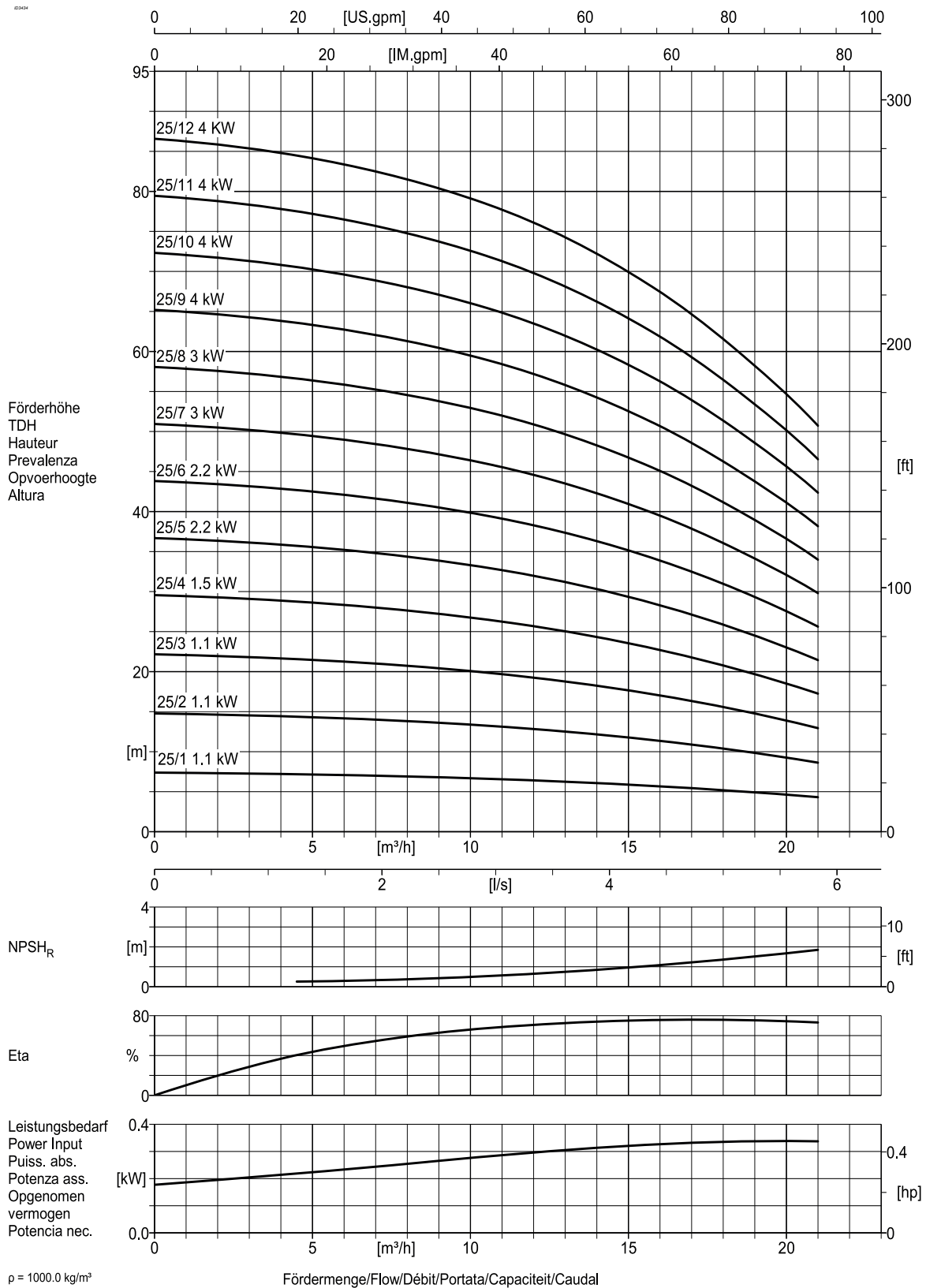


Figure 13: Performance curve DPV(C/S) 25 B - 60Hz - 4 pole

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## 2.15 Hydraulic performance curve DPV(C/S) 40 B - 60Hz - 2 pole

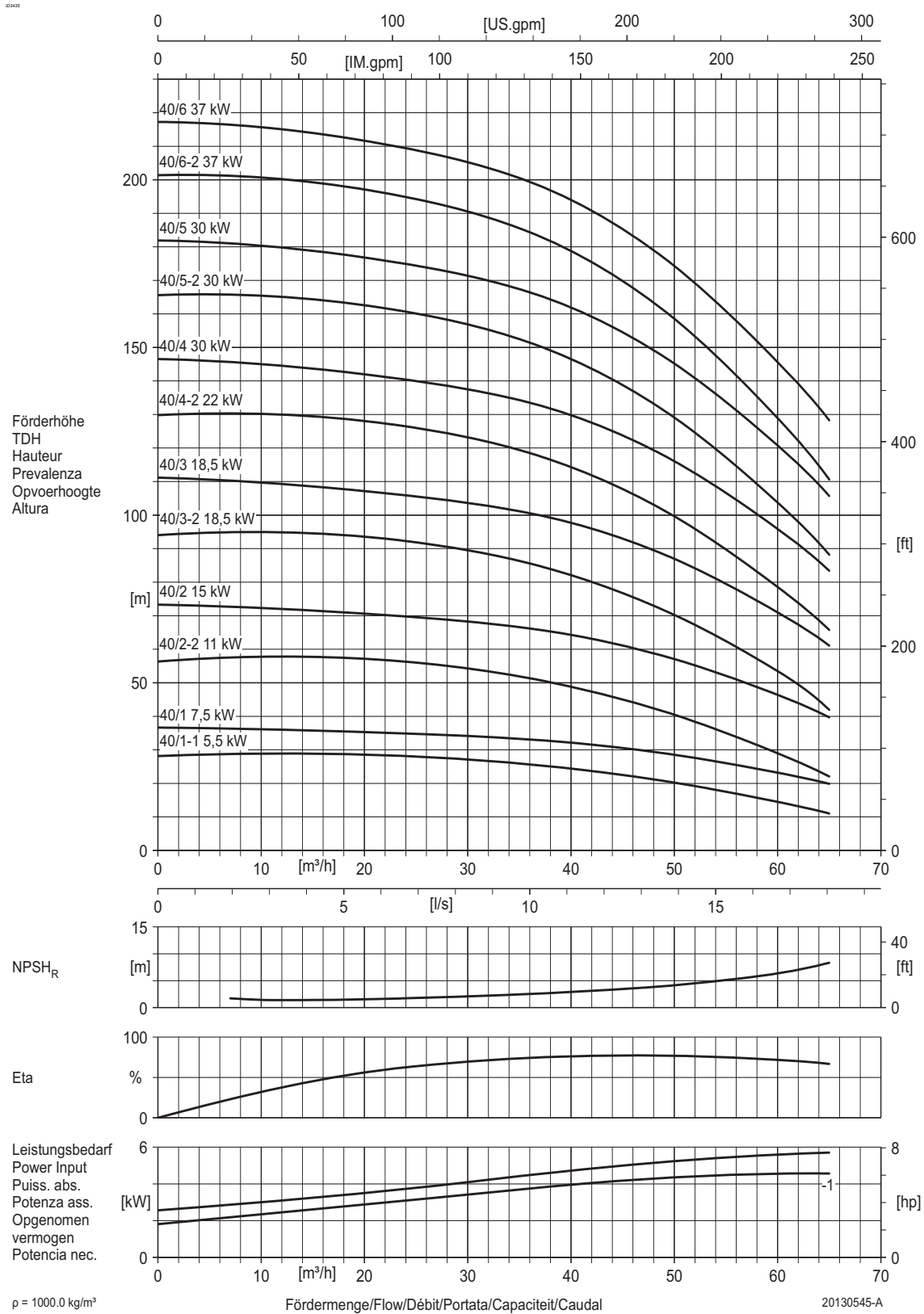


Figure 14: Performance curve DPV(C/S) 40 B - 60Hz - 2 pole

## 2.16 Hydraulic performance curve DPV(C/S) 40 B - 60Hz - 4 pole

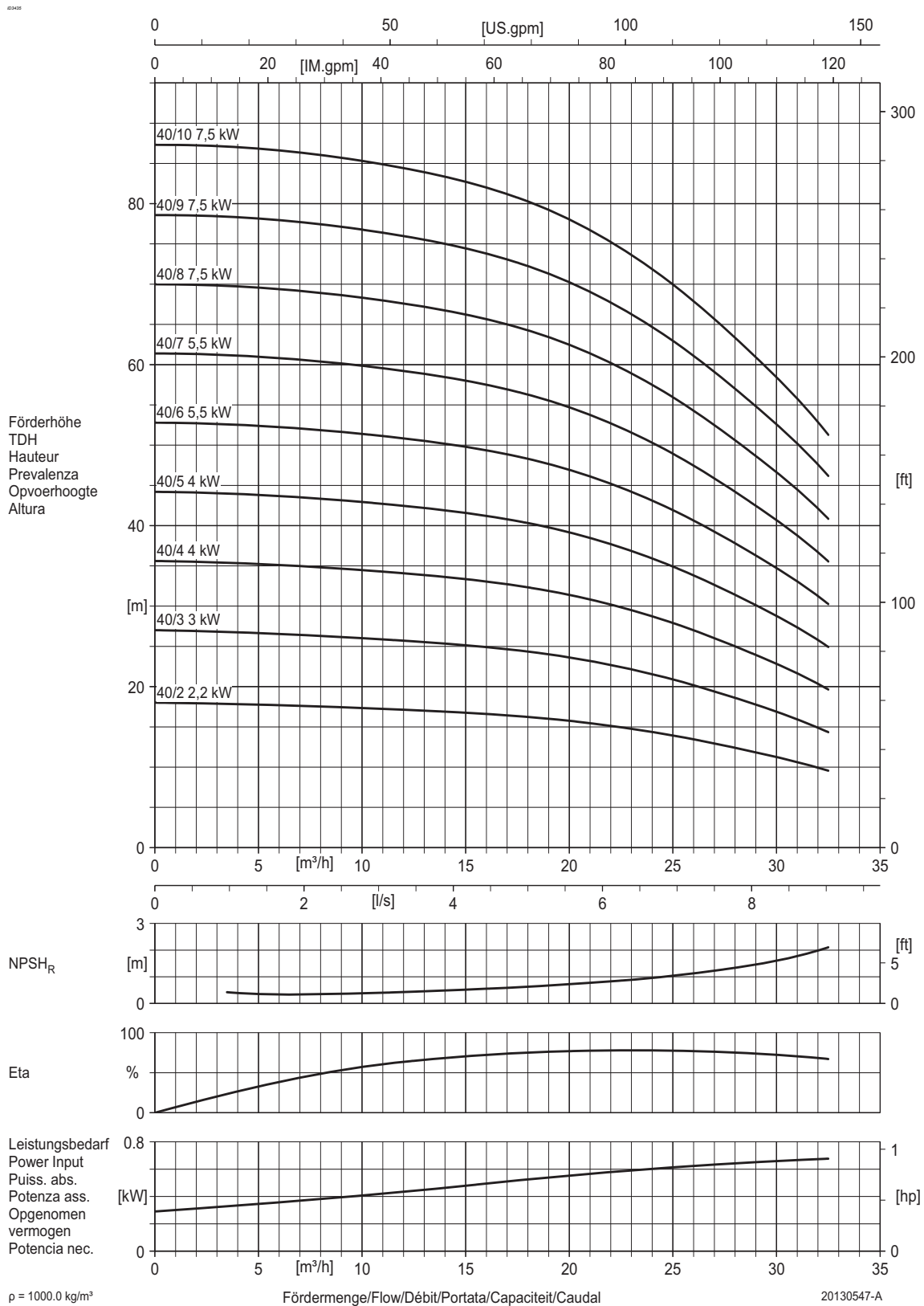


Figure 15: Performance curve DPV(C/S) 40 B - 60Hz - 4 pole



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

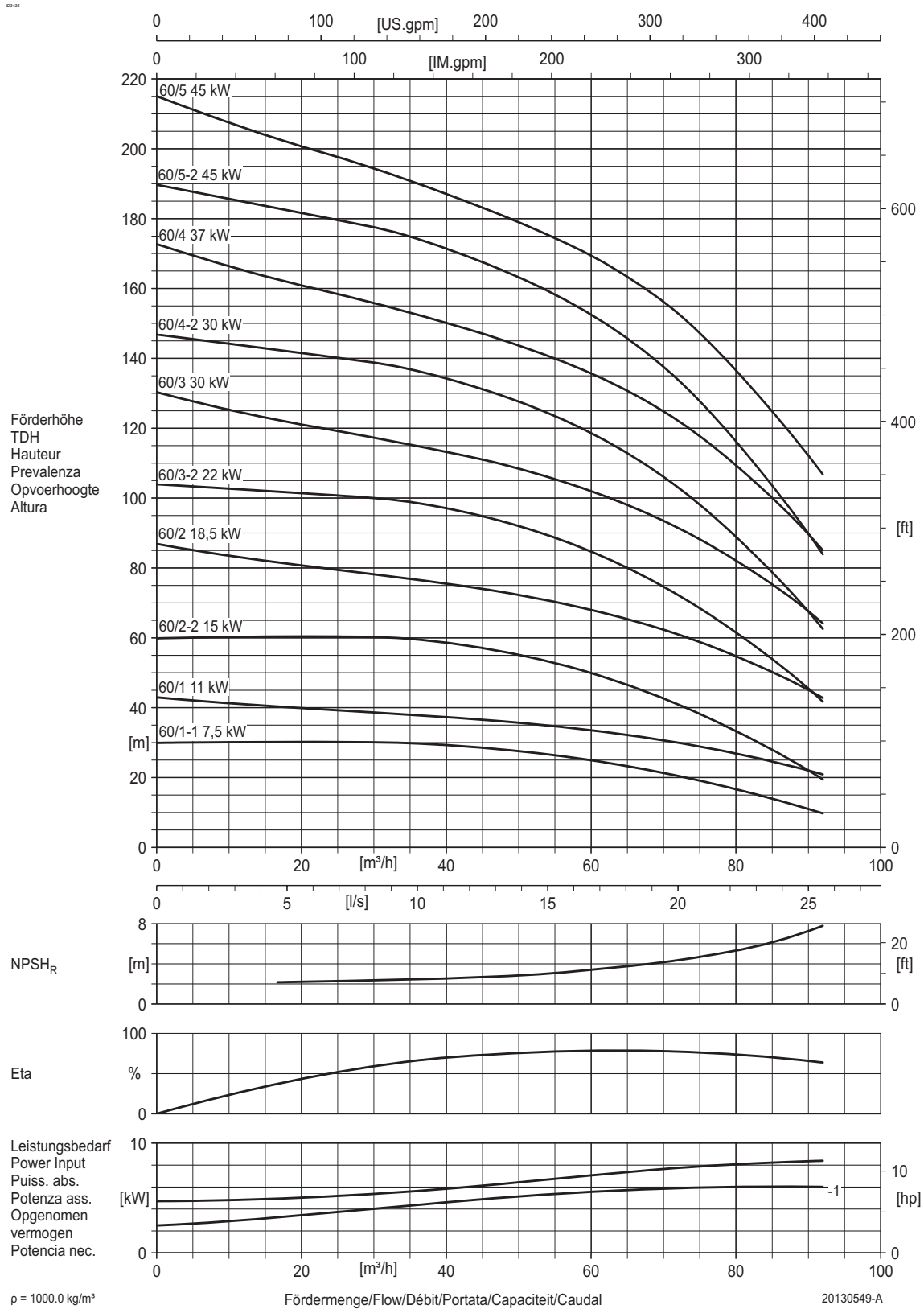


Figure 16: Performance curve DPV(C/S) 60 B - 60Hz - 2 pole



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

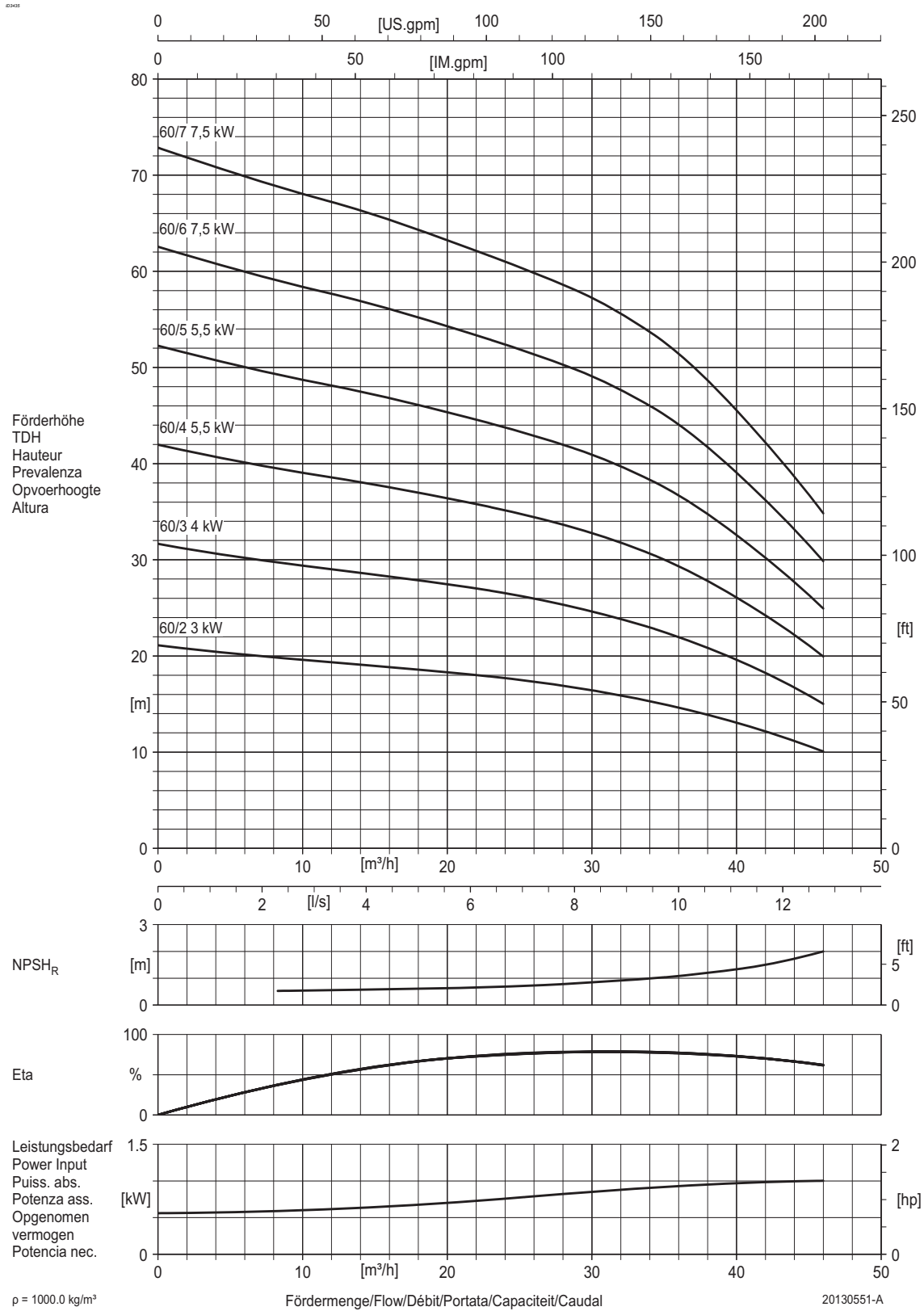


Figure 17: Performance curve DPV(C/S) 60 B - 60Hz - 4 pole

20080077-B



## 2.19 Hydraulic performance curve DPV(C/S) 85 B - 60Hz - 2 pole

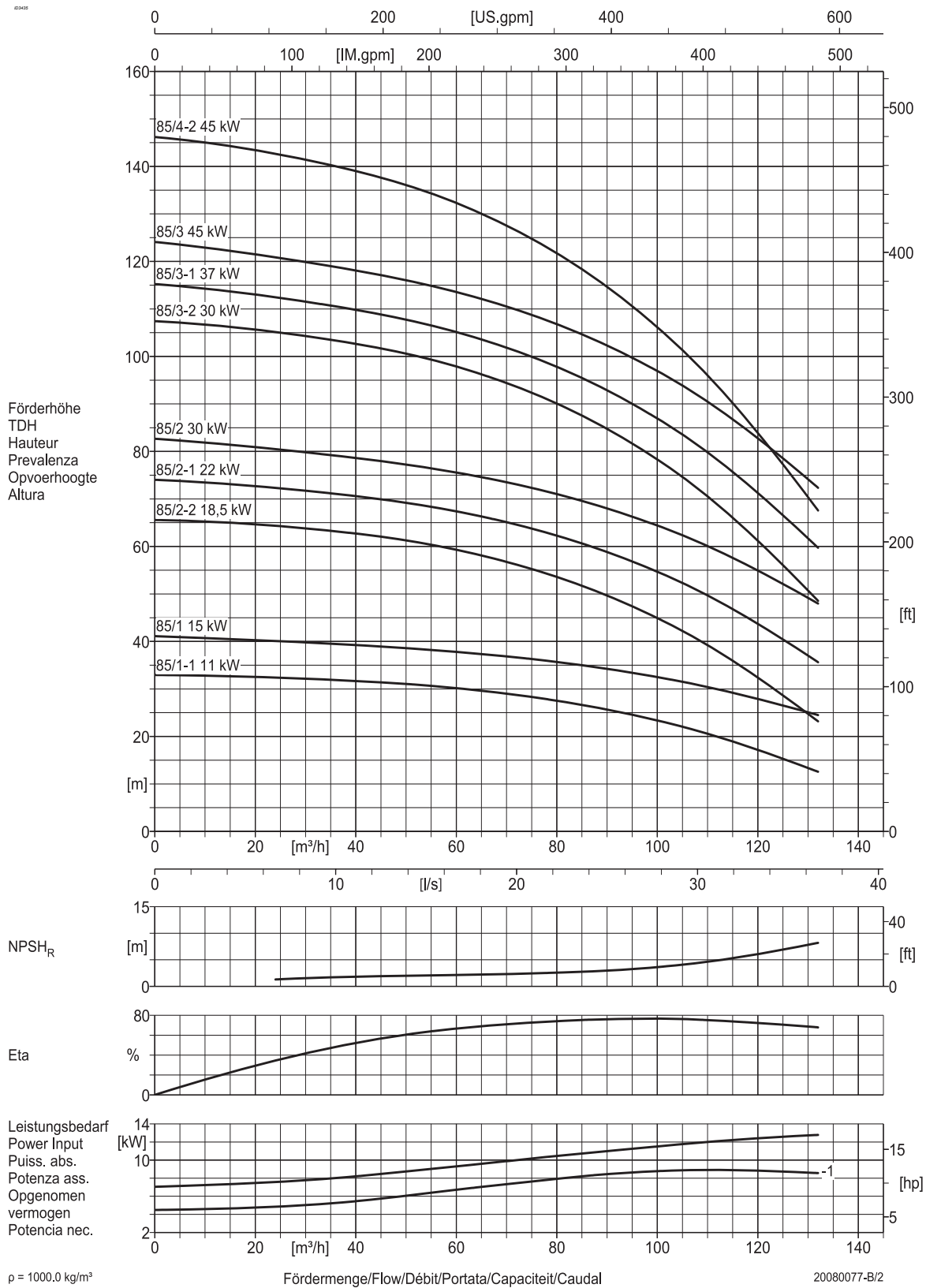


Figure 18: Performance curve DPV(C/S) 85 B - 60Hz - 2 pole

20080077-B

## 2.20 Hydraulic performance curve DPV(C/S) 85 B - 60Hz - 4 pole

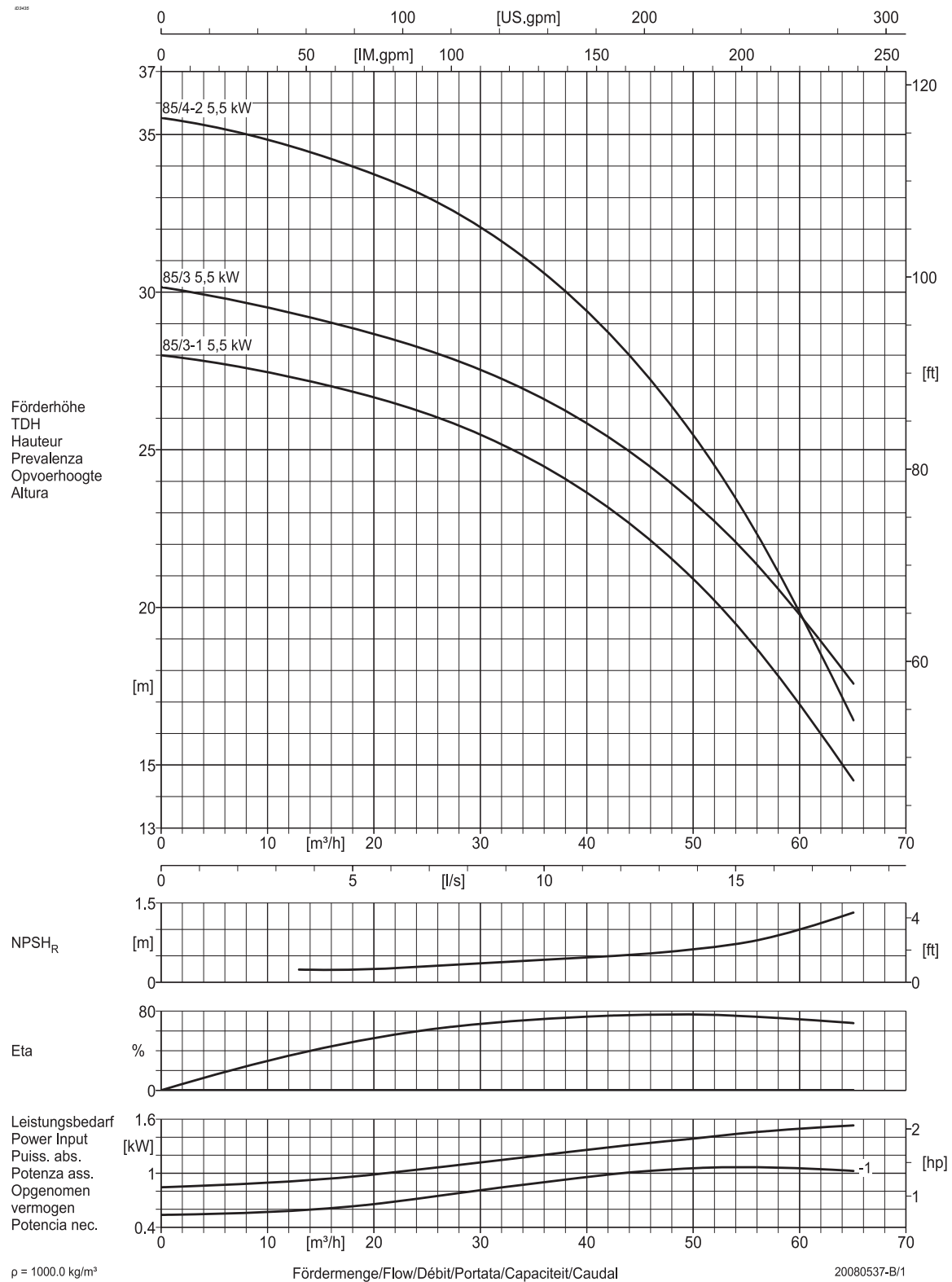


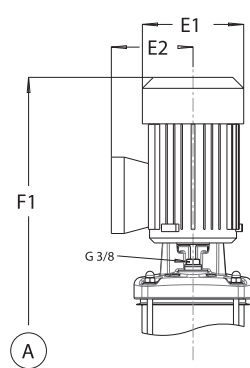
Figure 19: Performance curve DPV(C/S) 85 B - 60Hz - 4 pole



# 3 Dimensions

## 3.1 DPV(C/S) 2 B - 60Hz - 2 pole - DIN

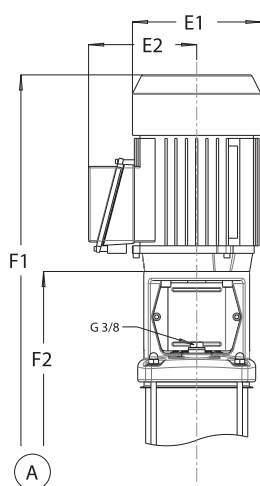
Table 9: VM CLOSED coupled motor construction type; IM 3619



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		0,55	134	107		463		16	488		21
2/5		0,75	150	115		528		22	553		27
2/6		0,75	150	115		550		23	575		28

Table 10: coupled motor construction type; V18



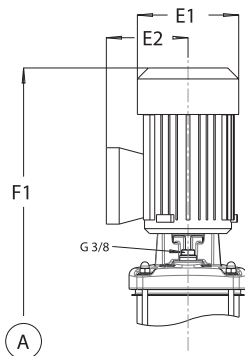
20091216-A

Model	pressure class	Power [kW]	Motor dimensions			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		472	259	18	497	284	22
2/3		0,37	134	107		493	280	18	518	305	23
2/4		0,55	134	107		515	302	18	540	327	23
2/5		0,75	150	115		590	333	25	615	358	30
2/6		0,75	150	115		612	355	26	637	380	30
2/7		1,1	150	115		633	376	26	658	401	31
2/8		1,1	150	115		655	398	26	680	423	31
2/9		1,1	150	115		676	419	27	701	444	32
2/10		PN16	1,5	176	141		704	451	33	729	476
2/11	1,5		176	141		725	472	33	750	497	34
2/12	1,5		176	141		747	494	34	772	519	35
2/14	2,2		176	141		819	537	36	844	562	37
2/16	PN25/40	2,2	176	141		862	580	41	887	605	41
2/18		2,2	176	141		905	623	41	930	648	42
2/20		3	195	145		990	676	52	1015	701	53
2/22		3	195	145		1049	719	53	1074	744	54

	<p><b>DPV E Male thread -</b>          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</p>
	<p><b>DPV (S)</b>          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</p>
	<p><b>DPV (S) V Victaulic</b>          Norm: -          Size: 42,2          Pressure Class: PN40          Option: Base plate in cast SS 1.4308</p>
	<p><b>DPV (S) T Tri-Clamp</b>          Norm: 32676          Size: DN32          Pressure Class: PN40          Option: Base plate in cast SS 1.4308</p>
	<p><b>DPV C F Cast iron flange</b>          Norm: EN 1092-1/1092-2          Size: NW25          Pressure Class: PN40</p>
	<p><b>DPV (S) F Loose plate flange</b>          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</p>

### 3.2 DPV(C/S) 4 B - 60Hz - 2 pole - DIN

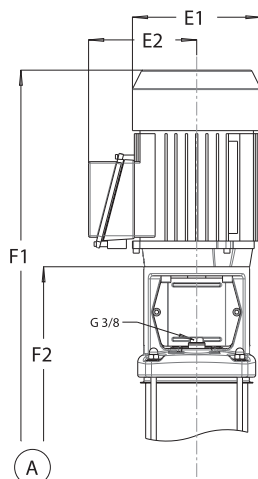
Table 11: VM CLOSED coupled motor construction type; IM 3619



20081033-E

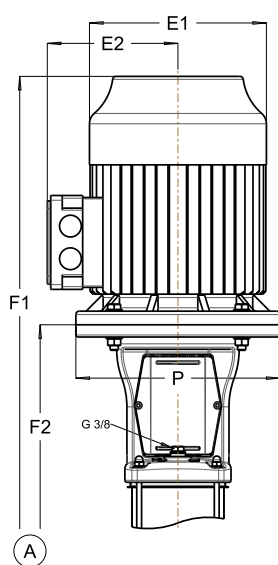
Model	pressure class	Power [kW]	Motor dimensions			DPVM(-E/V/T)			DPVMF		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
4/2	PN10	0,55	134	107		420		16	445		20
4/3		0,75	150	115		485		22	510		26
4/4		1,1	150	115		507		22	523		27

Table 12: coupled motor construction type; V18



20091216-A

Model	pressure class	Power [kW]	Motor dimensions			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]
4/2	PN10	0,55	134	107		472	259	18	497	284	22
4/3		0,75	150	115		547	290	24	572	315	29
4/4		1,1	150	115		569	312	25	595	337	30
4/5		1,5	176	141		595	343	31	621	368	36
4/6		1,5	176	141		618	365	31	643	390	36
4/7		2,2	176	141		668	386	33	693	411	37
4/8		2,2	176	141		690	408	33	715	433	38
4/9		PN16	3	195	145		753	429	42	778	454
4/10	3		195	145		775	461	44	800	486	49
4/11	3		195	145		796	482	44	821	507	49
4/12	4		223	167		818	504	52	843	529	57
4/14	PN25/40	4	223	167		870	572	57	895	597	57



20091217

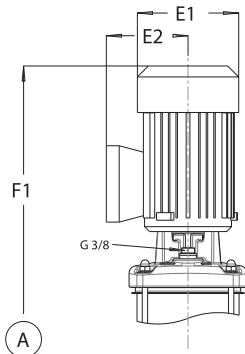
Model	pressure class	Power [kW]	Motor dimensions			DPV(S)(V/T)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
4/16	PN25/40	5,5	266	178	300	1012	590	90	1037	615	90
4/18		5,5	266	178	300	1055	709	90	1080	734	91

	<p><b>DPV E Male thread -</b>  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</p>
	<p><b>DPV (S)</b>  Counter flange with female thread included  DPV: Cathaphoric coated cast iron  DPVS: Cast Stainless steel 1.4408  Norm: G EN ISO 228  Size: G1  Pressure Class: PN16  Option: Base plate &amp; flange in SS 1.4308</p>
	<p><b>DPV (S) V Victaulic</b>  Norm: -  Size: 42,2  Pressure Class: PN40  Option: Base plate in cast SS 1.4308</p>
	<p><b>DPV (S) T Tri-Clamp</b>  Norm: 32676  Size: DN32  Pressure Class: PN40  Option: Base plate in cast SS 1.4308</p>
	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW25  Pressure Class: PN40</p>
	<p><b>DPV (S) F Loose plate flange</b>  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</p>



### 3.3 DPV(C/S) 6 B - 60Hz - 2 pole - DIN

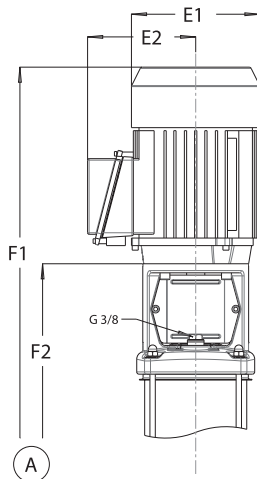
Table 13: VM CLOSED coupled motor construction type; IM 3619



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	0,75	150	115		471		22	496		28
6/3		1,1	150	115		496		23	521		29

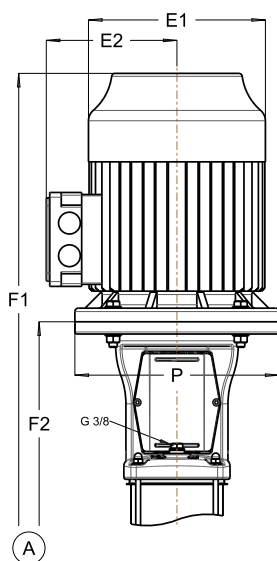
Table 14: coupled motor construction type; V18



20091216-A

Model	pressure class	Power [kW]	Motor dimensions			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]
6/1	PN10	0,37	134	107		489	276	23	514	301	29
6/2		0,75	150	115		533	276	24	558	301	30
6/3		1,1	150	115		558	301	25	583	326	31
6/4		1,5	176	141		589	336	31	614	361	37
6/5		2,2	176	141		643	361	32	668	386	38
6/6		2,2	176	141		668	386	33	693	411	39
6/7		3	195	145		735	421	43	760	446	49
6/8	PN16	3	195	145		760	446	44	785	471	50
6/9		4	223	167		794	471	51	819	496	57
6/10		4	223	167		819	496	52	844	521	58
6/11		4	223	167		884	521	52	869	546	58

Table 15: coupled motor construction type; V1



20091217

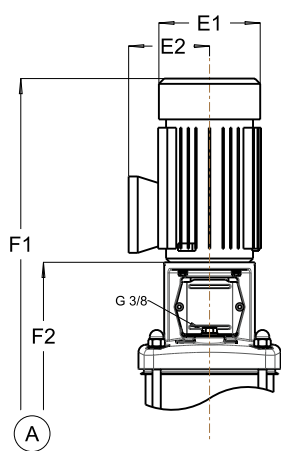
Model	pressure class	Power [kW]	Motor dimensions			DPV(S)(V/T)			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
6/12	PN25/40	5,5	266	178	300	968	622	90	993	647	91
6/14		5,5	266	178	300	1018	672	91	1043	697	92
6/16		7,5	266	178	300	1068	722	105	1093	747	106
6/18		7,5	266	178	300	1118	772	108	1143	797	109



	<p><b>DPV E Male thread -</b>          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</p>
	<p><b>DPV (S)</b>          Counter flange with female thread included          DPV: Cathodic 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</p>
	<p><b>DPV (S) V Victaulic</b>          Norm: -          Size: 42,2          Pressure Class: PN40          Option: Base plate in SS 1.4308</p>
	<p><b>DPV (S) T Tri-Clamp</b>          Norm: 32676          Size: DN32          Pressure Class: PN40          Option: Baseplate in cast SS 1.4308</p>
	<p><b>DPV C F Cast iron flange</b>          Norm: EN 1092-1/1092-2          Size: NW32          Pressure Class: PN40</p>
	<p><b>DPV (S) F Loose plate flange</b>          Cathodic 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</p>

### 3.4 DPV(C/S) 10 B - 60Hz - 2 pole - DIN

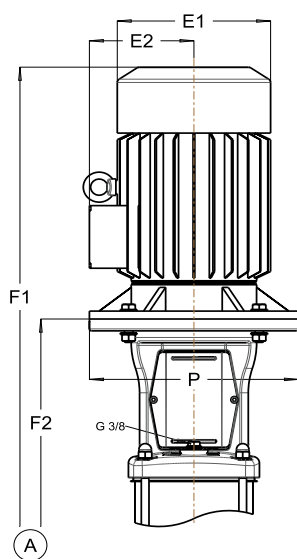
Table 16: coupled motor construction type; V18



20100864

Model	pressure class	Power [kW]	Motor dimensions			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	0,75	150	115		621	346	32	621	346	36
10/2		1,5	176	141		626	356	39	626	356	42
10/3		2,2	176	141		667	382	43	667	382	46
10/4		3	195	145		749	419	51	749	419	55
10/5		4	223	167		785	445	58	785	445	58
10/6		4	223	167		812	472	58	812	472	62

Table 17: coupled motor construction type; V1



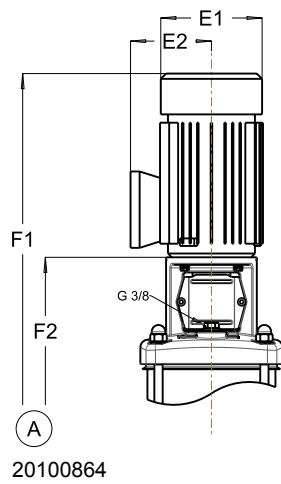
20100865

Model	pressure class	Power [kW]	Motor dimensions			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]
10/7	PN16	5,5	266	178	300	943	578	97	943	578	100
10/8		5,5	266	178	300	969	604	99	969	604	103
10/9		7,5	266	178	300	996	631	105	996	631	108
10/10	PN25/40	7,5	266	178	300	1022	657	106	1022	657	109
10/11		7,5	266	178	300	1049	684	108	1049	684	110
10/13		11	315	204	350	1265	767	188	1265	767	190
10/15		11	315	204	350	1318	820	190	1318	820	192

<p>20090654</p>	<p><b>DPV E Male thread -</b>          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</p>
<p>20090653</p>	<p><b>DPV (S)</b>          Counter flange with female thread included          DPV: Cathodic 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</p>
<p>20090650</p>	<p><b>DPV (S) V Victaulic</b>          Norm: -          Size: 60,3          Pressure Class: PN40          Option: Base plate in SS 1.4308</p>
<p>20090659</p>	<p><b>DPV (S) T Tri-Clamp</b>          Norm: 32676          Size: Ø64          Pressure Class: PN40          Option: Baseplate in cast SS 1.4308</p>
<p>20090656</p>	<p><b>DPV C F Cast iron flange</b>          Norm: EN 1092-1/1092-2          Size: NW40          Pressure Class: PN40</p>
<p>20090655</p>	<p><b>DPV (S) F Loose plate flange</b>          Cathodic 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</p>

### 3.5 DPV(C/S) 10 B - 60Hz - 4 pole - DIN

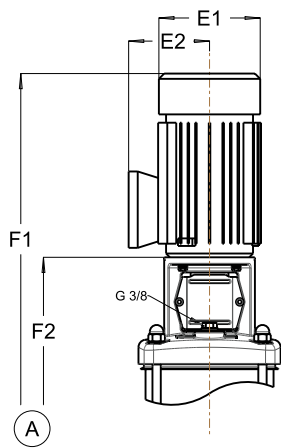
Table 18: coupled motor construction type; V18



Model	pressure class	Power [kW]	Motor dimensions			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		592	346	35	592	346	38
10/2		0,55	150	115		592	356	35	592	356	38
10/3		0,55	150	115		612	372	36	612	372	40
10/4		0,55	150	115		645	399	37	645	399	41
10/5		0,55	150	115		671	425	38	671	425	42
10/6		0,55	150	115		698	452	39	698	452	43
10/7		0,55	150	115		724	478	53	724	478	57
10/8		0,75	150	115		778	505	57	778	505	60
10/9		0,75	150	115		806	531	58	806	531	62
10/10		0,75	150	115		833	558	59	833	558	63
10/11		1,1	176	141		864	594	63	864	594	65
10/13		1,1	176	141		912	647	76	912	647	78
10/15		1,5	195	145		985	700	80	985	700	82

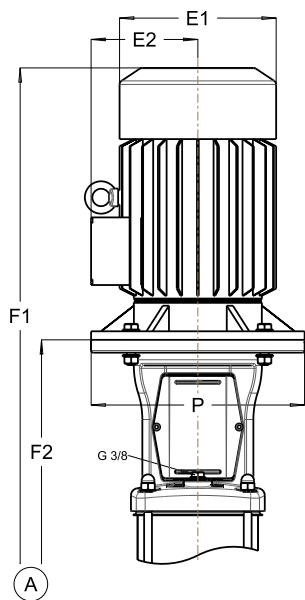
<p>20090654</p>	<p><b>DPV E Male thread -</b>          With non return valve insert at discharge side and pressure measurement plug at upstream side          Norm: G EN ISO 228          Size: G 2          Pressure Class: PN16          Option: Base plate in cast SS 1.4308</p>
<p>20090653</p>	<p><b>DPV (S)</b>          Counter flange with female thread included          DPV: Cathodic 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</p>
<p>20090650</p>	<p><b>DPV (S) V Victaulic</b>          Norm: -          Size: 60,3          Pressure Class: PN40          Option: Base plate in SS 1.4308</p>
<p>20090659</p>	<p><b>DPV (S) T Tri-Clamp</b>          Norm: 32676          Size: Ø64          Pressure Class: PN40          Option: Baseplate in cast SS 1.4308</p>
<p>20090656</p>	<p><b>DPV C F Cast iron flange</b>          Norm: EN 1092-1/1092-2          Size: NW40          Pressure Class: PN40</p>
<p>20090655</p>	<p><b>DPV (S) F Loose plate flange</b>          Cathodic 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</p>

### 3.6 DPV(C/S) 15 B - 60Hz - 2 pole - DIN



20100864

Model	pressure class	Power [kW]	Motor dimensions			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	2,2	176	141		641	356	41	651	366	47
15/2		3	195	145		696	366	49	706	376	55



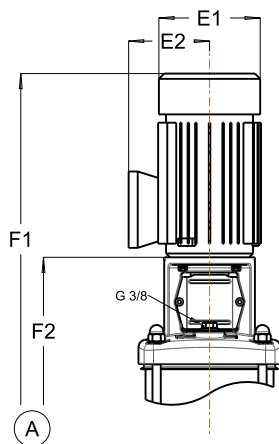
20100865

Model	pressure class	Power [kW]	Motor dimensions			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]
15/3	PN10	5,5	266	178	300	837	472	93	847	482	99
15/4		7,5	266	178	300	863	498	98	873	508	104
15/5	PN16	7,5	266	178	300	890	525	99	900	535	105
15/6		11	315	204	350	1079	581	176	1089	591	183
15/7		11	315	204	350	1106	608	177	1116	618	183
15/8	PN25/40	15	315	204	350	1142	644	192	1142	644	194
15/9		15	315	204	350	1169	671	193	1169	671	196
15/10		15	315	204	350	1195	697	194	1195	697	197
15/11		18,5	315	204	350	1304	724	215	1304	724	218

	<p><b>DPV (S)</b>  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</p>
	<p><b>DPV (S) V Victaulic</b>  Norm: -  Size: 60,3  Pressure Class: PN40  Option: Base plate in SS 1.4308</p>
	<p><b>DPV (S) T Tri-Clamp</b>  Norm: 32676  Size: Ø64  Pressure Class: PN40  Option: Baseplate in cast SS 1.4308</p>
	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW50  Pressure Class: PN40</p>
	<p><b>DPV (S) F Loose plate flange</b>  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</p>

### 3.7 DPV(C/S) 15 B - 60Hz - 4 pole - DIN

Table 19: coupled motor construction type; V18



20100864

Model	pressure class	Power [kW]	Motor dimensions			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		592	346	34	602	356	38
15/2		0,55	150	115		592	346	35	602	356	38
15/3		0,55	150	115		618	372	36	628	382	39
15/4		0,75	150	115		674	399	38	684	409	41
15/5		1,1	176	141		705	435	41	715	445	44
15/6		1,1	176	141		732	462	42	742	472	45
15/7		1,5	195	145		773	488	45	783	498	48
15/8		1,5	195	145		800	515	46	810	525	49
15/9		1,5	195	145		826	541	48	836	551	51
15/10		2,2	195	145		908	578	56	918	588	59
15/11		2,2	195	145		934	604	57	944	614	60

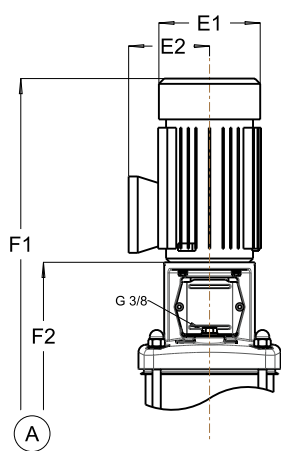


	<p><b>DPV E Male thread -</b>          With non return valve insert at discharge side and pressure measurement plug at upstream side          Norm: G EN ISO 228          Size: G 2          Pressure Class: PN16          Option: Base plate in cast SS 1.4308</p>
	<p><b>DPV (S)</b>          Counter flange with female thread included          DPV: Cathodic 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</p>
	<p><b>DPV (S) V Victaulic</b>          Norm: -          Size: 60,3          Pressure Class: PN40          Option: Base plate in SS 1.4308</p>
	<p><b>DPV (S) T Tri-Clamp</b>          Norm: 32676          Size: Ø64          Pressure Class: PN40          Option: Baseplate in cast SS 1.4308</p>
	<p><b>DPV C F Cast iron flange</b>          Norm: EN 1092-1/1092-2          Size: NW50          Pressure Class: PN40</p>
	<p><b>DPV (S) F Loose plate flange</b>          Cathodic 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</p>



### 3.8 DPV(C/S) 25 B - 60Hz - 2 pole - DIN

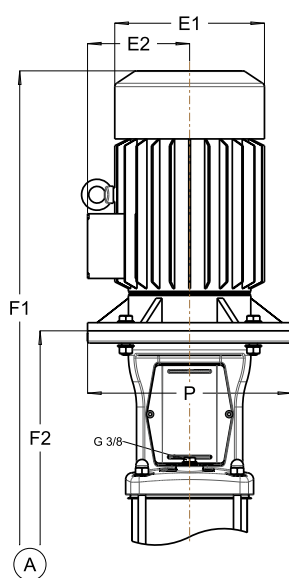
Table 20: coupled motor construction type; V18



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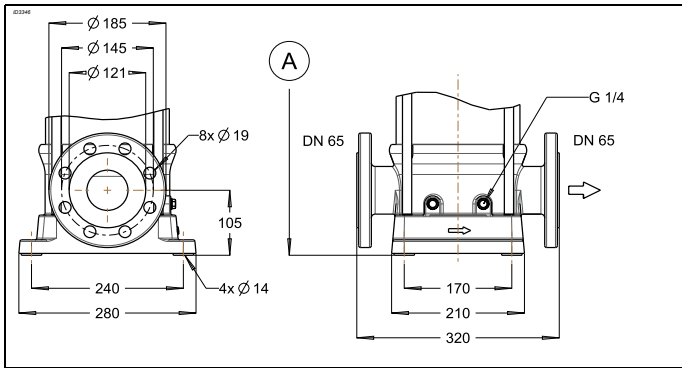
Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	3	195	145		743	413	78

Table 21: coupled motor construction type; V1



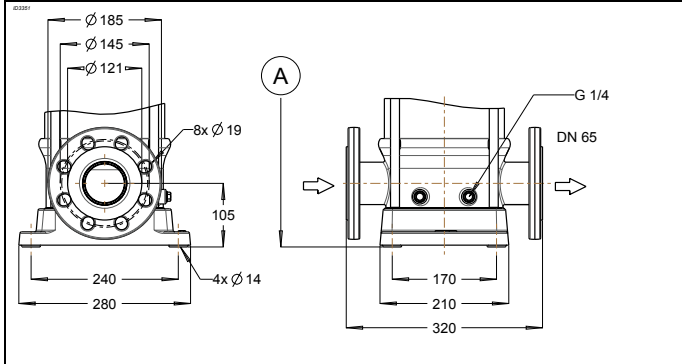
20100865

Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/2	PN10	7,5	266	178	300	934	569	114
25/3		11	315	204	350	1162	664	195
25/4	PN16	15	315	204	350	1227	729	208
25/5		15	315	204	350	1292	794	213
25/6	PN25/40	18,5	315	204	350	1439	859	233
25/7		22	350	223	350	1504	924	281



20101130-A

**DPV C F Cast iron flange**  
 Norm: EN 1092-1/1092-2  
 Size: NW65  
 Pressure Class: PN40

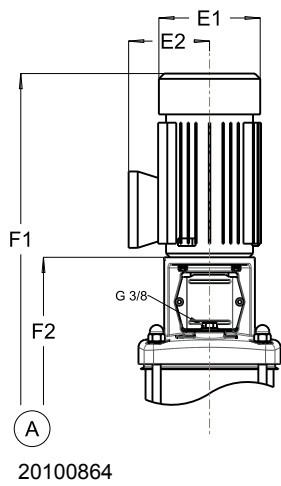


20081105-A

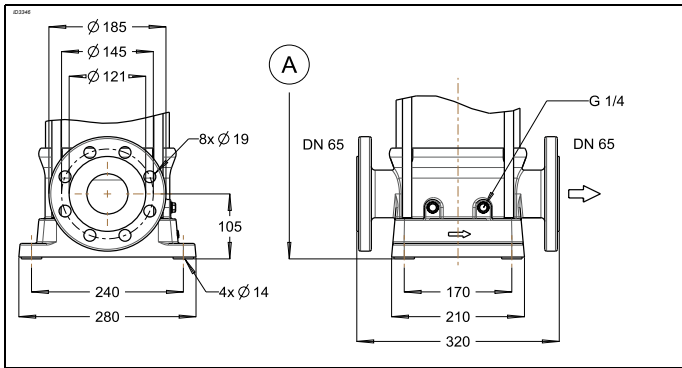
**DPV (S) F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW65  
 Pressure Class: PN40  
 Option: Loose plate flange (PN25) in SS 1.4308

### 3.9 DPV(C/S) 25 B - 60Hz - 4 pole - DIN

Table 22: coupled motor construction type; V18

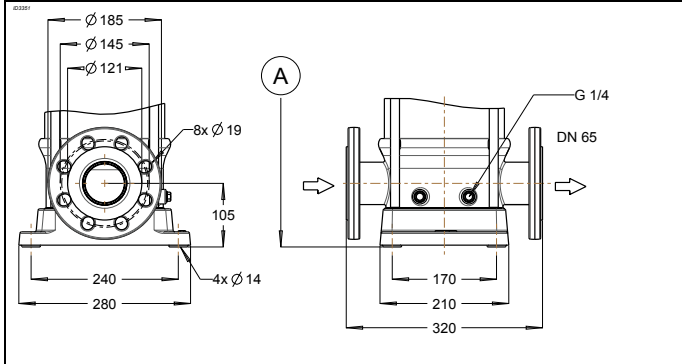


Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	1,1	176	141		678	408	66
25/2		1,1	176	141		743	473	69
25/3		1,1	176	141		808	538	71
25/4		1,5	176	141		888	673	88
25/5		2,2	195	145		1003	673	88
25/6		2,2	195	145		1068	738	90
25/7		3	195	145		1133	803	94
25/8		3	195	145		1198	868	99
25/9		4	233	167		1284	933	113
25/10		4	233	167		1349	998	115
25/11		4	233	167		1414	1063	118
25/12		4	233	167		1479	1128	120



**DPV C F Cast iron flange**  
 Norm: EN 1092-1/1092-2  
 Size: NW65  
 Pressure Class: PN40

20101130-A

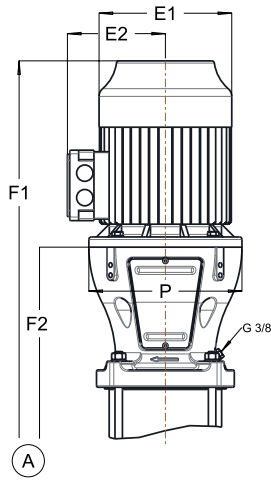


**DPV (S) F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW65  
 Pressure Class: PN40  
 Option: Loose plate flange (PN25) in SS 1.4308

20081105-A

### 3.10 DPV(C/S) 40 B - 60Hz - 2 pole - DIN

Table 23: coupled motor construction type; V1



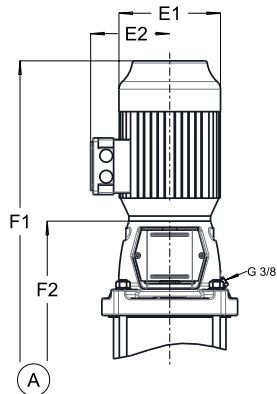
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Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/1-1	PN10	5,5	266	178	300	942	577	126
40/1		7,5	266	178	300	942	577	130
40/2-2		11	315	204	350	1183	685	211
40/2		15	315	204	350	1183	685	221
40/3-2		18,5	315	204	350	1261	763	241
40/3	PN16	18,5	315	204	350	1343	763	244
40/4-2		22	350	223	350	1421	841	283
40/4		30	400	290	400	1491	841	355
40/5-2	PN25	30	400	290	400	1569	919	362
40/5		30	400	290	400	1569	919	362
40/6-2		37	400	290	400	1647	997	389
40/6		37	400	290	400	1647	997	390

	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW80  Pressure Class: PN16/25/40</p>
	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW65  Pressure Class: PN16/25/40</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW80  Pressure Class: PN16/25  Option: Loose plate flange cast SS1.4308</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW80  Pressure Class: PN40  Option: Loose plate flange cast SS1.4308</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW80 interchangeable range 45  Pressure Class: PN16/25</p>

### 3.11 DPV(C/S) 40 B - 60Hz - 4 pole - DIN

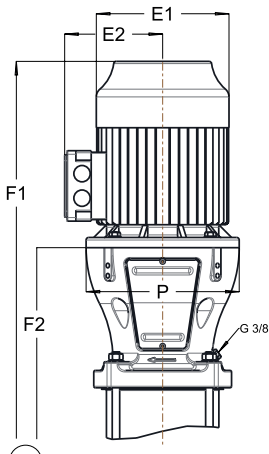
Table 24: coupled motor construction type; V18



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Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/2	PN10	2,2	195	145		895	565	95
40/3		3	195	145		973	643	99
40/4		4	220	167		1072	721	112
40/5		4	220	167		1150	790	118

Table 25: coupled motor construction type; V1



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Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/6	PN10	5,5	260	192	300	1352	967	157
40/7		5,5	260	192	300	1430	1045	173
40/8		7,5	260	192'	300	1508	1123	199
40/9		7,5	260	192'	300	1586	1201	203
40/10		7,5	260	192'	300	1664	1279	207

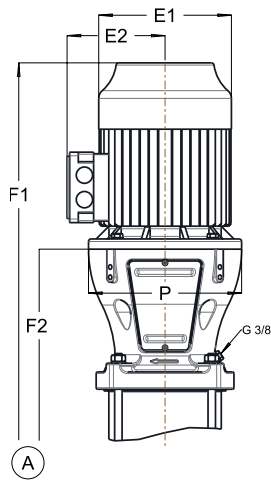


	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW80  Pressure Class: PN16</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW80  Pressure Class: PN16  Option: Loose plate flange cast SS1.4308</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW80 interchangeable range 24  Pressure Class: PN16  Option: Loose plate flange cast SS1.4308</p>



### 3.12 DPV(C/S) 60 B - 60Hz - 2 pole - DIN

Table 26: coupled motor construction type; V1



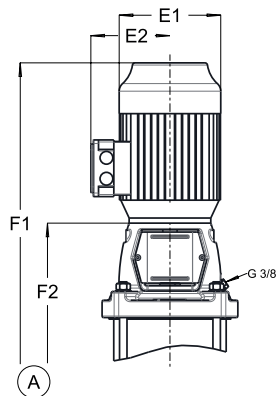
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Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/1-1	PN10	7,5	266	178	300	942	577	134
60/1		11	315	204	350	1105	607	211
60/2-2		15	315	204	350	1183	685	225
60/2		18,5	315	204	350	1265	685	242
60/3-2		22	350	223	350	1343	763	284
60/3	PN16	30	400	290	400	1413	763	355
60/4-2		30	400	290	400	1491	841	359
60/4	PN25	37	400	290	400	1491	841	378
60/5-2		45	466	355	450	1614	919	453
60/5		45	466	355	450	1614	919	453

	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class:PN16</p>
	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class:PN25/40</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class: PN16  Option: Loose plate flange cast SS1.4308</p>
	<p><b>DPV (S) F Loose plate flange</b>  Cataphoric coated loose plate flange  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class: PN25/40  Option: Loose plate flange cast SS1.4308</p>

### 3.13 DPV(C/S) 60 B - 60Hz - 4 pole - DIN

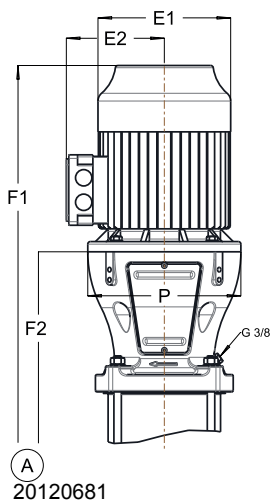
Table 27: coupled motor construction type; V18



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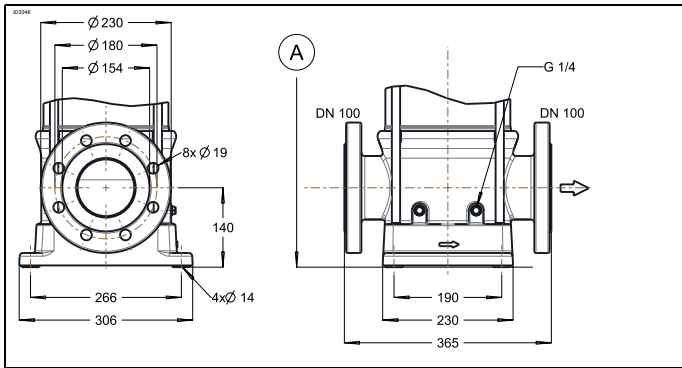
Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/2	PN10	3	195	145		895	565	101
60/3		4	220	167		994	643	115

Table 28: coupled motor construction type; V1



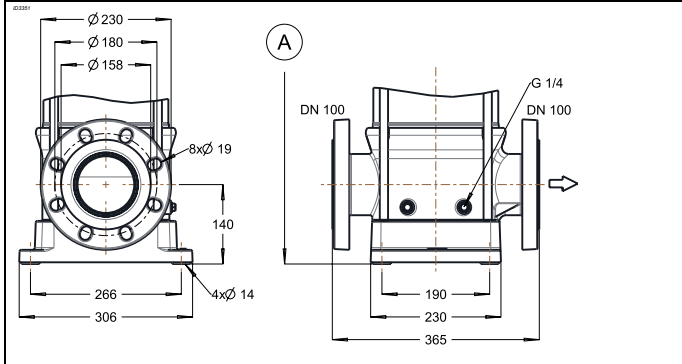
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Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/4	PN10	5,5	260	192	300	1196	811	155
60/5		5,5	260	192	300	1274	889	159
60/6		7,5	260	192	300	1352	967	183
60/7		7,5	315	253	350	1430	1075	201



**DPV C F Cast iron flange**  
 Norm: EN 1092-1/1092-2  
 Size: NW100  
 Pressure Class: PN16

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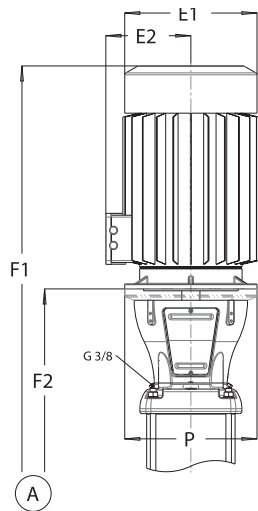


**DPV (S) F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW100  
 Pressure Class: PN16  
 Option: Loose plate flange in SS 1.4308

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### 3.14 DPV(C/S) 85 B - 60Hz - 2 and 4 pole - DIN

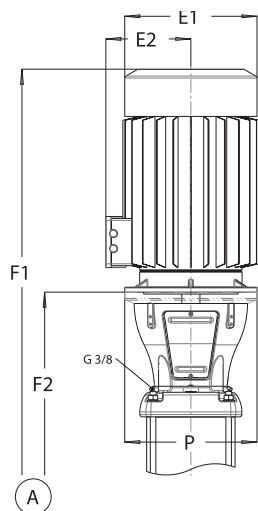
Table 29: coupled motor construction type; V1



Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/1-1	PN10	11	315	204	350	1173	671	223
85/1		15	315	204	350	1173	671	241
85/2-2		18,5	315	204	350	1326	780	266
85/2-1		22	350	223	350	1375	780	302
85/2		30	400	290	400	1430	780	390
85/3-2	PN16/25/40	30	400	290	400	1539	889	399
85/3-1		37	400	290	400	1539	889	413
85/3		45	466	335	450	1596	889	541
85/4-2		45	466	335	450	1705	998	543

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Table 30: coupled motor construction type; V1, 4 pole



Model	pressure class	Power [kW]	Motor dimensions			DPV(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/3-1	PN10	5,5	260	192	300	1242	859	185
85/3		5,5	260	192	300	1242	859	198
85/4-2		5,5	260	192	300	1351	968	208

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	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class:PN16</p>
	<p><b>DPV C F Cast iron flange</b>  Norm: EN 1092-1/1092-2  Size: NW100  Pressure Class:PN25/40</p>
	<p><b>DPV (S) F Loose plate flange</b>  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</p>
	<p><b>DPV (S) F Loose plate flange</b>  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</p>

# 4 Seals

## 4.1 Mechanical seal option specifications

Table 31: 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	●	●	●



### ATTENTION

Seal dimensions according to EN24960

### 4.1.1 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)



# 5 Motors and motor options

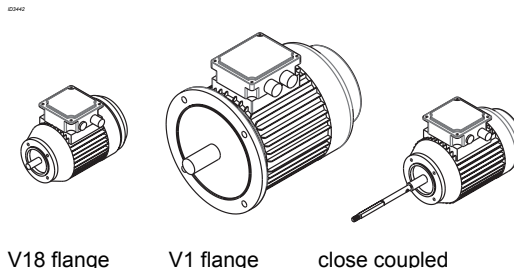
## 5.1 General

The standard DPMotors are produced conform the latest technical design, and comply with the international standards and EU directives regarding safety measures.

The motors can be specified as:

- standard IE2 >= 0,75kW.
- 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.
- Noise levels conform IEC 60034-9.
- > 2,2 kW standard 3 x PTC.

The motors come in 3 different configurations. Mounting in acc. with IEC60034-7 and dimensions in acc. with IEC 60072-1



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## 5.2 Options

- Standard motors as per above, but in **4 pole** version (low speed) (sizes 10, 15, 25 & 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, <= 7,5kW.
- Provided with **Rain cover** on top of the fan hood.
- For motors < 3kW provided with **3 x PTC** and/or **anti condensation heater**.
- Motors from other manufacturers like **Siemens** and **VEM** in efficiency class IE2.
- Explosion proof, class **Eex e II T3**.
- Explosion proof, class **Eex d II T4**.
- Marine approved motor acc. Bureau Veritas.

## 5.3 Motor data 3 phase, 2 and 4 pole

Table 32: Motor data 3 phase, 2p 60 Hz

Article number	Rated power output [kW]	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3710021003	0,37	230/400	1,6/0,95	4,5	0,76	+20%,-10%	3430	0,76	60	1xM20x1,5	50
3710021005	0,55	230/400	2,1/1,2	5,3	0,8	+20%,-10%	3460	82	60	1xM20x1,5	50
3710011007	0,75	230/400	3,1/1,8	6,0	0,77	+20%,-10%	3430	80	60	1xM20x1,5	50
3710011011	1,1	230/400	4,2/2,4	6,8	0,81	+20%,-10%	3440	82,5	60	1xM20x1,5	50
3710011015	1,5	230/400	5,2/3,0	7,2	0,88	+20%,-10%	3450	81,9	59	1xM20x1,5	50
3710011022	2,2	230/400	7,5/4,3	6,6	0,89	+20%,-10%	3420	83,3	59	1xM20x1,5	30
3710111030	3	230/400	10,5/6,1	7,2	0,84	+20%,-10%	3460	85	62	2xM20x1,5	30



Article number	Rated power output [kW]	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3710112030	3	400/690	61/3,5	7,2	0,84	+20%,-10%	3460	85	62	2xM20x1,5	30
3710111040	4	230/400	12,6/7,3	7,3	0,91	+20%,-10%	3495	87,5	62	2xM20x1,5	30
3710112040	4	400/690	7,3/4,2	7,3	0,91	+20%,-10%	3495	87,5	62	2xM20x1,5	30
3710111055	5,5	230/400	16,7/9,6	7,7	0,93	+20%,-10%	3520	89	68	2xM25x1,5	20
3710112055	5,5	400/690	9,6/5,6	7,7	0,93	+20%,-10%	3520	89	68	2xM25x1,5	20
3710111075	7,5	230/400	22,9/13,2	7,3	0,94	+20%,-10%	3500	87,4	68	2xM25x1,5	20
3710112075	7,5	400/690	13,2/7,7	7,3	0,94	+20%,-10%	3500	87,4	68	2xM25x1,5	20
3710111110	11	230/400	34,5/19,8	6,7	0,89	+20%,-10%	3530	90	75	2xM32x1,5	15
3710112110	11	400/690	19,8/11,5	6,7	0,89	+20%,-10%	3530	90	75	2xM32x1,5	15
3710111150	15	230/400	46,6/26,8	6,6	0,9	+20%,-10%	3530	89,8	74	2xM32x1,5	15
3710112150	15	400/690	26,8/15,5	6,6	0,9	+20%,-10%	3530	89,8	74	2xM32x1,5	15
3710111185	18,5	230/400	55,7/32,0	8,0	0,91	+20%,-10%	3540	91,6	77	2xM32x1,5	15
3710112185	18,5	400/690	32,0/18,6	8,0	0,91	+20%,-10%	3540	91,6	77	2xM32x1,5	15
3710111220	22	230/400	67,1/38,8	6,5	0,9	+20%,-10%	3530	91,5	80	2xM32x1,5	12
3710112220	22	400/690	38,8/22,4	6,5	0,9	+20%,-10%	3530	91,5	80	2xM32x1,5	12
3700111300	30	230/400	86,5/49,7	6,4	0,92	-20%,+ 5%	3546	94,8	80	2xM50x1,5	12
3700112300	30	400/690	49,7/28,8	6,4	0,92	-20%,+ 5%	3546	94,8	80	2xM50x1,5	12
3700111370	37	230/400	106,2/61,1	6,4	0,92	-20%,+ 5%	3548	95,2	80	2xM50x1,5	20
3700112370	37	400/690	61,1/35,4	6,4	0,92	-20%,+ 5%	3548	95,2	80	2xM50x1,5	12
3700111450	45	230/400	128,6/73,9	6,4	0,92	-20%,+ 5%	3563	95,6	80	2xM50x1,5	20
3700112450	45	400/690	73,9/42,9	6,4	0,92	-20%,+ 5%	3563	95,6	80	2xM50x1,5	12

Table 33: Motor data 3 phase, 4p 60 Hz

Article number	Rated power output [kW]	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency	Sound pressure [dB(A)]	Cable gland	Starts per hour
3710041005	0,55	230/400	4,5/2,6	4,0	0,5	+20%,-10%	1450	73	58	1xM20x1,5	50
3710041007	0,75	230/400	3,65/2,1	5,0	0,65	+20%,-10%	1730	80	60	1xM20x1,5	50
3710031011	1,1	230/400	4,2/2,4	5,4	0,8	+20%,-10%	1705	83	53	1xM20x1,5	30
3710031015	1,5	230/400	5,7/3,3	5,7	0,79	+20%,-10%	1710	83,5	53	1xM20x1,5	30
3710031022	2,2	230/400	7,5/4,3	6,4	0,87	+20%,-10%	1730	85,5	58	1xM20x1,5	30
3710131030	3	230/400	10,6/6,1	6,5	0,82	+20%,-10%	1740	86,5	68	2xM20x1,5	30
3710131040	4	230/400	13,4/7,5	5,9	0,85	+20%,-10%	1740	87,8	68	2xM20x1,5	30
3710131055	5,5	230/400	18,2/10,5	7,0	0,85	+20%,-10%	1750	89,1	68	2xM25x1,5	20
3710131075	7,5	230/400	24,7/14,2	6,6	0,86	+20%,-10%	1750	88,8	68	2xM25x1,5	20

# 6 Frequency drive

## 6.1 General

For the motor range up to 2,2kW DP-Pumps has an 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.

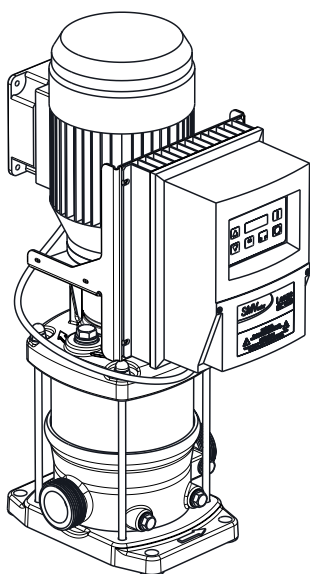


Figure 20: Example layout

## 6.2 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 34: Working range

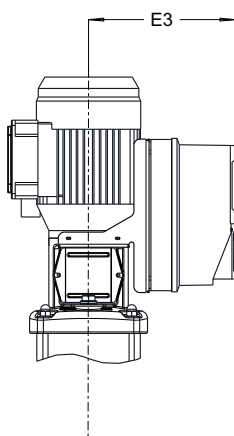
Ambient temperature [°C]	-10 up to 55
Maximum altitude [m]	2000

## 6.3 General

Table 35: 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 0,37-0,75kW HxWxD [mm]	203x160x114
Dimensions 1,1-1,5kW HxWxD [mm]	203x160x160
Dimensions 2,2kW HxWxD [mm]	203x181x172
Integrated EMC filter	yes
Cooling	convection

## 6.4 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 Accessories

## 7.1 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 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

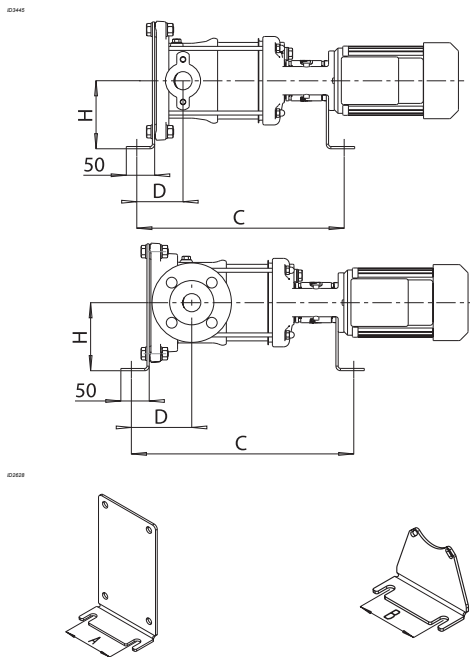


Figure 21: V(C/S) 2-25 B horizontal

20090417-A

20050451-F

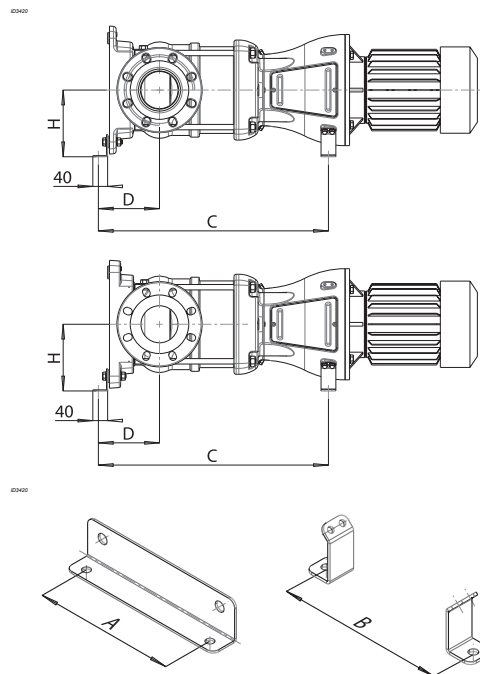


Figure 22: V(C/S) 40-85 B horizontal

20071047-B

20071047-B

### 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 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	F2+47	170		210
3 - 4 2p / 2,2 - 4 4p	18707068				
5,5 - 7,5 2p/4p	18707069	F2-18			

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		170		210
5,5 - 7,5 2p/4p	18707073	F2-18			

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				F2-20

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

### 7.2 Thrust bearing housing (optional)

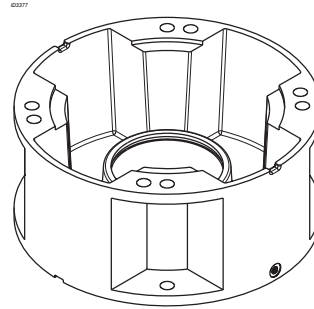


Figure 23: Thrust bearing housing

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.

# 8 Materials

## 8.1 Parts overview

### 8.1.1 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	○	○	○
101	Pump casing	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	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	1.4301	X	●	●	
		1.4404	X			●
171	Diffuser DPV 25 B	1.4308	X	●	●	
		1.4408	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			●
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 <sup>1</sup>	X	●	●	○
		B Q1 V GG LP	X	○	○	●
		Q1 B V GG HP <sup>1</sup>	X	○	○	●
471	Seal cover	1.4308	X	●	●	○
		1.4408	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			●

Part. no.	part description	material code	Wetted part	VC	V	VS
529	Bearing sleeve	Tungsten Carbide	X	●	●	●
Part of 108	Bearing	Aluminium Oxide	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			●	●
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		●	●	●
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

### 8.1.2 Materials conversion

Material	Description	Code and material nr.	Standard	ASTM / AISI <sup>1</sup>
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
14300	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

8.1.3 Sectional drawing DPVCF 2/4/6 B

22/14

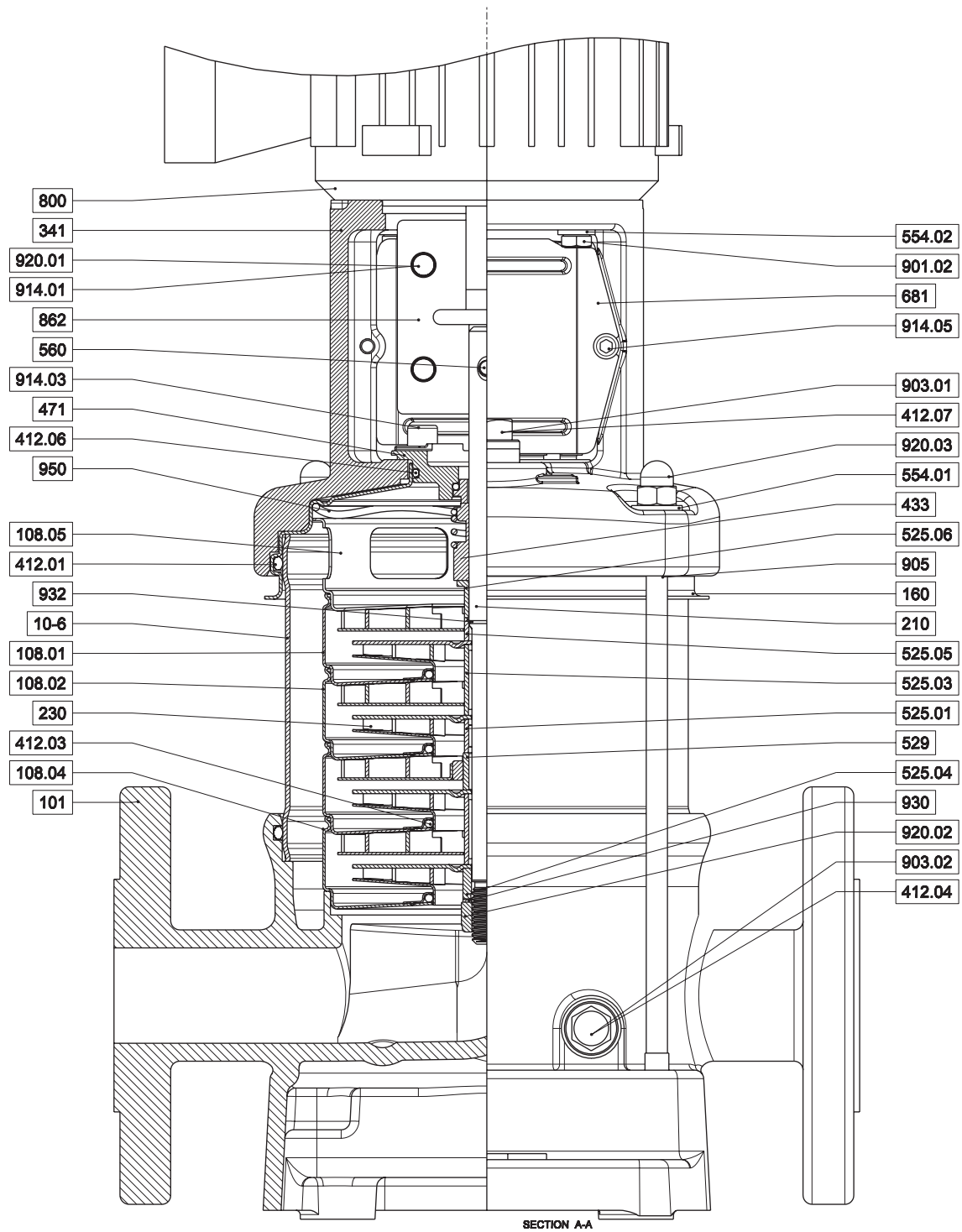


Figure 24: Sectional drawing DPVCF 2/4/6 B



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

82413

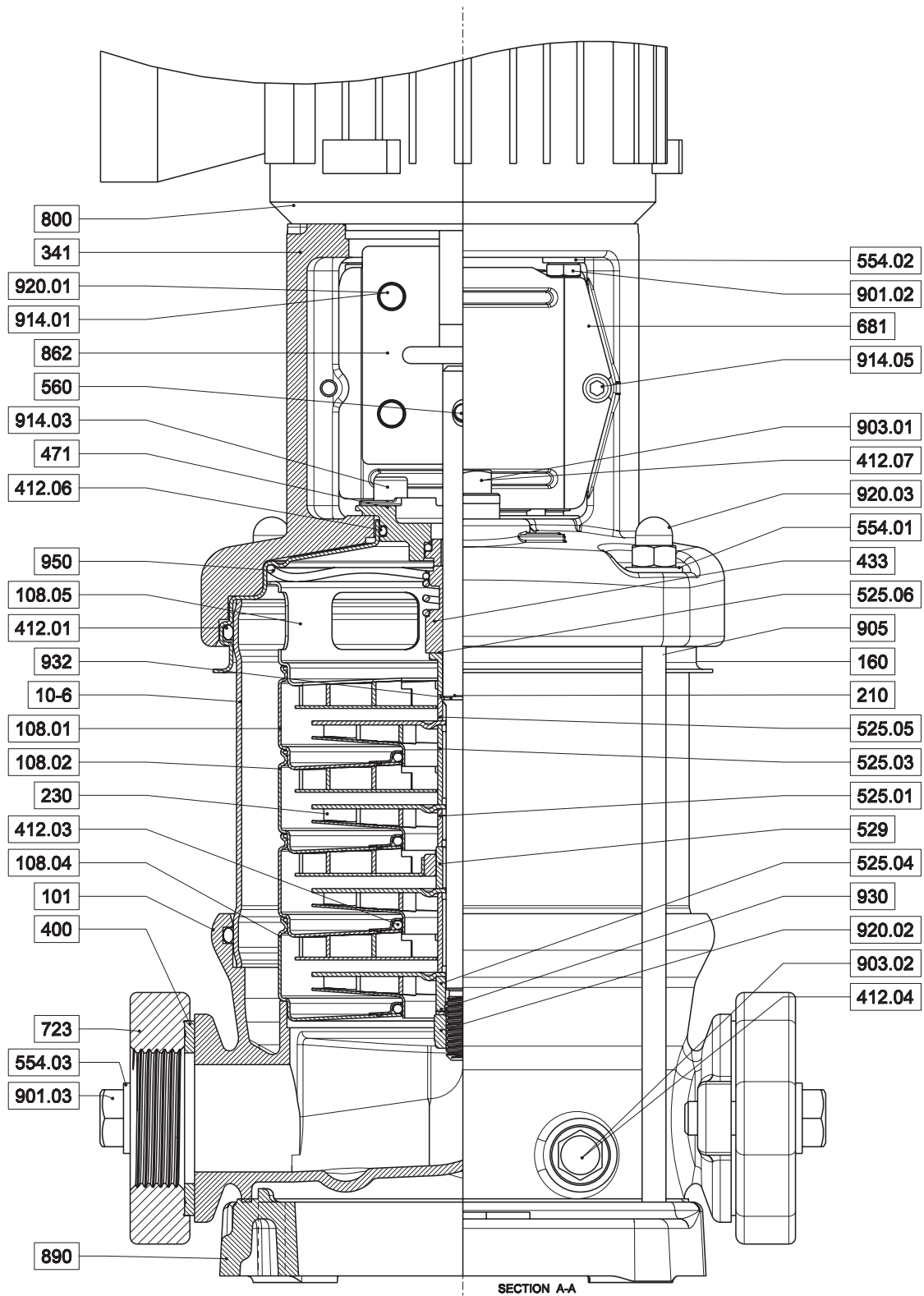


Figure 25: Sectional drawing DPV(S) 2/4/6 B

20080766-F



8.1.5 Sectional drawing DPVCF 10 B

22914

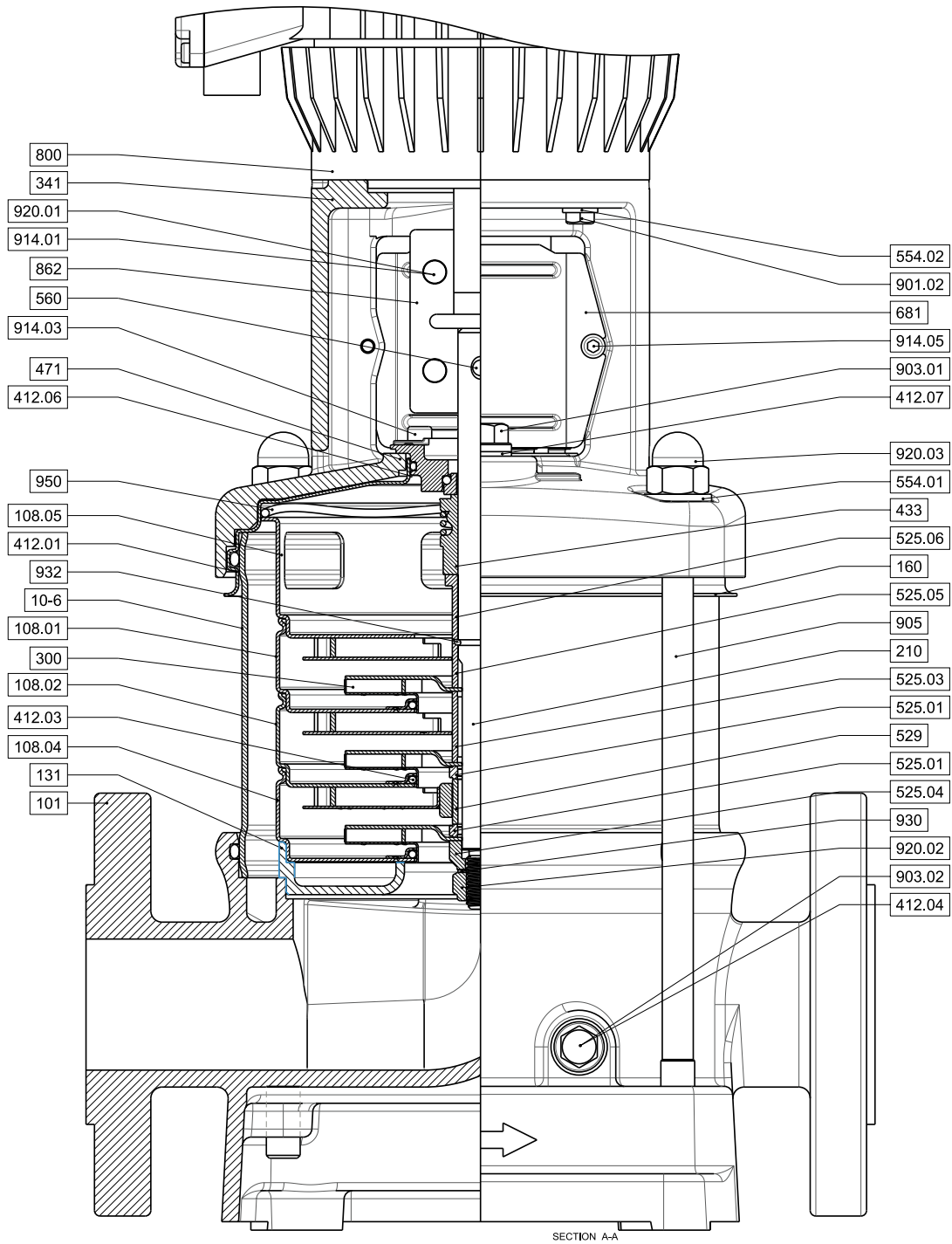


Figure 26: Sectional drawing DPVCF 10 B

8.1.6 Sectional drawing DPV(S) 10 B

82413

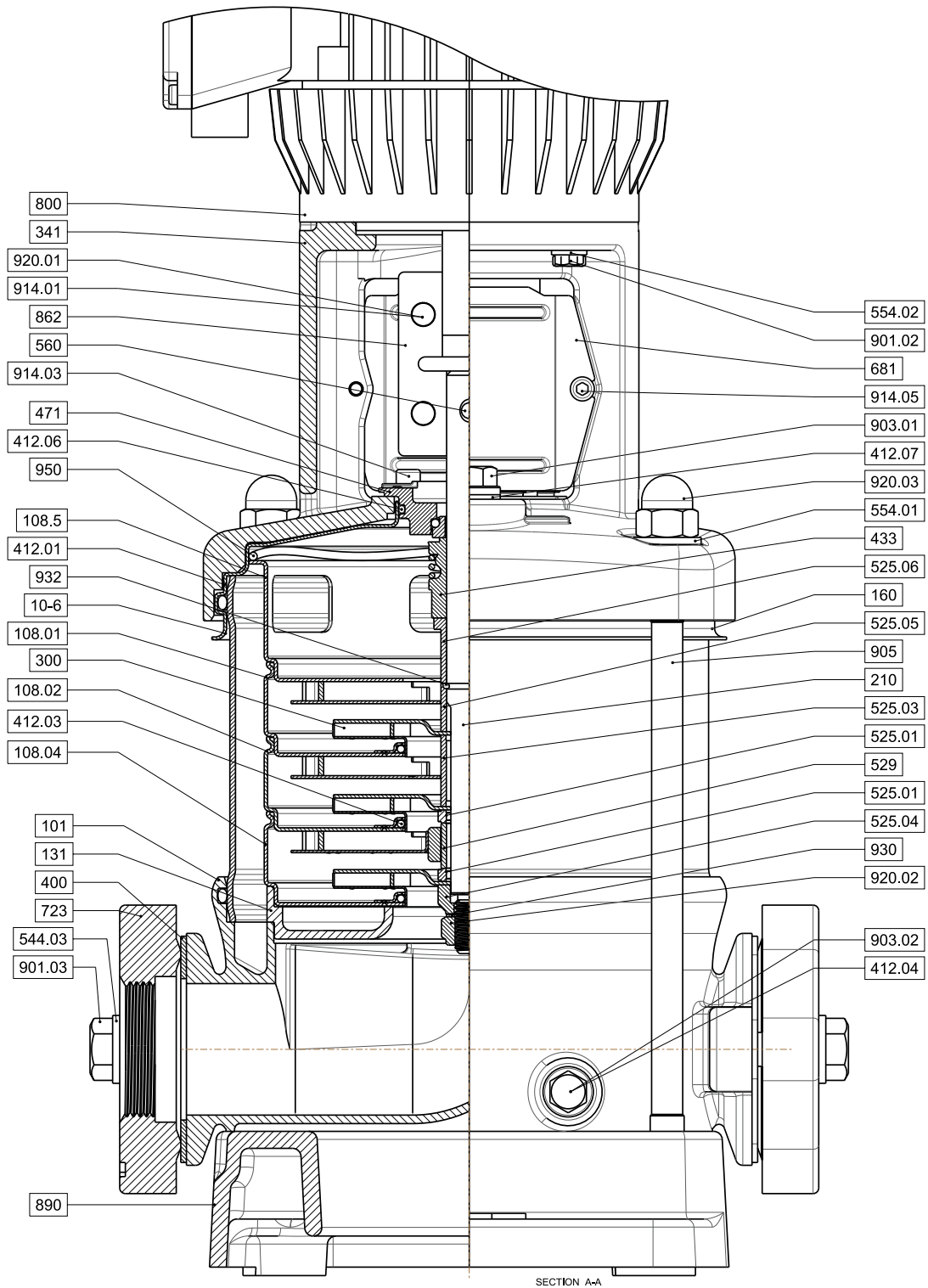


Figure 27: Sectional drawing DPV(S) 10 B

20080645-C



8.1.7 Sectional drawing DPVCF 85 B

0335

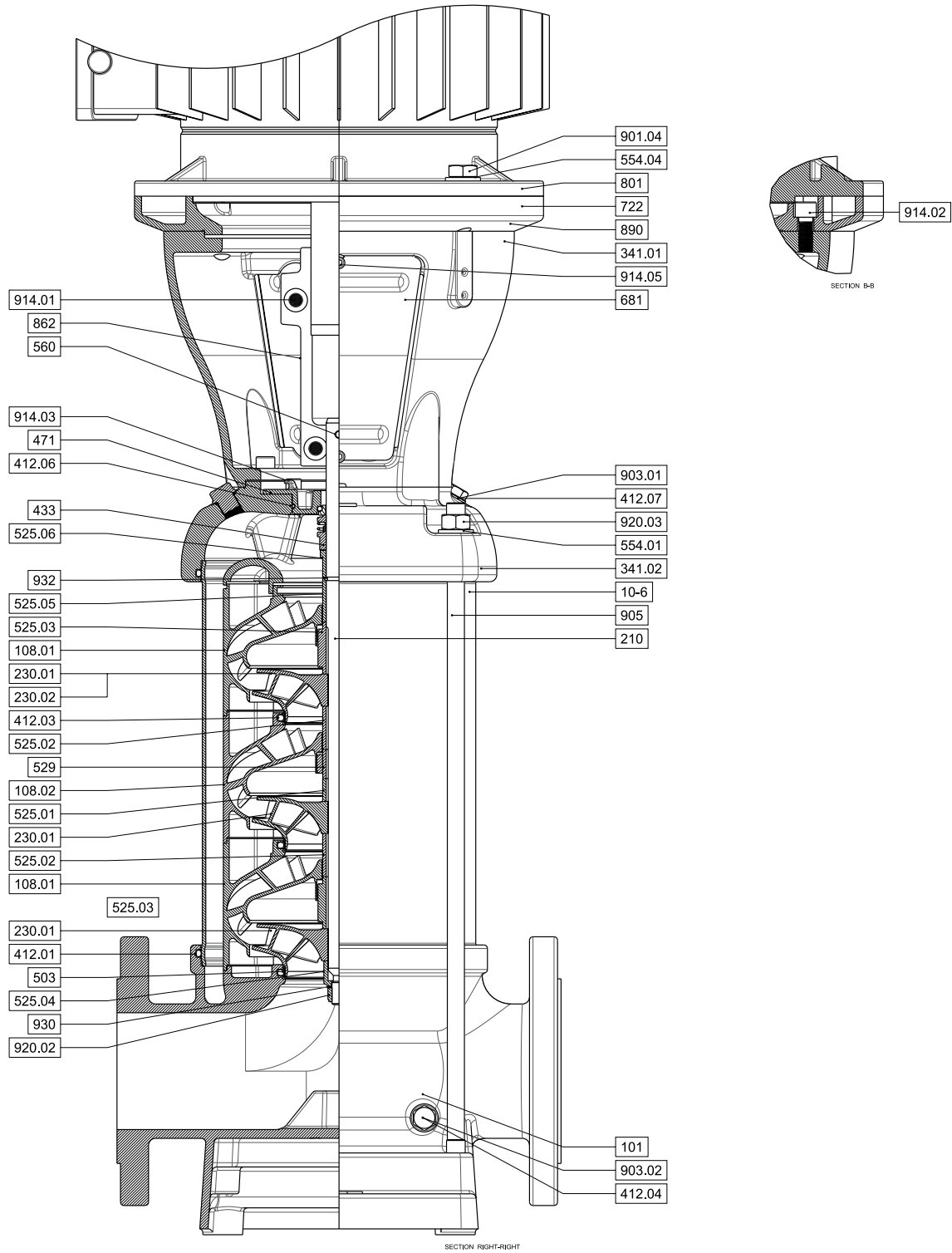


Figure 28: Sectional drawing DPVCF 85 B

8.1.8 Sectional drawing DPV(S)F85 B

03229

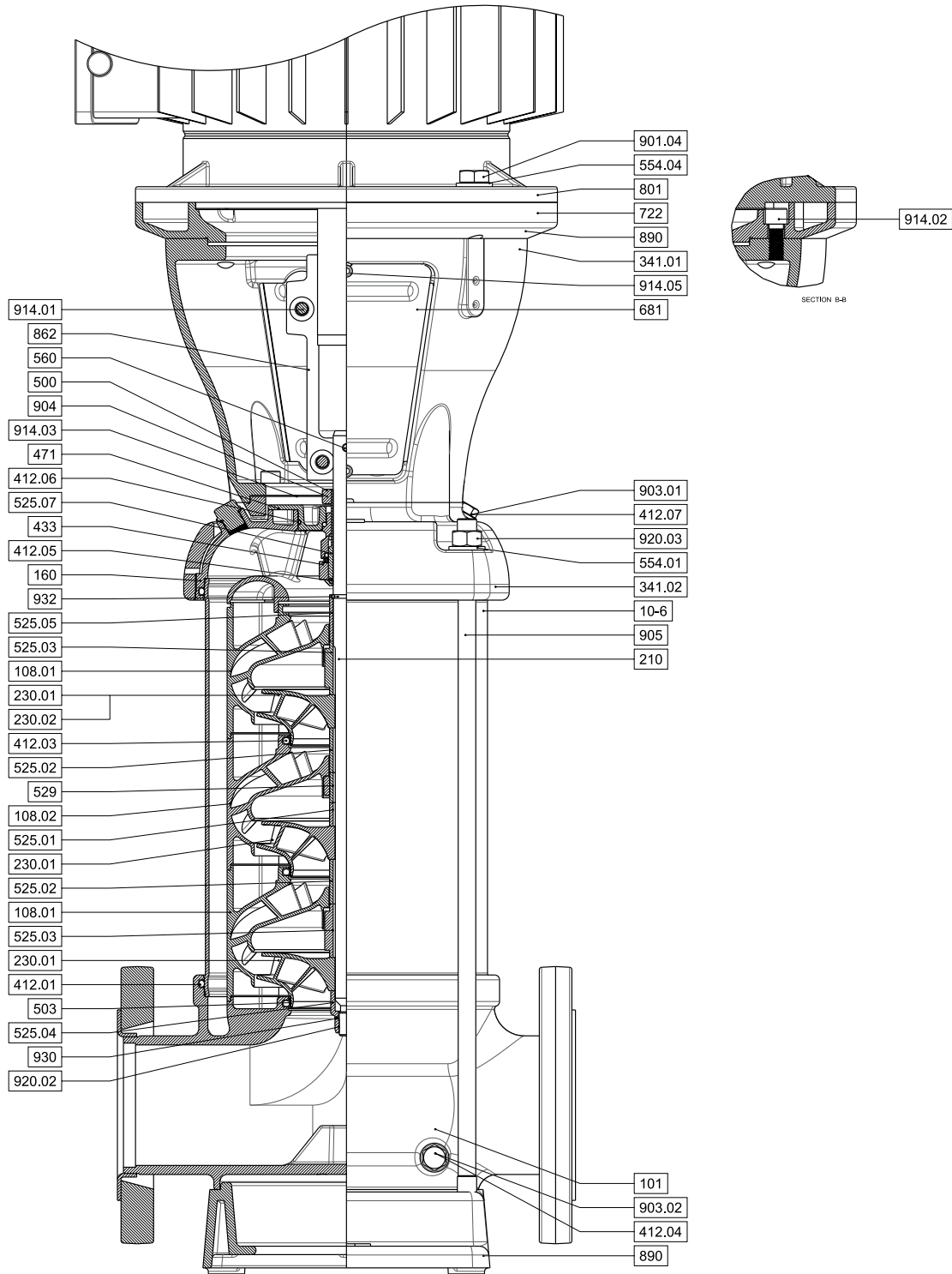


Figure 29: Sectional drawing DPV(S)F 85 B

20080066-E



# 9 Medium handled

## 9.1 Medium handled

Media description	Media group	Chemical formula	Cons. max. [%]	PH max.	Temp max. {C}	Model	Material shaft seal			Material pump
							rotor	stator	elas-tomer	
Acetic acid	Acid	(CH <sub>3</sub> COOH	5		20	V	SiC	Ca	EPDM	EPDM
Acetic anhydride	Weak acid derivative	(CH <sub>3</sub> CO) <sub>2</sub> O	20		20	V	SiC	Ca	EPDM	EPDM
Acetone	Ketone	(CH <sub>3</sub> ) <sub>2</sub> CO				VC	SiC	Ca	EPDM	EPDM
Acetyl chloride		CH <sub>3</sub> COCl			40	VS	SiC	Ca	EPDM	EPDM
Alcaline (bottle rinse)	Rinsing		2	< 9.5	40	V	TuC	TuC	HNBR	HNBR
Alcohol (Ethanol)	Hydrocarbon	C <sub>2</sub> H <sub>5</sub> OH	100		60	V	SiC	Ca	EPDM	EPDM
Alum (potassium aluminium sulphate)	Salt	MI MIII (SO <sub>4</sub> ) <sub>2</sub>	3		80	VS	SiC	Ca	FPM	FPM
Aluminium chloride	Halide	AlCl <sub>3</sub>	5		50	VS	SiC	Ca	EPDM	EPDM
Aluminium chloride	Halide	AlCl <sub>3</sub>	25		20	VS	SiC	Ca	EPDM	EPDM
Aluminium sulphate	Salt	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>			20	V	SiC	Ca	EPDM	EPDM
Aluminium sulphate	Salt	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	5		Boiling	VS	SiC	Ca	EPDM	EPDM
Ammonia	Strong base	NH <sub>3</sub>				VC	SiC	Ca	EPDM	EPDM
Ammonium bicarbonate	Salt	(NH <sub>4</sub> )HCO <sub>3</sub>	10		40	V	SiC	Ca	EPDM	EPDM
Ammonium sulphate	Salt	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	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 <sub>6</sub> H <sub>6</sub>				VS	SiC	Ca	FPM	FPM
Boric acid	Acid	H <sub>3</sub> BO <sub>3</sub>				V	SiC	Ca	EPDM	EPDM
Buttermilk	Dairy product	fats + water	100		60	V	SiC	Ca	EPDM	EPDM
Butyl alcohol (butanol)	Hydrocarbon	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OH					SiC	Ca	EPDM	EPDM
Calcium acetate	Salt	C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> Ca	10		60	VS	SiC	Ca	EPDM	EPDM
Calcium nitrate (non-acidic)	Salt	Ca(NO <sub>3</sub> ) <sub>2</sub>	10		60	VS	TuC	TuC	FPM	FPM
Cider (apple cider)	Alcohol	H <sub>2</sub> O + sucrose + alcohol	100		40	V	SiC	Ca	EPDM	EPDM
Citric acid	Acid	C <sub>3</sub> H <sub>4</sub> (OH)(CO OH) <sub>3</sub>	5		20	VS	SiC	Ca	FPM	FPM
Copper sulphate	Salt	CuSO <sub>4</sub> ·5H <sub>2</sub> O	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 <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	100		100	VC	SiC	Ca	EPDM	EPDM
Ethanol (alcohol)	Hydrocarbon	C <sub>2</sub> H <sub>5</sub> OH	100		60	V	SiC	Ca	EPDM	EPDM
Ethylene glycol (salt-free)	Alcohol	(CH <sub>2</sub> OH) <sub>2</sub>	100		100	V	SiC	Ca	EPDM	EPDM
Ferric-III-chloride	Salt	FeCl <sub>3</sub>	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	
Fuel oil (light)	Hydrocarbon				80	VS	SiC	Ca	FPM	FPM
Glycerin (glycerol)	Alcohol	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	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 <sub>4</sub>	10		80	V	SiC	Ca	FPM	FPM
Malic acid	Acid	C <sub>4</sub> H <sub>2</sub> O <sub>3</sub>				V	SiC	Ca	FPM	FPM
Methanol	Alcohol	CH <sub>3</sub> OH				V	SiC	Ca	EPDM	EPDM
Methyl glycol (propylene glycol)	Alcohol	C <sub>3</sub> H <sub>6</sub> (OH) <sub>2</sub>	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 <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	5		20	V	SiC	Ca	EPDM	EPDM
Oxalic acid	Acid	H <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	5		Boiling	VS	SiC	Ca	FPM	FPM
Oxalic acid	Acid	H <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	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 <sub>3</sub>				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 <sub>3</sub>	5		30	VS	TuC	TuC	HNBR	HNBR
Potassium sulphate	Salt	K <sub>2</sub> SO <sub>4</sub>	3		20	VS	SiC	Ca	FPM	FPM
Rape-seed oil	Vegetable oil	mixture			100	VS	SiC	Ca	FPM	FPM
Sodium carbonate	Salt	Na <sub>2</sub> CO <sub>3</sub>	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 <sub>3</sub>	10		60	V	SiC	Ca	EPDM	EPDM
Sodium phosphate	Salt	Na <sub>3</sub> PO <sub>4</sub>				V	SiC	Ca	EPDM	EPDM
Sodium sulphate (non acidic)	Salt	Na <sub>2</sub> SO <sub>4</sub>	5		60	V	SiC	Ca	EPDM	EPDM
Soybean oil	Vegetable oil		100		100	V	SiC	Ca	FPM	FPM
Spirits	Alcohol	H <sub>2</sub> O + sucrose + alcohol	40		60	V	SiC	Ca	EPDM	EPDM
Sulphuric acid	Acid	H <sub>2</sub> SO <sub>4</sub>	5		30	VS	TuC	TuC	FPM	FPM
Tannic acid	Acid	C <sub>76</sub> H <sub>52</sub> O <sub>46</sub>	20		80	V	SiC	Ca	FPM	FPM
Tartaric acid	Acid	C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>	8		40	VS	SiC	Ca	FPM	FPM
Vinegar (wine vinegar)	Acid	CH <sub>3</sub> COOH	10		60	VS	SiC	Ca	EPDM	EPDM
Water, untreated / suspended solids <20 ppm	Water	H <sub>2</sub> O + ...	100		60	VC	TuC	Ca	EPDM	EPDM
Water, boiler feed water (conform. Vd TÜV 1466	Water	H <sub>2</sub> O + ...	100		120	VC	TuC	Ca	EPDM	EPDM E425
Water, brackish	Sea water	H <sub>2</sub> O + ...	100	7	5	V	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H <sub>2</sub> O + ...	100	7	10	V	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H <sub>2</sub> 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			
							rotor	stator	elastomer	Material pump elastomer
Water, brackish	Sea water	H <sub>2</sub> O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H <sub>2</sub> O + ...	100	7	25	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H <sub>2</sub> O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H <sub>2</sub> O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H <sub>2</sub> O + ...		7	15	VS	TuC	TuC	FPM	FPM
Water, condensate (conform Vd TÜV 1466)	Water	H <sub>2</sub> O + ...	100		100	VS	TuC	Ca	EPDM	EPDM
Water, cooling water	Water	H <sub>2</sub> O + ...			100	VS	TuC	TuC	HNBR	HNBR
Water, de-carbonised (softened)	Water	H <sub>2</sub> O + ...	100		120	V	TuC	TuC	HNBR	HNBR
Water, de-ionised	Water	H <sub>2</sub> O + ...			120	V	SiC	Ca	EPDM	EPDM
Water, distilled	Water	H <sub>2</sub> O + ...				V	SiC	Ca	EPDM	EPDM
Water, fire fighting	Water	H <sub>2</sub> O + ...	100		60	VC	TuC	TuC	HNBR	HNBR
Water, harbour	Sea water	H <sub>2</sub> O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, harbour	Sea water	H <sub>2</sub> O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, heating (conform Vd TÜV 1466)	Water	H <sub>2</sub> O + ...	100		120	VC	SiC	Ca	EPDM	EPDM
Water, (conform VDI 2035)	Water	H <sub>2</sub> 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 <sub>2</sub> O + ...	100	7	5	V	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H <sub>2</sub> O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H <sub>2</sub> O + ...	100	7	15	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H <sub>2</sub> O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water (Ozon 0.5 mg/l)	Water	H <sub>2</sub> O + ...			25	V	SiC	Ca	EPDM	EPDM
Water, pure (chemically neutral)	Water	H <sub>2</sub> O + ...	100		60	V	SiC	Ca	EPDM	EPDM
Water, rinsing	Water	H <sub>2</sub> O + ...			70	VS	TuC	TuC	FPM	FPM
Water, swimming-pool (chlorine 0.8 mg/l)	Water	H <sub>2</sub> O + ...			25	VS	SiC	Ca	FPM	FPM
Water, tap (drinking water)	Water	H <sub>2</sub> O + ...	100		60	V	SiC	Ca	EPDM	EPDM WRC/ ACS









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12/2013

Original instructions

97004456-A

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