Multi-stage centrifugal pumps DPV

Technical specification booklet

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

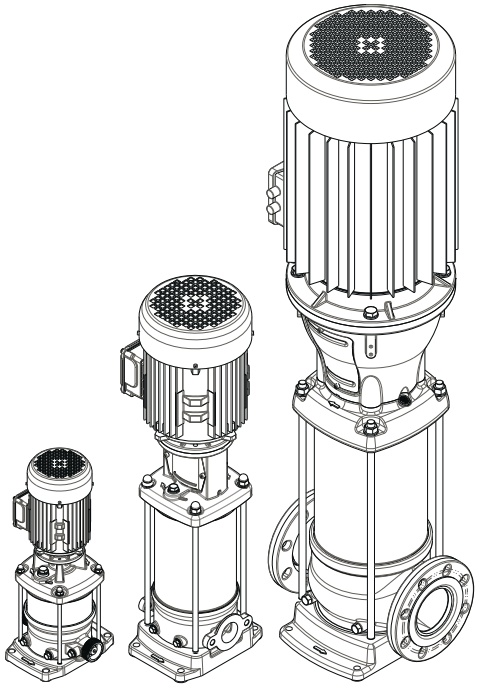
60 Hz (DIN/IEC)

Table of Contents

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.



DPV 2,4,6 B | DPV 10,15 B | DPV 25,40,60,85,125 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/Con-struction		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^3/h at $Q._{opt}$.
					/3			Number of stages
					/3	-1		Number of stages of which one stage with reduced head
							B	Design version

1.3 Operation

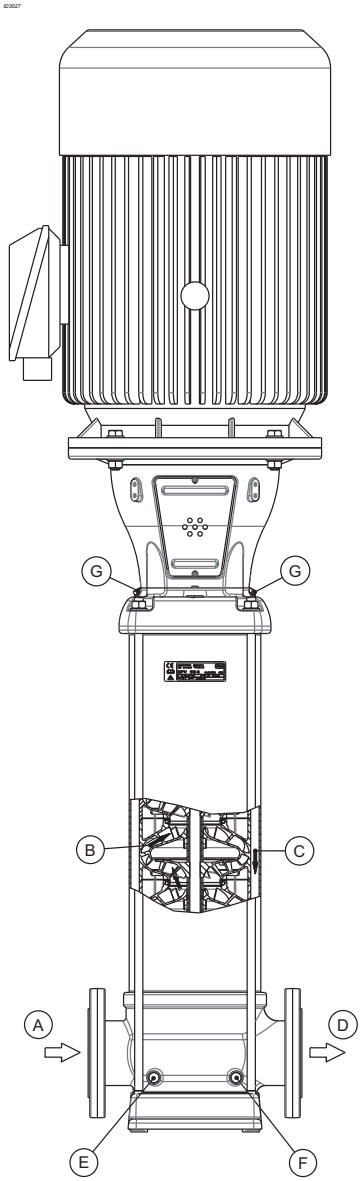

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Figure 1: DPVF 85

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).

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	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 60 Hz power supply.

1.5.1 Minimum capacity

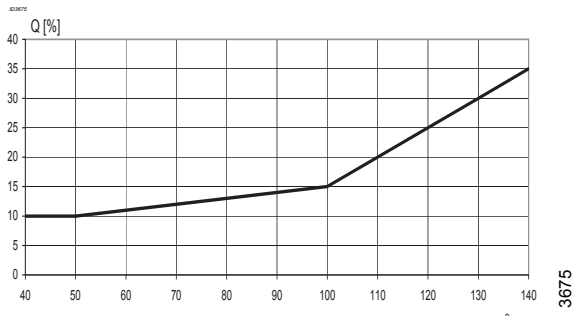
For minimum capacity at medium temperature of 20 °C, see table: 3Minimum capacity (Qmin); for higher temperatures, see table: 4Minimum capacity vs.temperature (in % of Q optimum).

To prevent the pump from overheating, gathering gas, cavitation etc. a minimum capacity has to be secured. The minimum capacity corresponds to al 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

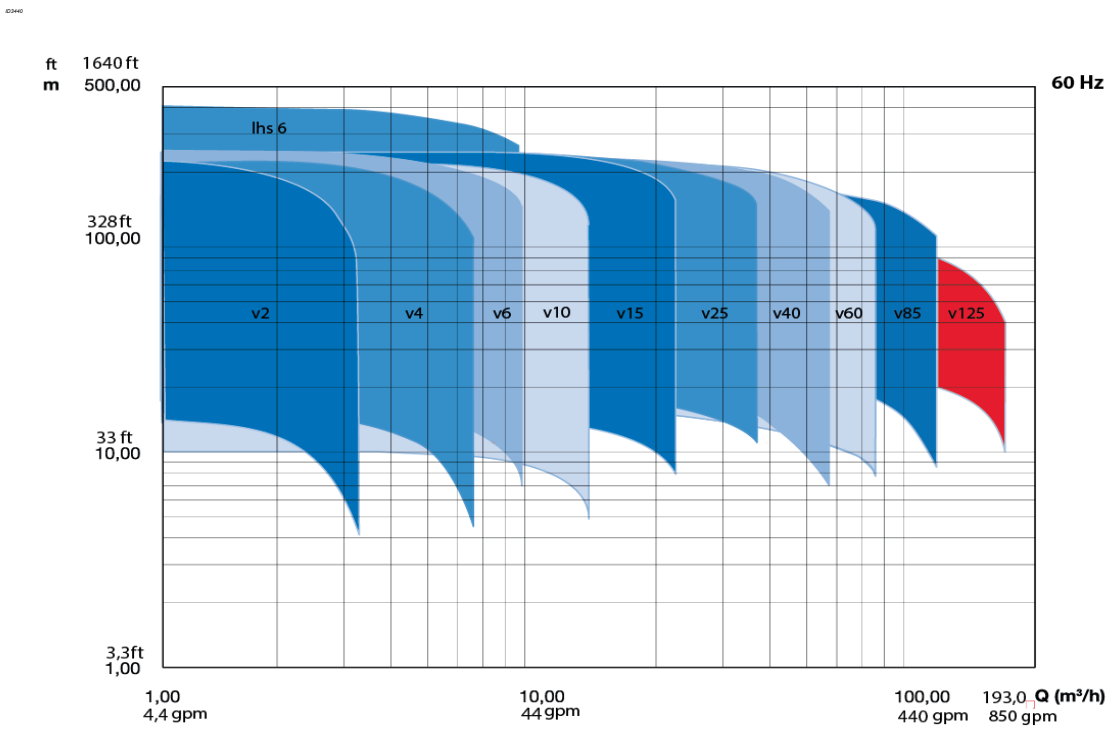


Figure 2: Performance range DPV(C/S) B 60 Hz

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^3
- Kinematical viscosity of 1 mm^2/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 ErP regulations for water pumps is specified by the minimum efficiency index MEI. A high 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:

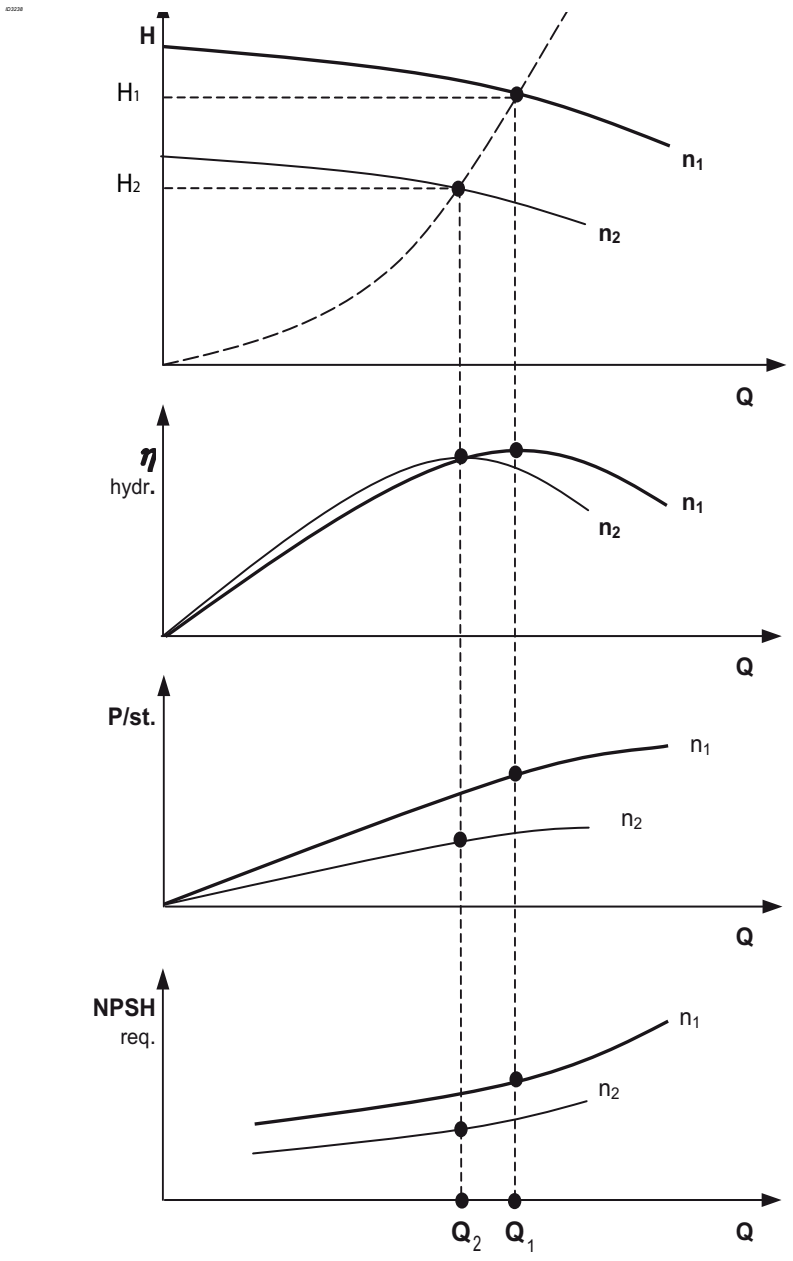
Table 8: Minimum efficiency index

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.



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

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

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

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

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

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Figure 3: Performance characteristics

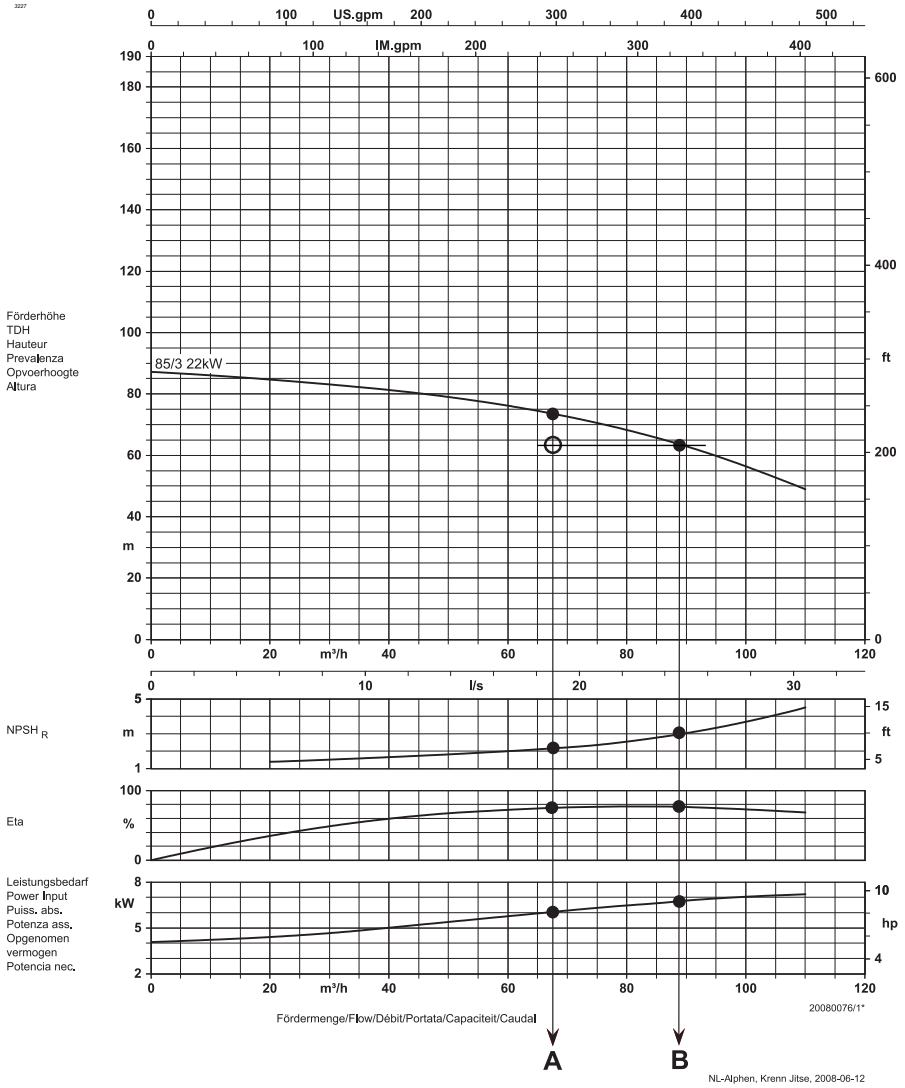
2.5 How to read the values from the curves

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].



Pump size / no of stages.
Installed motor power

Capacity @ Pressure

NPSH (m)

Hydraulic efficiency (%)

Required power (P2)

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Figure 4: How to read the values from the curves

O 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

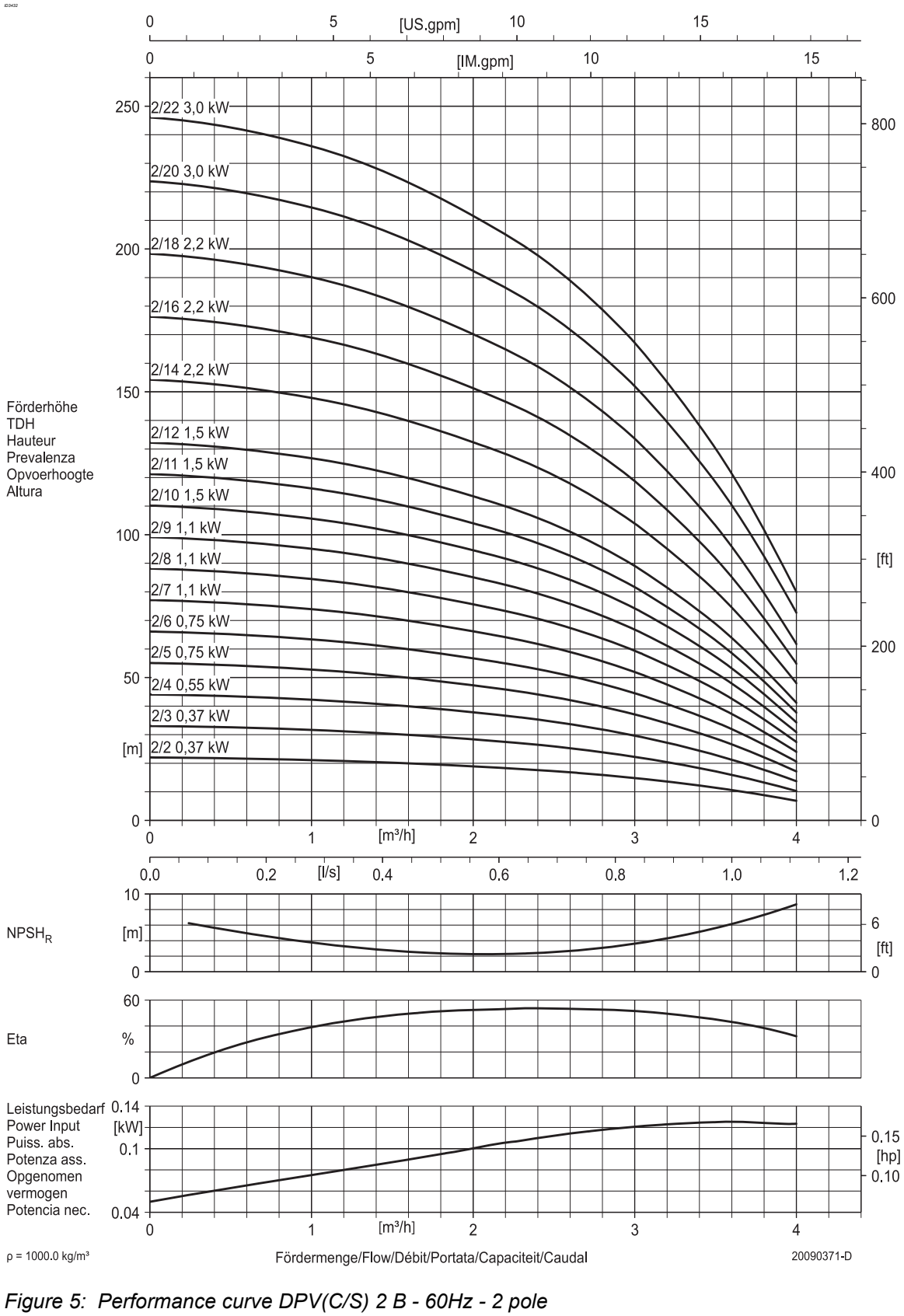

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Figure 5: Performance curve DPV(C/S) 2 B - 60Hz - 2 pole

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

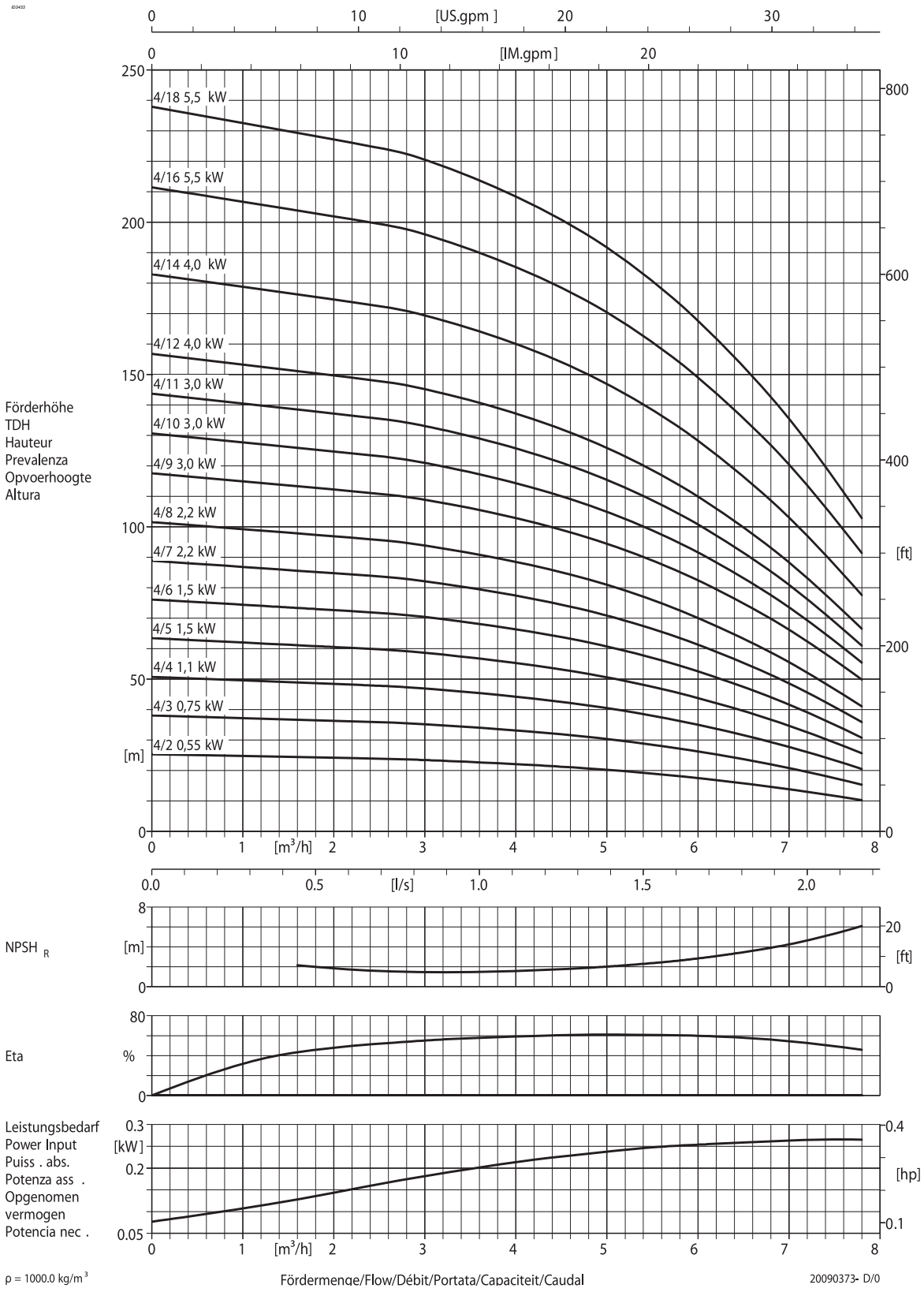

Figure 6: Performance curve DPV(C/S) 4 B - 60Hz - 2 pole

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

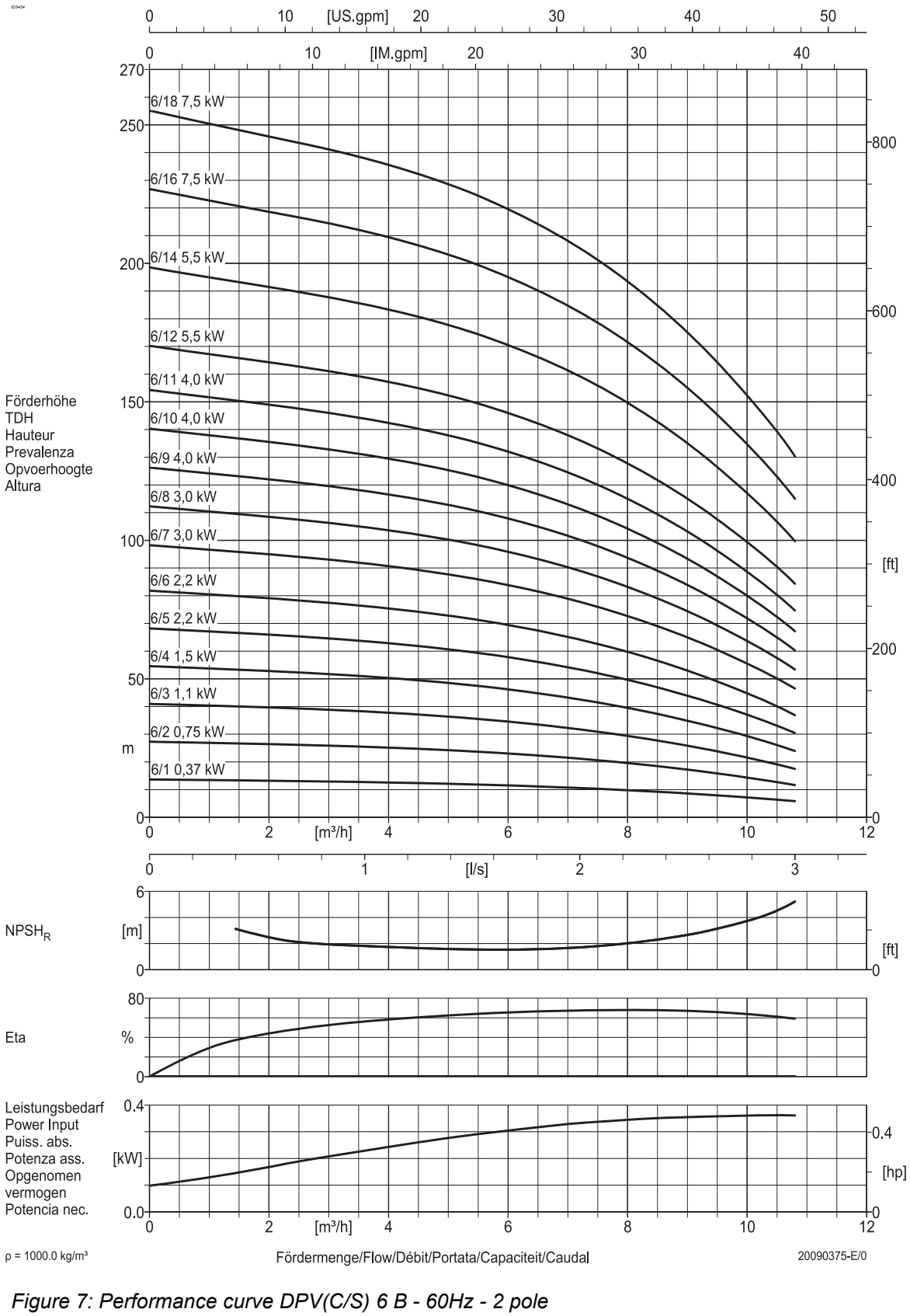

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Figure 7: Performance curve DPV(C/S) 6 B - 60Hz - 2 pole

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

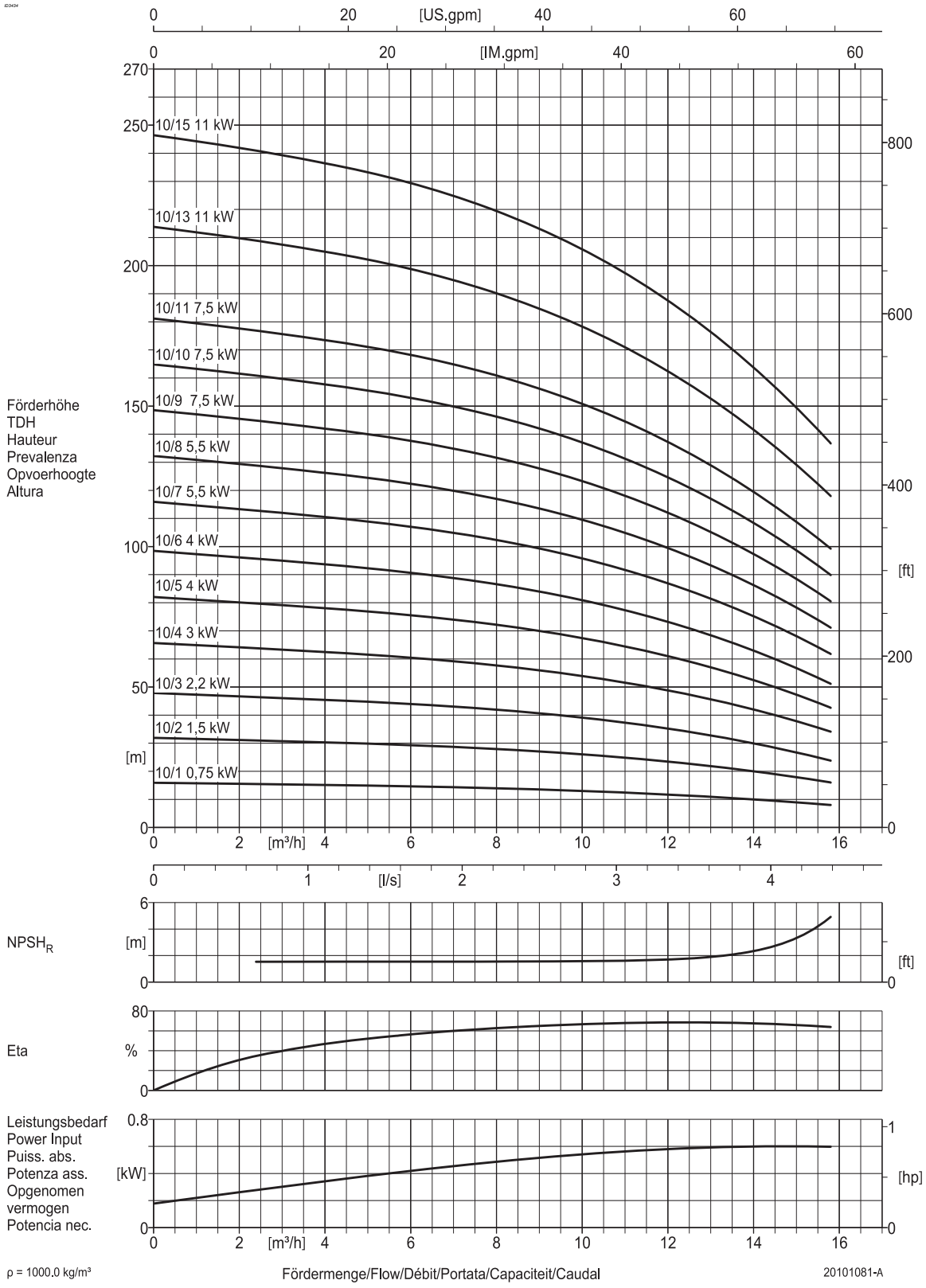

Figure 8: Performance curve DPV(C/S) 10 B - 60Hz - 2 Pole

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

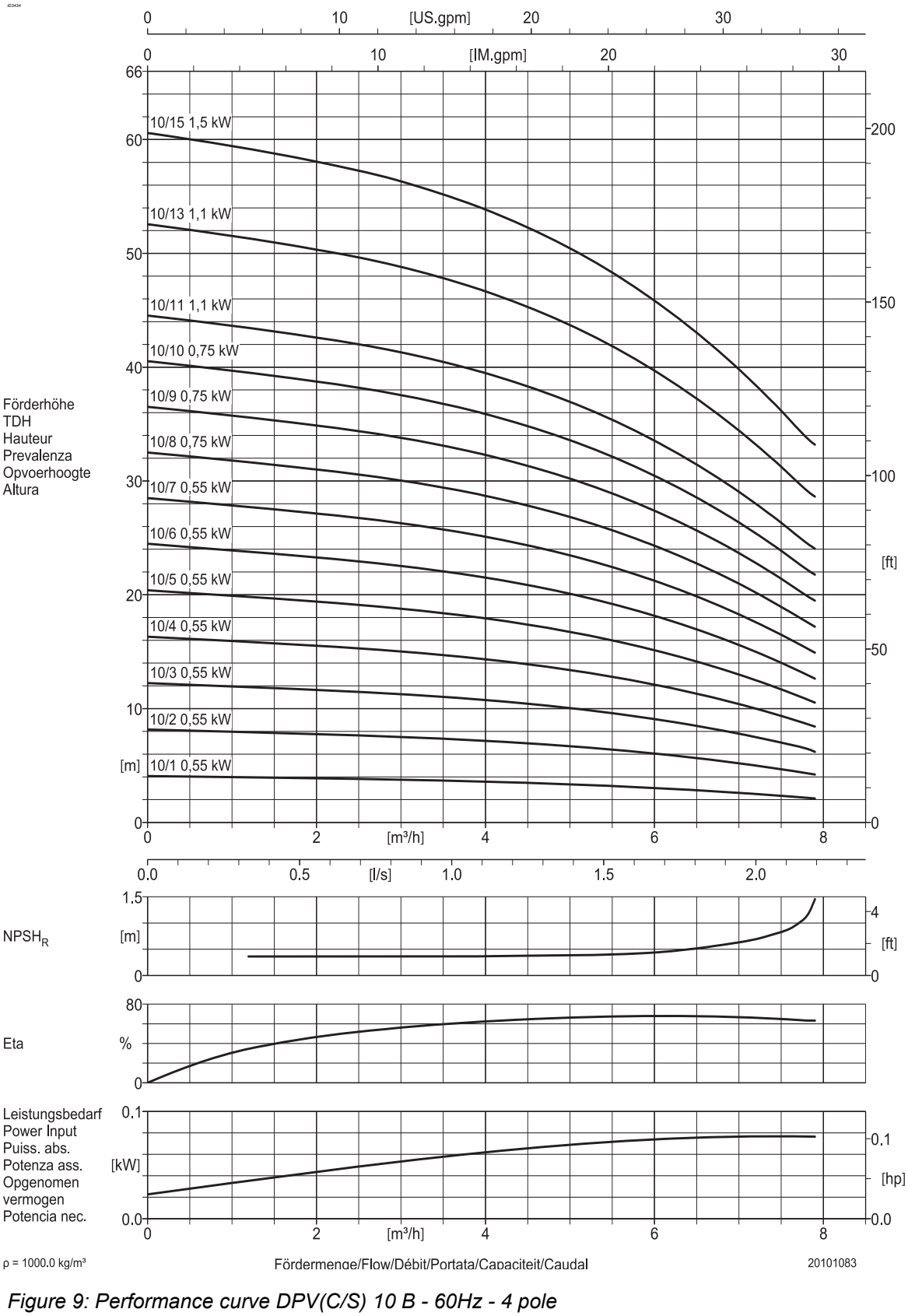

Figure 9: Performance curve DPV(C/S) 10 B - 60Hz - 4 pole

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

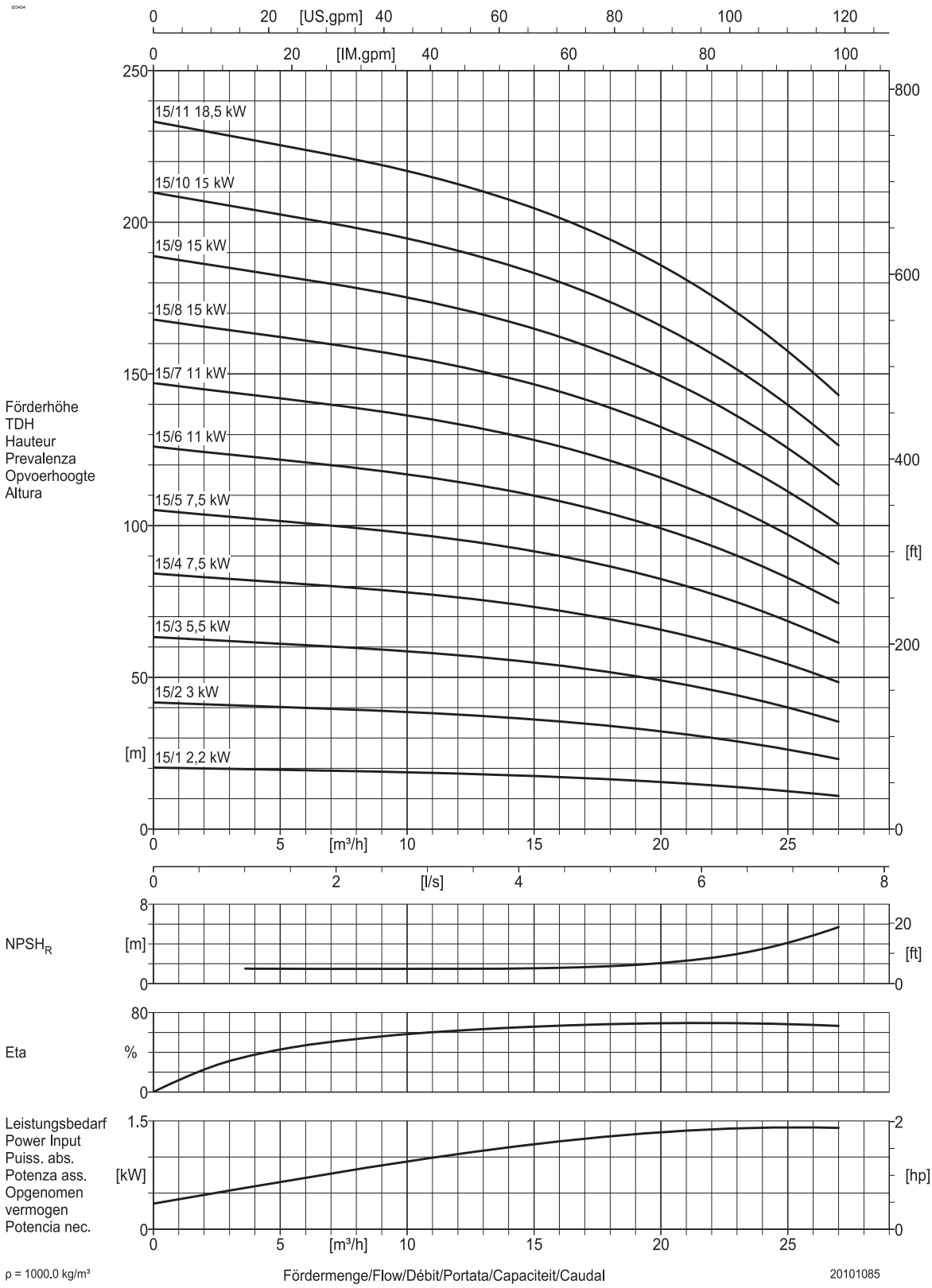

Figure 10: Performance curve DPV(C/S) 15 B - 60Hz - 2 pole

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

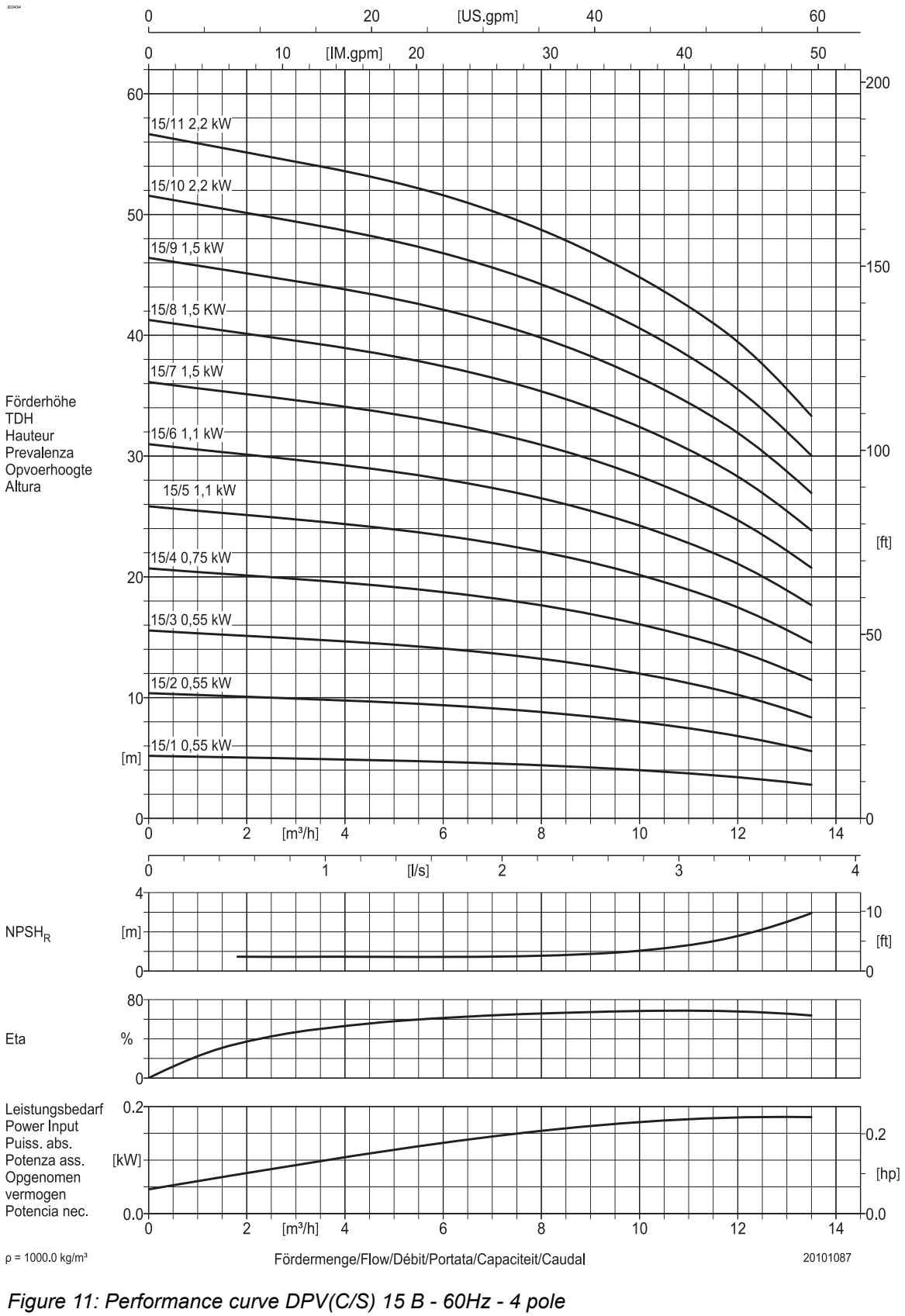

Figure 11: Performance curve DPV(C/S) 15 B - 60Hz - 4 pole

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

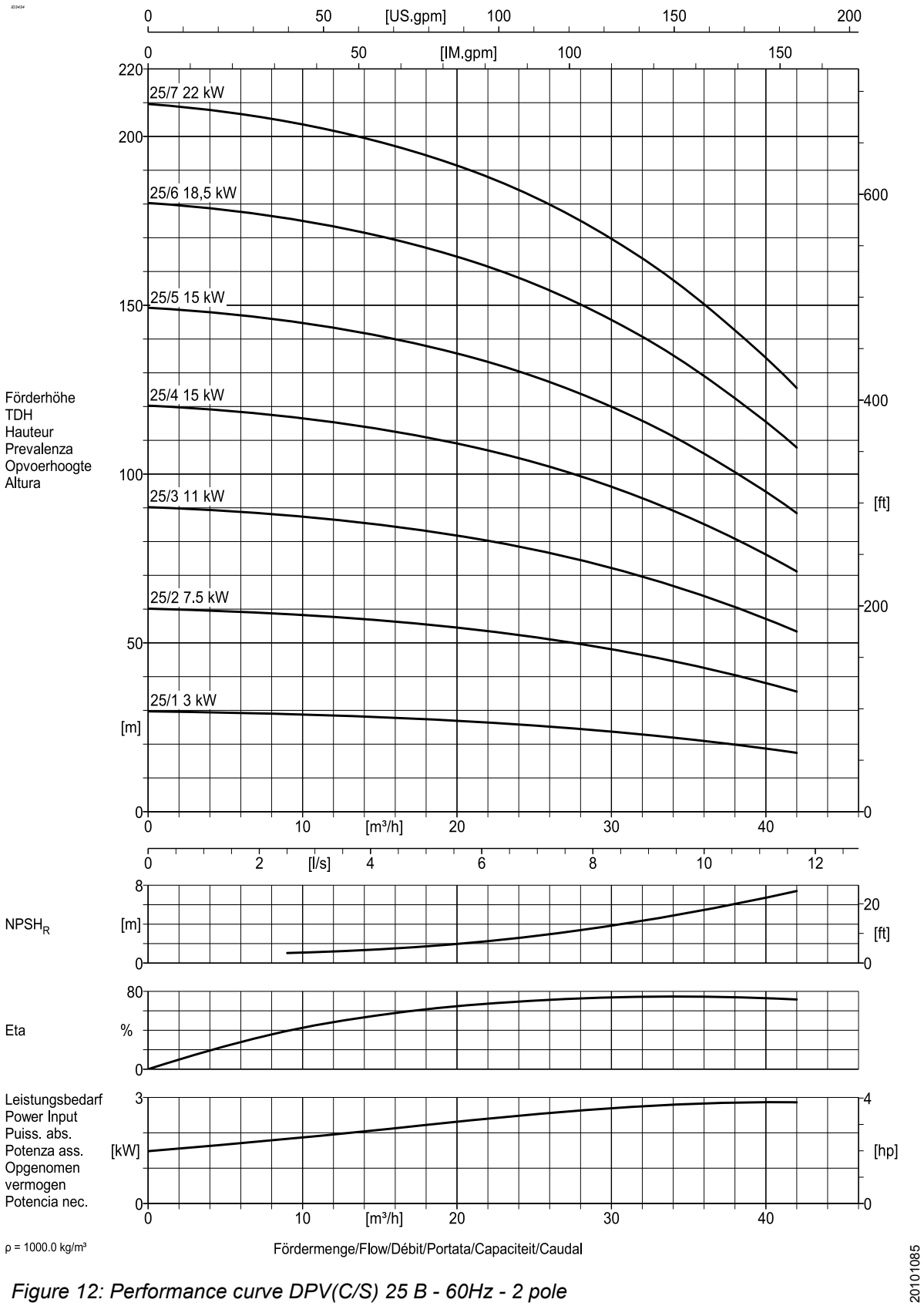

Figure 12: Performance curve DPV(C/S) 25 B - 60Hz - 2 pole

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

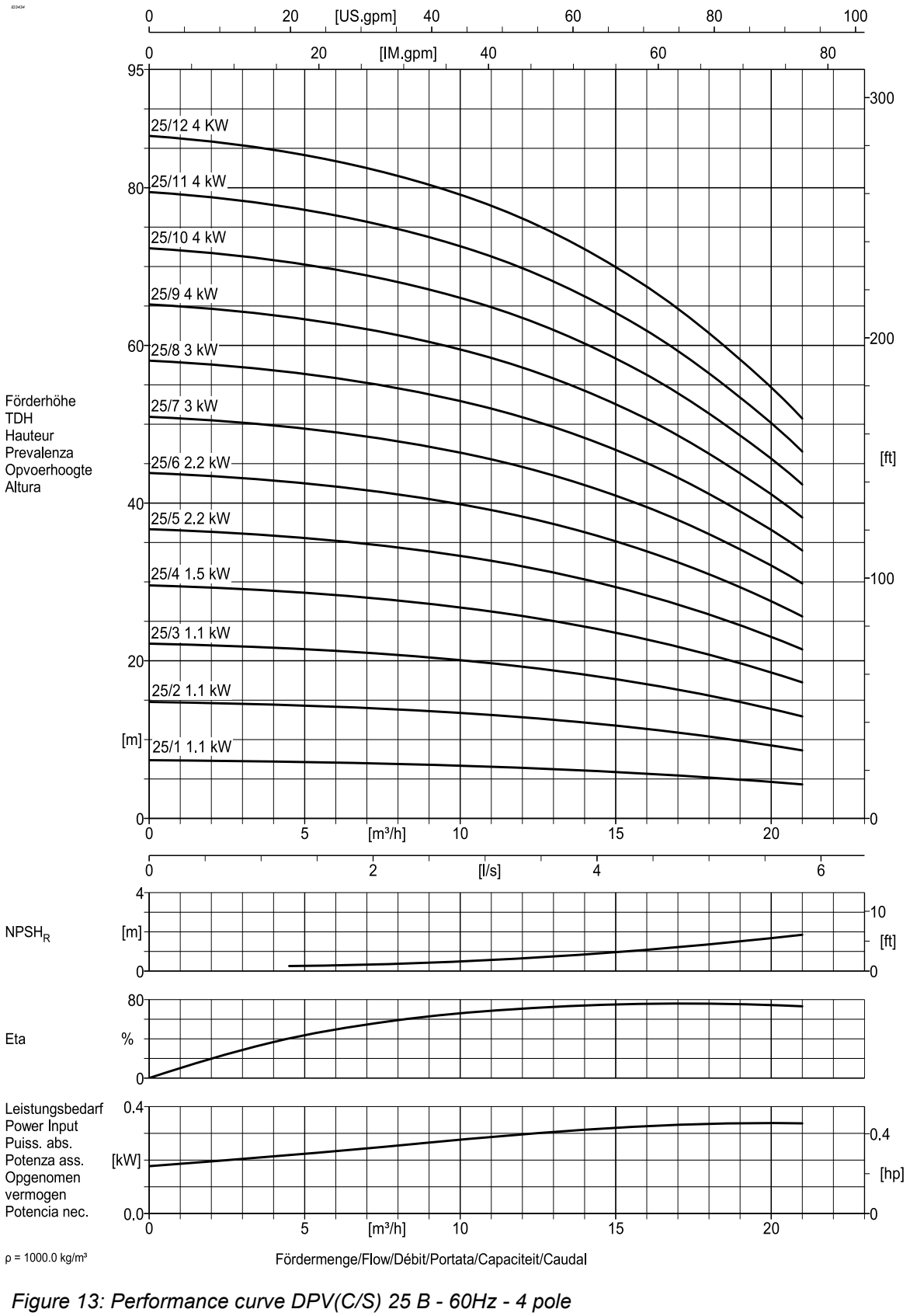

Figure 13: Performance curve DPV(C/S) 25 B - 60Hz - 4 pole

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

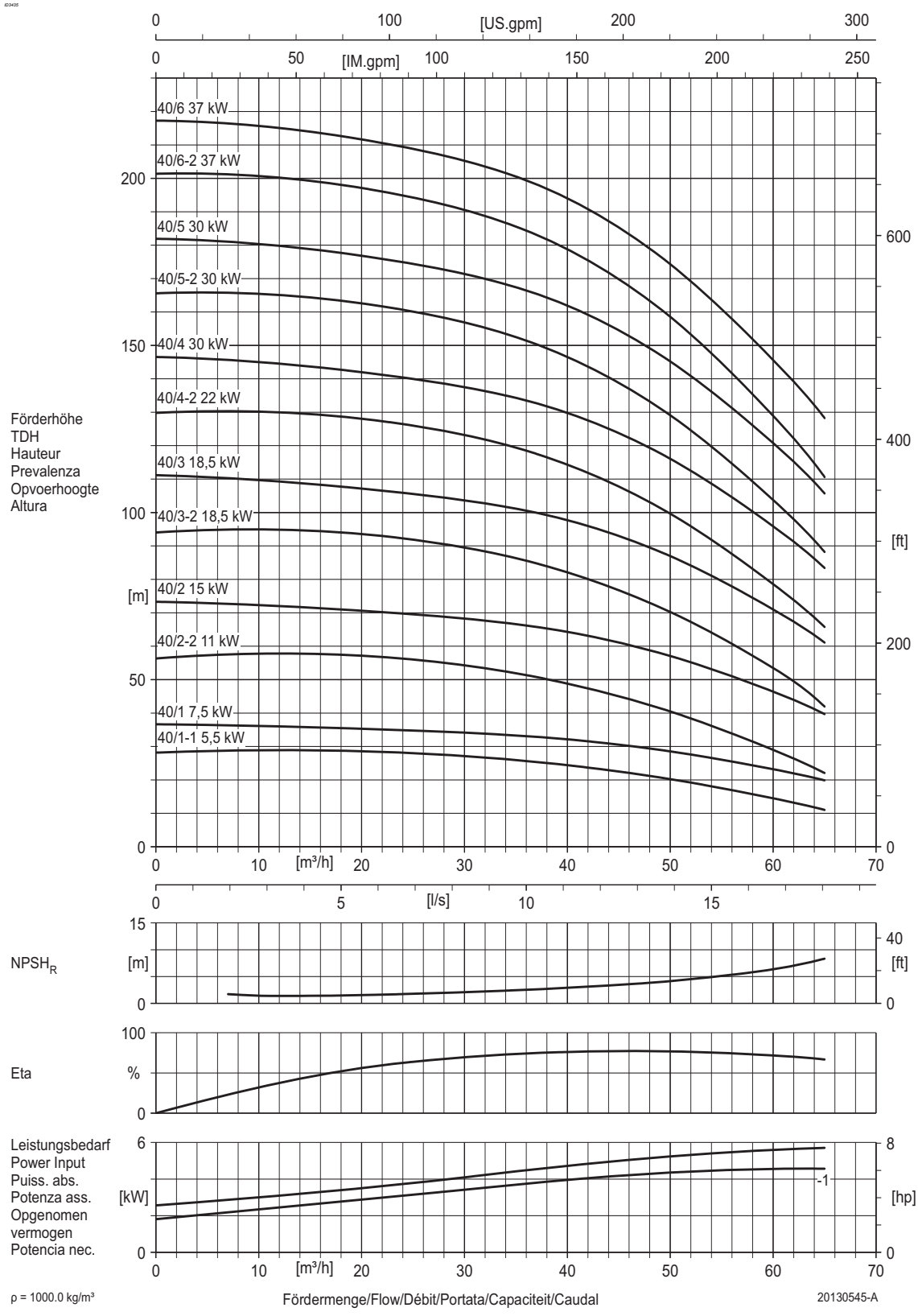

Figure 14: Performance curve DPV(C/S) 40 B - 60Hz - 2 pole

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

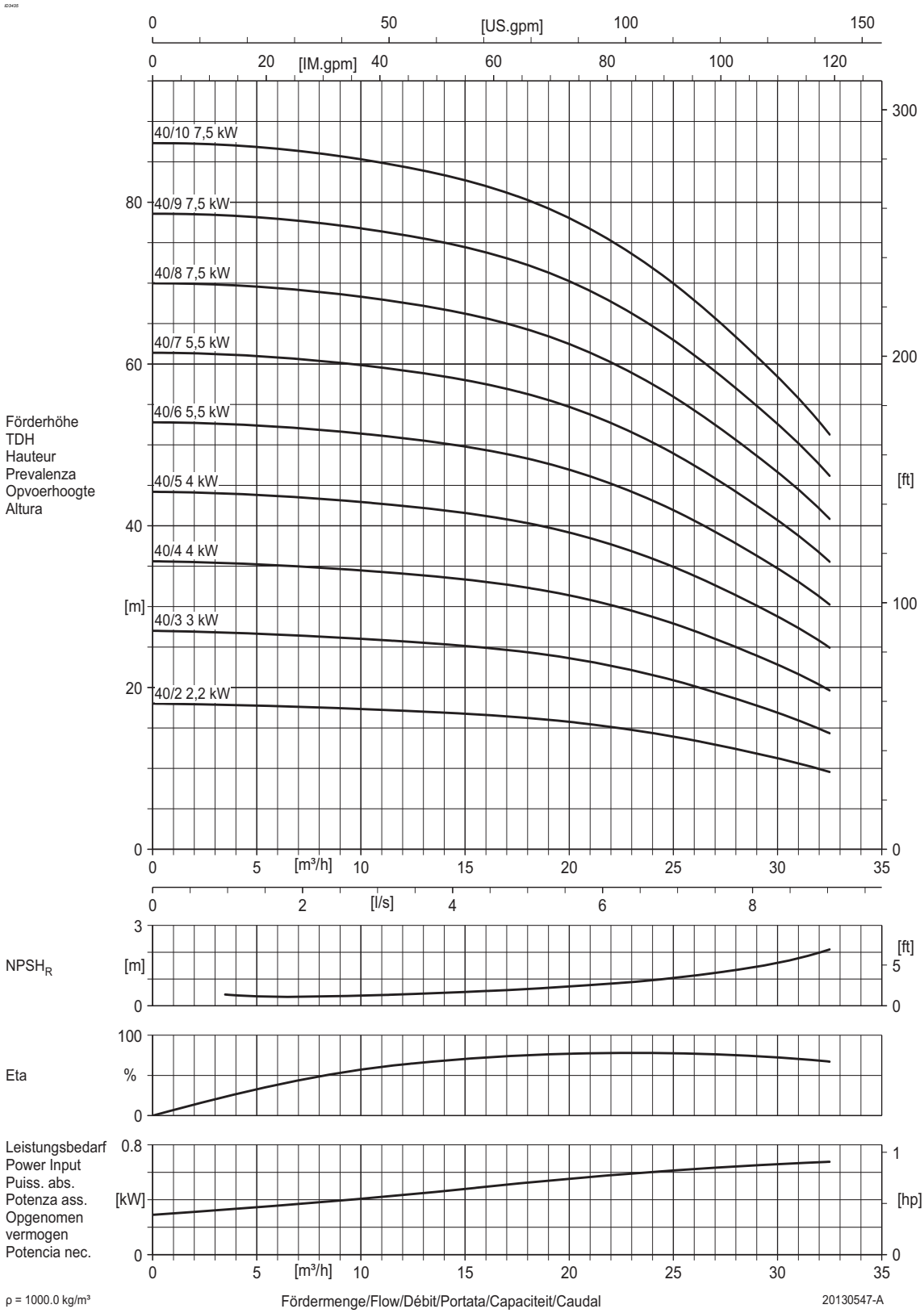

Figure 15: Performance curve DPV(C/S) 40 B - 60Hz - 4 pole

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

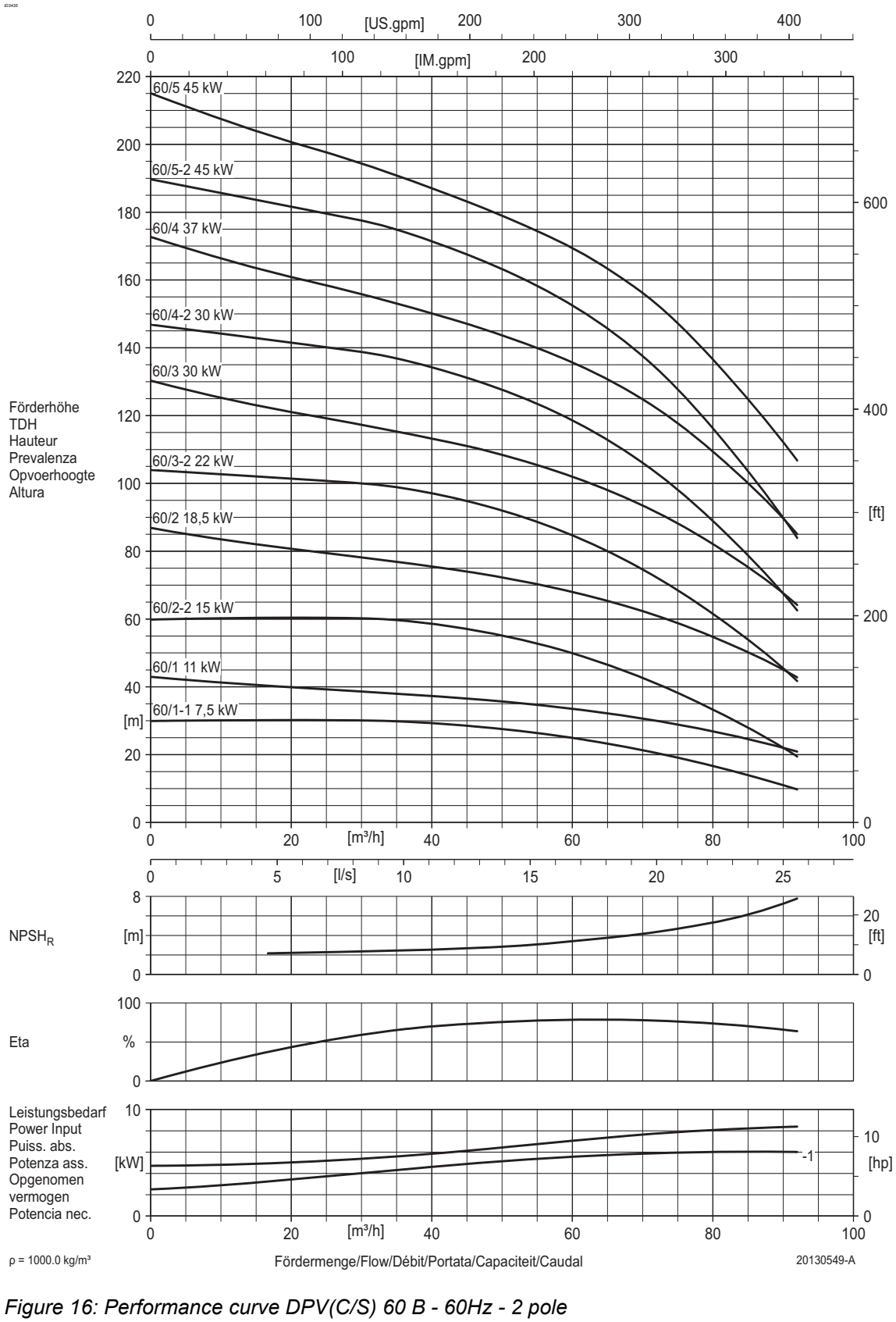

Figure 16: Performance curve DPV(C/S) 60 B - 60Hz - 2 pole

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

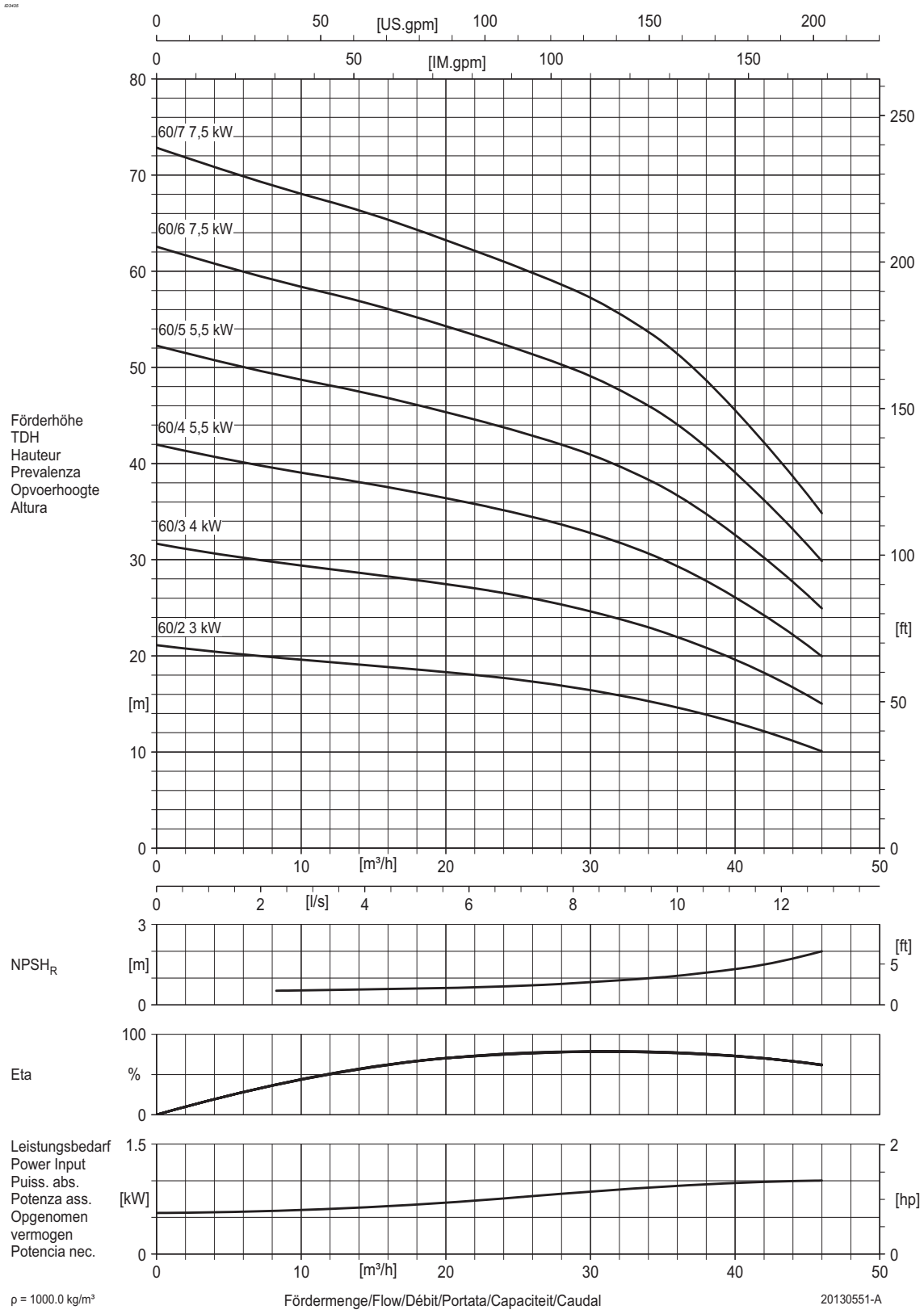

Figure 17: Performance curve DPV(C/S) 60 B - 60Hz - 4 pole

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

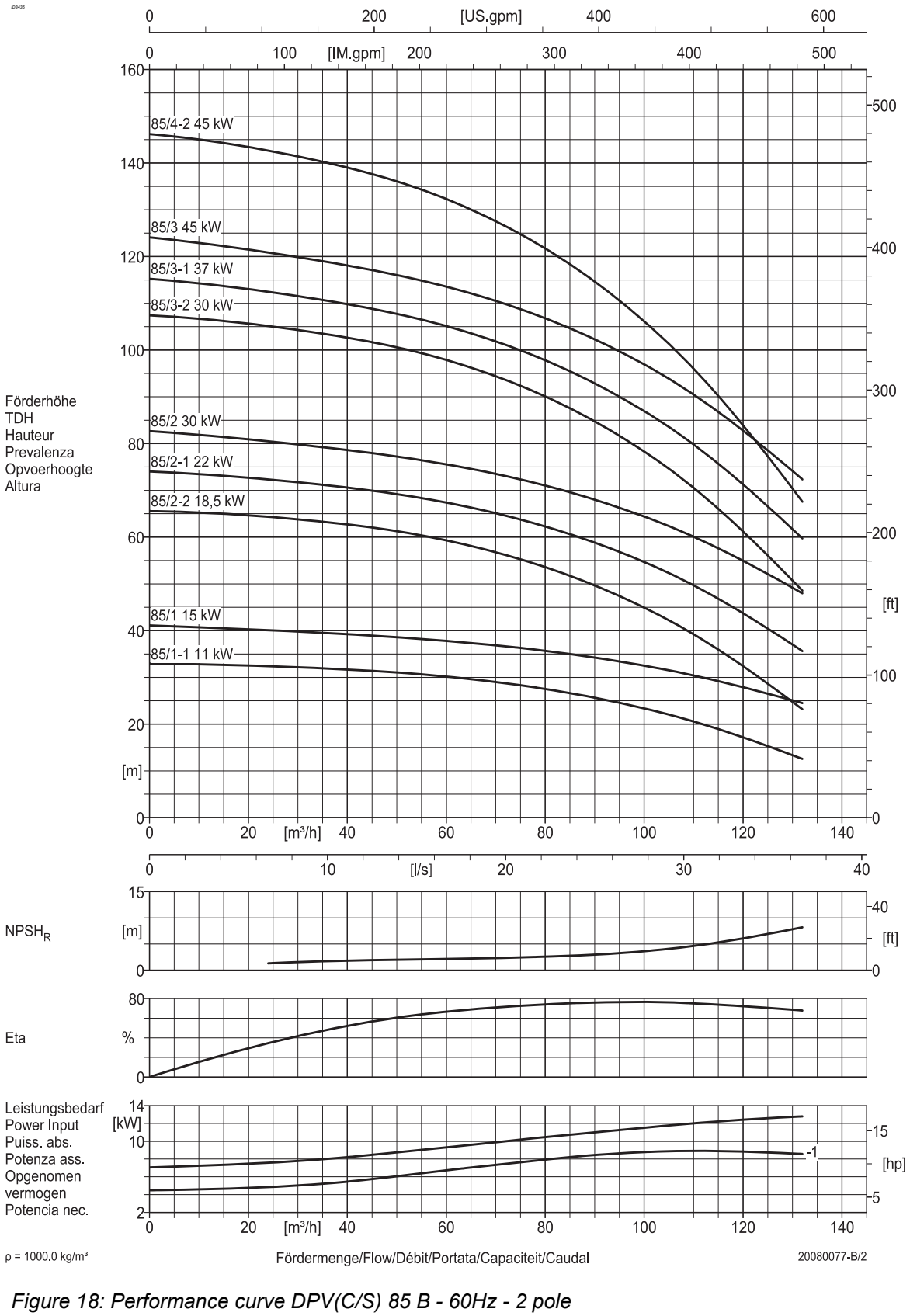

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Figure 18: Performance curve DPV(C/S) 85 B - 60Hz - 2 pole

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

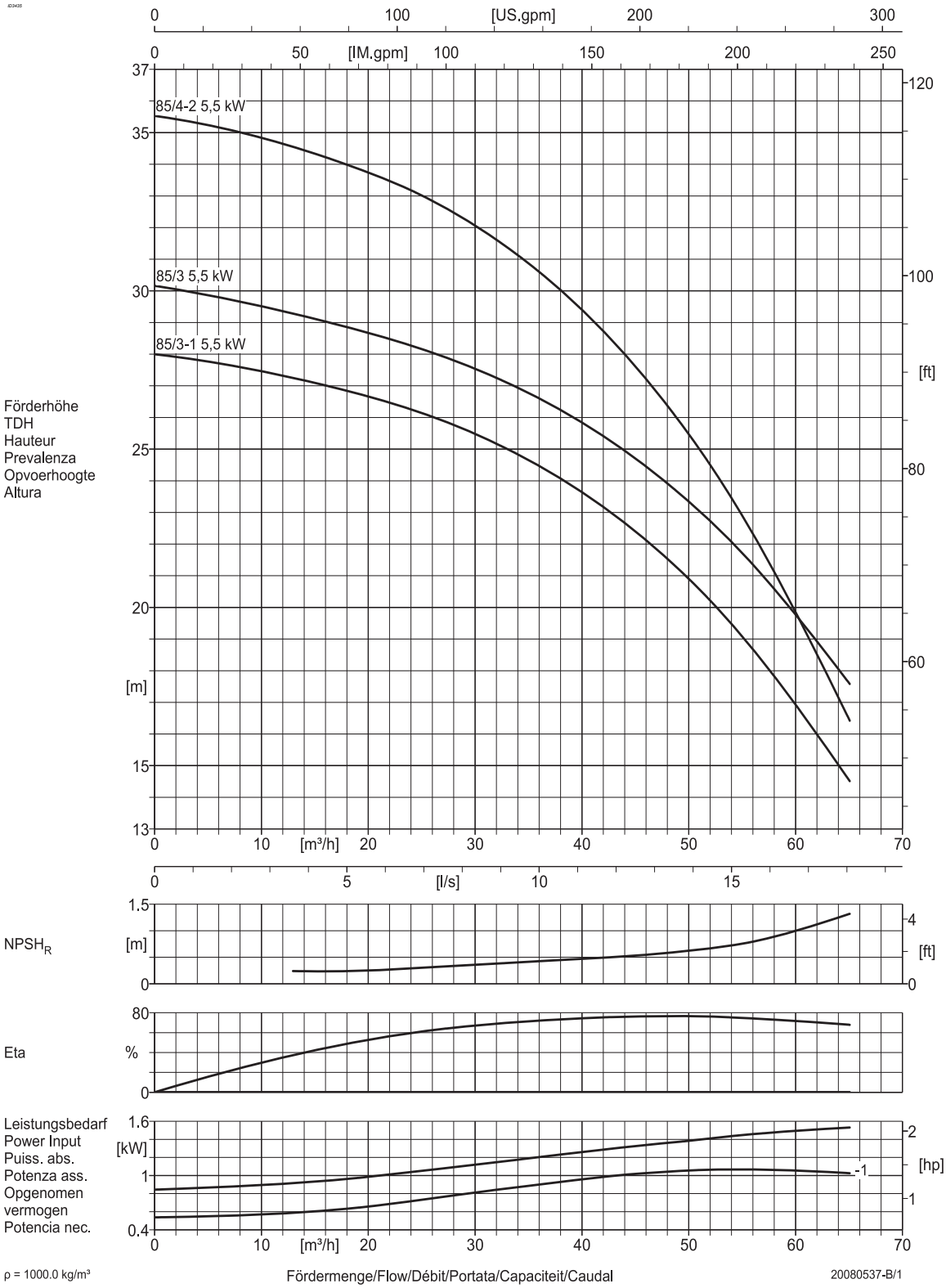

Figure 19: Performance curve DPV(C/S) 85 B - 60Hz - 4 pole

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2.21 Hydraulic performance curve DPV(C/S) 125 B - 60Hz - 2 pole

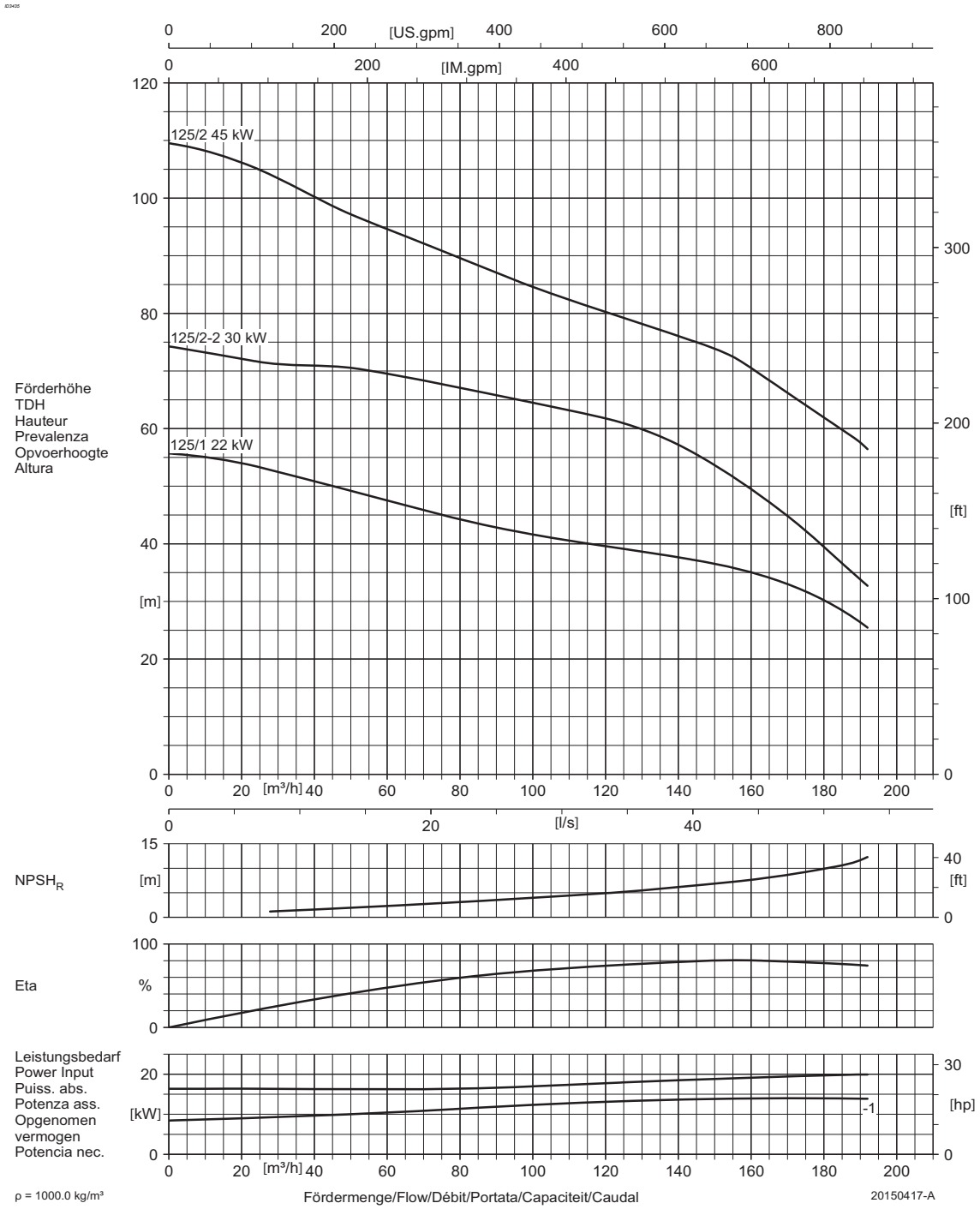


Figure 20: Performance curve DPV(C/S) 125 B - 60Hz - 2 pole

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 (Hp) 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 NPSHa > NPSHr + 0,5

Check if cavitation can be expected.

Hb + Ho + Hp - HV - Hi > NPSHr + 0,5
Hb = barometric pressure in mwc
Ho = over pressure (in case of closed tank) in mwc
Hp = suction lift in mwc
Hv =- vapour pressure in mwc
Hl = friction loss in pipe work and accessories in mwc
NPSHr = net positive suction head of the pump
0.5 = safety factor

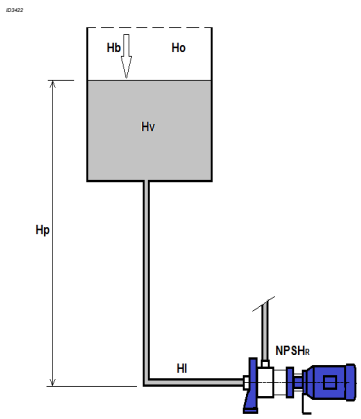


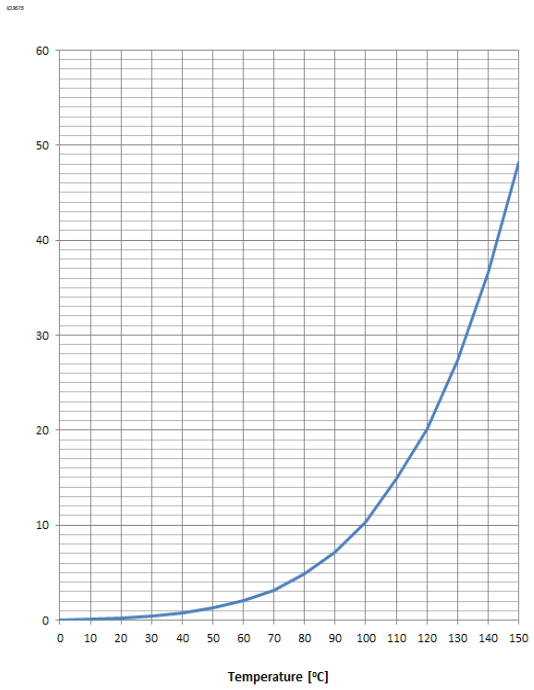
Table 9: Calculation NPSHa

Atmosferic 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 - 60Hz - 3500 1/min

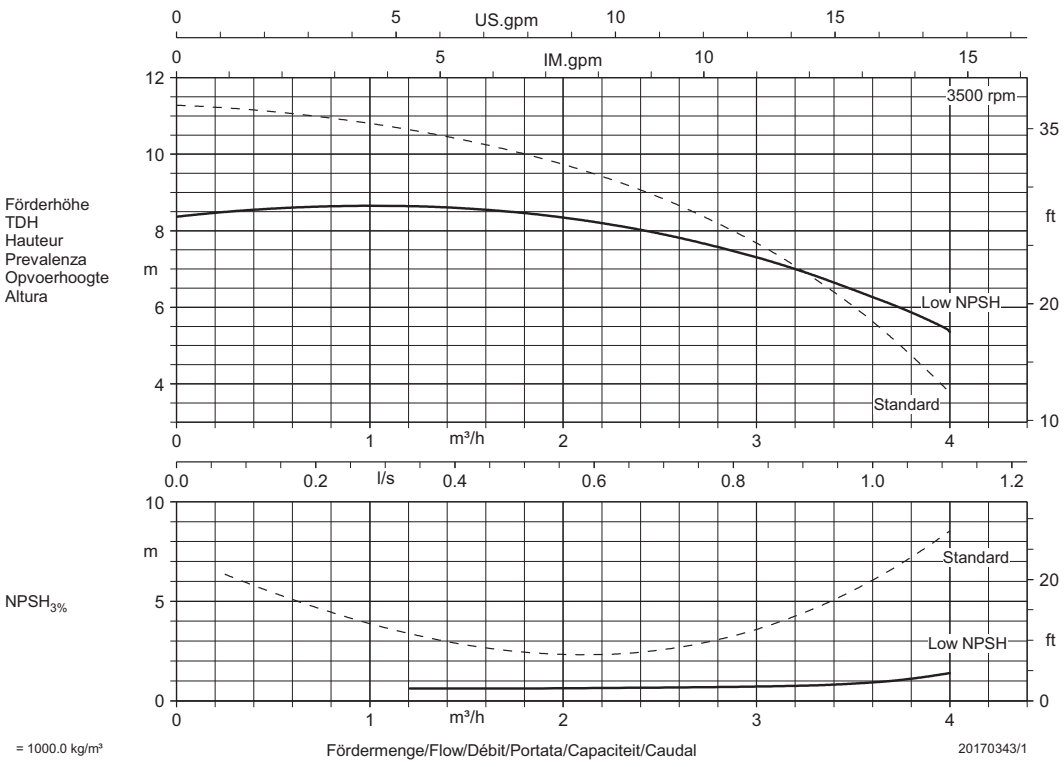


Figure 21: Grafieken DPV(C/S) 2 B - 60Hz - 2 pole

3.7 Low NPSH grafiek DPV(C/S) 4 B - 60Hz - 3500 1/min

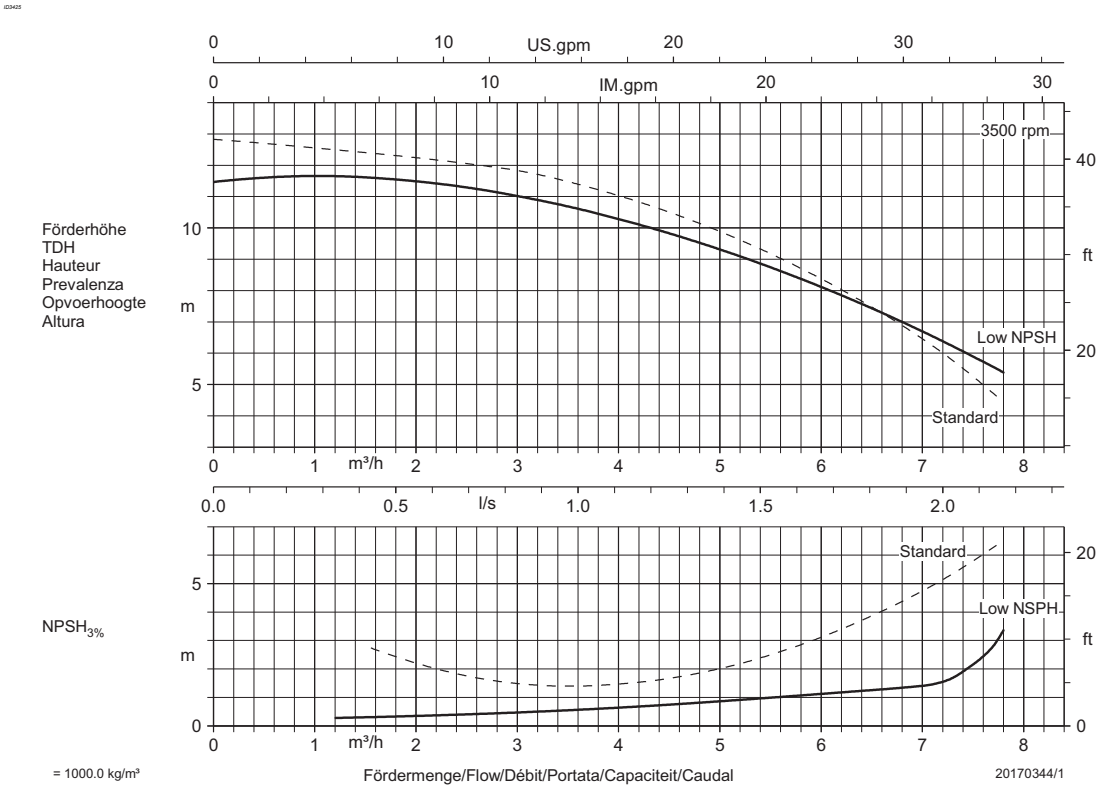


Figure 22: Grafieken curve DPV(C/S)4 B - 60Hz - 2 pole

3.8 Low NPSH grafiek DPV(C/S) 6 B - 60Hz - 3500 1/min

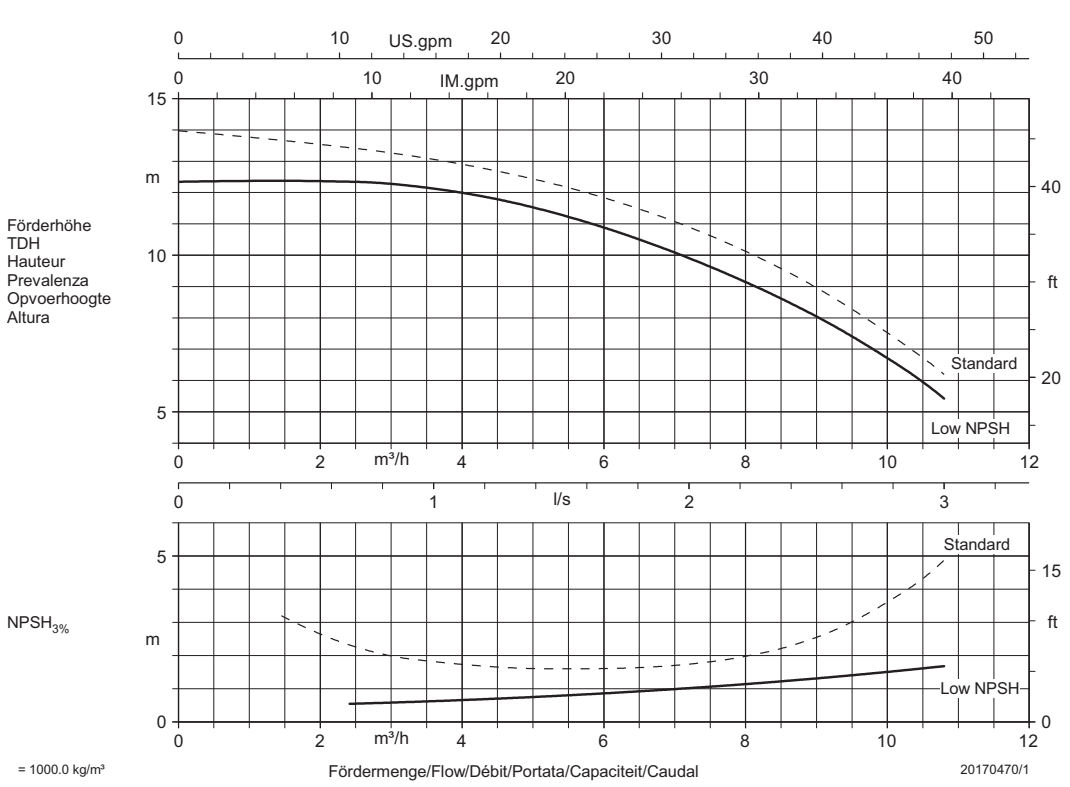


Figure 23: Grafieken DPV(C/S)6 B - 60Hz - 2 pole

20101082

3.9 Low NPSH grafiek DPV(C/S) 10 B - 60Hz - 3500/1750 1/min

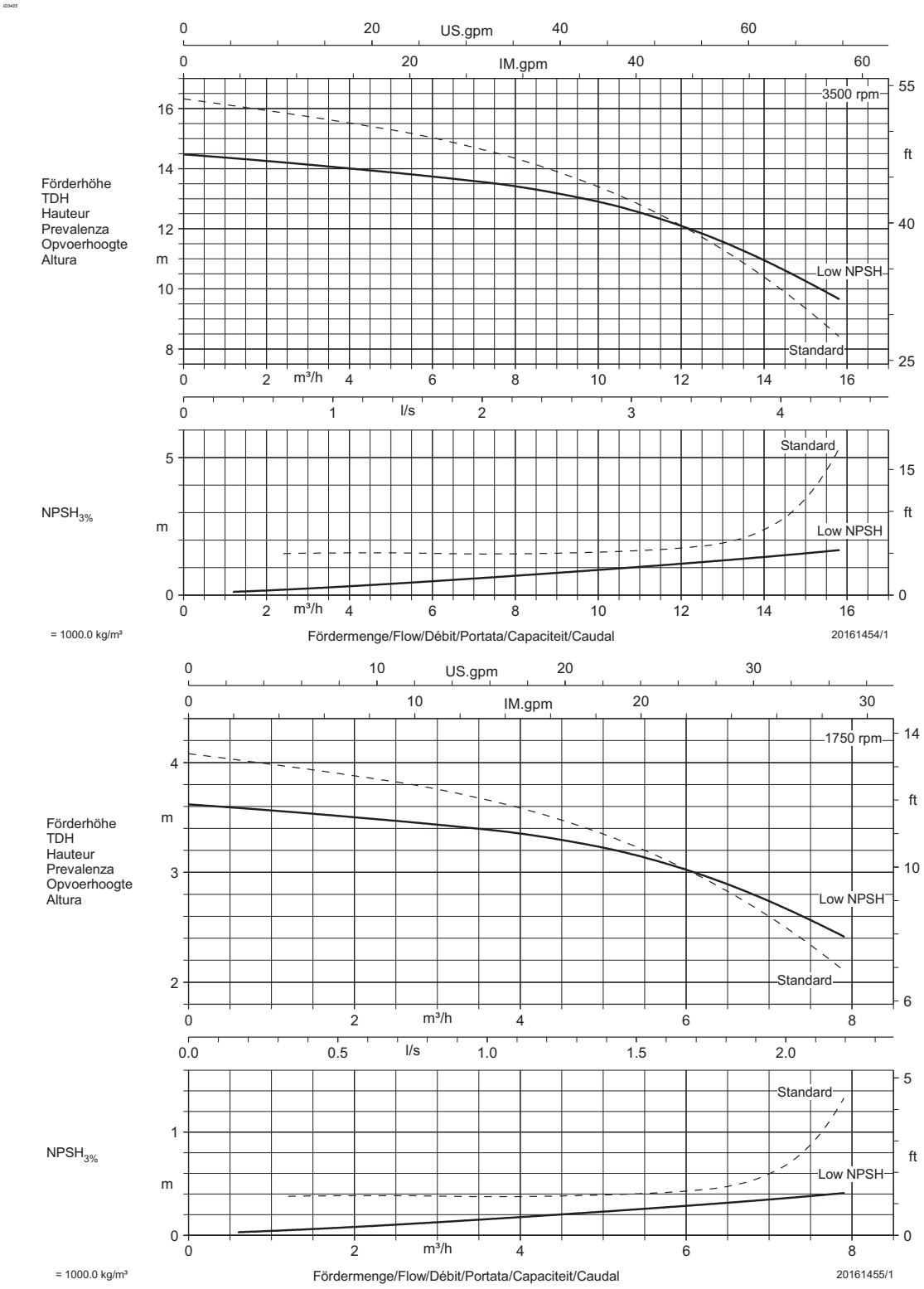


Figure 24: Grafieken DPV(C/S) 10 B - 60Hz - 2 pole / 4 pole

3.10 Low NPSH grafiek DPV(C/S) 15 B - 60Hz - 3500/1750 1/min

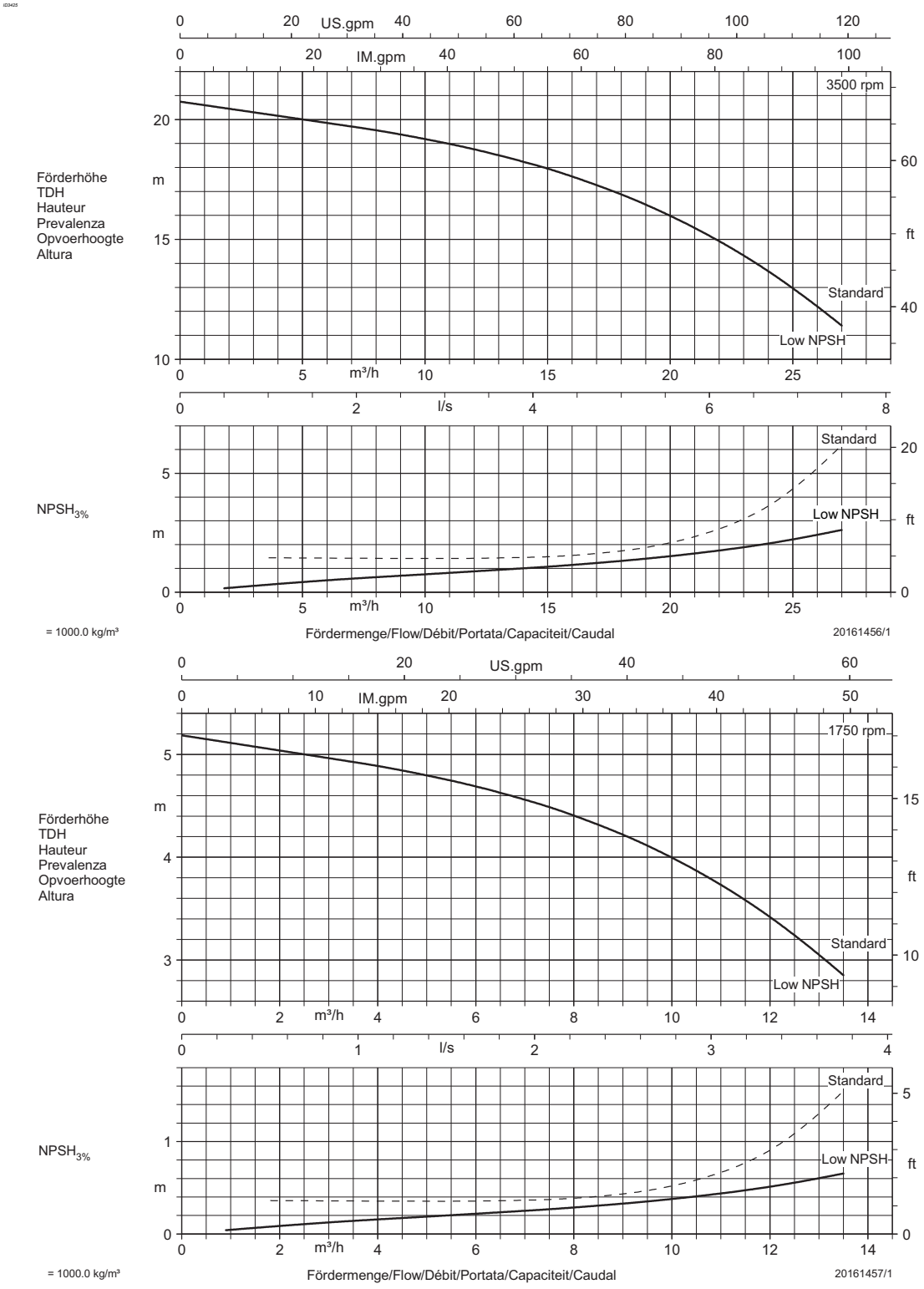


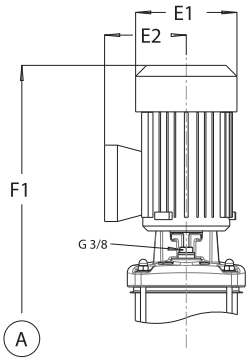
Figure 25: Grafieken DPV(C/S) 15 B - 60Hz - 2 pole / 4pole

20101082

4 Dimensions

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

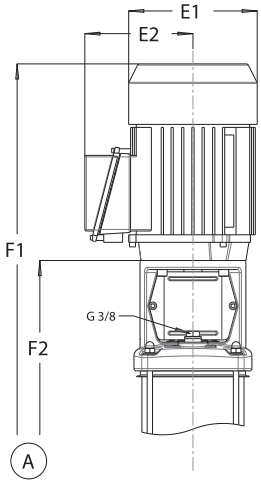
Table 11: VM CLOSED coupled motor construction type; IM 3619



20081033-E

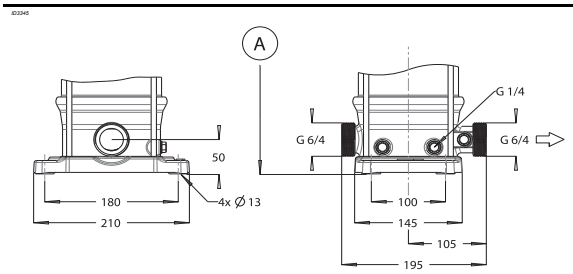
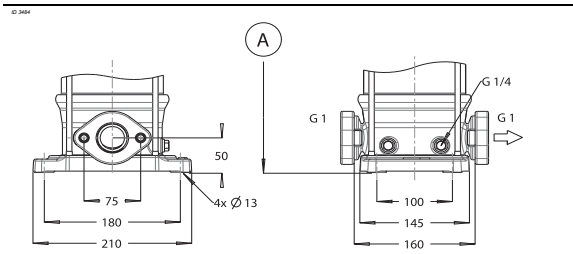
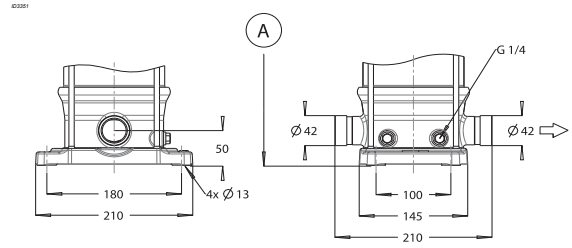
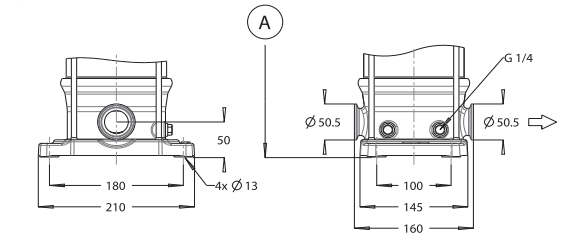
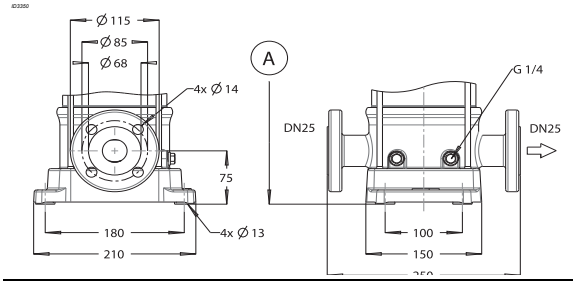
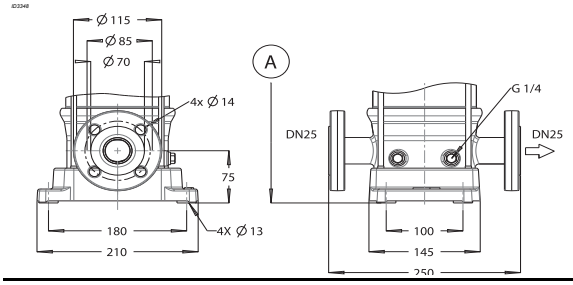
Model	pressure class	Power	Motor dimensions			DPVM (-E/V/T)			DPVMF		
		[kW]	**E1** [mm]	**E2** [mm]	**P** [mm]	**F1** [mm]	**F2 [mm]**	**Mass [kg]**	**F1** [mm]	**F2** [mm]	**Mass [kg]**
2/2	PN10	0,37	134	107		420		15	445		20
2/3		0,37	134	107		441		16	466		21
2/4		0,55	134	107		463		16	488		21
2/5		0,75	150	115		528		22	553		27
2/6		0,75	150	115		550		23	575		28

Table 12: coupled motor construction type; V18



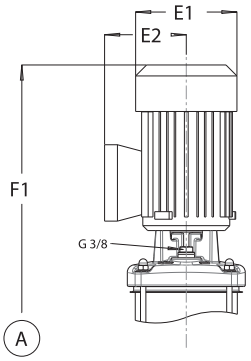
20091216-A

Model	pressure class	Power	Motor dimensions			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]
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	34
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

	20090617-A	**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
	20100156	**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
	20090626-A	**DPV (S) V Victaulic** Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	20090625-A	**DPV (S) T Tri-Clamp** Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	20090624-A	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40
	20090623-A	**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 - 60Hz - 2 pole - DIN

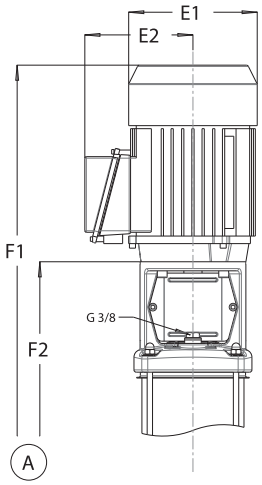
Table 13: VM CLOSED coupled motor construction type; IM 3619



20081033-E

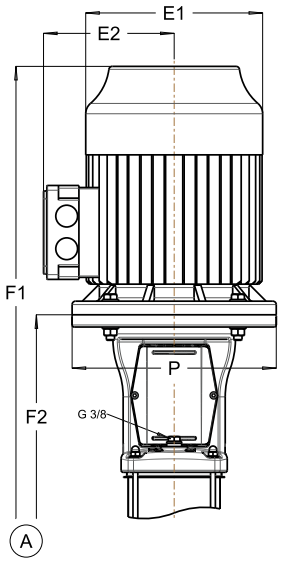
Model	pressure class	Power	Motor dimensions			DPVM(-E/V/T)			DPVMF		
		[kW]	**E1** [mm]	**E2** [mm]	**P** [mm]	**F1** [mm]	**F2 [mm]**	**Mass [kg]**	**F1** [mm]	**F2** [mm]	**Mass [kg]**
4/2	PN10	0,55	134	107		420		16	445		20
4/3		0,75	150	115		485		22	510		26
4/4		1,1	150	115		507		22	523		27

Table 14: coupled motor construction type; V18



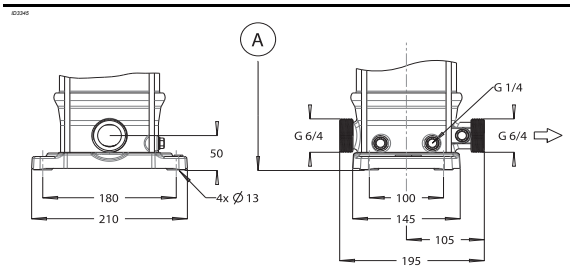
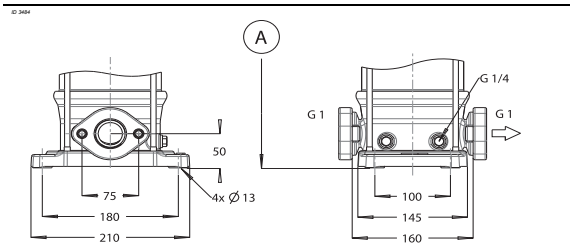
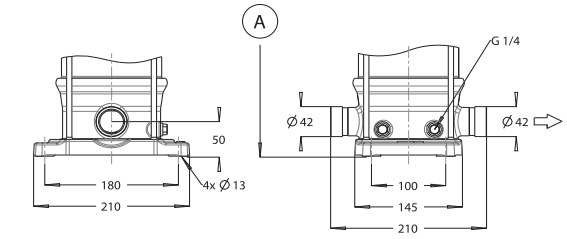
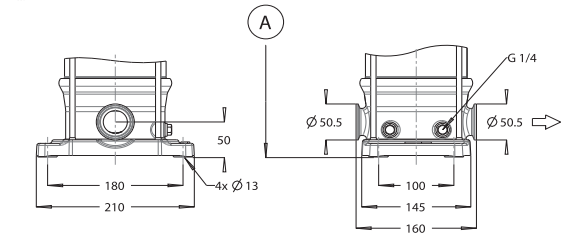
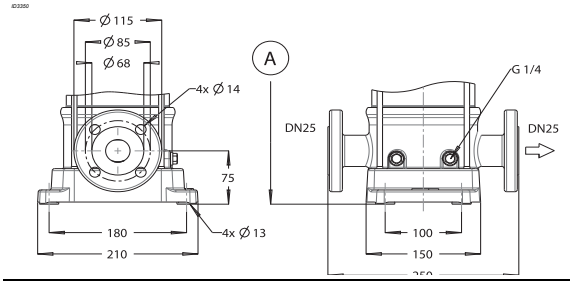
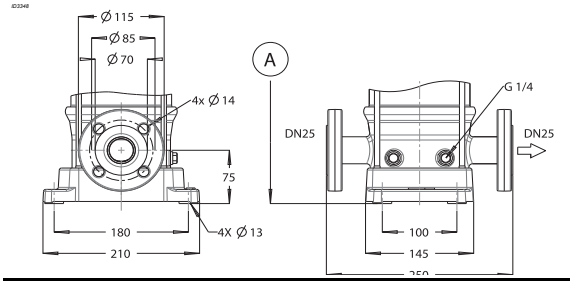
20091216-A

Model	pressure class	Power	Motor dimensions			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	0,55	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	48
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



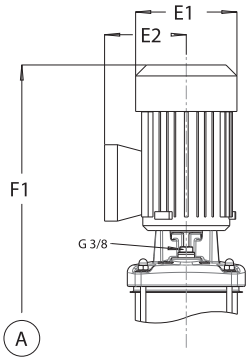
20091217

Model	pressure class	Power	Motor dimensions			DPV(S)(V/T)			DPV(C/S)F		
		[kW]	**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

	20090617-A	**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
	20100156	**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
	20090626-A	**DPV (S) V Victaulic** Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	20090625-A	**DPV (S) T Tri-Clamp** Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Base plate in cast SS 1.4308
	20090624-A	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW25 Pressure Class: PN40
	20090623-A	**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 - 60Hz - 2 pole - DIN

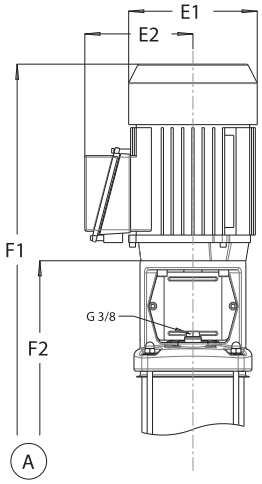
Table 15: VM CLOSED coupled motor construction type; IM 3619



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]**
6/2	PN10	0,75	150	115		471		22	496		28
6/3		1,1	150	115		496		23	521		29

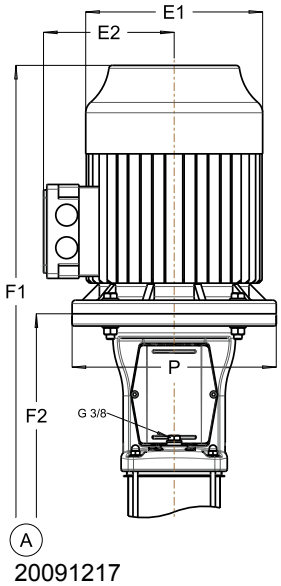
Table 16: coupled motor construction type; V18



20091216-A

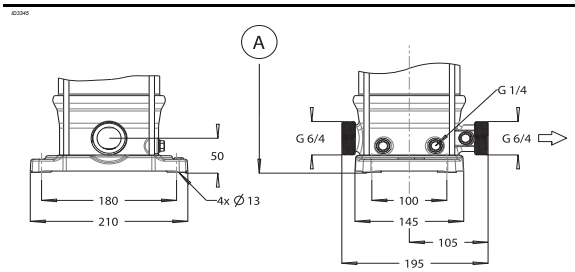
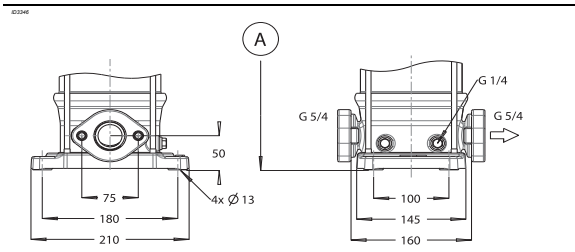
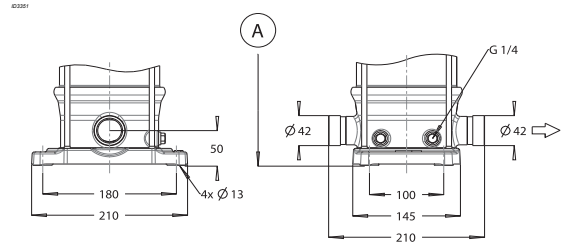
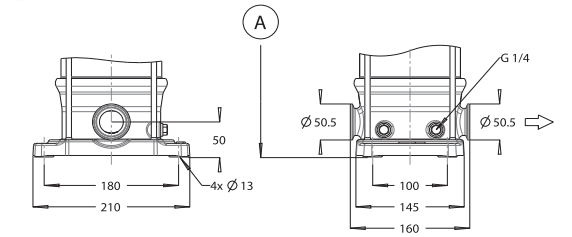
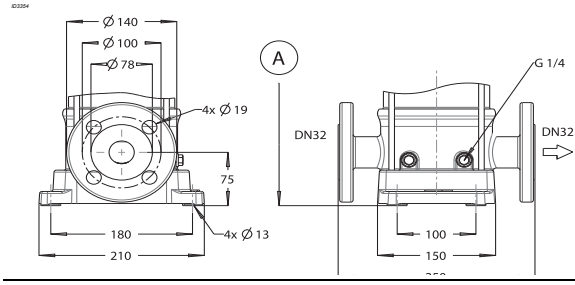
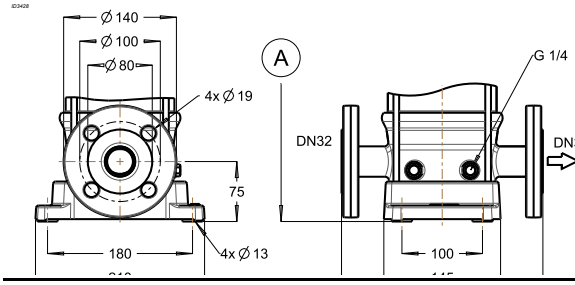
Model	pressure class	Power	Motor dimensions			DPV(S)(-E/V/T) (E-casing PN16)			DPV(C/S)F		
		[kW]	**E1** [mm]	**E2** [mm]	**P** [mm]	**F1** [mm]	**F2 [mm]**	**Mass [kg]**	**F1** [mm]	**F2** [mm]	**Mass [kg]**
6/1	PN10	0,37	134	107		489	276	23	514	301	29
6/2		0,75	150	115		533	276	24	558	301	30
6/3		1,1	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 17: coupled motor construction type; V1



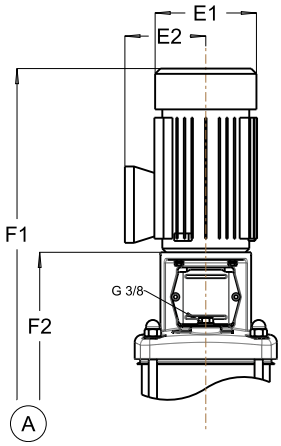
20091217

Model	pressure class	Power	Motor dimensions			DPV(S)(V/T)			DPV(C/S)F		
		[kW]	**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

	20090617-A	**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
	20090620-A	**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
	20090626-A	**DPV (S) V Victaulic** Norm: - Size: 42,2 Pressure Class: PN40 Option: Base plate in SS 1.4308
	20090625-A	**DPV (S) T Tri-Clamp** Norm: 32676 Size: DN32 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	20090622-A	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW32 Pressure Class: PN40
	20090621-A	**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 - 60Hz - 2 pole - DIN

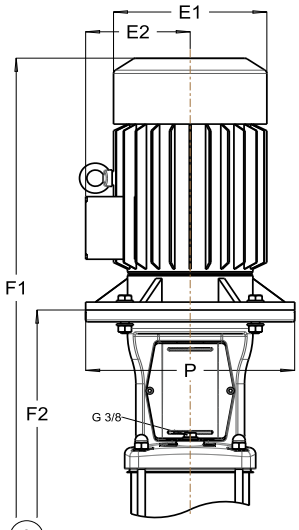
Table 18: coupled motor construction type; V18



20100864

Model	pressure class	Power	Motor dimensions			DPV(S)(-E/V/T)			DPV(C/S)F		
		[kW]	**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 19: coupled motor construction type; V1



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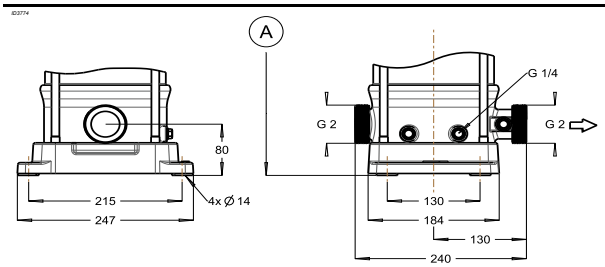
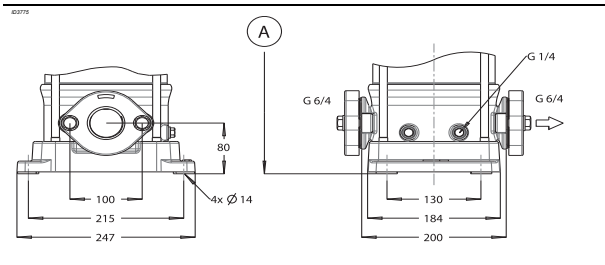
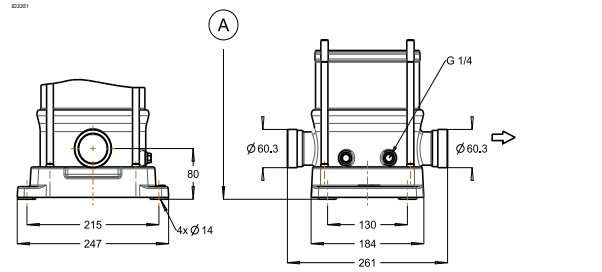
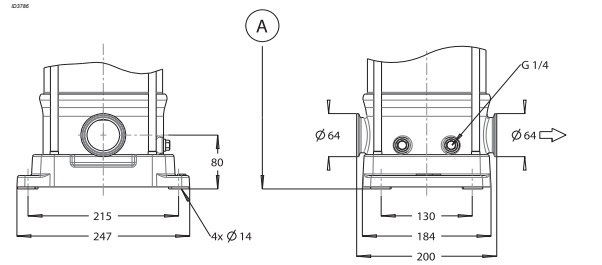
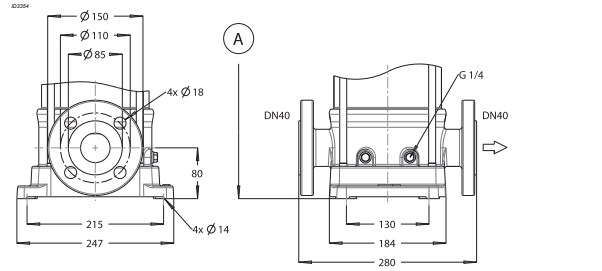
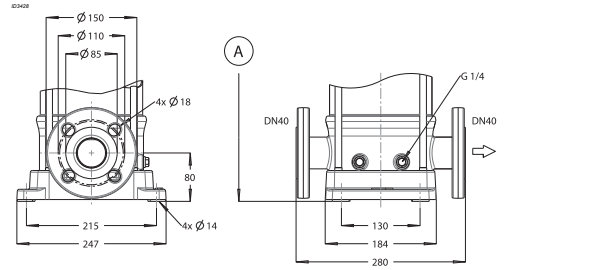
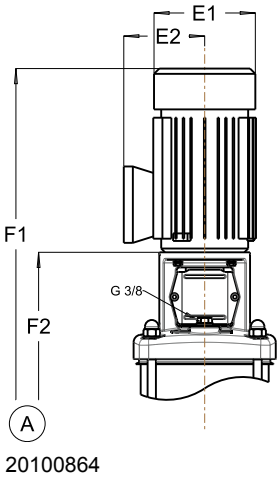
Model	pressure class	Power	Motor dimensions			DPV(S)(-V/T)			DPV(C/S)F		
		[kW]	**E1** [mm]	**E2** [mm]	**P** [mm]	**F1** [mm]	**F2 [mm]**	**Mass [kg]**	**F1** [mm]	**F2** [mm]	**Mass [kg]**
10/7	PN16	5,5	266	178	300	943	578	97	943	578	100
10/8		5,5	266	178	300	969	604	99	969	604	103
10/9		7,5	266	178	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

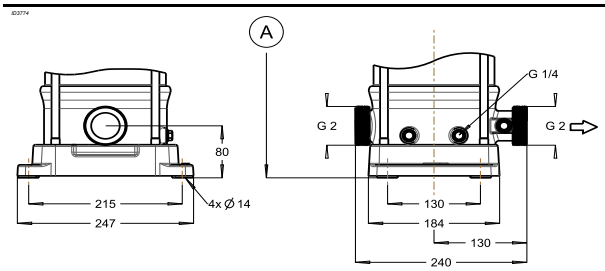
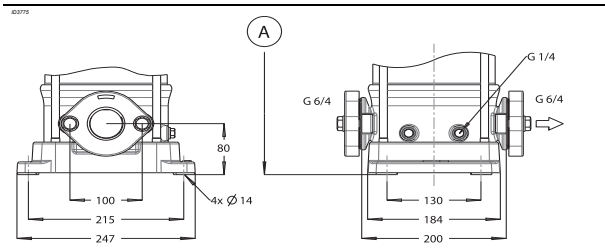
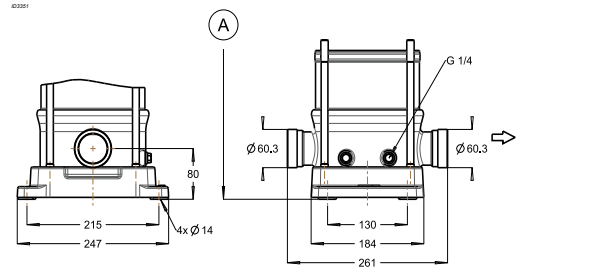
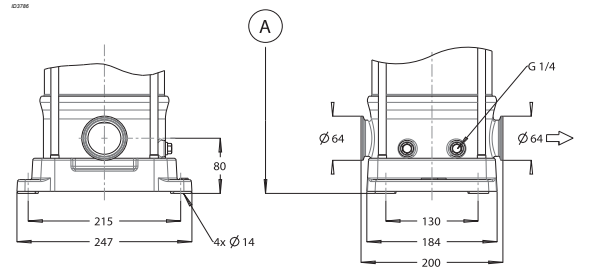
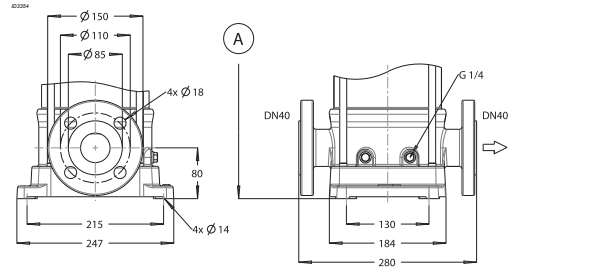
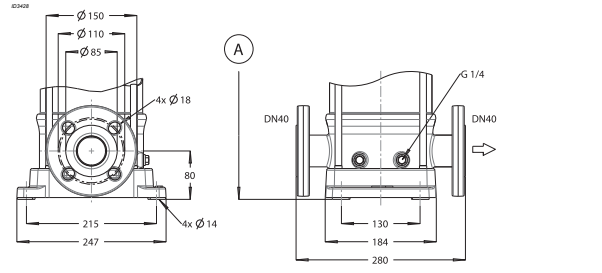
	20090654	**DPV E Male thread -** With non return valve insert at discharge side and pressure measurement plug at upstream side Norm: G EN ISO 228 Size: G 2 Pressure Class: PN16 Option: Base plate in cast SS 1.4308	
	20090653	**DPV (S)** Counter flange with female thread included DPV: Cataphoric coated 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	
	20090660	**DPV (S) V Victaulic** Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308	
	20090659	**DPV (S) T Tri-Clamp** Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308	
	20090656	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40	
	20090655	**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 - 60Hz - 4 pole - DIN

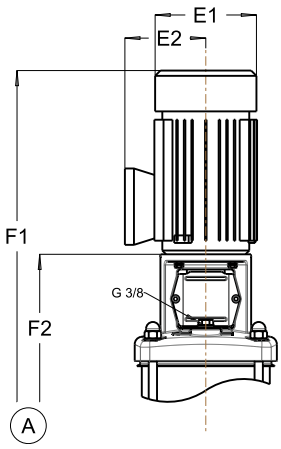
Table 20: coupled motor construction type; V18



Model	pressure class	Power	Motor dimensions			DPV(S)(-E/V/T)			DPV(C/S)F		
		[kW]	**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

	20090654	**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	
	20090653	**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	
	20090660	**DPV (S) V Victaulic** Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308	
	20090659	**DPV (S) T Tri-Clamp** Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308	
	20090656	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW40 Pressure Class: PN40	
	20090655	**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 - 60Hz - 2 pole - DIN



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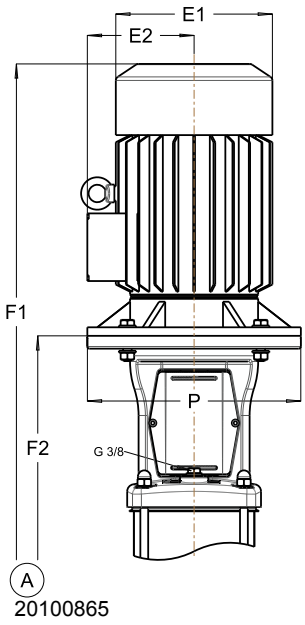
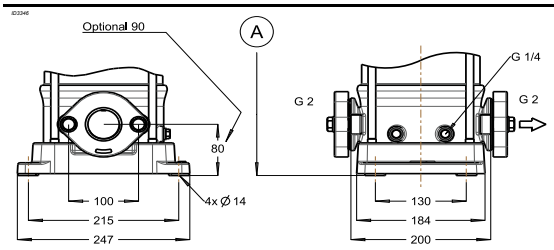
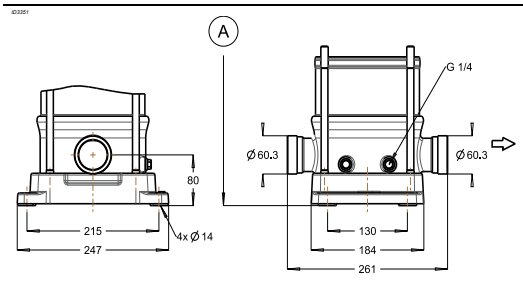
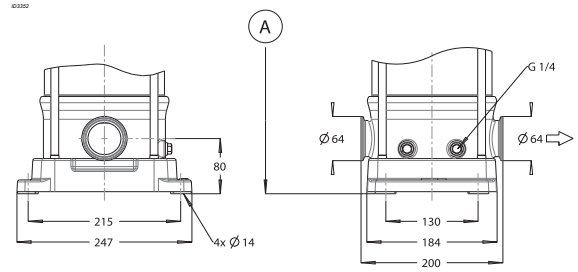
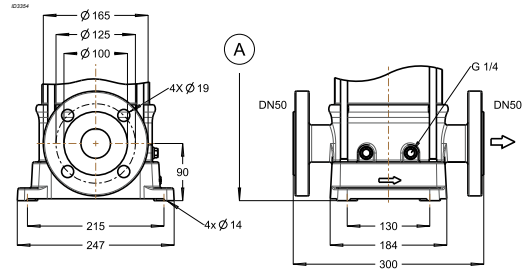
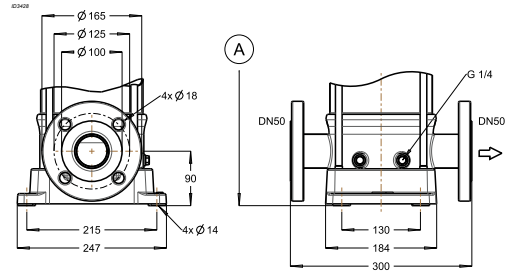
Model	pressure class	Power	Motor dimensions			DPV(S)			DPV(C/S)F DPV(S)(V/T)		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/1	PN10	2,2	176	141		641	356	41	651	366	47
15/2		3	195	145		696	366	49	706	376	55



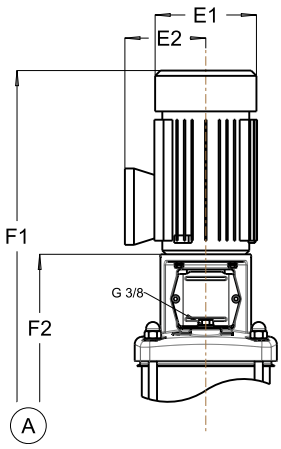
20100865

Model	pressure class	Power	Motor dimensions			DPV(S)			DPV(C/S)F DPV(S)V/T		
		[kW]	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

	20090990-A	**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	
	20110178	**DPV (S) V Victaulic** Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308	
	20110177	**DPV (S) T Tri-Clamp** Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308	
	20090658	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40	
	20090657	**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	

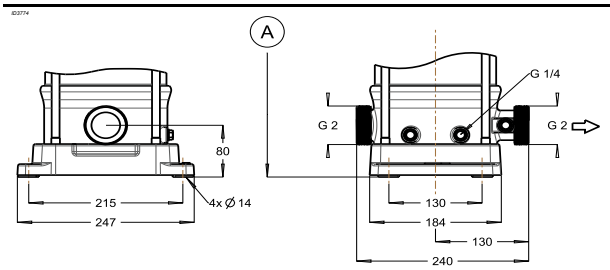
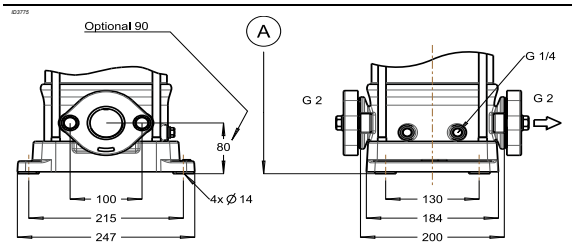
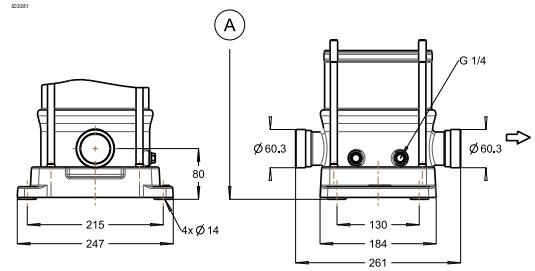
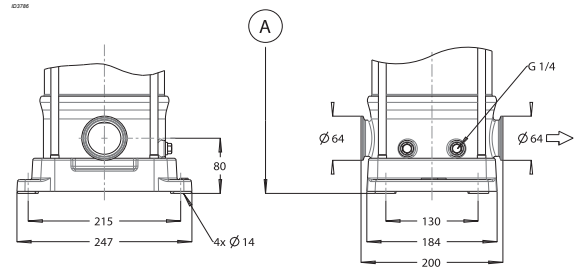
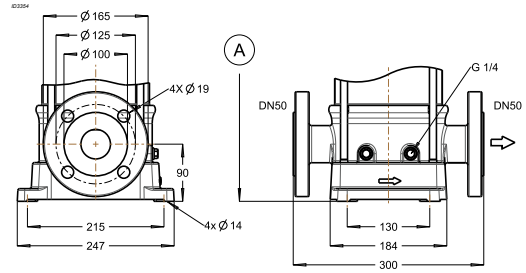
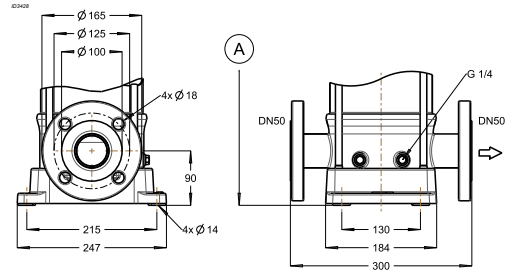
4.7 DPV(C/S) 15 B - 60Hz - 4 pole - DIN

Table 21: coupled motor construction type; V18



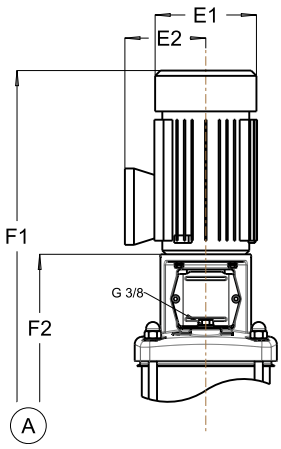
20100864

Model	pressure class	Power	Motor dimensions			DPV(S)(-E)			DPV(C/S)F DPV(S)(V/T)		
		[kW]	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

	20090654	**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
	20090990-A	**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
	20110178	**DPV (S) V Victaulic** Norm: - Size: 60,3 Pressure Class: PN40 Option: Base plate in SS 1.4308
	20110177	**DPV (S) T Tri-Clamp** Norm: 32676 Size: Ø64 Pressure Class: PN40 Option: Baseplate in cast SS 1.4308
	20090658	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW50 Pressure Class: PN40
	20090657	**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 - 60Hz - 2 pole - DIN

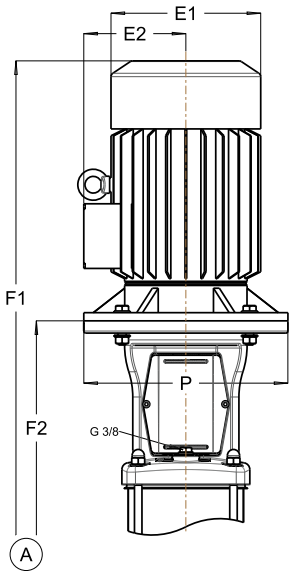
Table 22: coupled motor construction type; V18



20100864

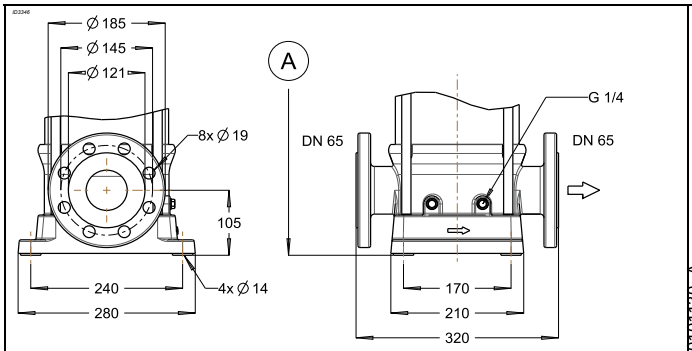
Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	3	195	145		743	413	78

Table 23: coupled motor construction type; V1



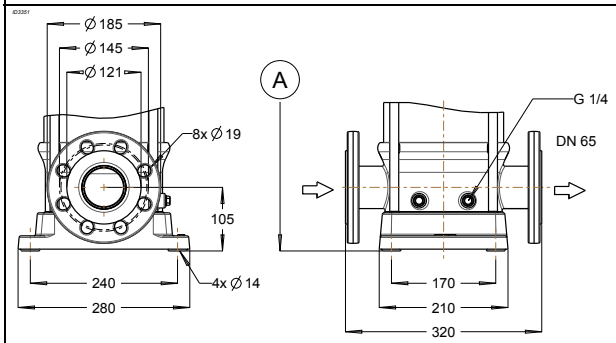
20100865

Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	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

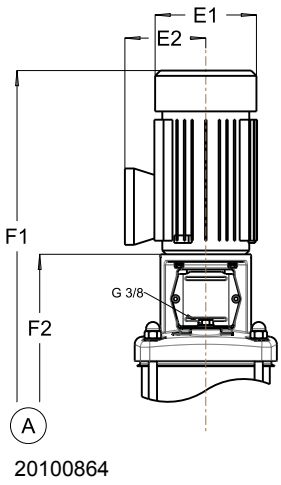


20081105-A

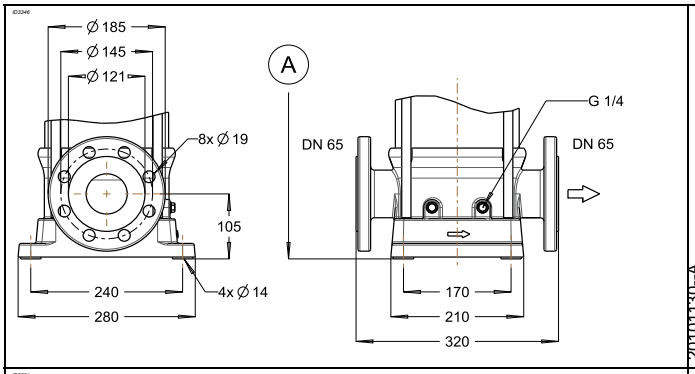
DPV (S) F Loose plate flange
Cataphoric coated loose plate flange
Norm: EN 1092-1/1092-2
Size: NW65
Pressure Class: PN40
Option: Loose plate flange (PN25) in SS 1.4308

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

Table 24: coupled motor construction type; V18

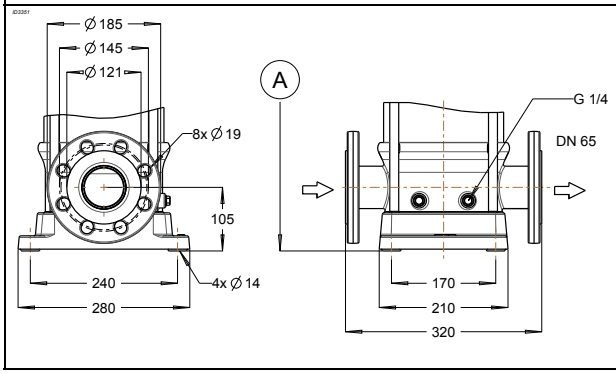


Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	1,1	176	141		678	408	66
25/2		1,1	176	141		743	473	69
25/3		1,1	176	141		808	538	71
25/4		1,5	176	141		888	673	88
25/5		2,2	195	145		1003	673	88
25/6		2,2	195	145		1068	738	90
25/7		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



20101130-A

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

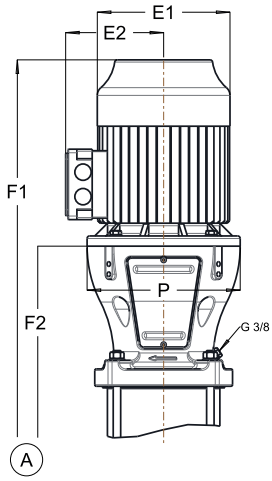


20081105-A

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

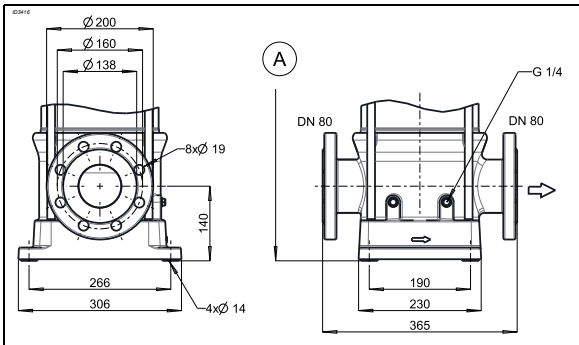
4.10 DPV(C/S) 40 B - 60Hz - 2 pole - DIN

Table 25: coupled motor construction type; V1



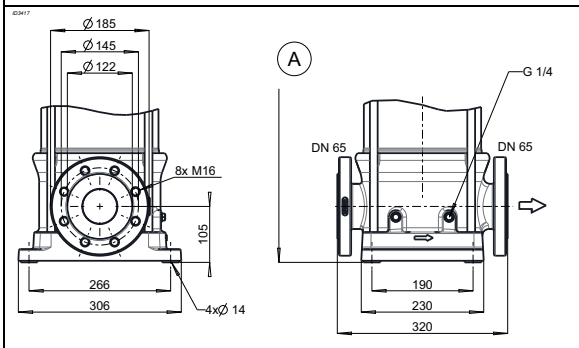
20120681

Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	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



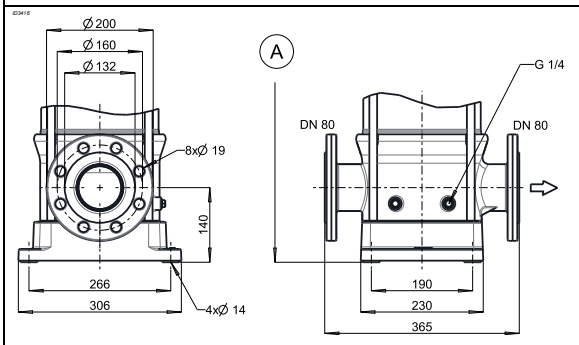
20130953

DPV C F Cast iron flange
Norm: EN 1092-1/1092-2
Size: NW80
Pressure Class:PN16/25/40



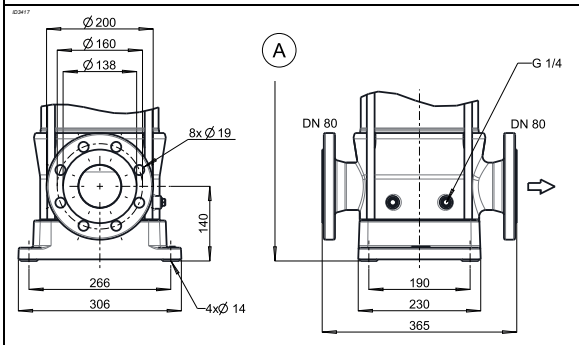
20130954

DPV C F Cast iron flange
Norm: EN 1092-1/1092-2
Size: NW65
Pressure Class:PN16/25/40



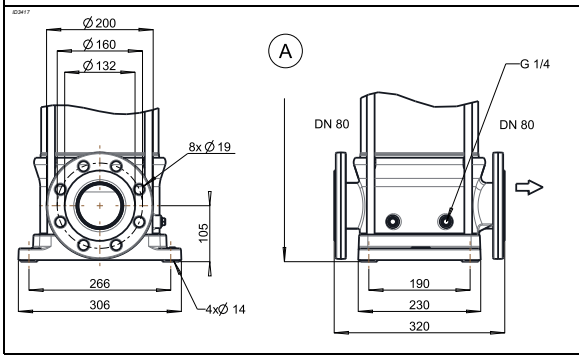
20130943

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



20130951

DPV (S) F Stainless steel flanges
DPVF: SS 1.4308 / DPVSF: SS 1.4408
Norm: EN 1092-1/1092-2
Size: NW80
Pressure Class: PN40

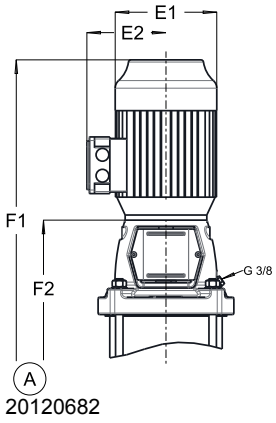


20130950

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 - 60Hz - 4 pole - DIN

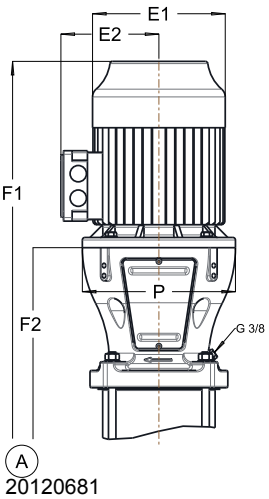
Table 26: coupled motor construction type; V18



20120682

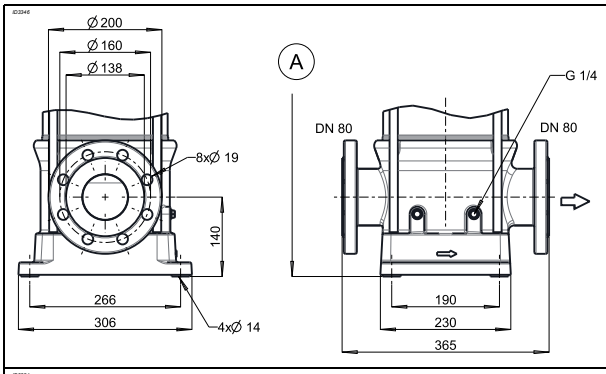
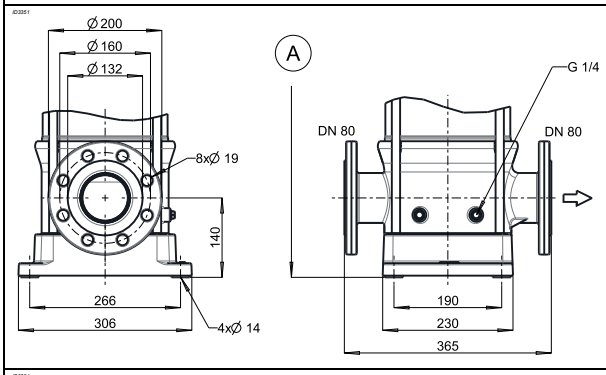
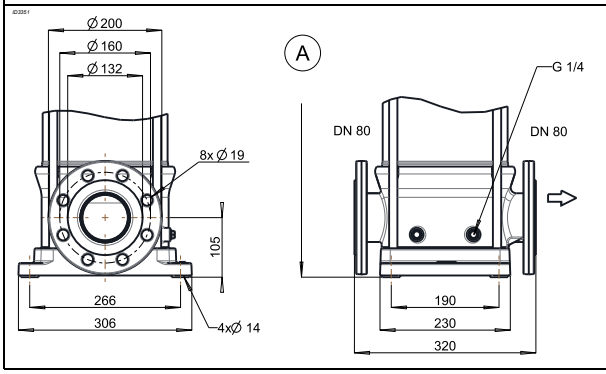
Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/2	PN10	2,2	195	145		895	565	95
40/3		3	195	145		973	643	99
40/4		4	220	167		1072	721	112
40/5		4	220	167		1150	790	118

Table 27: coupled motor construction type; V1



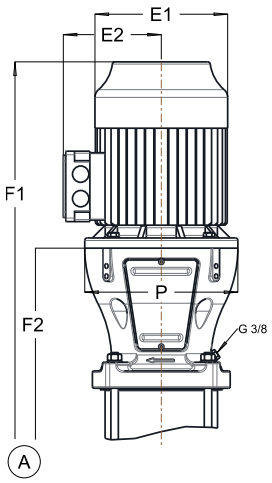
20120681

Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	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

	20130953	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW80 Pressure Class: PN16	
	20130943	**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	
	20130950	**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	

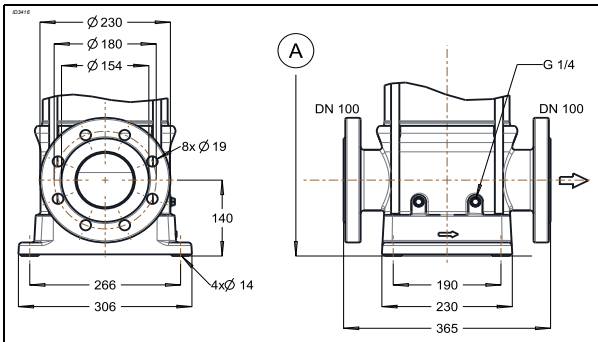
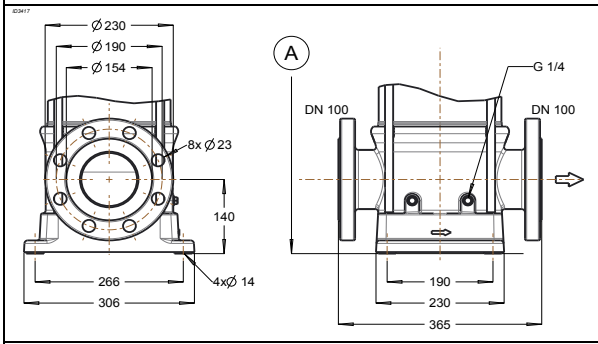
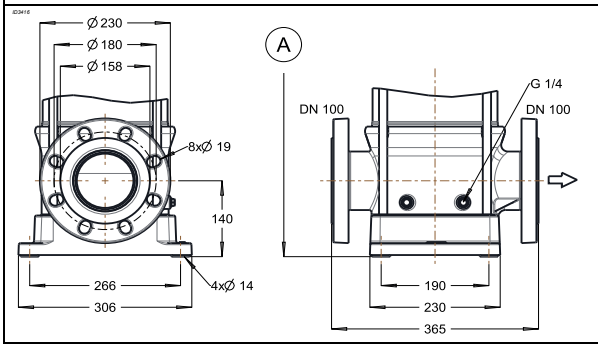
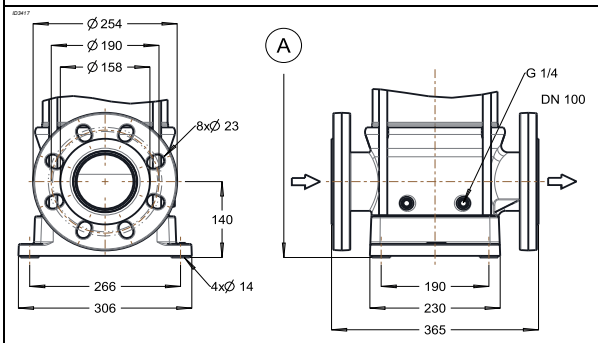
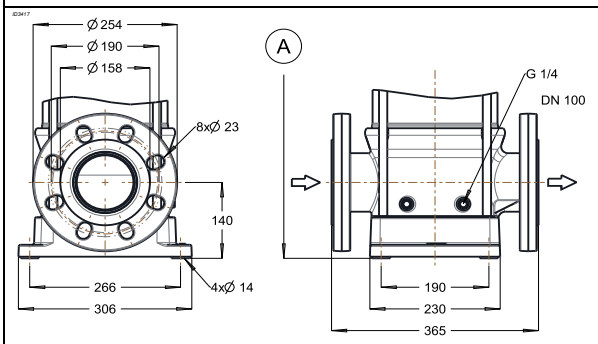
4.12 DPV(C/S) 60 B - 60Hz - 2 pole - DIN

Table 28: coupled motor construction type; V1



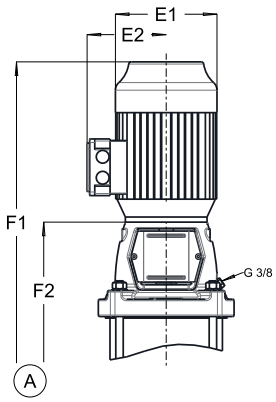
20120681

Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	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

	20120677	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN16	
	20110027	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class:PN25/40	
	20101155	**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	
	20120679	**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	
	20120680	**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 - 60Hz - 4 pole - DIN

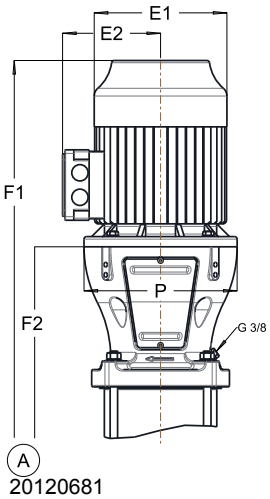
Table 29: coupled motor construction type; V18



20120682

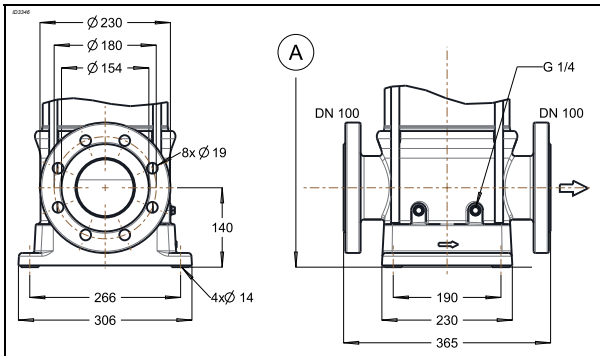
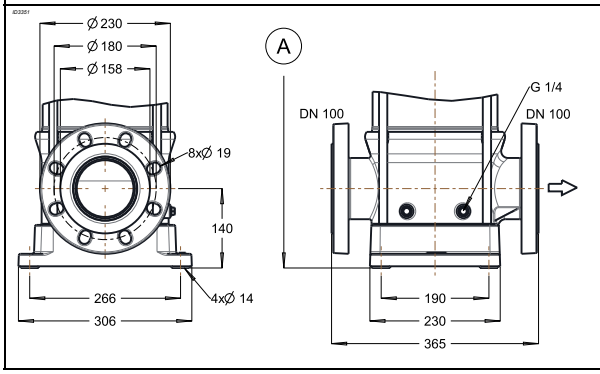
Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/2	PN10	3	195	145		895	565	101
60/3		4	220	167		994	643	115

Table 30: coupled motor construction type; V1



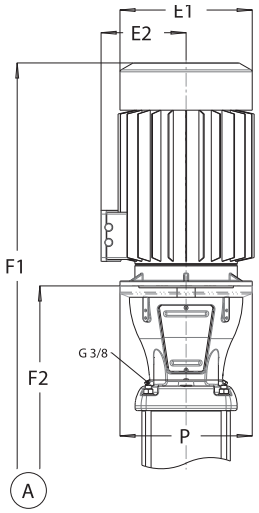
20120681

Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	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

	20120677	**DPV C F Cast iron flange** Norm: EN 1092-1/1092-2 Size: NW100 Pressure Class: PN16	
	20101155	**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	

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

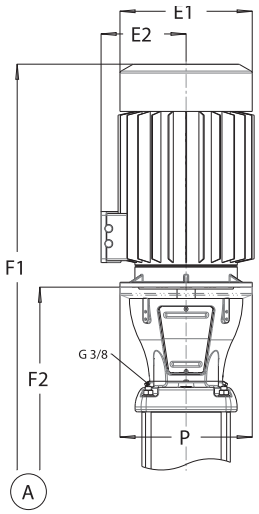
Table 31: coupled motor construction type; V1



20091237

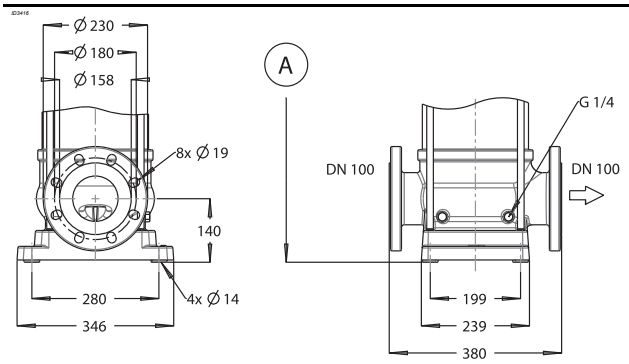
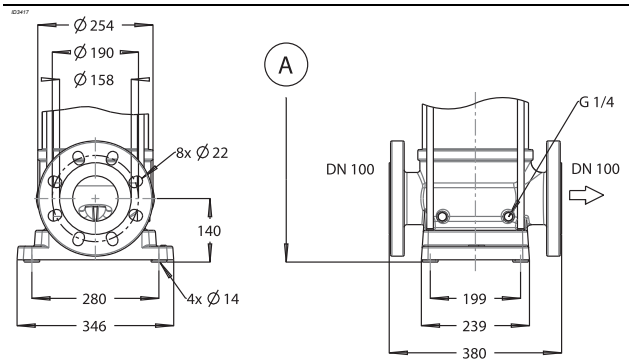
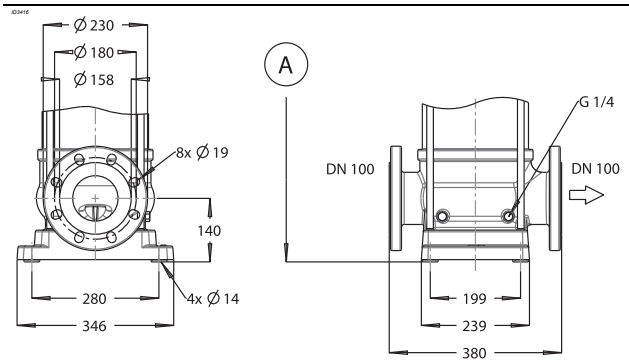
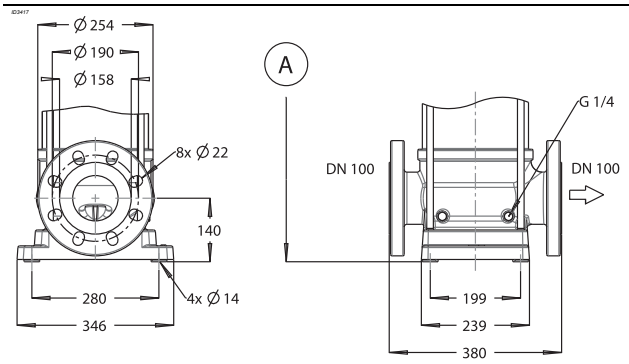
Model	pressure class	Power	Motor dimensions			DPV(C/S)F		
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/1-1	PN10	11	315	204	350	1173	671	223
85/1		15	315	204	350	1173	671	241
85/2-2		18,5	315	204	350	1326	780	266
85/2-1		22	350	223	350	1375	780	302
85/2		30	400	290	400	1430	780	390
85/3-2	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

Table 32: coupled motor construction type; V1, 4 pole



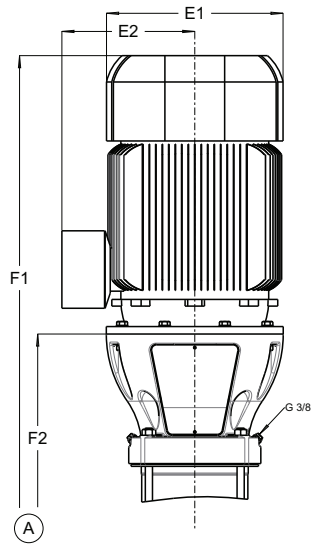
20091237

Model	pressure class	Power	Motor dimen-sions			DPV(C/S)F		
		[kW]	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

	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 - 60Hz - 2 pole - DIN

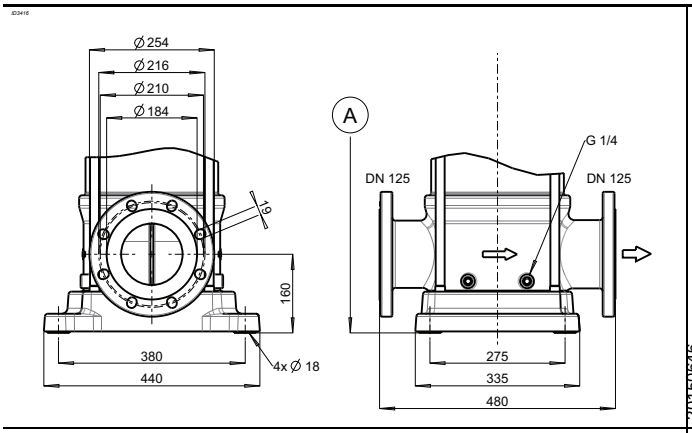
Table 33: coupled motor construction type; V1



20150648

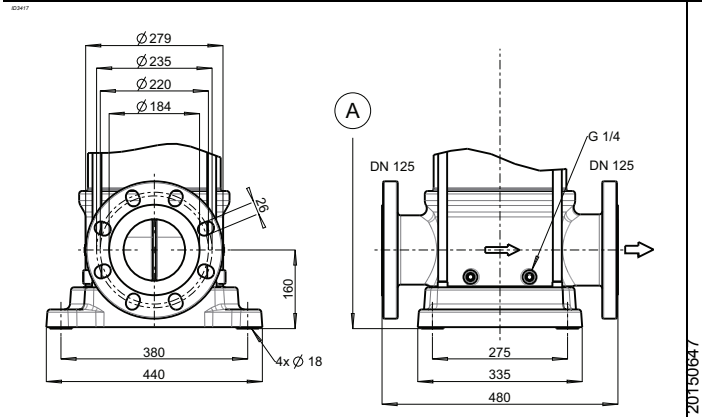
Model	pressure class	Power	Motor dimensions[1]			DPV(C/S)F		DPVCF	DPV(S)F
		[kW]	E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Mass [kg]
125/1	PN10	22	360	234	350	1389	739	317	337
125/2-2		30	400	340	400	1539	869	426	445
125/2	PN16	45	450	365	450	1577	869	505	524

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.



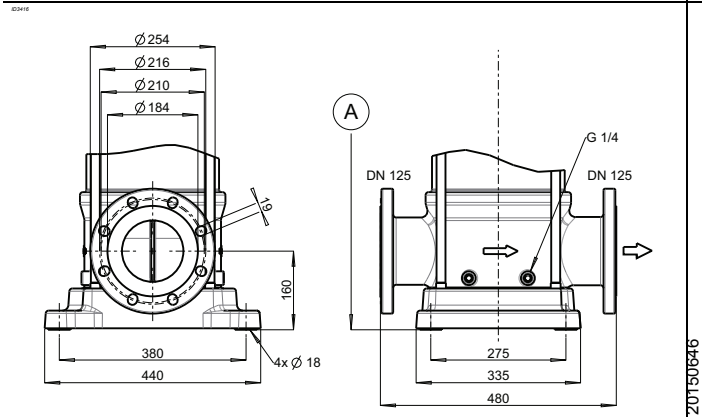
20150646

DPV C F with cast iron flange
Norm: EN 1092-1/1092-2
Size: NW125
Pressure Class: PN16



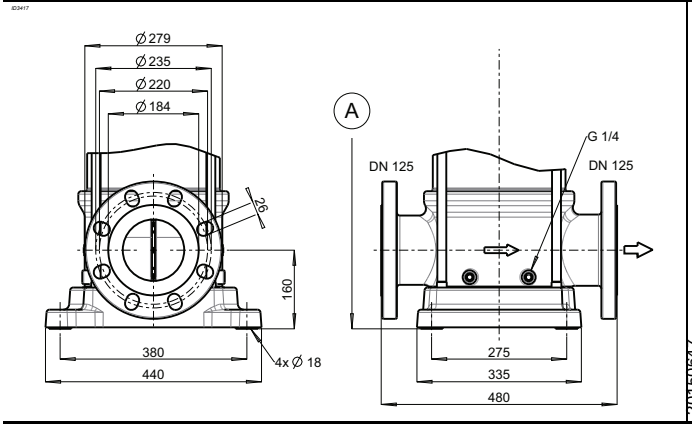
20150647

DPV C F with cast iron flange
Norm: EN 1092-1/1092-2
Size: NW125
Pressure Class: PN25



20150646

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



20150647

DPV (S) F with stainless steel flanges
Norm: EN 1092-1/1092-2
Size: NW125
Pressure Class: PN25

5 Seals

5.1 Mechanical seal option specifications

Table 34: 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 / FKM	FKM	-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 / FKM	FKM	-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 / FKM	FKM	-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 / FKM	FKM	-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 /FKM	FKM	-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 / FKM	FKM / 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 / FKM	FKM	-20 - 120	25			●
RMG-G606	U3 A V GG	37	TuC / Ca / FKM	FKM	-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

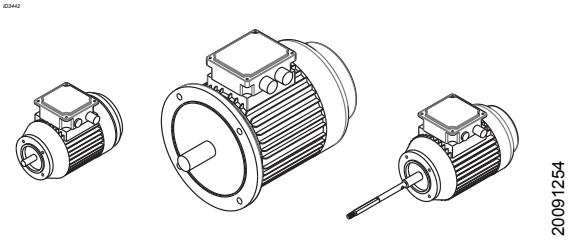
6.1 General

The standard 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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V18 flange V1 flange close coupled [VM]

6.2 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 **Ex e II T3**.
- Explosion proof, class **Ex d II T4**.
- Marine approved motor acc. Bureau Veritas.

6.3 Motor data 3 phase, 2 and 4 pole

Table 35: Motor data 3 phase, 2p 60 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
3710021003	0,37	71B	-	230/400	1,6/0,95	4,5	0,76	-10,+20%	3430	-	-	76	60	1xM20x1,5	50
3710021005	0,55	71C	-	230/400	2,1/1,2	5,3	0,8	-10,+20%	3460	-	-	82	60	1xM20x1,5	50
3710011007	0,75	80B	IE2	230/400	3,1/1,8	6,0	0,77	-10,+20%	3430	-	-	80	60	1xM20x1,5	50
3710051007	0,75	80A	IE3	230/400	2,8/1,6	6,2	0,84	-10,+25%	3460	76,3	79,7	80,7	58	1xM20x1,5	50
3710011011	1,1	80C	IE2	230/400	4,2/2,4	6,8	0,81	-10,+20%	3440	-	-	82,5	60	1xM20x1,5	50
3710051011	1,1	80B	IE3	230/400	3,8/2,2	6,4	0,86	-10,+25%	3440	84,6	85,5	84	58	1xM20x1,5	50
3710011015	1,5	90S	IE2	230/400	5,2/3,0	7,2	0,88	-10,+20%	3450	-	-	81,9	59	1xM20x1,5	50

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
3710051015	1,5	90S	IE3	230/400	5,1/2,9	7,5	0,88	-10,+25%	3455	82,4	84,3	84	58	1xM20x1,5	50
3710011022	2,2	90L	IE2	230/400	7,5/4,3	6,6	0,89	-10,+20%	3420	-	-	83,3	59	1xM20x1,5	30
3710051022	2,2	90L	IE3	230/400	7,1/4,1	8,6	0,90	-10,+25%	3480	82,5	85,2	86,5	58	1xM20x1,5	30
3710111030	3	100L	IE2	230/400	9,9/5,7	8,6	0,89	-10,+20%	3480	-	-	86	62	2xM20x1,5	30
3710151030	3	100L	IE3	230/400	9,7/5,6	7,6	0,90	-10,+25%	3495	85,6	86,9	86,4	61	2xM20x1,5	30
3710112030	3	100L	IE2	400/690	5,7/3,3	8,6	0,89	-10,+20%	3480	-	-	86	62	2xM20x1,5	30
3710152030	3	100L	IE3	400/690	5,6/3,2	7,6	0,90	-10,+25%	3495	85,6	86,9	86,4	61	2xM20x1,5	30
3710111040	4	112M	IE2	230/400	12,6/7,3	7,3	0,91	-10,+20%	3495	-	-	87,5	62	2xM20x1,5	30
3710151040	4	112M	IE3	230/400	12,5/7,2	8,8	0,92	-10,+25%	3525	85,1	87	87,2	62	2xM20x1,5	30
3710112040	4	112M	IE2	400/690	7,3/4,2	7,3	0,91	-10,+20%	3495	-	-	87,5	62	2xM20x1,5	30
3710152040	4	112M	IE3	400/690	7,2/4,2	8,8	0,92	-10,+25%	3525	85,1	87	87,2	62	2xM20x1,5	30
3710111055	5,5	132S	IE2	230/400	16,7/9,6	7,7	0,93	-10,+20%	3520	-	-	89	68	2xM25x1,5	20
3710151055	5,5	132S	IE3	230/400	17/9,8	7,8	0,92	-10,+25%	3525	85,8	88,2	88,5	67	2xM25x1,5	20
3710112055	5,5	132S	IE2	400/690	9,6/5,6	7,7	0,93	-10,+20%	3520	-	-	89	68	2xM25x1,5	20
3710152055	5,5	132S	IE3	400/690	9,8/5,6	7,8	0,92	-10,+25%	3525	85,8	88,2	88,5	67	2xM25x1,5	20
3710111075	7,5	132S	IE2	230/400	22,9/13,2	7,3	0,94	-10,+20%	3500	-	-	87,4	68	2xM25x1,5	20
3710151075	7,5	132S	IE3	230/400	22,5/13,0	8,0	0,93	-10,+25%	3525	87,5	89,3	89,5	67	2xM25x1,5	20
3710112075	7,5	132S	IE2	400/690	13,2/7,7	7,3	0,94	-10,+20%	3500	-	-	87,4	68	2xM25x1,5	20
3710152075	7,5	132S	IE3	400/690	13,0/7,5	8,0	0,93	-10,+25%	3525	87,5	89,3	89,5	67	2xM25x1,5	20
3710111110	11	160M	IE2	230/400	34,5/19,8	6,7	0,89	-10,+20%	3530	-	-	90	75	2xM32x1,5	15
3710151110	11	160M	IE3	230/400	32,9/19,0	6,3	0,92	-10,+25%	3530	90,3	91,3	91	73	2xM32x1,5	15
3710112110	11	160M	IE2	400/690	19,8/11,5	6,7	0,89	-10,+20%	3530	-	-	90	75	2xM32x1,5	15
3710152110	11	160M	IE3	400/690	19,0/11,0	6,3	0,92	-10,+25%	3530	90,3	91,3	91	73	2xM32x1,5	15
3710111150	15	160M	IE2	230/400	46,6/26,8	6,6	0,9	-10,+20%	3530	-	-	89,8	74	2xM32x1,5	15
3710151150	15	160M	IE3	230/400	44,3/25,6	6,5	0,92	-10,+25%	3530	91,9	92,5	92	73	2xM32x1,5	15
3710112150	15	160M	IE2	400/690	26,8/15,5	6,6	0,9	-10,+20%	3530	-	-	89,8	74	2xM32x1,5	15
3710152150	15	160M	IE3	400/690	25,6/14,8	6,5	0,92	-10,+25%	3530	91,9	92,5	92	73	2xM32x1,5	15
3710111185	18,5	160L	IE2	230/400	55,7/32,0	8,0	0,91	-10,+20%	3540	-	-	91,6	77	2xM32x1,5	15
3710151185	18,5	160L	IE3	230/400	54,6/31,5	6,7	0,92	-10,+25%	3525	92,1	92,6	92	73	2xM32x1,5	15
3710112185	18,5	160L	IE2	400/690	32,0/18,6	8,0	0,91	-10,+20%	3540	-	-	91,6	77	2xM32x1,5	15
3710152185	18,5	160L	IE3	400/690	31,5/18,3	6,7	0,92	-10,+25%	3525	92,1	92,6	92	73	2xM32x1,5	15
3710111220	22	180M	IE2	230/400	67,1/38,8	6,5	0,9	-10,+20%	3530	-	-	91,5	80	2xM32x1,5	12
3710151220	22	180M	IE3	230/400	65,5/37,8	7,8	0,91	-10,+25%	3550	90,1	91,9	92,2	79	2xM32x1,5	12
3710112220	22	180M	IE2	400/690	38,8/22,4	6,5	0,9	-10,+20%	3530	-	-	91,5	80	2xM32x1,5	12
3710152220	22	180M	IE3	400/690	37,8/21,9	7,8	0,91	-10,+25%	3550	90,1	91,9	92,2	79	2xM32x1,5	12
3700111300	30	200L	IE2	230/400	86,5/49,7	6,4	0,92	-5,+20%	3546	-	-	94,8	80	2xM50x1,5	12
3700151300	30	200	IE3	230/400	88,5/50,9	7,7	0,91	-10,+20%	3550	92,4	93,4	93,5	76	2xM50x1,5	15
3700112300	30	200L	IE2	400/690	49,7/28,8	6,4	0,92	-5,+20%	3540	-	-	94,8	80	2xM50x1,5	12
3700152300	30	200	IE3	400/690	50,9/29,5	7,7	0,91	-10,+20%	3550	92,4	93,4	93,5	76	2xM50x1,5	15
3700111370	37	200L	IE2	230/400	106,2/61,1	6,4	0,92	-5,+20%	3548	-	-	95,2	80	2xM50x1,5	20
3700151370	37	200	IE3	230/400	109/62,5	7,7	0,91	-10,+20%	3550	92,8	93,8	93,9	76	2xM50x1,5	15
3700112370	37	200L	IE2	400/690	61,1/35,4	6,4	0,92	-5,+20%	3540	-	-	95,2	80	2xM50x1,5	12
3700152370	37	200	IE3	400/690	62,5/36,2	7,7	0,91	-10,+20%	3550	92,8	93,8	93,9	76	2xM50x1,5	15
3700111450	45	225M	IE2	230/400	128,6/73,9	6,4	0,92	-5,+20%	3563	-	-	95,6	80	2xM50x1,5	20
3700151450	45	225	IE3	230/400	132/75,8	7,7	0,91	-10,+20%	3560	93,4	94,1	95,6	78	2xM50x1,5	15
3700112450	45	225M	IE2	400/690	73,9/42,9	6,4	0,92	-5,+20%	3563	-	-	95,6	80	2xM50x1,5	12
3700152450	45	225	IE3	400/690	75,8/43,9	7,7	0,91	-10,+20%	3560	93,4	94,1	94,2	78	2xM50x1,5	15

Table 36: Motor data 3 phase, 4p 60 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	2,3/1,3	4,5	0,74	-5,+20%	1710	-	-	81	57	1xM20x1,5	20
3700041007	0,75	80M2	IE2	230/400	3,0/1,8	6,3	0,75	-5,+20%	1710	-	-	82,6	56	1xM20x1,5	20
3700061007	0,75	80	IE3	230/400	3,1/1,8	6,0	0,74	-10,+20%	1720	81,6	83,1	82,7	60	2xM20x1,5	25
3700031011	1,1	90S	IE2	230/400	4,1/2,4	7,5	0,8	-5,+20%	1735	-	-	84,1	58	1xM20x1,5	20
3700061011	1,1	90	IE3	230/400	4,1/2,4	6,0	0,79	-10,+20%	1730	84,1	85,0	84,3	61	2xM25x1,5	25
3700031015	1,5	90L	IE2	230/400	5,5/3,2	7,3	0,8	-5,+20%	1735	-	-	85,3	58	1xM25x1,5	20
3700061015	1,5	90	IE3	230/400	5,5/3,2	6,0	0,8	-10,+20%	1730	85,0	86,1	85,5	61	2xM25x1,5	25
3700031022	2,2	100L	IE2	230/400	8,1/4,6	7,2	0,79	-5,+20%	1720	-	-	86,7	57	2xM25x1,5	20
3700061022	2,2	100	IE3	230/400	7,7/4,5	6,5	0,82	-10,+20%	1740	86,6	87,4	86,9	62	2xM25x1,5	20
3700131030	3	100L	IE2	230/400	10,1/5,9	7,2	0,83	-5,+20%	1720	-	-	87,9	57	2xM25x1,5	20
3700161030	3	100	IE3	230/400	10,4/6,0	6,5	0,82	-10,+20%	1740	87,6	88,5	87,9	62	2xM25x1,5	20
3700132030	3	100L	IE2	400/690	6,3/3,6	7,2	0,79	-5,+20%	1720	-	-	87,7	57	2xM25x1,5	20
3700162030	3	100	IE3	400/690	6,0/3,5	6,5	0,82	-10,+20%	1740	87,6	88,5	87,9	62	2xM25x1,5	20
3700131040	4	112M	IE2	230/400	13,2/7,8	6,0	0,84	-5,+20%	1745	-	-	88,6	60	2xM25x1,5	20
3700161040	4	112	IE3	230/400	13,8/7,9	7,0	0,82	-10,+20%	1740	88,4	89,4	88,8	63	2xM25x1,5	20
3700132040	4	112M	IE2	400/690	7,8/4,5	6,0	0,84	-5,+20%	1745	-	-	88,6	60	2xM25x1,5	20
3700162040	4	112	IE3	400/690	7,9/4,6	7,0	0,82	-10,+20%	1750	88,4	89,4	88,8	63	2xM25x1,5	20
3700131055	5,5	132S	IE2	230/400	18,2/10,5	6,0	0,83	-5,+20%	1746	-	-	91	62	2xM32x1,5	20
3700161055	5,5	132	IE3	230/400	18,7/10,8	7,0	0,82	-10,+20%	1755	89,5	90,2	89,6	63	2xM32x1,5	20
3700132055	5,5	132S	IE2	400/690	10,7/6,2	6,0	0,83	-5,+20%	1750	-	-	89,5	62	2xM32x1,5	20
3700162055	5,5	132	IE3	400/690	10,8/6,2	7,0	0,82	-10,+20%	1755	89,5	90,2	89,8	63	2xM32x1,5	20
3700131075	7,5	132M	IE2	230/400	24,7/14,3	6,0	0,84	-5,+20%	1750	-	-	90,4	62	2xM32x1,5	20
3700161075	7,5	132	IE3	230/400	25,0/14,4	7,0	0,83	-10,+20%	1755	90,4	91	90,6	63	2xM32x1,5	20
3700132075	7,5	132M	IE2	400/690	14,3/8,3	6,0	0,84	-5,+20%	1750	-	-	90,4	62	2xM32x1,5	20
3700162075	7,5	132	IE3	400/690	14,4/8,3	7,0	0,83	-10,+20%	1755	90,4	91	90,6	63	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.

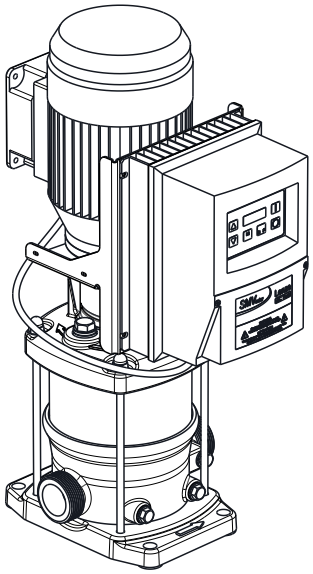


Figure 26: Example layout

7.2 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 37: Working range

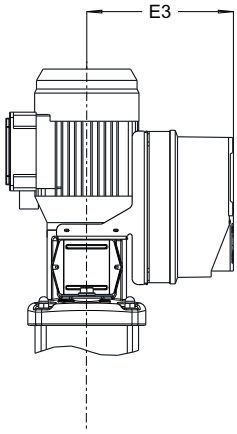
Ambient temperature [°C]	-10 up to 55
Maximum altitude [m]	2000

7.3 General

Table 38: 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

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

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 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

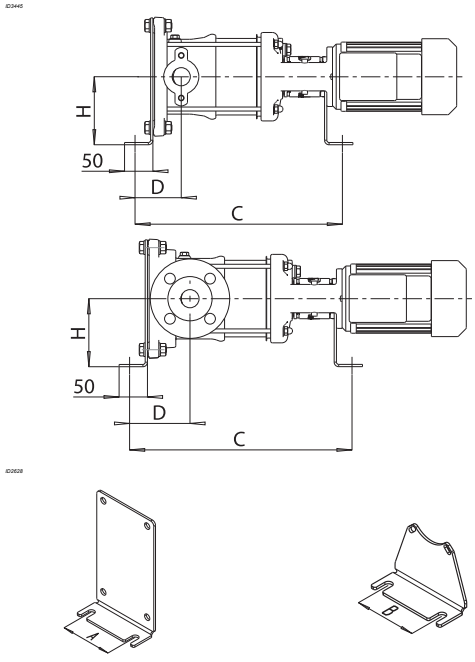


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Figure 27: V(C/S) 2-25 B horizontal

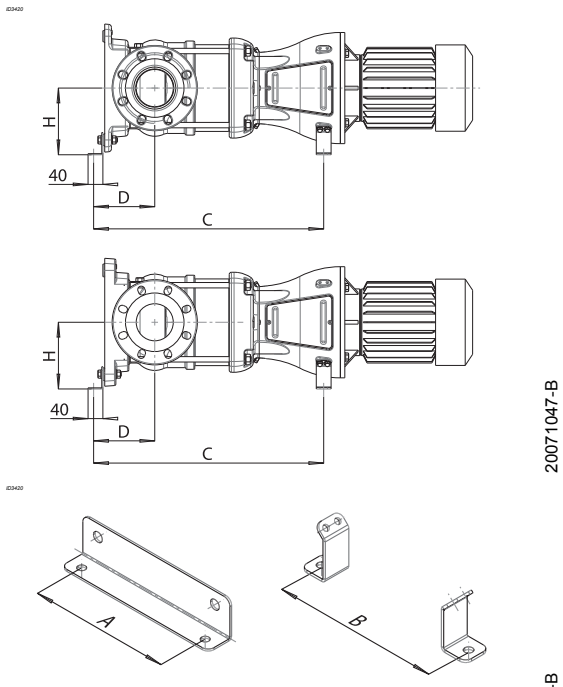

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Figure 28: V(C/S) 40-85 B horizontal

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

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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	F2+47			
3 - 4 2p / 2,2 - 4 4p	18707072				
5,5 - 7,5 2p/4p	18707073	F2-18	170		210

20091236

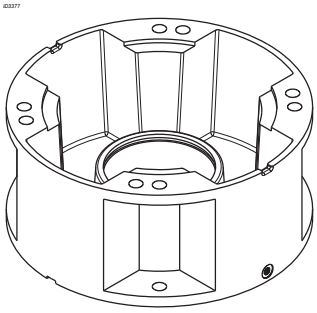
DPV 25 B		V(C/S)F D = 136.5			
Motor [kW]	Part no.	C	H	A	B
1,5 - 2, 2p / 1,1 -1,5 4p	18707074	F2+47	170	170	180
3 - 4 2p / 2,2 -4 4p	18707075				
5,5 - 7,5 2p/4p	18707076	F2-16			180
20120486					

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	F2-20			250
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)



20070627-E

Figure 29: Thrust bearing housing

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)

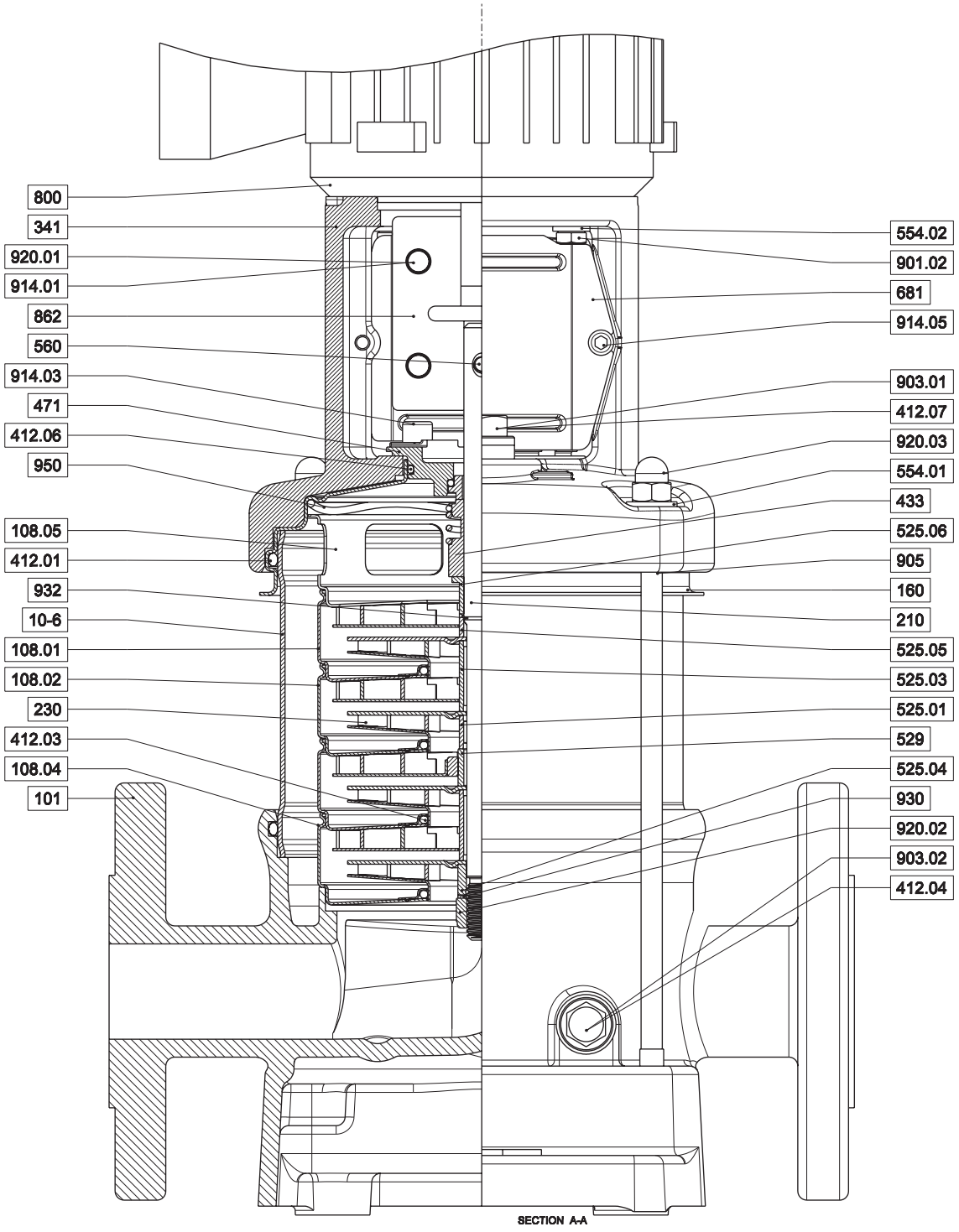
● Standard○ Option

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
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

9.1.3 Sectional drawing DPVCF 2/4/6 B



20080767-E

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

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

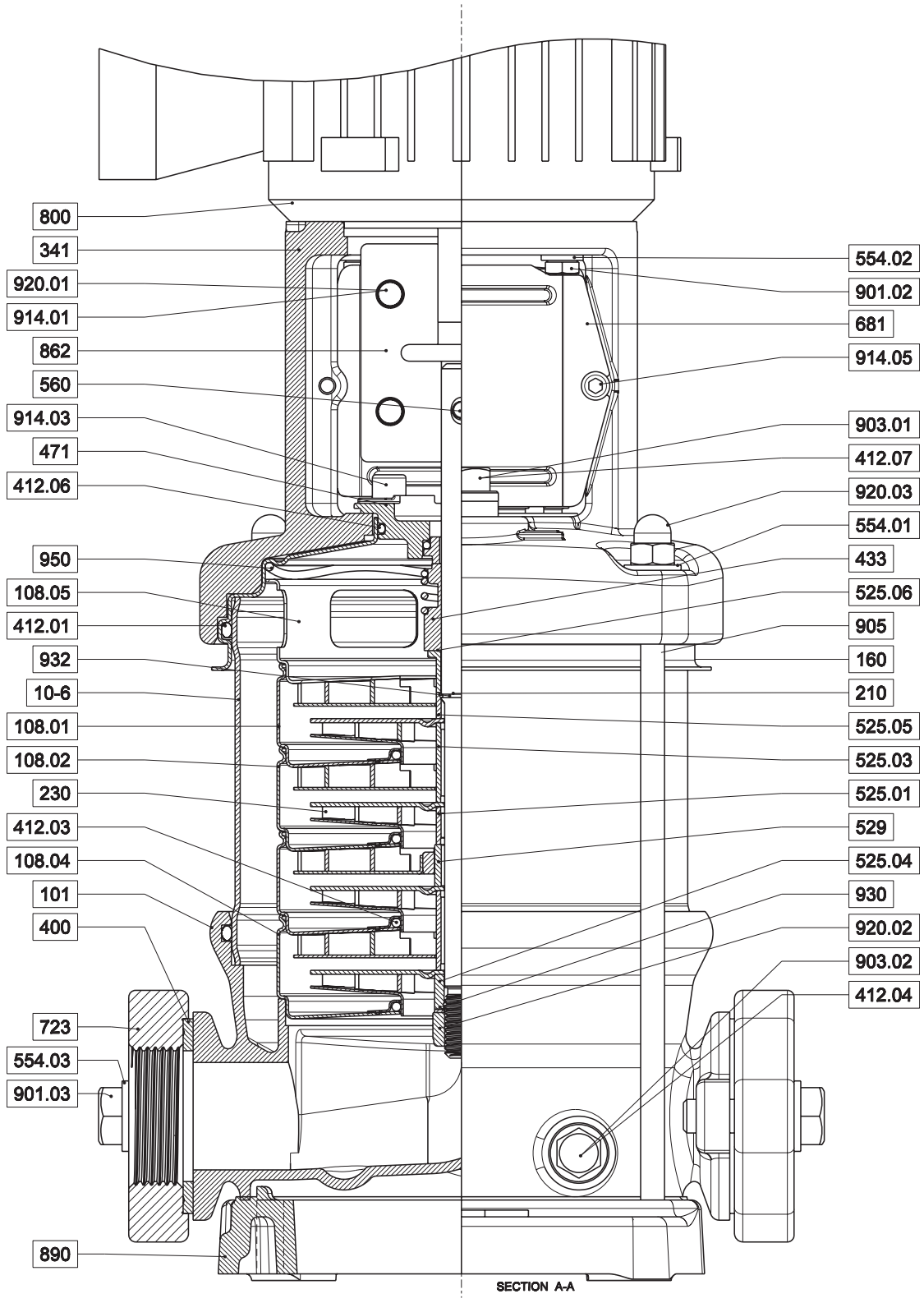


Figure 31: Sectional drawing DPV(S) 2/4/6 B

20080766-F

9.1.5 Sectional drawing DPVCF 10 B

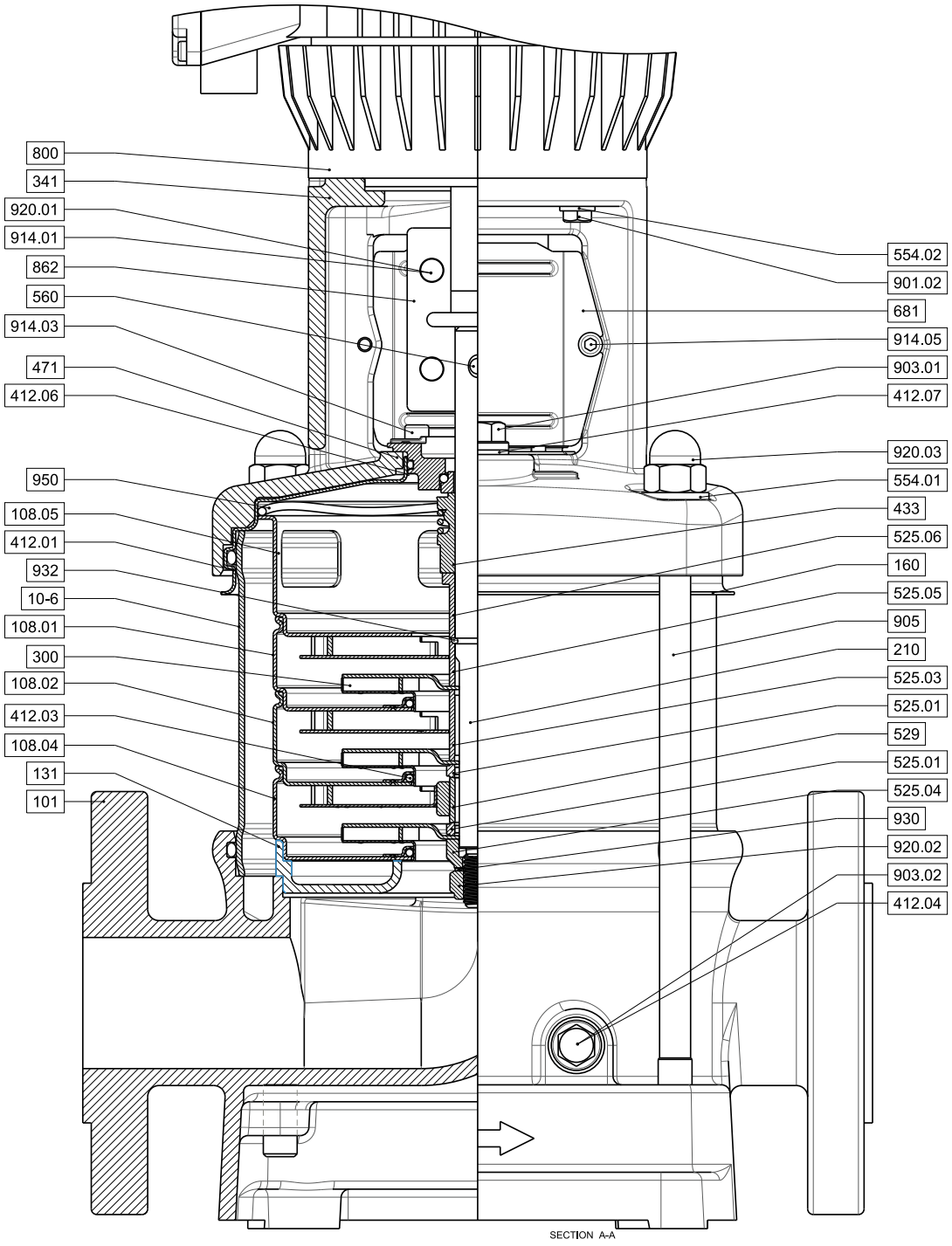


Figure 32: Sectional drawing DPVCF 10 B

20081021-B

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

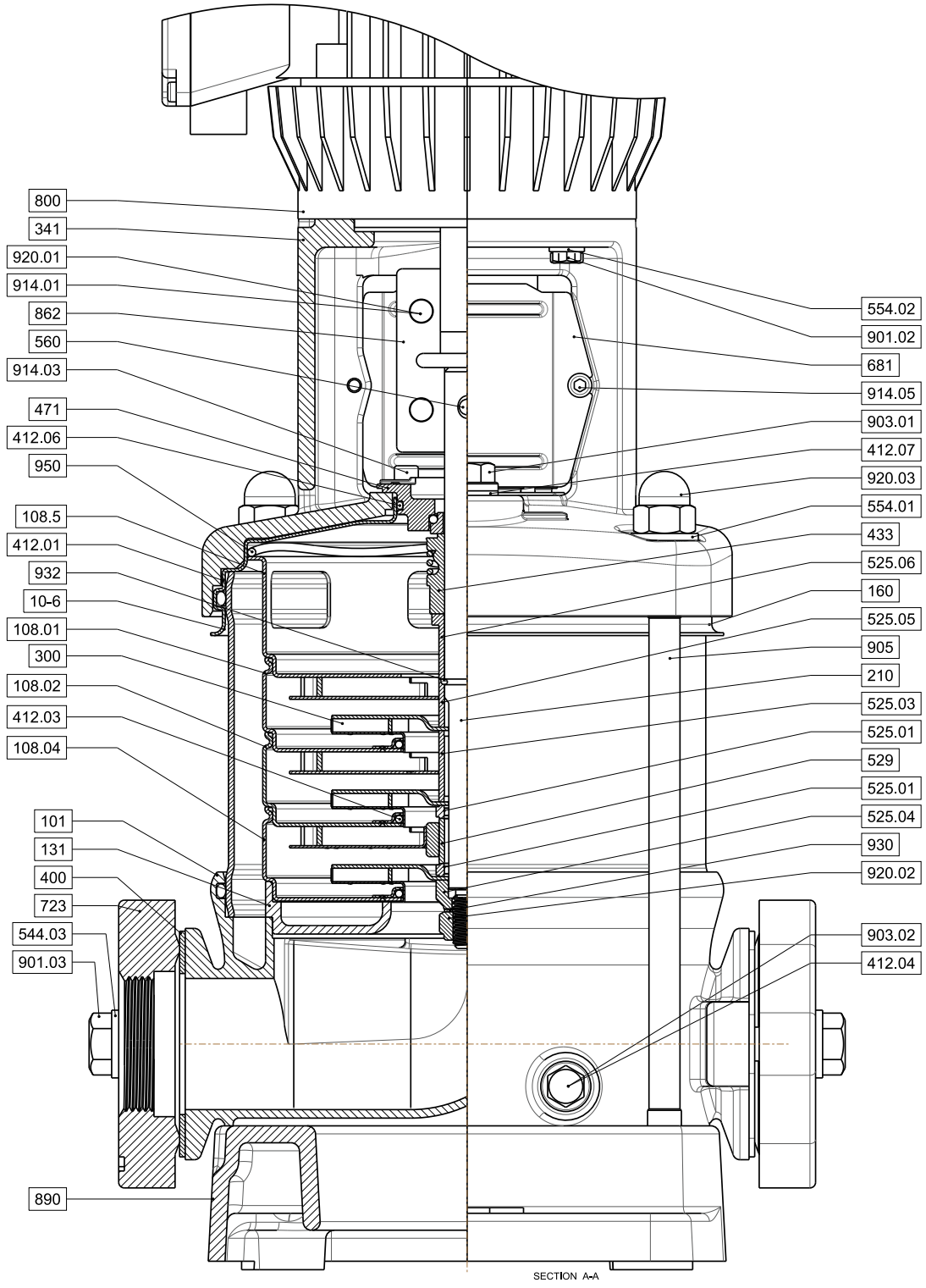


Figure 33: Sectional drawing DPV(S) 10 B

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

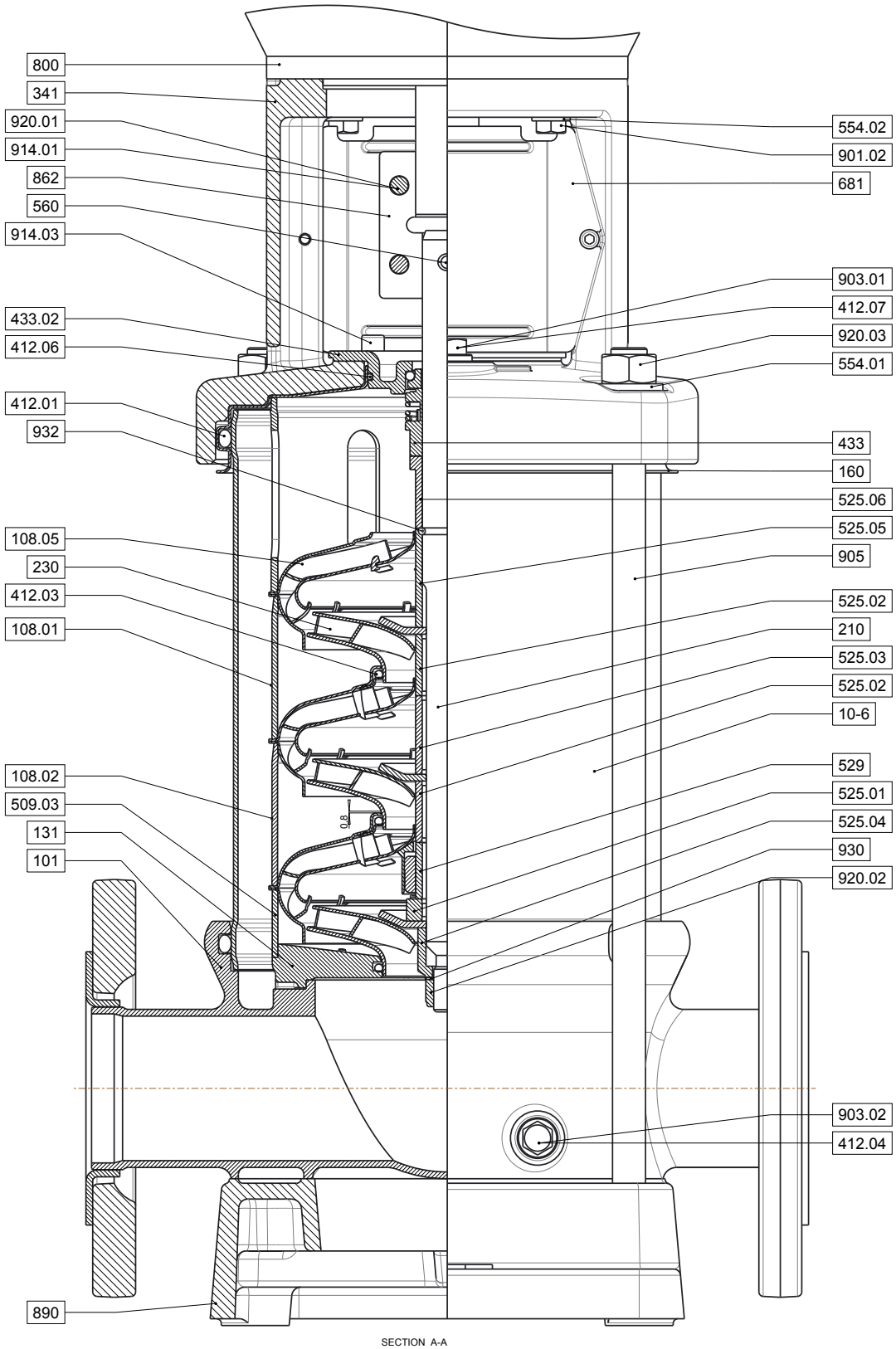


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Figure 34: Sectional drawing DPVF(S) 25, 40, 60 B

9.1.8 Sectional drawing DPVCF 85 B

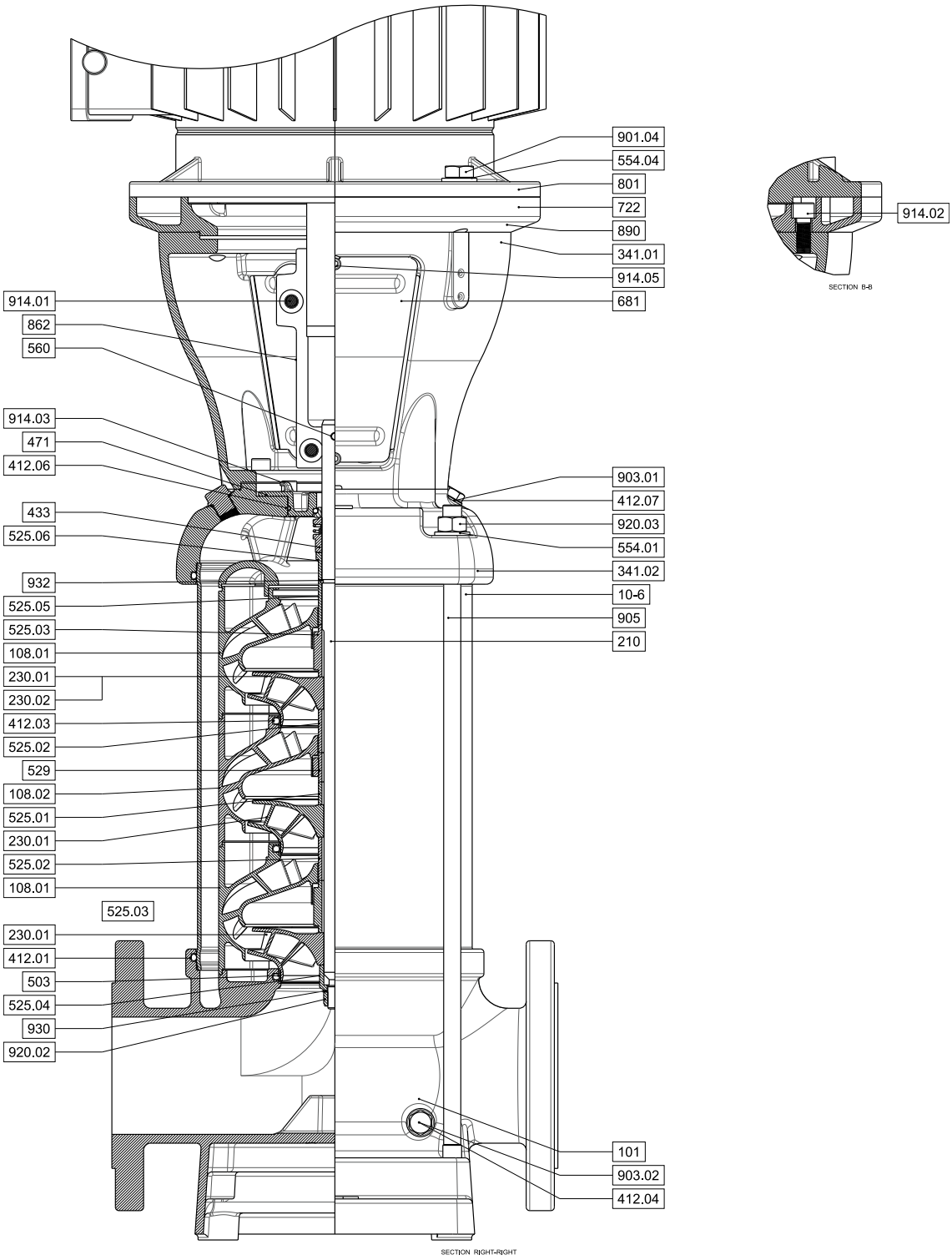

Figure 35: Sectional drawing DPVCF 85 B

9.1.9 Sectional drawing DPV(S)F85 B

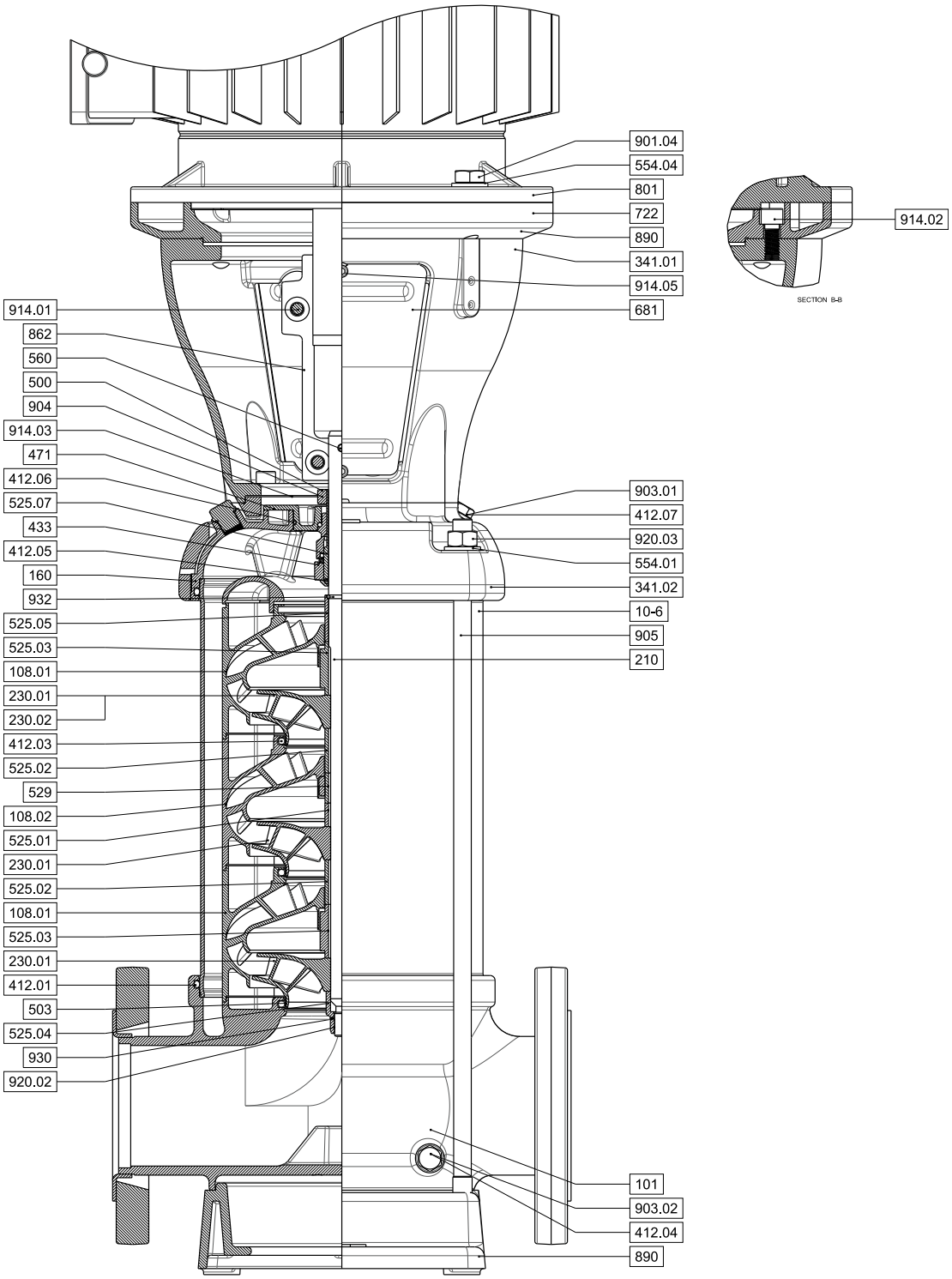

Figure 36: Sectional drawing DPV(S)F 85 B

9.1.10 Sectional drawing DPV(S)F125 B

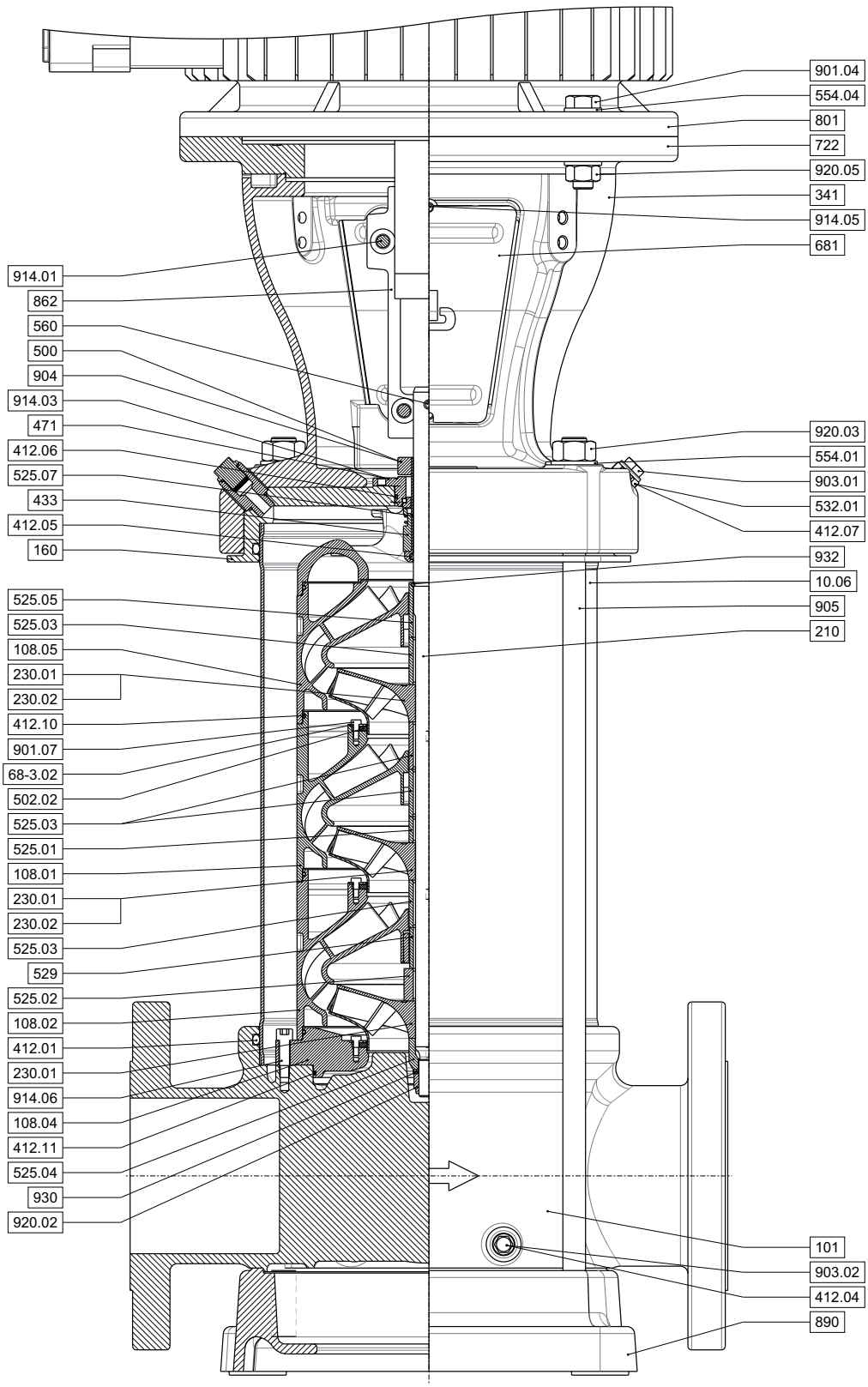

Figure 37: Sectional drawing DPV(S)F 125 B

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	$CuSO_4$-$5H_2O$	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	$C_3H_8O_3$	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	$C_4H_2O_3$				V	SiC	Ca	FPM	FPM
Methanol	Alcohol	CH_3OH				V	SiC	Ca	EPDM	EPDM
Methyl glycol (propylene glycol)	Alcohol	$C_3H_6(OH)_2$	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	$H_2C_2O_4$	5		20	V	SiC	Ca	EPDM	EPDM
Oxalic acid	Acid	$H_2C_2O_4$	5		Boiling	VS	SiC	Ca	FPM	FPM
Oxalic acid	Acid	$H_2C_2O_4$	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_2SO_4	3		20	VS	SiC	Ca	FPM	FPM
Rape-seed oil	Vegetable oil	mixture			100	VS	SiC	Ca	FPM	FPM
Sodium carbonate	Salt	Na_2CO_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_3PO_4				V	SiC	Ca	EPDM	EPDM
Sodium sulphate (non acicdic)	Salt	Na_2SO_4	5		60	V	SiC	Ca	EPDM	EPDM
Soybean oil	Vegetable oil		100		100	V	SiC	Ca	FPM	FPM
Spirits	Alcohol	H_2O + sucrose + alcohol	40		60	V	SiC	Ca	EPDM	EPDM
Sulphuric acid	Acid	H_2SO_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	$C_4H_6O_6$	8		40	VS	SiC	Ca	FPM	FPM
Vinegar (wine vinegar)	Acid	CH_3COOH	10		60	VS	SiC	Ca	EPDM	EPDM
Water, untreated / suspended solids <20 ppm	Water	H_2O + ...	100		60	VC	TuC	Ca	EPDM	EPDM
Water, boiler feed water (conform. Vd TÜV 1466	Water	H_2O + ...	100		120	VC	TuC	Ca	EPDM	EPDM E425
Water, brackish	Sea water	H_2O + ...	100	7	5	V	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H_2O + ...	100	7	10	V	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H_2O + ...	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	elastomer
Water, brackish	Sea water	H_2O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water, brackish	Sea water	H_2O + ...	100	7	25	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H_2O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H_2O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, coast water	Sea water	H_2O + ...		7	15	VS	TuC	TuC	FPM	FPM
Water, condensate (conform Vd TÜV 1466)	Water	H_2O + ...	100		100	VS	TuC	Ca	EPDM	EPDM
Water, cooling water	Water	H_2O + ...			100	VS	TuC	TuC	HNBR	HNBR
Water, de-carbonised (softened)	Water	H_2O + ...	100		120	V	TuC	TuC	HNBR	HNBR
Water, de-ionised	Water	H_2O + ...			120	V	SiC	Ca	EPDM	EPDM
Water, distilled	Water	H_2O + ...				V	SiC	Ca	EPDM	EPDM
Water, fire fighting	Water	H_2O + ...	100		60	VC	TuC	TuC	HNBR	HNBR
Water, harbour	Sea water	H_2O + ...	100	7	5	VS	TuC	TuC	FPM	FPM
Water, harbour	Sea water	H_2O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, heating (conform Vd TÜV 1466)	Water	H_2O + ...	100		120	VC	SiC	Ca	EPDM	EPDM
Water, (conform VDI 2035)	Water	H_2O + ...	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_2O + ...	100	7	5	V	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H_2O + ...	100	7	10	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H_2O + ...	100	7	15	VS	TuC	TuC	FPM	FPM
Water, ordinary sea water	Sea water	H_2O + ...	100	7	20	VS	TuC	TuC	FPM	FPM
Water (Ozon 0.5 mg/l)	Water	H_2O + ...			25	V	SiC	Ca	EPDM	EPDM
Water, pure (chemically neutral)	Water	H_2O + ...	100		60	V	SiC	Ca	EPDM	EPDM
Water, rinsing	Water	H_2O + ...			70	VS	TuC	TuC	FPM	FPM
Water, swimming-pool (chlorine 0.8 mg/l)	Water	H_2O + ...			25	VS	SiC	Ca	FPM	FPM
Water, tap (drinking water)	Water	H_2O + ...	100		60	V	SiC	Ca	EPDM	EPDM WRc/ ACS

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