

Multi-stage centrifugal pump DPHM(C)

Technical specification booklet

Series: DPHM(C) 2 - 4 - 6

50 Hz / 60 Hz (DIN/IEC)



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1 Introduction

1.1 General

The horizontal multi-stage centrifugal pump series DPHM(C) are designed for pumping clean or slightly aggressive, watery mediums in various applications. The pump is easy to install, commission and operate. The hydraulic assembly is driven by an electric motor. All hydraulic parts of the pump are made of stainless steel. Pump casings are available in cast iron and in stainless steel.

The hydraulics of the DPHM(C) series are based on the high efficiency hydraulics of the vertical multi-stage centrifugal pump series DPV. The pump series DPV easily meet the ErP for 2015 with its Minimum Efficiency Index $MEI > 0.7$.

1.2 Applications

The pumps are suitable for the following applications:

- Domestic cold-water booster set
- Irrigation
- Chilled water circulation
- Light industrial applications

1.3 Model Key

Table 1: Model key example DPHMC 2/2 B

Description	DP	H	M	C	2	/2	B	
Label	DP							Product Label
Material/Construction		H						Horizontal
			M					All hydraulic parts Stainless Steel 1.4301 / AISI 304 with closed coupled motor
				C				Pump casing in cast iron
Connections								DIN connection size: suction G 5/4 - discharge G1
					2			Size (Flow in m³/h at Q_{opt})
						/2		Number of stages
							B	Design version B

1.4 Seal code

Table 2: Material code mechanical seal - pump type DPHMC

Code acc. to EN 12756	Description	Material	Abbreviation	Note
B	Spring loaded ring	Carbon graphite	Ca	Resin impregnated
V	Seat ring	Ceramic	Ce	Aluminium oxide
P	Elastomers	NBR	NBR	Nitrile butadiene rubber
F	Spring	CrNi steel		
F	Other metal parts	CrNi steel		

Table 3: Material code mechanical seal - pump type DPHM

Code acc. to EN 12756	Description	Material	Abbreviation	Note
B	Spring loaded ring	Carbon graphite	Ca	Resin impregnated
V	Seat ring	Ceramic	Ce	Aluminium oxide
E	Elastomers	EPDM	EPDM	Ethylene propylene rubber
F	Spring	CrNi steel		
F	Other metal parts	CrNi steel		

1.5 Operation

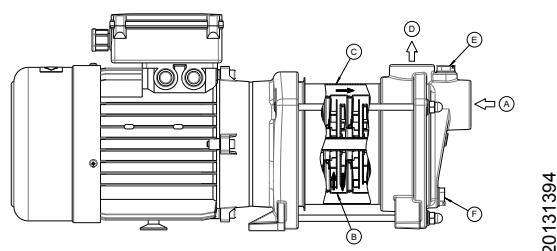


Figure 1: DPHM(C) 2/4/6

The rotating impeller causes the pressure at the inlet of the impeller to drop. This decrease in pressure creates the flow through the suction connection (A). Every stage (B) consists of an impeller and a diffuser. The capacity of the pump is determined by the size of the passageway of the stage. The pressure of the stage is determined by the diameter of the impeller. Because of the modular type of construction it is possible to choose the number of impellers most suited to the required point. After leaving the last impeller the medium flows between the pump stages and the outer sleeve (C) and exits the pump at the discharge connection (D).

1.6 Measuring, draining and venting

The pump is provided with plugs for measuring, filling and draining.

Connection (E) is meant to fill the pump or to measure the inlet / suction pressure using a G $\frac{1}{4}$ connection.

Connection (F) is meant to drain the pump or to measure the discharge pressure using a G $\frac{1}{4}$ connection.

This horizontal multi-stage pump is not self-venting. Please vent the pump on pressure side. Without external venting the pump can be seriously damaged.

1.7 Working range

The working range for the DPHM(C) series is as follows:

Table 4: General working range specification

Pump type	DPHMC/DPHM	note
Ambient temperature [°C]	-20 up to 40	^{1, 2}
Fluid temperature [°C]	-10 up to 60	
Pressure class	PN 10	
Minimum inlet pressure	NPSH _{req.} + 1 m	
Viscosity [cSt]	1-100	³
Density [kg/m³]	1000-2500	
Cooling	forced motor cooling	⁴
Minimum frequency [Hz]	30	
Maximum frequency [Hz]	60	⁵
Maximum number of starts	see motor data sheet	⁶
Noise emission	see motor data sheet	⁷

1. Avoid freezing the pump.
2. 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. Please contact your supplier for more detailed advice.
3. Deviation in viscosity and/or density could require an adapted motor power. Please contact your supplier for more detailed advice.
4. The free space behind the motor cooling fan should 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.
5. Pumps that are intended for 50 Hz operation, may not be connected to 60 Hz power supply.
6. Frequent start/stops, in particular in combination with higher pressure differences (Δp) may result in a shortened product lifetime. Consult your supplier for such applications.
7. Only the noise emission of the motor is documented.

To prevent the pump from overheating, gathering gas, cavitation etc. a minimum flow has to be secured. For minimum/ maximum flow at medium temperature of 20 °C see table 4: Minimum/maximum flow (Q_{min}/Q_{max}). For higher temperatures see figure 2: Minimum flow Q_{min} / optimum flow Q_{opt} in percent (%) versus liquid temperature

Table 5: Minimum/maximum flow ($Q_{min/max}$)

Pump size	2 poles			
	50 Hz		60 Hz	
	Q_{min} [m³/h]	Q_{max} [m³/h]	Q_{min} [m³/h]	Q_{max} [m³/h]
2	0.2	3.3	0.2	4.0
4	0.4	6.5	0.5	7.8
6	0.6	9.0	0.8	10.8

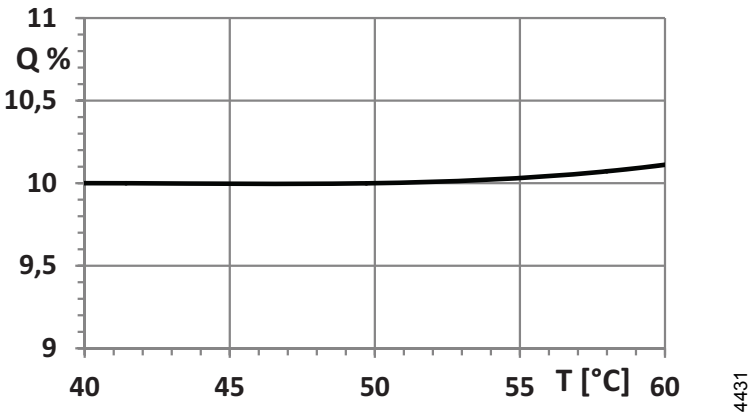


Figure 2: $Q_{min}/Q_{optimum}$ vs. liquid temperature

1.8 Materials

The pump series is available in the following material variant:

Table 6: Basic material variant

Model	Casing	Hydraulics	(Motor) Shaft	Elastomers
DPHMC	JL 1040	1.4301	1.4541	NBR
DPHM	1.4308	1.4301	1.4541	EPDM

1.9 Motor

Table 7: Motor specification - general data

Item	Description
Mounting type	close coupled
Motor standard	IEC 60034-7
Duty class	S1
Insulation class	F
Motor finish	RAL5002
Motor protection	included ¹
Protection class	IP55
VFD allowance	yes ²

- 1. only for single-phase motors
- 2. only for three-phase motors

Table 8: Motor data for single phase and three-phase, 2 poles, 50 Hz

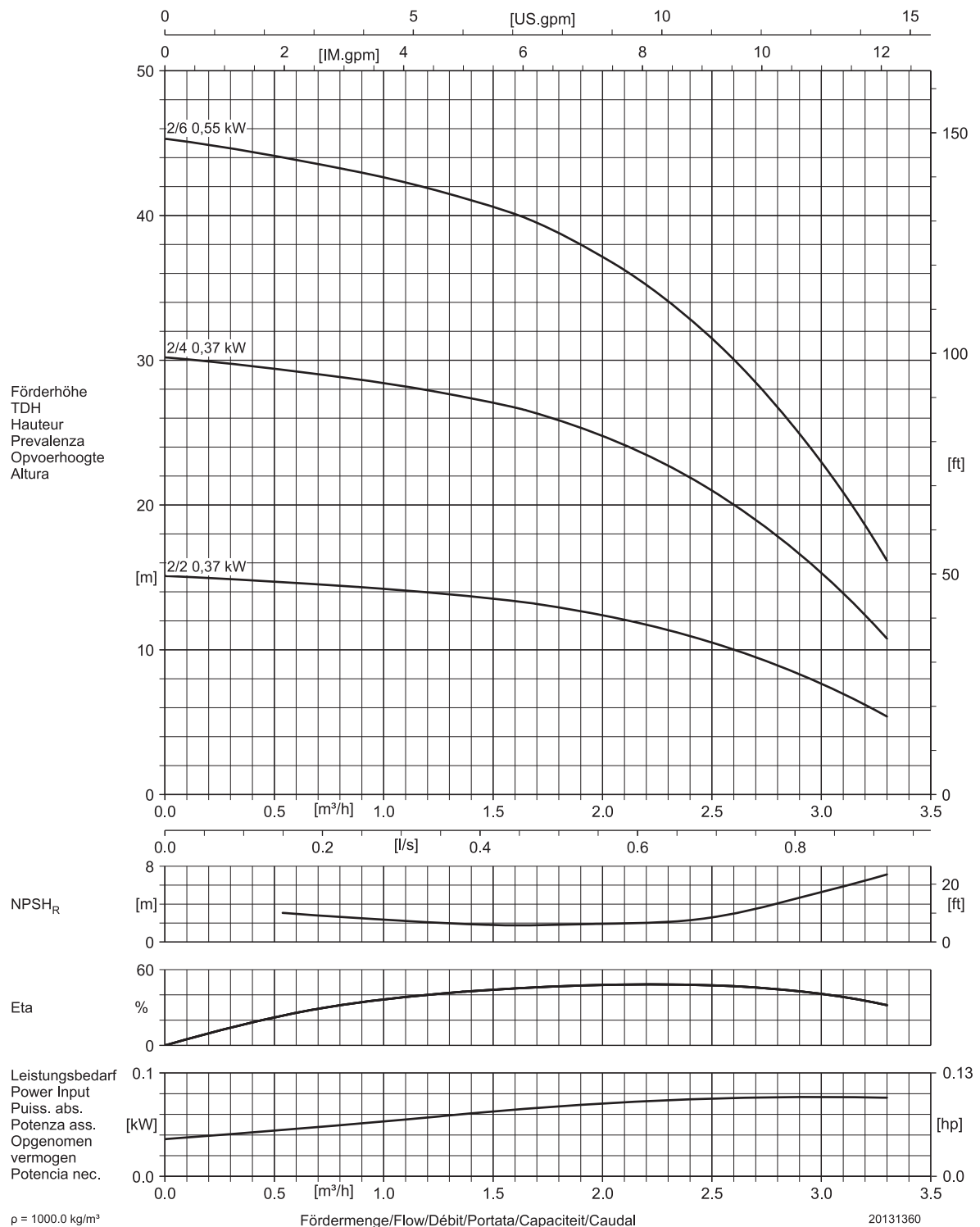
Article number	Rated power output [kW]	Frame size	Motor efficiency class	Rated voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency 100%	Sound pressure [dB(A)]	Cable gland	Maximum starts per hour
3723200003	0,37	71-1	-	1x230	2,6	3,7	0,92	±10%	2750	67	58	1xM18x1,5	20
3723300003	0,37	71-1	-	1x230	2,6	3,7	0,92	±10%	2750	67	58	1xM18x1,5	20
3723200005	0,55	71-2	-	1x230	3,69	3,9	0,92	±10%	2760	70	56	1xM18x1,5	20
3723300005	0,55	71-2	-	1x230	3,69	3,9	0,92	±10%	2760	70	56	1xM18x1,5	20
3723200011	1,1	80-2	-	1x230	6,68	4,3	0,95	±10%	2790	75	58	1xM20x1,5	20
3723300011	1,1	80-2	-	1x230	6,68	4,3	0,95	±10%	2790	75	58	1xM20x1,5	20
3723200015	1,5	90S	-	1x230	8,99	4,8	0,95	±10%	2800	76	58	1xM20x1,5	20
3723211003	0,37	71-1	-	230/400	1,64/0,94	4,6	0,78	±10%	2750	74,2	58	1xM20x1,5	20
3723311003	0,37	71-1	-	230/400	1,64/0,94	4,6	0,78	±10%	2750	74,2	58	1xM20x1,5	20
3723311005	0,55	71-2	-	230/400	2,31/1,33	5,2	0,75	±10%	2790	77,6	58	1xM20x1,5	20
3723411005	0,55	71-2	-	230/400	2,31/1,33	5,2	0,75	±10%	2790	77,6	58	1xM20x1,5	20
3723311011	1,1	80M2	IE2	230/400	4,22/2,43	9,3	0,79	±10%	2875	82,8	58	1xM20x1,5	20
3723411011	1,1	80M2	IE2	230/400	4,22/2,43	9,3	0,79	±10%	2875	82,8	58	1xM20x1,5	20
3723411015	1,5	90S	IE2	230/400	5,05/2,90	9,1	0,88	±10%	2900	84,7	58	1xM25x1,5	20

Table 9: Motor data for single phase and three-phase, 2 poles, 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 100%	Sound pressure [dB(A)]	Cable gland	Maximum starts per hour
3723205003	0,37	71-1	-	1x230	2,3	4,49	0,95	±10%	3450	74	64	1xM18x1,5	20
3723205005	0,55	71-2	-	1x230	3,35	3,82	0,96	±10%	3420	74	65	1xM18x1,5	20
3723305005	0,55	71-2	-	1x230	3,35	3,82	0,96	±10%	3420	74	65	1xM18x1,5	20
3723205007	0,75	80-1	-	1x230	4,5	4,34	0,97	±10%	3420	75	68	1xM20x1,5	20
3723305007	0,75	80-1	-	1x230	4,5	4,34	0,97	±10%	3420	75	68	1xM20x1,5	20
3723305011	1,1	80-2	-	1x230	6,3	4,83	0,96	±10%	3400	79	72	1xM20x1,5	20
3723205015	1,5	90S	-	1x230	9,1	4,70	0,95	±10%	3420	76	75	1xM20x1,5	20
3723305015	1,5	90S	-	1x230	9,1	4,70	0,95	±10%	3420	76	75	1xM20x1,5	20
3723205022	2,2	90L	-	1x230	13,1	4,45	0,95	±10%	3420	77	78	1xM20x1,5	20
3723211003	0,37	71-1	-	230/400	1,54/0,89	3,9	0,79	-5%/+20%	3300	75,7	58	1xM20x1,5	20
3723211005	0,55	71-2	-	230/400	2,29/1,32	4,4	0,76	-5%/+20%	3345	79,1	58	1xM20x1,5	20
3723311005	0,55	71-2	-	230/400	2,29/1,32	4,4	0,76	-5%/+20%	3345	79,1	58	1xM20x1,5	20
3723211007	0,75	80M1	IE2	230/400	2,94/1,69	7,4	0,79	-5%/+20%	3450	81,1	58	1xM20x1,5	20
3723311007	0,75	80M1	IE2	230/400	2,94/1,69	7,4	0,79	-5%/+20%	3450	81,1	58	1xM20x1,5	20
3723211011	1,1	80M2	IE2	230/400	4,14/2,38	5,8	0,8	-5%/+20%	3450	83,3	58	1xM20x1,5	20
3723211015	1,5	90S	IE2	230/400	4,98/2,86	6,2	0,89	-5%/+20%	3480	85	58	1xM25x1,5	20
3723311015	1,5	90S	IE2	230/400	4,98/2,86	6,2	0,89	-5%/+20%	3480	85	58	1xM25x1,5	20
3723211022	2,2	90L	IE2	230/400	7,14/4,11	6,2	0,9	-5%/+20%	3480	85,9	60	1xM25x1,5	20

2 Specification type series DPHM(C) 50Hz

2.1 Curves DPHM(C) 2, 50Hz, 2 poles



2.2 Dimensions DPHM(C) 2, 50Hz, 2 poles

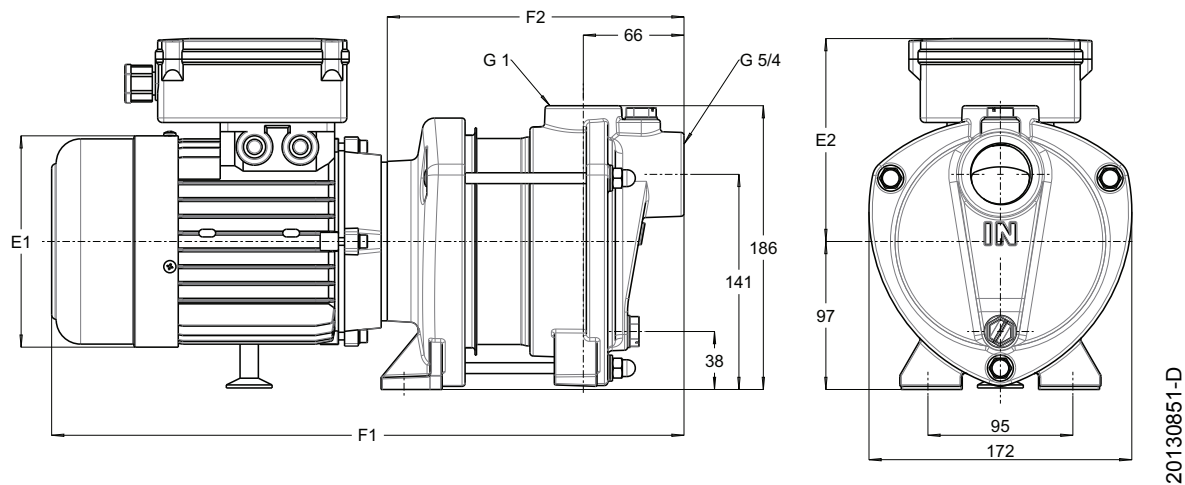


Figure 3: Pump dimensions

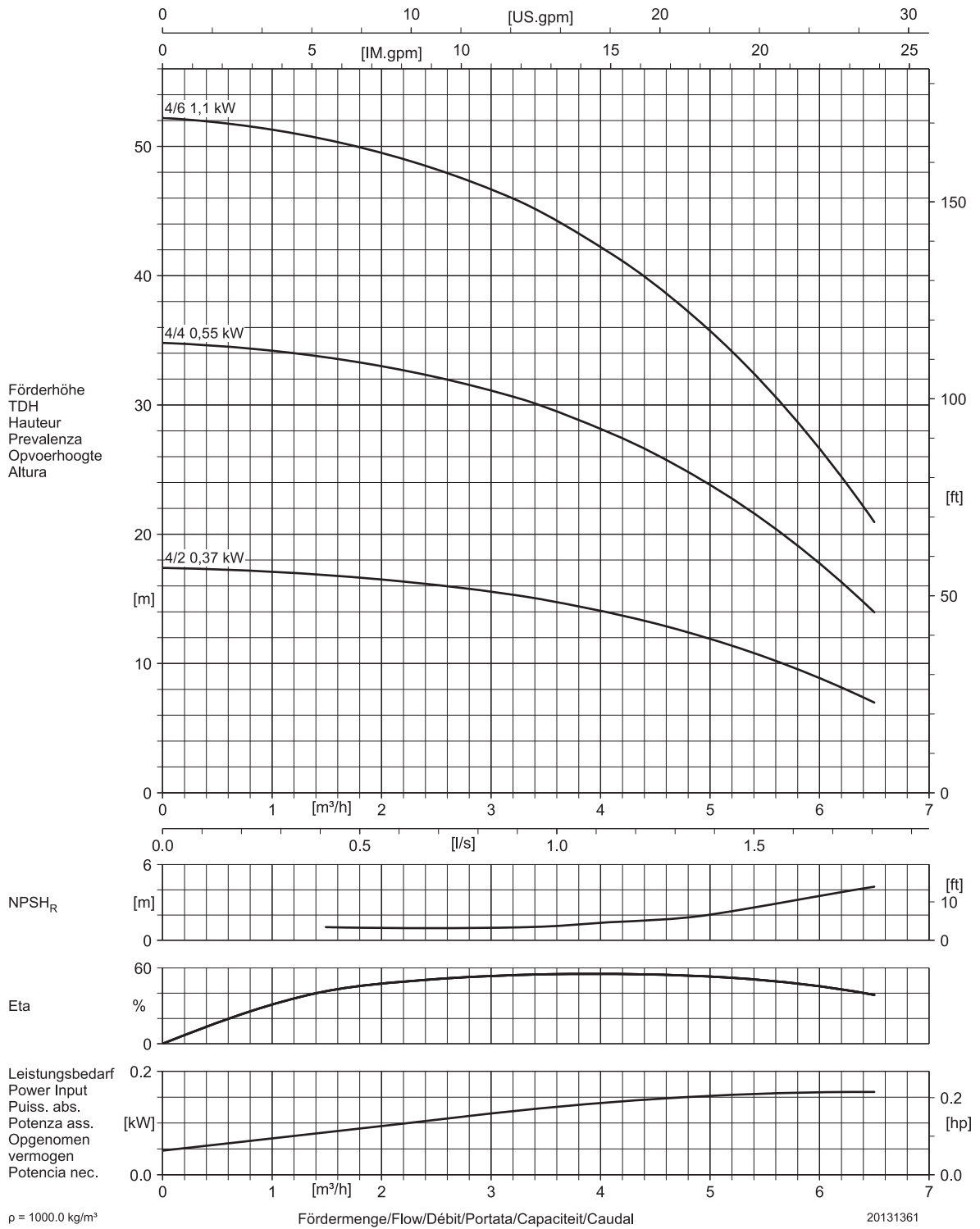
Table 10: Dimensions, mass and article numbers for DPHMC 2, 50 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	2/2	0,37	1x230	138,5	110	372,5	151,5	13,1	290028451020MX
DPHMC	2/4	0,37	1x230	138,5	110	405	184	13,8	290028451040MX
DPHMC	2/6	0,55	1x230	138,5	110	448	227	15,9	290028451060MX
DPHMC	2/2	0,37	230/400	138	109	372,5	151,5	13,1	290028451020A
DPHMC	2/4	0,37	230/400	138	109	405	184	13,8	290028451040A
DPHMC	2/6	0,55	230/400	138	109	448	227	15,9	290028451060A

Table 11: Dimensions, mass and article numbers for DPHM 2, 50 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	2/2	0,37	1x230	138,5	110	372,5	151,5	12,5	290029451020MX
DPHM	2/4	0,37	1x230	138,5	110	405	184	13,2	290029451040MX
DPHM	2/6	0,55	1x230	138,5	110	448	227	15,3	290029451060MX
DPHM	2/2	0,37	230/400	138	109	372,5	151,5	13,1	290029451020A
DPHM	2/4	0,37	230/400	138	109	405	184	13,8	290029451040A
DPHM	2/6	0,55	230/400	138	109	448	227	15,9	290029451060A

2.3 Curves DPHM(C) 4, 50Hz, 2 poles



2.4 Dimensions DPHM(C) 4, 50Hz, 2 poles

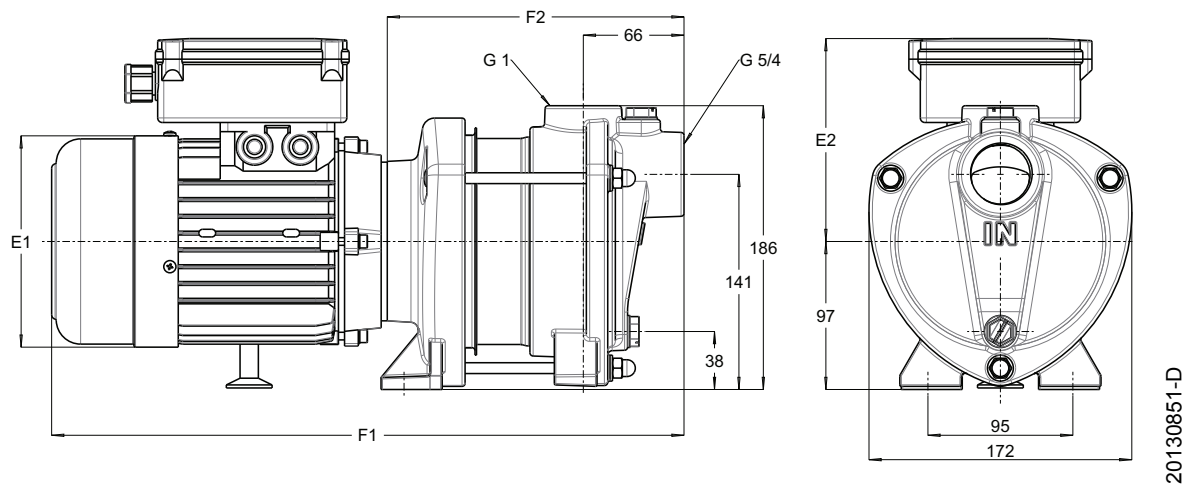


Figure 3: Pump dimensions

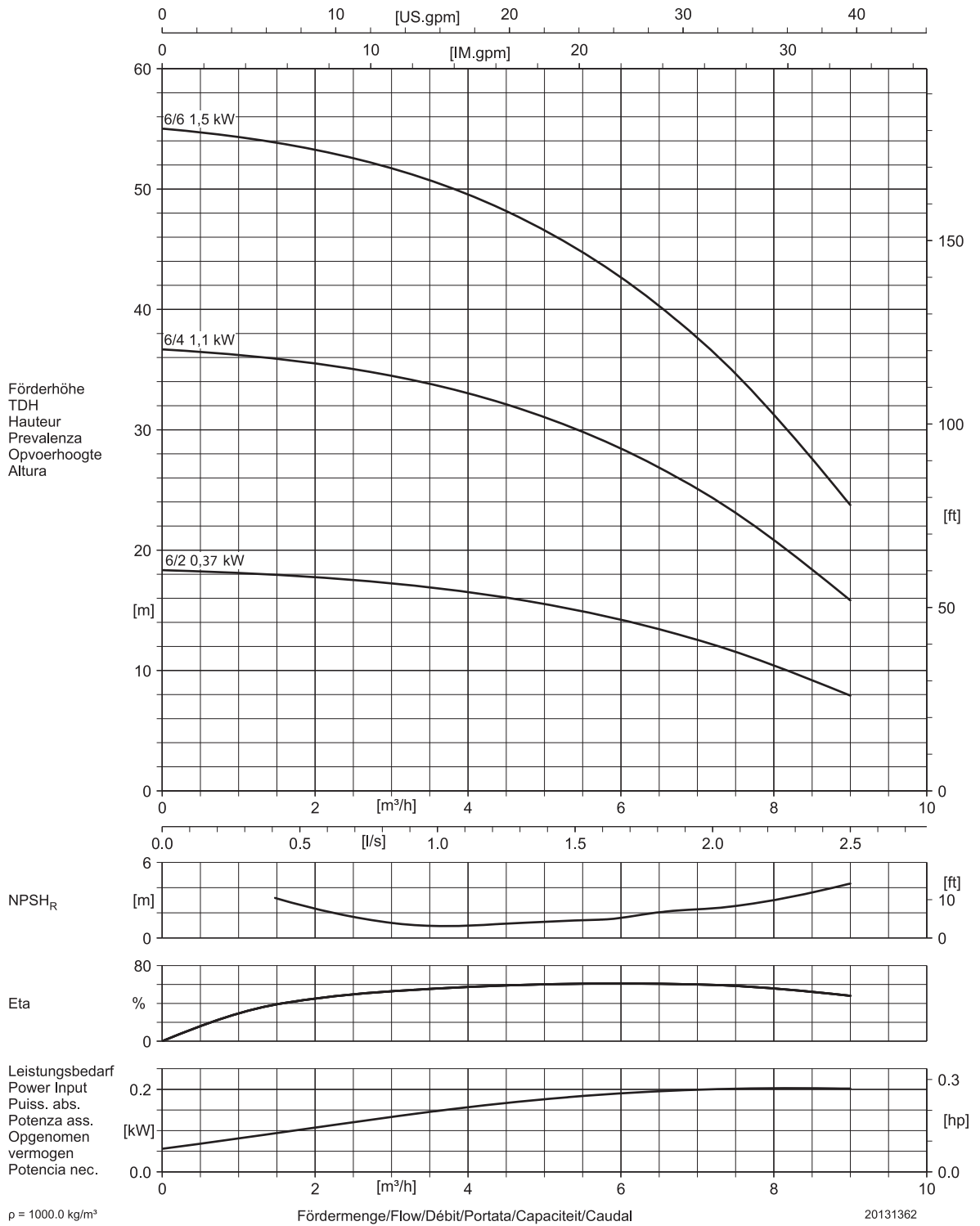
Table 12: Dimensions, mass and article numbers for DPHMC 4, 50 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	4/2	0,37	1x230	138,5	110	372,5	151,5	13,1	290048451020MX
DPHMC	4/4	0,55	1x230	138,5	110	405	184	15,3	290048451040MX
DPHMC	4/6	1,1	1x230	159	155	473	227	20	290048451060MX
DPHMC	4/2	0,37	230/400	138	109	372,5	151,5	13,1	290048451020A
DPHMC	4/4	0,55	230/400	138	109	405	184	15,3	290048451040A
DPHMC	4/6	1,1	230/400	157	112	487	227	20	290048451060C

Table 13: Dimensions, mass and article numbers for DPHM 4, 50 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	4/2	0,37	1x230	138,5	110	372,5	151,5	13,1	290049451020MX
DPHM	4/4	0,55	1x230	138,5	110	405	184	15,3	290049451040MX
DPHM	4/6	1,1	1x230	159	155	473	227	20	290049451060MX
DPHM	4/2	0,37	230/400	138	109	372,5	151,5	13,1	290049451020A
DPHM	4/4	0,55	230/400	138	109	405	184	15,3	290049451040A
DPHM	4/6	1,1	230/400	157	112	487	227	20	290049451060C

2.5 Curves DPHM(C) 6, 50Hz, 2 poles



2.6 Dimensions type series DPHM(C) 6, 50Hz, 2 poles

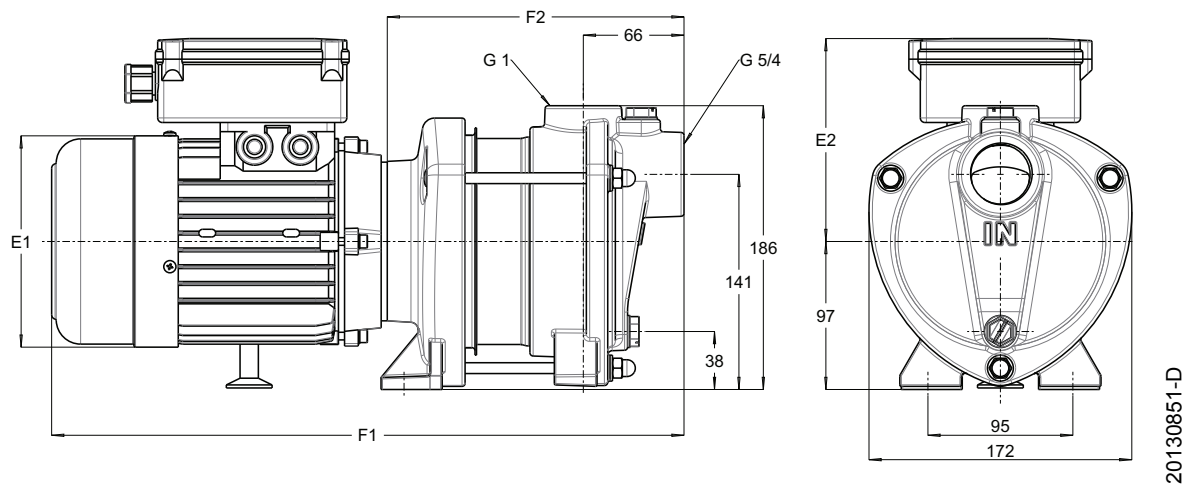


Figure 3: Pump dimensions

Table 14: Dimensions, mass and article numbers for DPHMC 6, 50 Hz

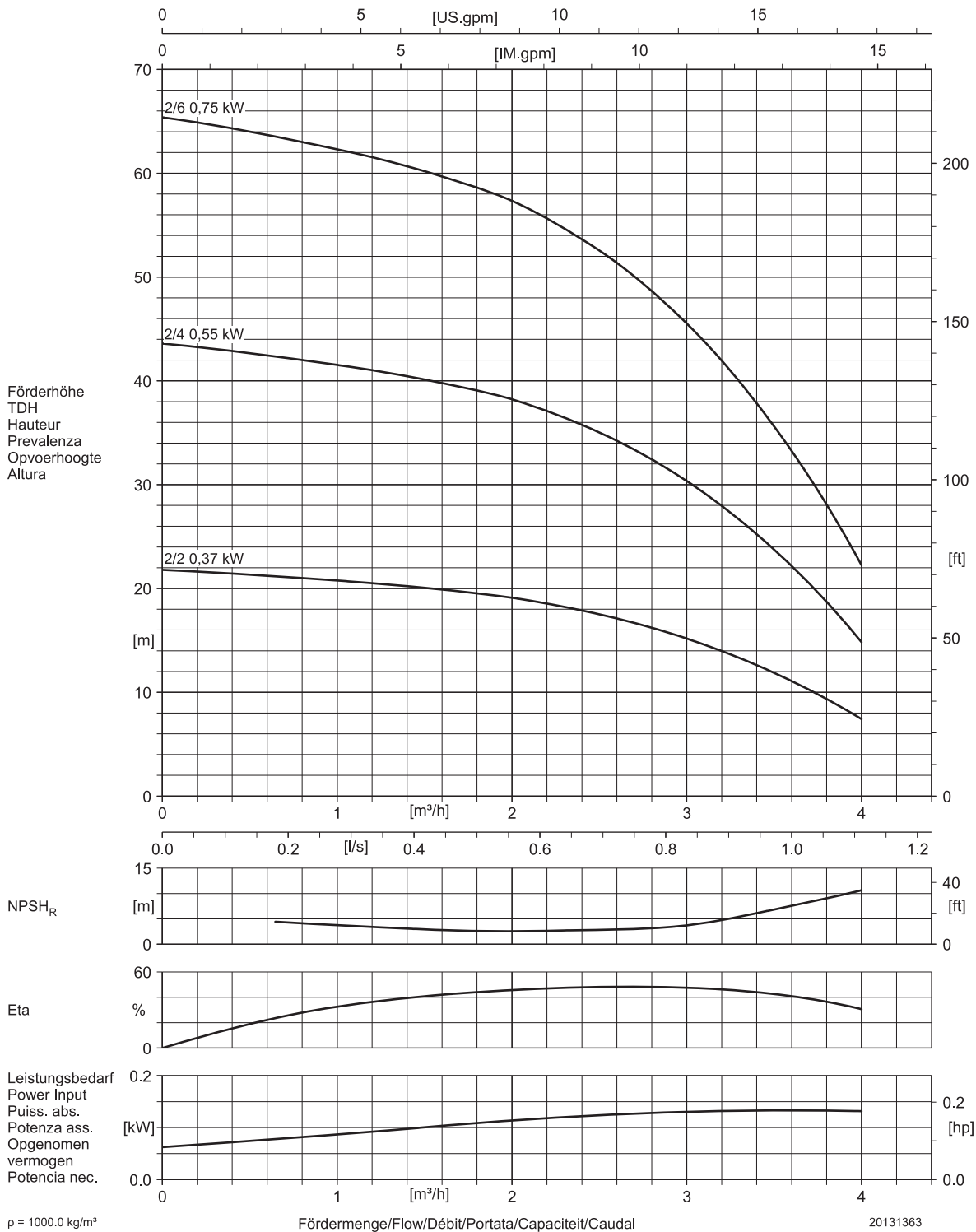
Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	6/2	0,37	1x230	138,5	110	372,5	151,5	13,4	290068451020MX
DPHMC	6/4	1,1	1x230	159	155	440,5	194,5	19,7	290068451040MX
DPHMC	6/6	1,5	1x230	176,5	160	529,5	244,5	23,1	290068451060MX
DPHMC	6/2	0,37	230/400	138	109	372,5	151,5	13,4	290068451020A
DPHMC	6/4	1,1	230/400	157	112	454,5	194,5	20	290068451040C
DPHMC	6/6	1,5	230/400	179	141	497,5	244,5	23,1	290068451060C

Table 15: Dimensions, mass and article numbers for DPHM 6, 50 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	6/2	0,37	1x230	138,5	110	372,5	151,5	13,4	290069451020MX
DPHM	6/4	1,1	1x230	159	155	440,5	194,5	19,7	290069451040MX
DPHM	6/6	1,5	1x230	176,5	160	529,5	244,5	23,1	290069451060MX
DPHM	6/2	0,37	230/400	138	109	372,5	151,5	13,4	290069451020A
DPHM	6/4	1,1	230/400	157	112	454,5	194,5	20	290069451040C
DPHM	6/6	1,5	230/400	179	141	497,5	244,5	23,1	290069451060C

3 Specification type series DPHM(C) 60Hz

3.1 Curves DPHM(C) 2, 60Hz, 2 poles



3.2 Dimensions type series DPHM(C) 2, 60Hz, 2 poles

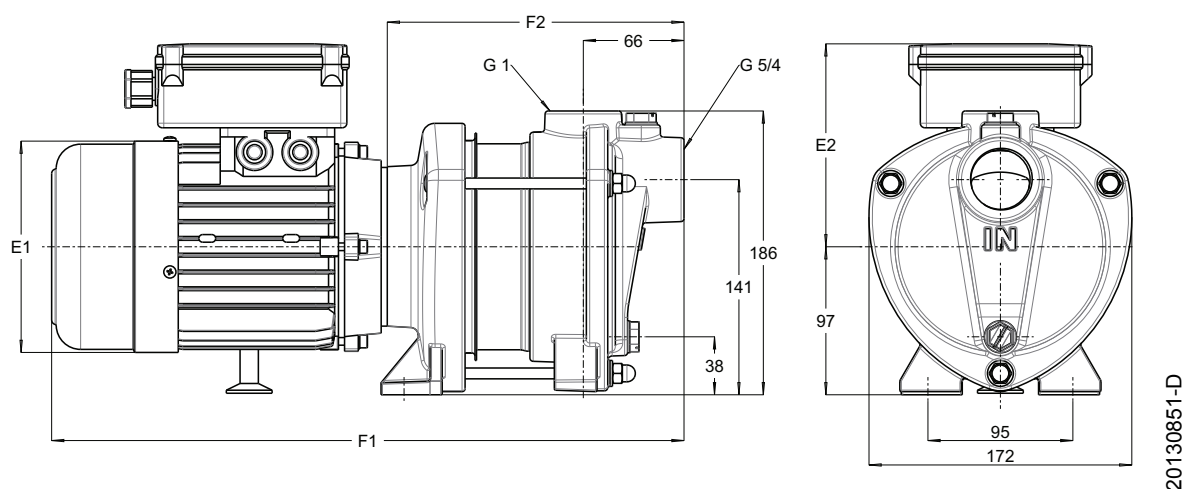


Figure 4: Pump dimensions

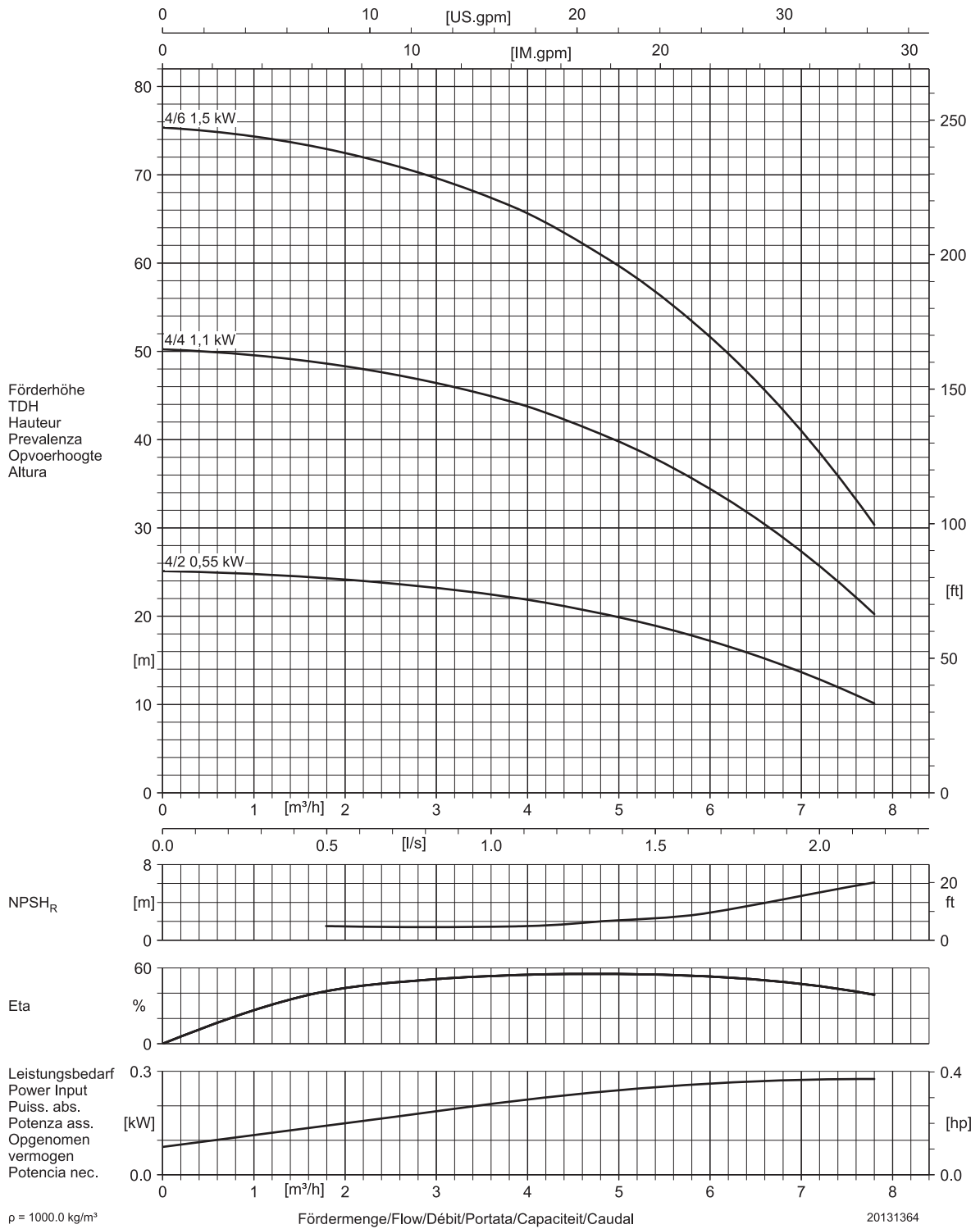
Table 16: Dimensions, mass and article numbers for DPHMC 2, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	2/2	0,37	1x230	138,5	110	372,5	151,5	13,1	290028461020MX
DPHMC	2/4	0,55	1x230	138,5	110	405	184	15,2	290028461040MX
DPHMC	2/6	0,75	1x230	159	155	473	227	17,4	290028461060MX
DPHMC	2/2	0,37	230/400	138	109	372,5	151,5	13,1	290028461020A
DPHMC	2/4	0,55	230/400	138	109	405	184	15,2	290028461040A
DPHMC	2/6	0,75	230/400	157	112	484	227	17,4	290028461060C

Table 17: Dimensions, mass and article numbers for DPHM 2, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	2/2	0,37	1x230	138,5	110	372,5	151,5	13,1	290029461020MX
DPHM	2/4	0,55	1x230	138,5	110	405	184	15,2	290029461040MX
DPHM	2/6	0,75	1x230	159	155	473	227	17,4	290029461060MX
DPHM	2/2	0,37	230/400	138	109	372,5	151,5	13,1	290029461020A
DPHM	2/4	0,55	230/400	138	109	405	184	15,2	290029461040A
DPHM	2/6	0,75	230/400	157	112	484	227	17,4	290029461060C

3.3 Curves DPHM(C) 4, 60Hz, 2 poles



3.4 Dimensions type series DPHM(C) 4, 60Hz, 2 poles

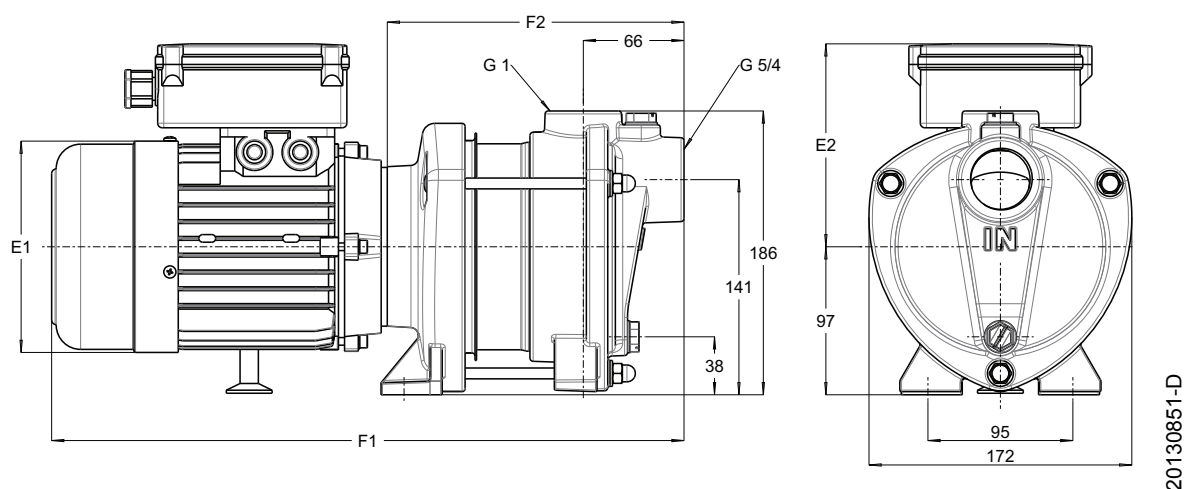


Figure 4: Pump dimensions

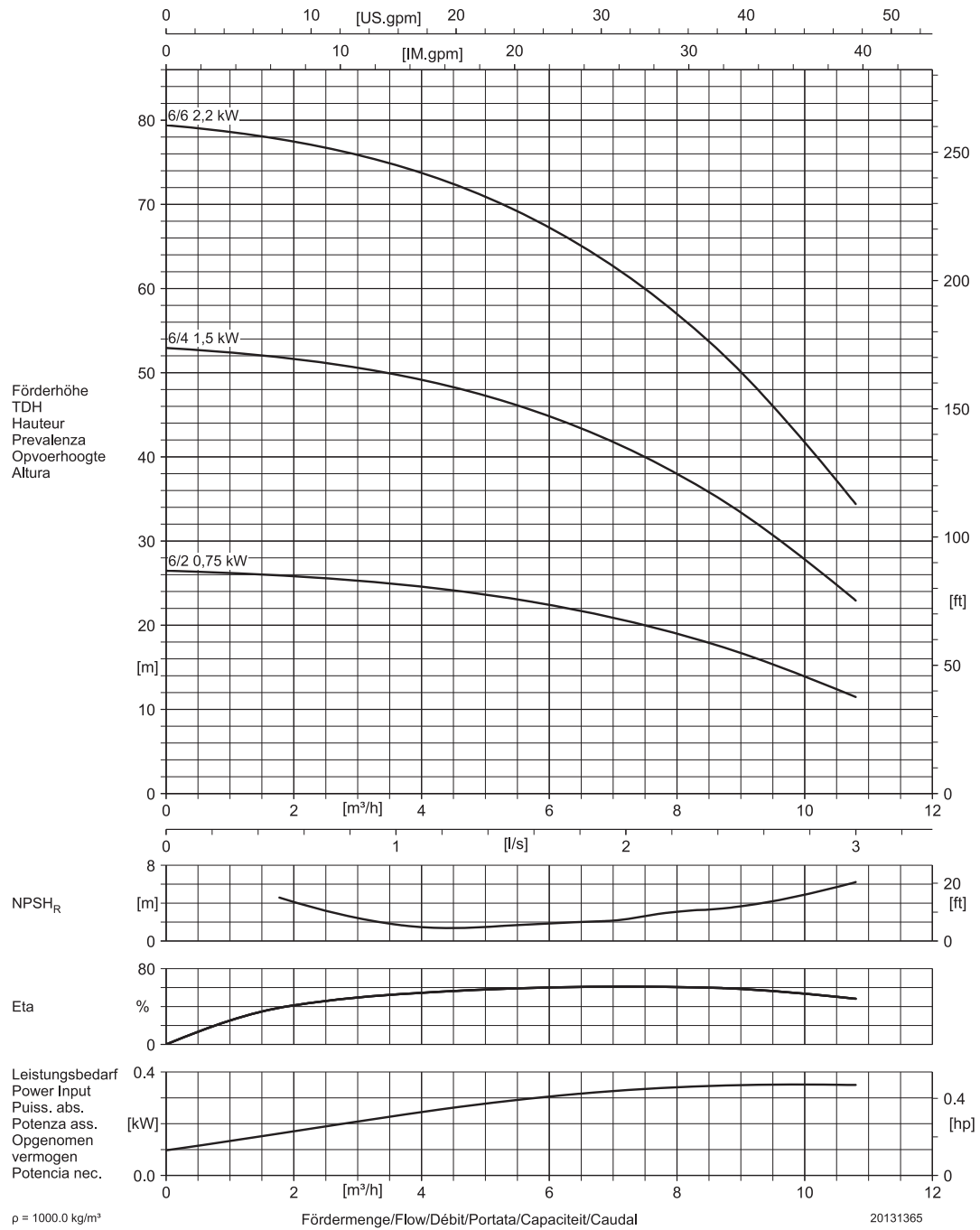
Table 18: Dimensions, mass and article numbers for DPHMC 4, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	4/2	0,55	1x230	138,5	110	372,5	151,5	14,5	290048461020MX
DPHMC	4/4	1,1	1x230	159	155	430	184	19,3	290048461040MX
DPHMC	4/6	1,5	1x230	176,5	160	512	227	22,7	290048461060MX
DPHMC	4/2	0,55	230/400	138	109	372,5	151,5	14,5	290048461020A
DPHMC	4/4	1,1	230/400	157	112	444	184	19,3	290048461040C
DPHMC	4/6	1,5	230/400	179	141	480	227	22,4	290048461060C

Table 19: Dimensions, mass and article numbers for DPHM 4, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	4/2	0,55	1x230	138,5	110	372,5	151,5	14,5	290049461020MX
DPHM	4/4	1,1	1x230	159	155	430	184	19,3	290049461040MX
DPHM	4/6	1,5	1x230	176,5	160	512	227	22,7	290049461060MX
DPHM	4/2	0,55	230/400	138	109	372,5	151,5	14,5	290049461020A
DPHM	4/4	1,1	230/400	157	112	444	184	19,3	290049461040C
DPHM	4/6	1,5	230/400	179	141	480	227	22,4	290049461060C

3.5 Curves DPHM(C) 6, 60Hz, 2 poles



3.6 Dimensions type series DPHM(C) 6, 60Hz, 2 poles

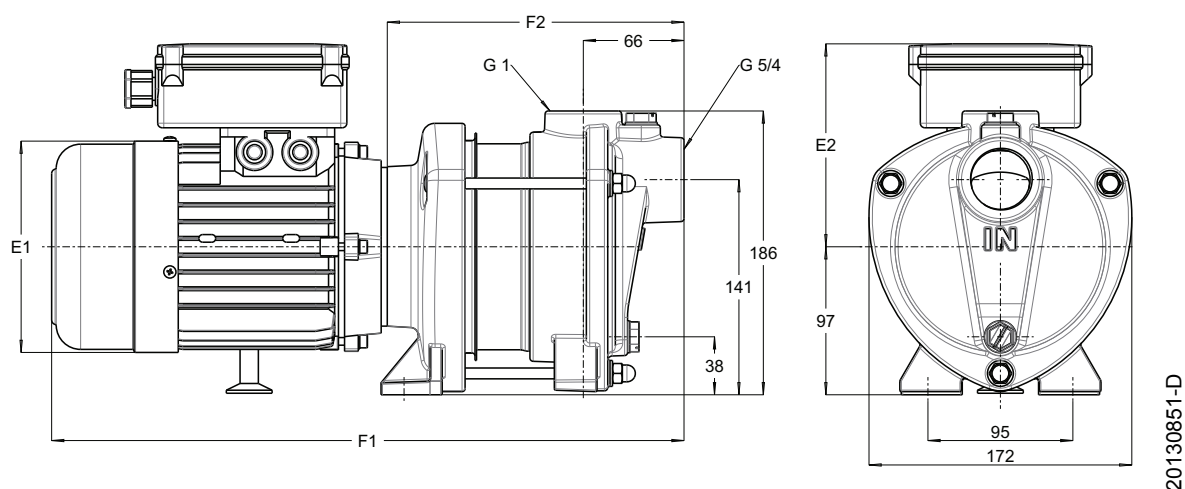


Figure 4: Pump dimensions

Table 20: Dimensions, mass and article numbers for DPHMC 6, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHMC	6/2	0,75	1x230	159	155	397,5	151,5	16,3	290068461020MX
DPHMC	6/4	1,5	1x230	176,5	160	479,5	194,5	22,4	290068461040MX
DPHMC	6/6	2,2	1x230	176,5	160	529,5	244,5	25,1	290068461060MX
DPHMC	6/2	0,75	230/400	157	112	408,5	151,5	16,3	290068461020C
DPHMC	6/4	1,5	230/400	179	141	447,5	194,5	22,4	290068461040C
DPHMC	6/6	2,2	230/400	179	141	529,5	244,5	25,1	290068461060C

Table 21: Dimensions, mass and article numbers for DPHM 6, 60 Hz

Pump type	Pump size	Power [kW]	Rated voltage [V]	E1 [mm]	E2 [mm]	F1 [mm]	F2 [mm]	Mass [kg]	Article number
DPHM	6/2	0,75	1x230	159	155	397,5	151,5	16,3	290069461020MX
DPHM	6/4	1,5	1x230	176,5	160	479,5	194,5	22,4	290069461040MX
DPHM	6/6	2,2	1x230	176,5	160	529,5	244,5	25,1	290069461060MX
DPHM	6/2	0,75	230/400	157	112	408,5	151,5	16,3	290069461020C
DPHM	6/4	1,5	230/400	179	141	447,5	194,5	22,4	290069461040C
DPHM	6/6	2,2	230/400	179	141	529,5	244,5	25,1	290069461060C

4 Materials and drawings

4.1 Overview parts and materials

Table 22: Parts and materials of DPHM(C)

Position number	Part description	Material	In contact with liquid	DPHMC	DPHM
10-6	Pump shroud	1.4301	X	●	●
101	Pump casing	JL1040	X	●	
		1.4308	X		●
108.01/.04/.05	Stage casing	1.4301	X	●	●
160	Cover	1.4301	X	●	●
-	Shaft (motor shaft)	1.4541	X	●	●
230	Impeller	1.4301	X	●	●
341	Motor stool	JL1040		●	●
412	O-Ring	EPDM	X	●	●
433	Shaft seal ¹	B V P F F	X	●	
		B V E F F	X		●
525.01/.03/.05	Spacer sleeve	1.4305	X	●	●
903.05	Screwed plug (+ O-ring)	PEHD/ TPE	X	●	
		1.4301/ EPDM	X		●
905	Tie bolt	1.4057		●	●
920.02	Nut	1.4301	X	●	●
920.03	Nut	1.4301		●	●
930.02	Safety device	1.4401	X	●	●
932	Circlip	1.4571	X	●	●
950	Wave spring	1.4401	X	●	●

1. Definition of seal code in Table 2

Table 23: Material assignment EN to ASTM

EN-Material no.	General description	EN-Material code	EN-Standard	ASTM/AISI Material no. ¹
JL1040	Cast iron	GJL-250	EN 1561	A48 - 40B
1.4057	Chromium-nickel steel	X17CrNi 16-2--QT800	EN 10088-3	A276 - 431
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
1.4541	Chromium-nickel steel	X6CrNiMoTi 18-10	EN 10088	A276 - 321
1.4571	Chromium-nickel-molybdenum steel	X6CrNiMoTi 17-12-2	EN 10088	A276 - 316Ti

1. Note: The assignment of EN material to ASTM material is not binding.

4.2 Sectional drawing DPHM(C) 2/4/6

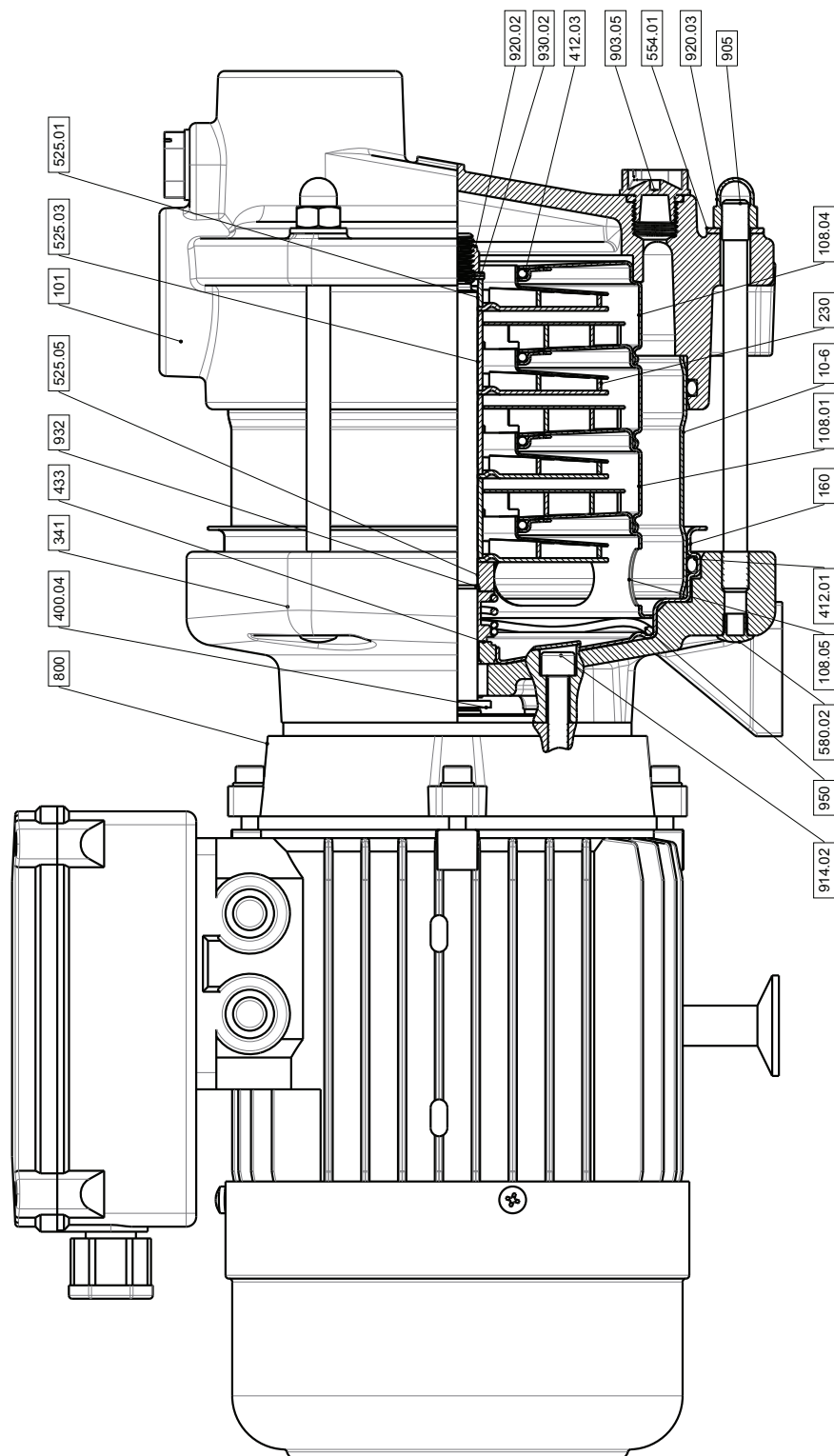


Figure 5: Sectional drawing DPHM(C) 2/4/6

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dp pumps

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