SPCO®

makes life easier

PD

In-line Circulating Pump, 60Hz

Approvals

CB TEST CERTIFICATE

Ref. Certificate No.
CH-5876

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Issued by: Electrosuisse

Product: Horizontal and vertical multistage pumps

Applicant: Swiss Pump Company AG, Moosweg 36, CH-3645 Gwatt (Thun), Switzerland

Manufacturer: Swiss Pump Company AG, Moosweg 36, CH-3645 Gwatt (Thun), Switzerland

Factory: Swiss Pump Company AG, Moosweg 36, CH-3645 Gwatt (Thun), Switzerland

Rating and principal characteristics: 3 x 200 - 277/346 - 480V~, 50/60Hz; 229-230V~, 50/60Hz; 127-220-240V~, 60Hz; class I, IP55

Trade mark (if any): Swiss Pump Company AG (SPCO)

Model/Type reference: HM..., CHL..., VM..., CDL..., ND..., CC..., PD..., MB..., GB..., SMF..., CCP..., SCP... see appendix type list in test report

Additional information: ---

Sample of product tested to be in conformity with IEC: 60335-1(ed.4)/am1;am2; 60335-2-41(ed.3)/am1;am2

National differences: EU Group Differences; EU Special National Conditions; EU A-Deviations

Test Report Ref. No.: 06-HG-0218.01 + .02 + .03 + .05

This CB Test Certificate is issued by the National Certification Body:

Electrosuisse, Lupmenstrasse 1, CH-8320 Fehraltorf

Signed by: Erich Obrist, 2010-07-27

electrosuisse

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CERTIFIED IQNet MANAGEMENT SYSTEM

IEC

IECEE CB SCHEME

CE

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Technical data

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In-line Circulating Pumps

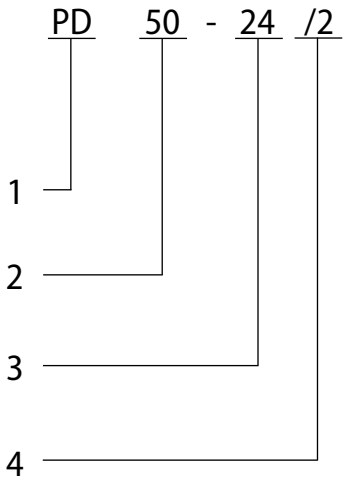
English -Technical information:

The PD types are single stage in line centrifugal pumps, equipped with standard motor and mechanical seal. Comparing with other pumps in similar structure, these pumps are less accessible to the impurity in the liquid.

Deutsch - Technische Information:
Die PD Typen sind einstufige Inline Pumpen, ausgestattet mit einem Standard Motor und einer Gleitringdichtung. Im Vergleich mit ähnlichen Pumpentypen weisen die PD Pumpen eine sehr gute Resistenz gegen Schmutz im Fördermedium auf.

Français - Information technique :
Les pompes PD sont inline, centrifugat pompes avec un étage et avec un moteur standard et une garniture mécanique. Au comparant avec autres pompes de construction similaire notre modèle est résistant contre la boue dans le milieu.

Definition of model



1
Inline circulation pump
Inline Zirkulationspumpe
Pompe inline circulation

2
DN of the inlet & outlet
Nennweite Saug- und Druckseite
Diamètre de la refoulement et aspiration

3
Rated head in m
Förderhöhe in m
Hauteur en m

5
Pole of the motor
Polzahl vom Motor
Pole de moteur

Application

The pumps liquid is, thin, non-corrosive, non-flammable, and non-explosive liquid which shall not contain any solid grain and fiber that might damage the pump mechanically or chemically.
If the liquid viscosity or density is beyond the required level, the performance curves will descend and energy consumption will be increased.

Water supply: PD pumps are applicable for urban water supply, industrial water, cooling system, and cold & hot water for regional heat supply system:

- Main circulation pump.
- Mixed circuit pump
- Boiler mixed-flow pump
- Gas-fired freezer pump
- Filter pump
- Constant pressure system pump
- Urban hot water circulation

Cooling liquid: PD pumps can be used in chemical industry, pharmaceutical industry, food processing:

- Liquid feeding
- System pressue boosting
- Mixed circuit circulation pump

Operating condition

Liquid (normal) temperature: -15°C ~ 110°C
Max. Pressure: PN12 bar, option PN16 bar.

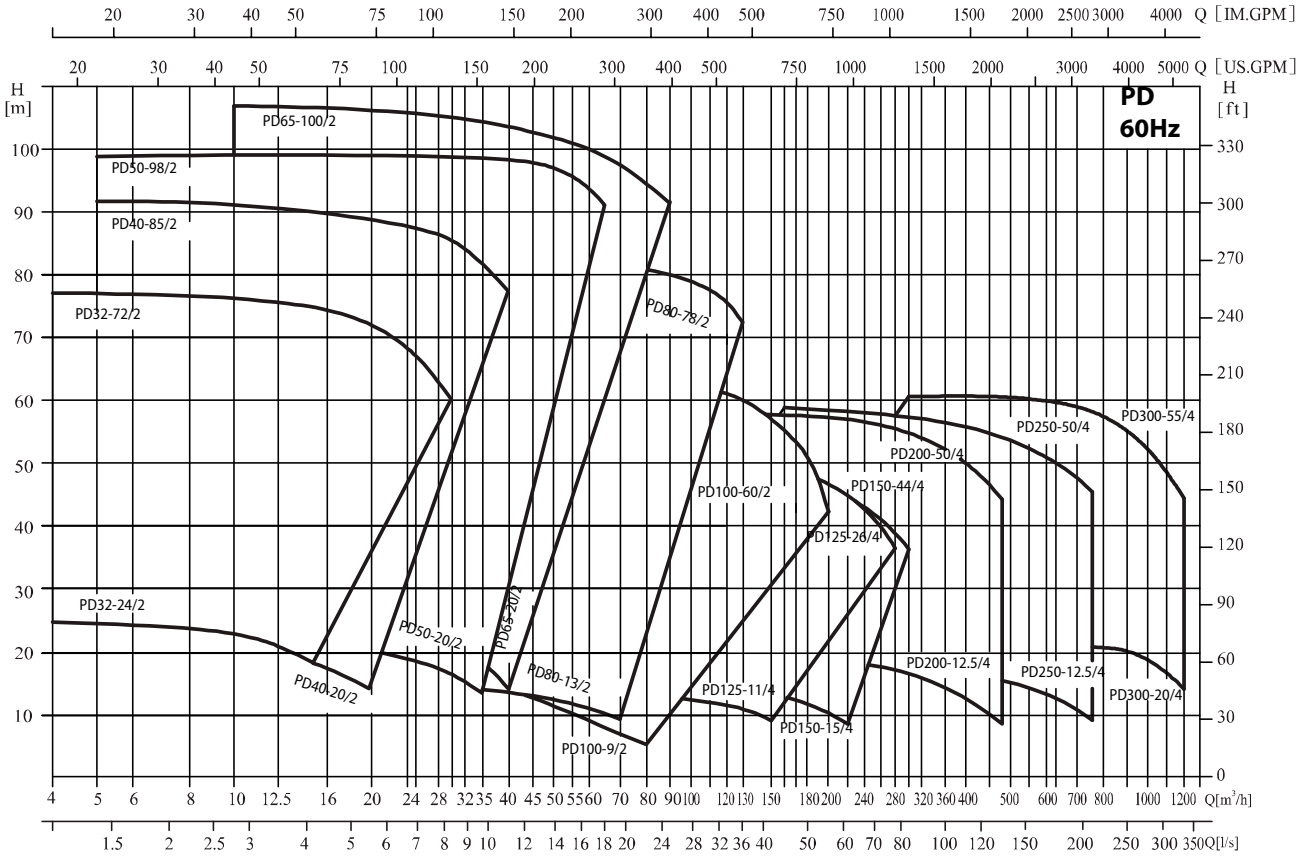
water

- Ground water: < 90°C
- Boiler feed water < 110°C
- District feed water: < 110°C
- Condensate: <90°C
- Softened water: -15°C ~ 110°C

Coolant liquids

- Hydrocarbon based antifreeze < 50°C
- Alcoholized compound < 50°C, 50%
- 30% brine (NaCL, $CaCL_2$ solution) < 50°C
- Organic solvent < 60°C

Performance ranges



Curves

Following is some explanation for the curves:

1- Curves tolerance is in conformity with ISO9906, Annex A:

2- Motor used in tests are JB/T8680. 1-1998 " 3-phase asynchronous motor".

3- All curves are based on the measured value of motor 3x380V, under the constant speed of 3500rpm or 1750rpm.

4- Test methods are in conformity with the GB/T3216.

5- The test medium is clear 20°C water without any solid impurity any air.

6- Pumps should not work if the flow is beyond the minimum or the maximum flow in the curves.

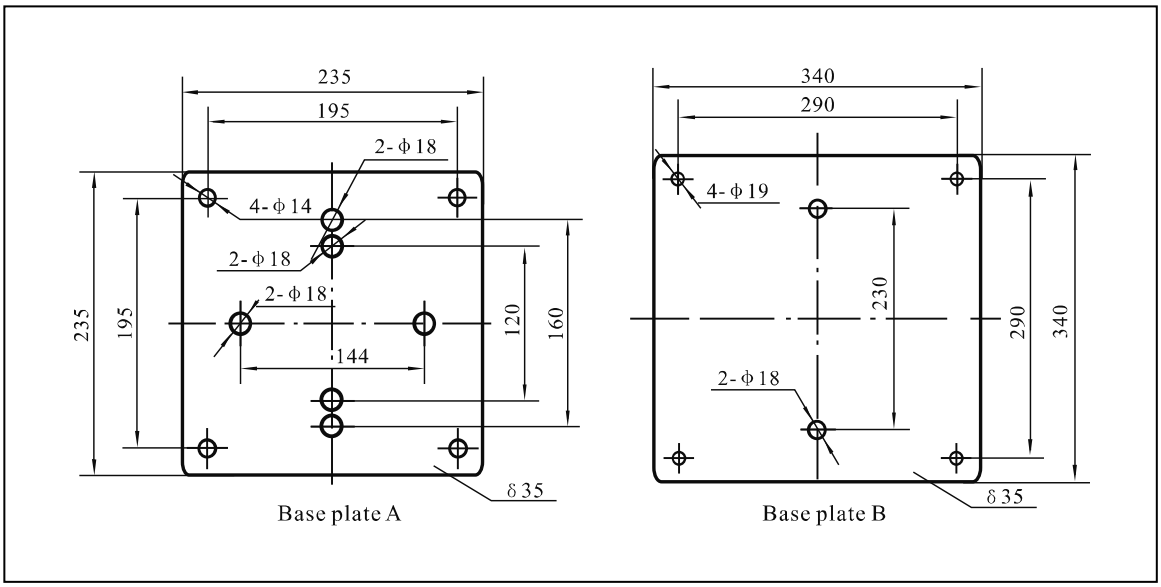
7- The motor performance shall be adjusted if the viscosity or density of medium is different from water.

Product ranges

Model	Q [m^3/h]	H [m]	n [r/min]	Voltage [V]	
				1 X 220V	3 X 380V
				P2 [kW]	P2 [kW]
PD 32-24/2	7	24	3500	1.5	1.5
PD 32-27/2	10	27		2.2	2.2
PD 32-30/2	15	30			3
PD 32-38/2	15	38			4
PD 32-46/2	15	46			5.5
PD 32-57/2	20	57			7.5
PD 32-72/2	20	72			11
PD 40-20/2	12	20	3500	1.5	1.5
PD 40-24/2	15	24		2.2	2.2
PD 40-28/2	15	28			3
PD 40-32/2	20	32			4
PD 40-35/2	25	35			5.5
PD 40-42/2	25	42			7.5
PD 40-65/2	25	65			11
PD 40-76/2	25	76			15
PD 40-85/2	30	85			18.5
PD 50-20/2	20	20	3500	2.2	2.2
PD 50-27/2	20	27			3
PD 50-34/2	20	34			4
PD 50-40/2	20	40			5.5
PD 50-42/2	30	42			7.5
PD 50-51/2	35	51			11
PD 50-62/2	45	62			15
PD 50-72/2	45	72			18.5
PD 50-84/2	45	84			22
PD 50-98/2	50	98			30
PD 65-20/2	30	20	3500		3
PD 65-25/2	30	25			4
PD 65-32/2	30	32			5.5
PD 65-38/2	35	38			7.5
PD 65-46/2	35	46			11
PD 65-55/2	35	55			15
PD 65-60/2	50	60			18.5
PD 65-73/2	50	73			22
PD 65-85/2	60	85			30
PD 65-100/2	60	100			37
PD 80-12/2	50	12	3500		3
PD 80-17/2	50	17			4
PD 80-20/2	60	20			5.5
PD 80-26/2	60	26			7.5
PD 80-30/2	80	30			11
PD 80-38/2	80	38			15
PD 80-47/2	80	47			18.5
PD 80-52/2	80	52			22
PD 80-70/2	80	70			30
PD 80-81/2	80	81			37

Model	Q [m³/h]	H [m]	n [r/min]	Voltage [V]	
				1 X 220V	3 X 380V
				P2 [kW]	P2 [kW]
PD 100-11/2	50	11	3500		3
PD 100-15/2	60	15			4
PD 100-17/2	80	17			5.5
PD 100-22/2	80	22			7.5
PD 100-25/2	100	25			11
PD 100-32/2	100	32			15
PD 100-34/2	120	34			18.5
PD 100-38/2	120	38			22
PD 100-52/2	130	52			30
PD 100-60/2	130	60			37
PD 125-11/4	120	11	1750		5.5
PD 125-14/4	120	14			7.5
PD 125-20/4	120	20			11
PD 125-24/4	120	24			15
PD 125-28/4	140	28			18.5
PD 125-32/4	150	32			22
PD 125-38/4	150	38			30
PD 125-40/4	180	40			37
PD 125-46/4	180	46			45
PD 150-15/4	160	15	1750		11
PD150-18/4	180	18			15
PD 150-20/4	200	20			18.5
PD 150-24/4	200	24			22
PD 150-32/4	200	32			30
PD 150-36/4	200	36			37
PD 150-44/4	200	44			45
PD 200-12.5/4	400	12.5	1750		22
PD 200-20/4	400	20			30
PD 200-23/4	400	23			37
PD 200-27/4	400	27			45
PD 200-32/4	400	32			55
PD 200-43/4	400	43			75
PD 200-50/4	400	50			90
PD 250-14/4	630	14	1750		37
PD 250-17/4	630	17			45
PD 250-20/4	630	20			55
PD 250-26/4	630	26			75
PD 250-32/4	630	32			90
PD 250-40/4	630	40			110
PD 250-50/4	630	50			132
PD 300-20/4	900	20	1750		75
PD 300-25/4	900	25			90
PD 300-30/4	900	30			110
PD 300-35/4	900	35			132
PD 300-44/4	900	44			160
PD 300-55/4	900	55			200

Appendix: Base plate



No.	Product model	Basic plate type
1	PD 32-24/2	A
2	PD 32-27/2	A
3	PD 32-30/2	A
4	PD 32-38/2	A
5	PD 32-46/2	A
6	PD 32-57/2	A
7	PD 32-72/2	A
8	PD 40-20/2	A
9	PD 40-24/2	A
10	PD 40-28/2	A
11	PD 40-32/2	A
12	PD 40-35/2	A
13	PD 40-42/2	A
14	PD 40-65/2	A
15	PD 40-76/2	A
16	PD 40-85/2	A
17	PD 50-20/2	A
18	PD 50-27/2	A
19	PD 50-34/2	A
20	PD 50-40/2	A
21	PD 50-42/2	A
22	PD 50-51/2	A
23	PD 50-62/2	A
24	PD 50-72/2	A

No.	Product model	Basic plate type
25	PD 50-84/2	A
26	PD 50-98/2	A
27	PD 65-20/2	A
28	PD 65-25/2	A
29	PD 65-32/2	A
30	PD 65-38/2	A
31	PD 65-46/2	A
32	PD 65-55/2	A
33	PD 65-60/2	A
34	PD 65-73/2	A
35	PD 65-85/2	A
36	PD 65-100/2	A
37	PD 80-12/2	A
38	PD 80-17/2	A
39	PD 80-20/2	A
40	PD 80-26/2	A
41	PD 80-30/2	A
42	PD 80-38/2	A
43	PD 80-47/2	A
44	PD 80-52/2	A
45	PD 80-70/2	A
46	PD 80-81/2	A
47	PD 100-11/2	A
48	PD 100-15/2	A

No.	Product model	Basic plate type
49	PD 100-17/2	A
50	PD 100-22/2	A
51	PD 100-25/2	B
52	PD 100-32/2	B
53	PD 100-34/2	B
54	PD 100-38/2	B
55	PD 100-52/2	B
56	PD 100-60/2	B
57	PD 125-11/4	B
58	PD 125-14/4	B
59	PD 125-20/4	B
60	PD 125-24/4	B
61	PD 125-28/4	B
62	PD 125-32/4	B
63	PD 125-38/4	B
64	PD 125-40/4	B
65	PD 125-46/4	B
66	PD 150-15/4	B
67	PD150-18/4	B
68	PD 150-20/4	B
69	PD 150-24/4	B
70	PD 150-32/4	B
71	PD 150-36/4	B
72	PD 150-44/4	B

NPSH

The following formula can be used for calculation of minimum inlet pressure:

H= Pb X 10.2 - NPSH - Hf - Hv - Hs
H - maximum suction head (m)
Pd - atmosphere pressure (bar)

In a closed system, Pd means system pressure (bar)
NPSH - Net positive suction head (m)

It can be read out from the point of possible max. flow rat shown on NPSH curve.
Hf - Pipeline loss at the inlet (m)

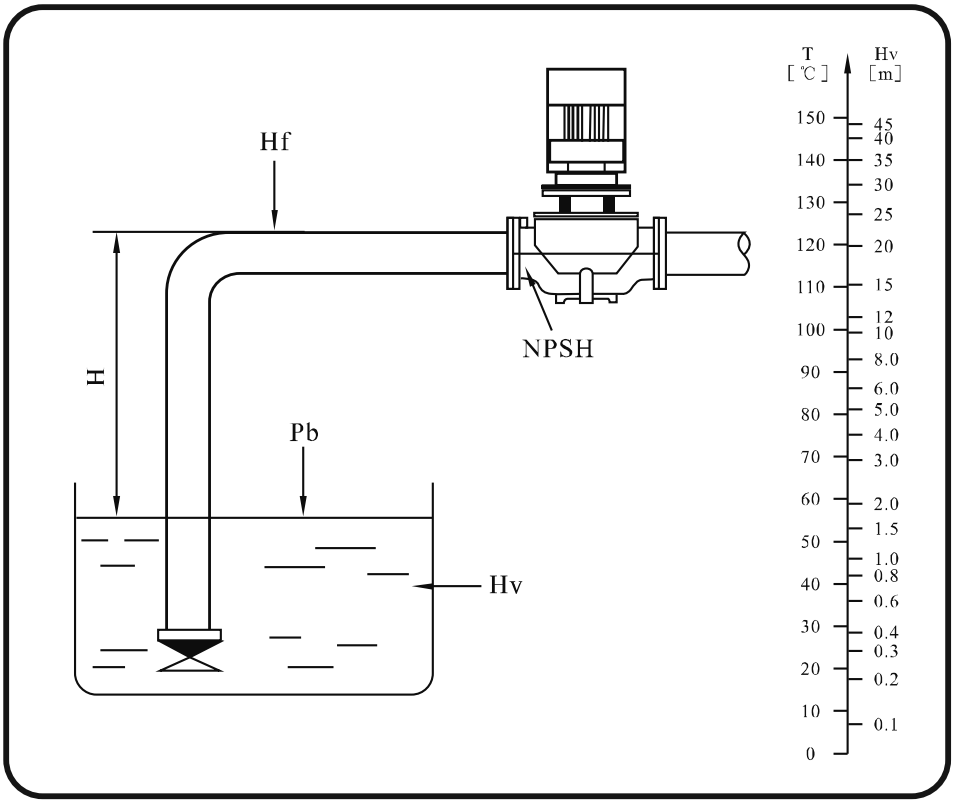
it is in accordance with pipeline possible max. flow.
Hv - Steam pressure (m)

It depends on liquid temperature and steam pressure value.
Hs - Safety margin (m)

Minimum 0.5m delivery head.
If the calculated result H is negative, a delivery head of Min. inlet pressure is necessary.

Note: Normally, the above calculation will not be done. H is calculated in the following conditions:

1. The liquid temperature is comparatively higher.
2. Liquid flow exceeds rated value.
3. Suction stroke is comparatively large or inlet pipeline long.
4. System pressure is too low.
5. Bad inlet condition.



Installation requirements

Some detailed requirement of installation is as below, the concrete request is as follows:

1- If the system pipeline can support the pumps, pumps with 2.2kW motor power (including power is higher than 2.2kW) can be hung in line, if the system pipeline cannot support the pumps or the pump motor power is higher than 2.2kW, the pumps must be installed in brackets or base.

2- Pumps with motor power lower than 2.2kw (including 2.2kW) can be installed horizontally or vertically to pipe line. Pumps with motor power higher than 2.2kW, can only be installed vertically to the pipeline.

3- The pump installation shall not allow the system pipeline tensile force to be transferred to the pump body.

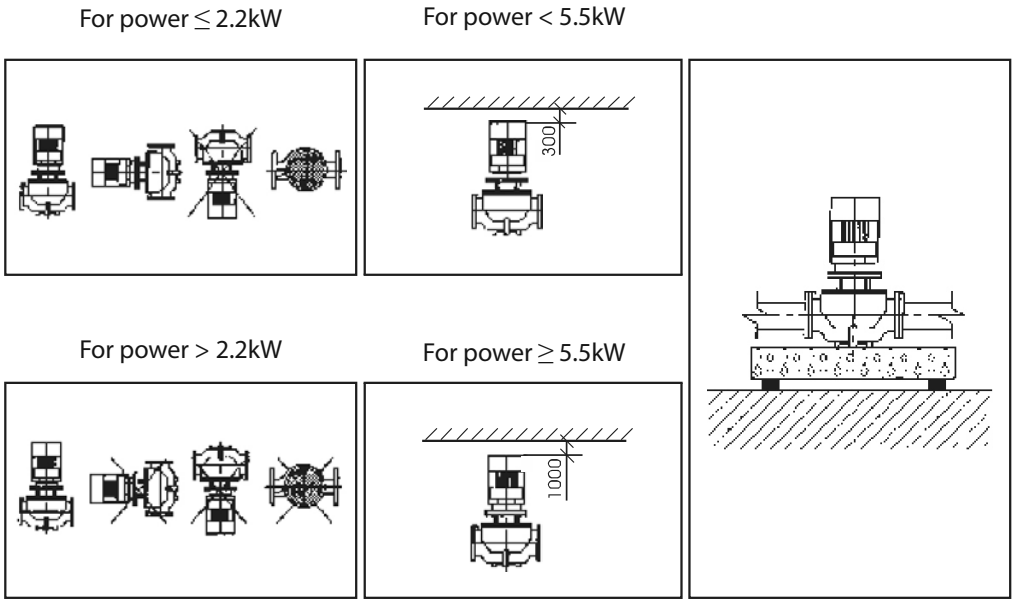
4- The pump should be installed in the environment with sufficient cooling and the cooling air shall not be above 40°C.

5- If the pumps are installed outdoors, there should be covers to protect electric components from water.

6- For the convenience of maintenance, there should be enough space above and below the pumps, minimum 300mm shall
be kept for pumps with motor lower than 5.5kW, and minimum 1000mm for pumps with motor power higher than 5.5kW (including 5.5kW) .

7- To prevent noises and vibration and ensure the best operation, anti- vibration base shall be used in installation. Generally, centrally base with the weight equal or bigger than 1.5 X pump weight shall be adopted.

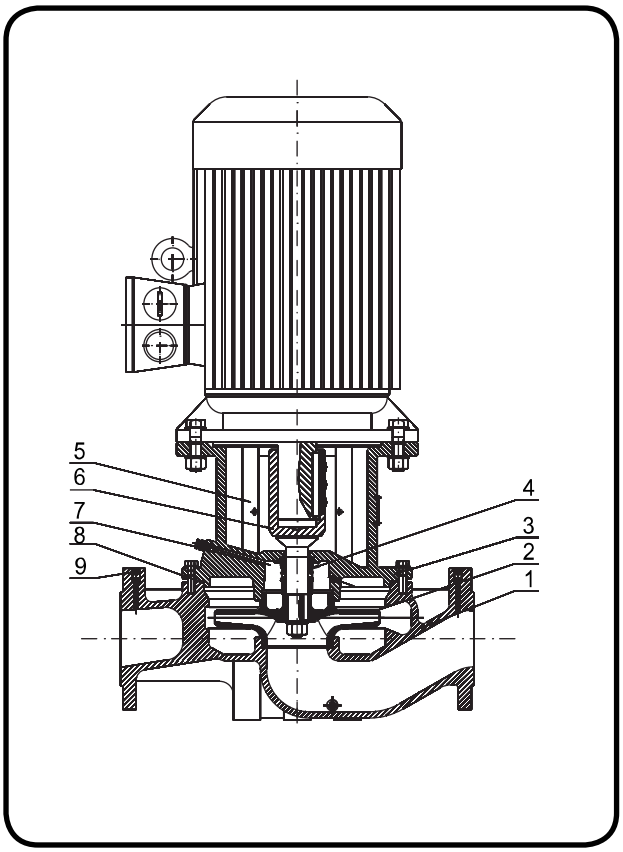
8- Pumps with bases or without bases are both available for customer's requirements.



Product structure and Component material

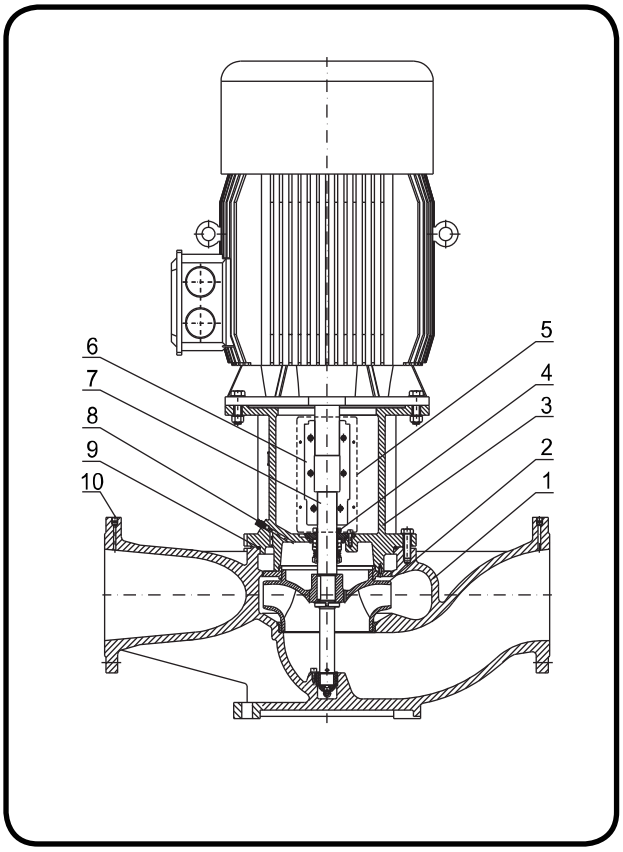
Motor and pumps can be separated, standard motors and mechanical seals are provided.
The motors are entirely close and air cooling type standard motors. Its major dimensions are in conformity with GB standard.
The pump body is equal to a section of pipeline. While in maintenance, blind flange can be used to seal the pump covers which enable the normal operation of pumps.
The flange connection dimensions are in conformity with the related provisions PN16 in GB/T17241.6 or ISO7005-2/DIN 2501.
Pump body is installed with replaceable wear ring which is able to minimize the leakage to the lowest amount.
The inlet and outlet diameters are inconformity with related standard dimensions.
The bracket is to connect motor and the pump. "O" ring or flat rubber circle is used to seal the bracket and the pump.

Section drawing PD 32-150 and material list



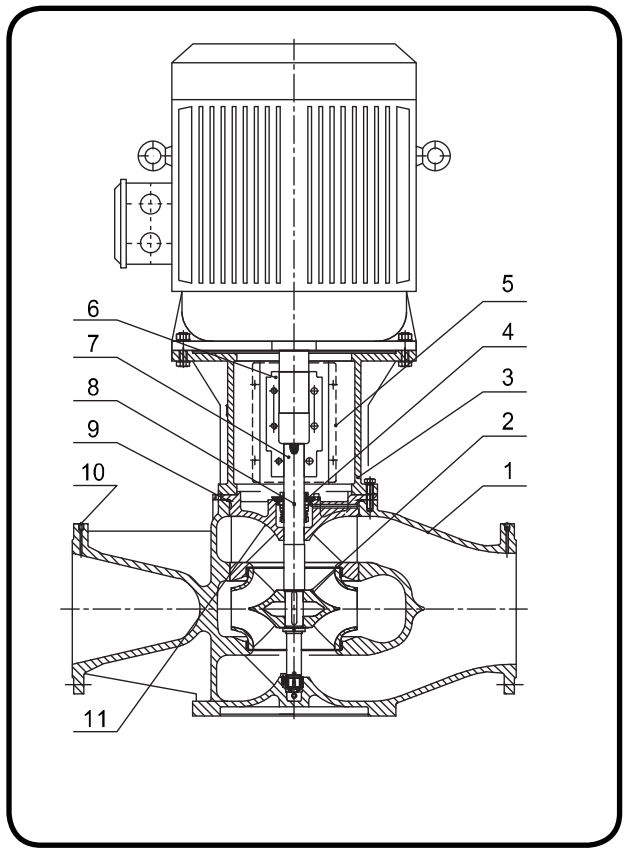
No.	Parts	Material
1	Pump body	Cast Iron
2	Impeller	Cast Iron/Steel
3	Pump head	Cast Iron
4	Mechanical seal	Carbon/ Silicon Carbide
5	Guard plate	SS304
6	Shaft	SS420
7	Air release bolt	SS304
8	Ring	NBR
9	Plug	SS304

Section drawing PD 200, 250 and material list



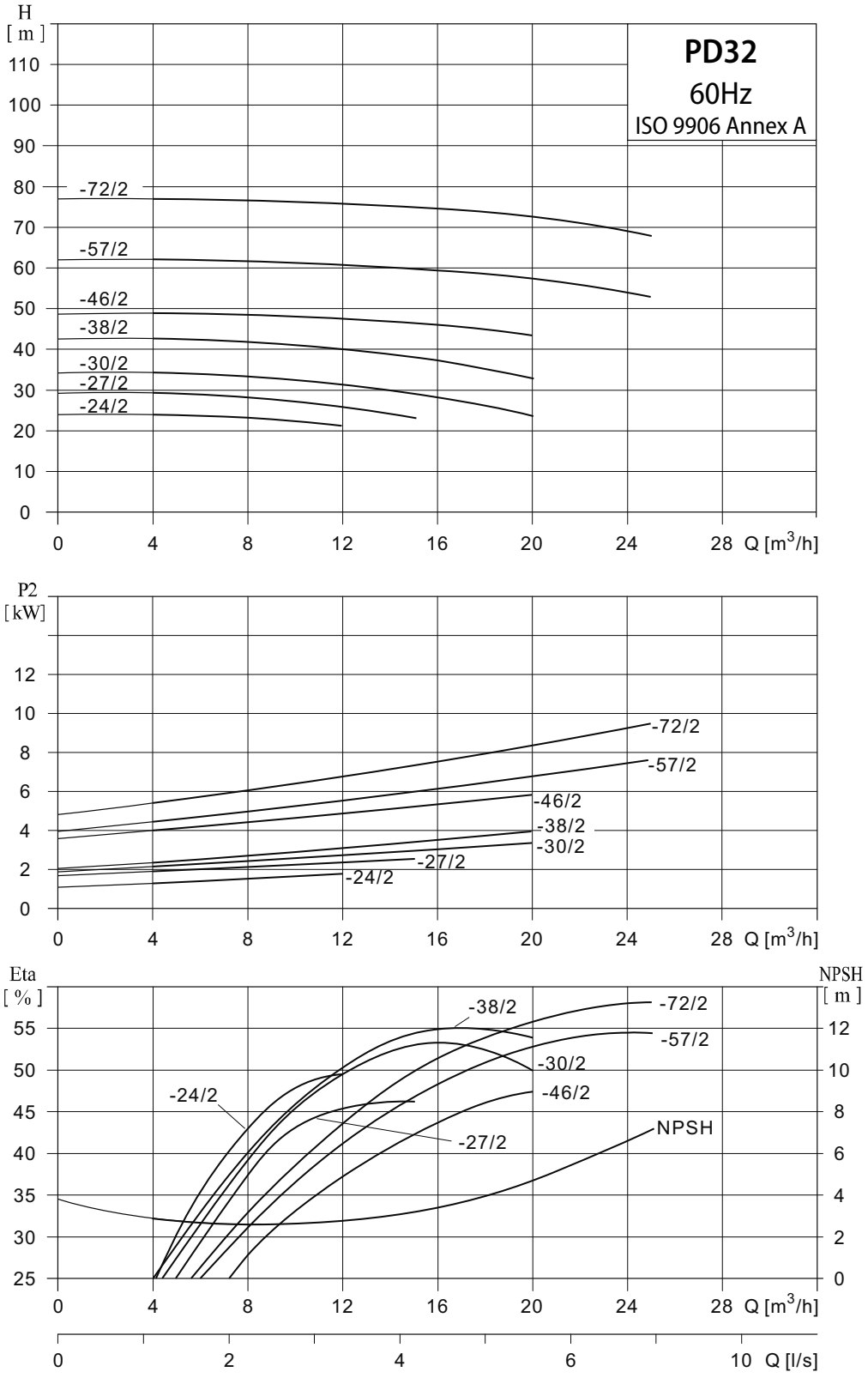
No.	Parts	Material
1	Pump body	Cast Iron
2	Impeller	Cast Iron/Steel
3	Pump head	Cast Iron
4	Mechanical seal	Carbon/ Silicon Carbide
5	Guard plate	SS304
6	Coupling	Cast Steel
7	Shaft	SS420
8	Air release bolt	SS304
9	O-Ring	NBR
10	Plug	SS304

Section drawing PD 300 and material list

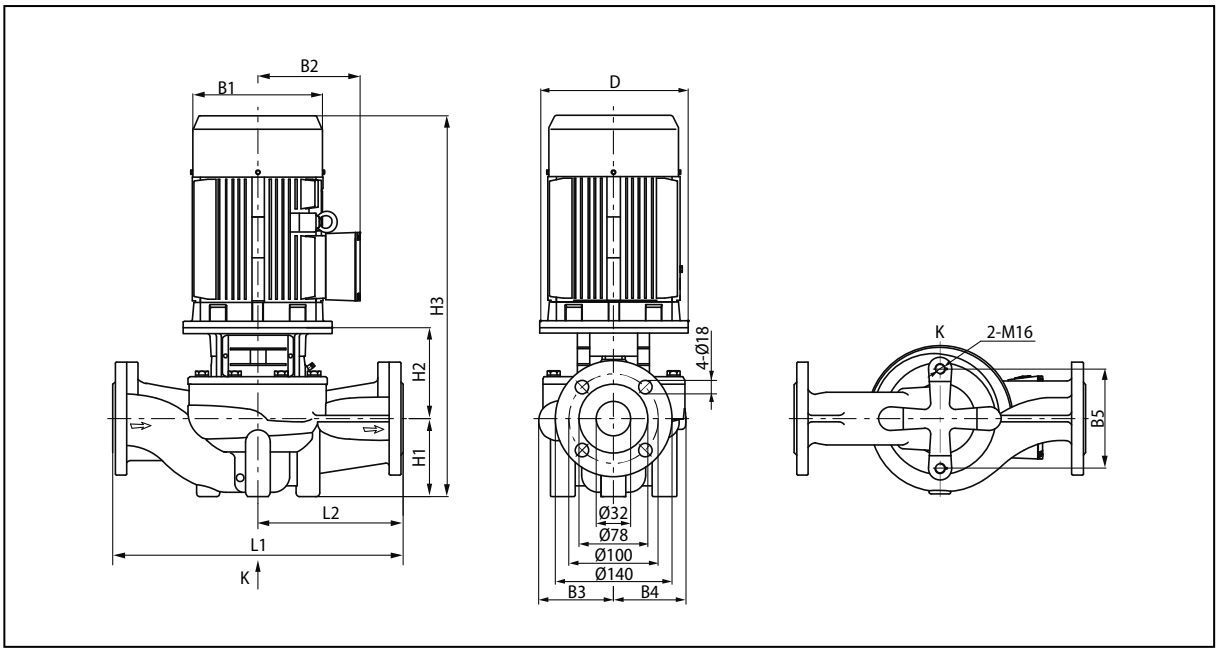


No.	Parts	Material
1	Pump body	Cast Iron
2	Impeller	Cast Iron/Steel
3	Pump head	Cast Iron
4	Mechanical seal	Carbon/ Silicon Carbide
5	Guard plate	SS304
6	Coupling	Cast Steel
7	Shaft	SS420
8	Air release valve	SS304
9	O-Ring	NBR
10	Plug	SS304
11	Pump cover	QT500-7

PD32-**/2


H
[m]
PD32
60Hz
ISO 9906 Annex A
-72/2
-57/2
-46/2
-38/2
-30/2
-27/2
-24/2
Q [m3/h]
P2
[kW]
Eta
[%]
NPSH
[m]
NPSH
Q [l/s]

PD32-**/2



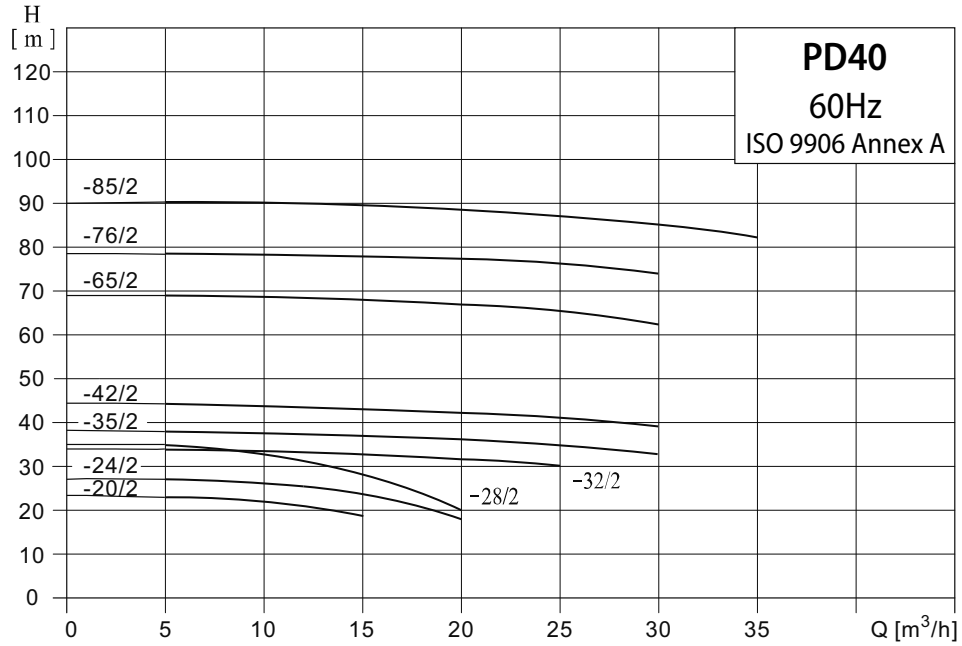
Size, weight, and volume for transportation

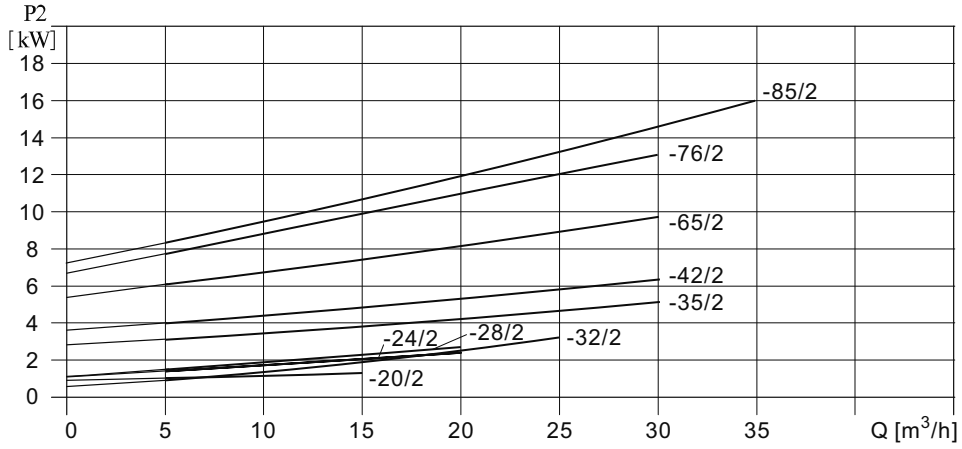
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD32-24/2	140	190	155	115	115	144	100	166	556	340	170	56
PD32-27/2	140	190	155	115	115	144	100	166	556	340	170	59
PD32-30/2	160	197	165	115	115	144	100	185	630	340	170	68
PD32-38/2	160	230	188	129	129	144	100	185	640	440	220	79
PD32-46/2	200	260	208	129	129	144	100	213	703	440	220	104
PD32-57/2	200	260	208	129	129	144	100	213	703	440	220	107
PD32-72/2	350	330	255	129	129	144	100	262	862	440	220	167

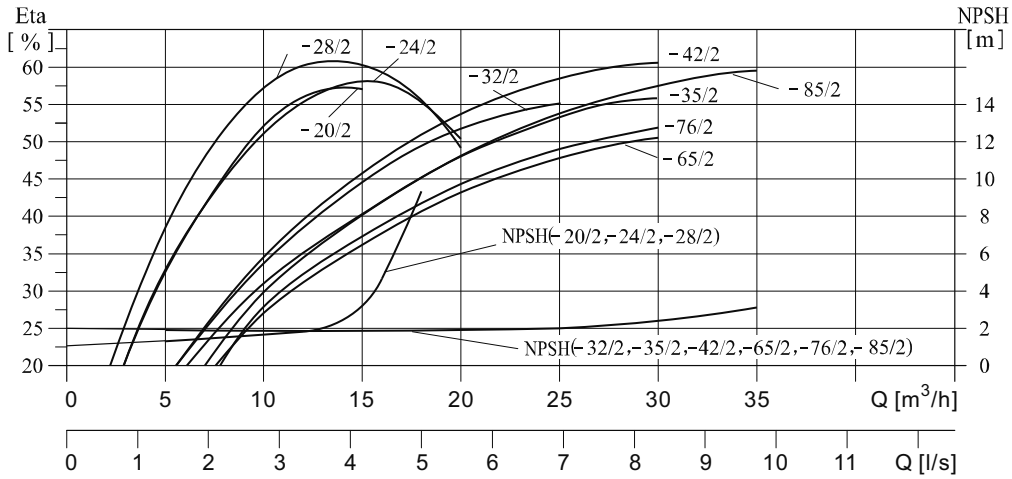
Performance Table

Model	Motor		Q [m^3/h]	4	8	12	15	20	25
	[kW]	[HP]							
PD32-24/2	1.5	2	H [m]	24.5	23	21			
PD32-27/2	2.2	3		29	28	26	23		
PD32-30/2	3	4		35	34	32	30	23	
PD32-38/2	4	5.5		43	42	40	38	33	
PD32-46/2	5.5	7.5		49	49	48	46	44	
PD32-57/2	7.5	10		62	62	61	59	57	53
PD32-72/2	11	15		77	77	76	75	72	67

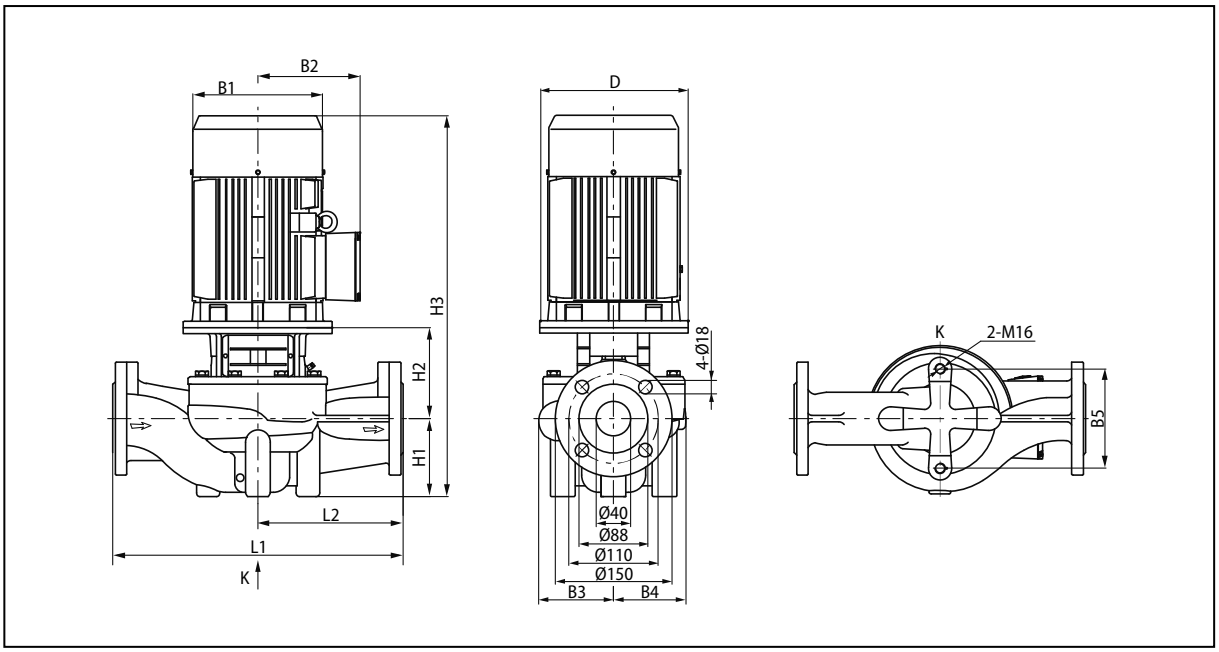
PD40-**/2


H
[m]
PD40
60Hz
ISO 9906 Annex A
-85/2
-76/2
-65/2
-42/2
-35/2
-24/2
-20/2
-28/2
-32/2
Q [m3/h]


P2
[kW]
-85/2
-76/2
-65/2
-42/2
-35/2
-24/2
-28/2
-32/2
-20/2
Q [m3/h]


Eta
[%]
NPSH
[m]
-28/2
-24/2
-32/2
-42/2
-35/2
-85/2
-20/2
-76/2
-65/2
NPSH(-20/2,-24/2,-28/2)
NPSH(-32/2,-35/2,-42/2,-65/2,-76/2,-85/2)
Q [m3/h]
Q [l/s]

PD40-**/2



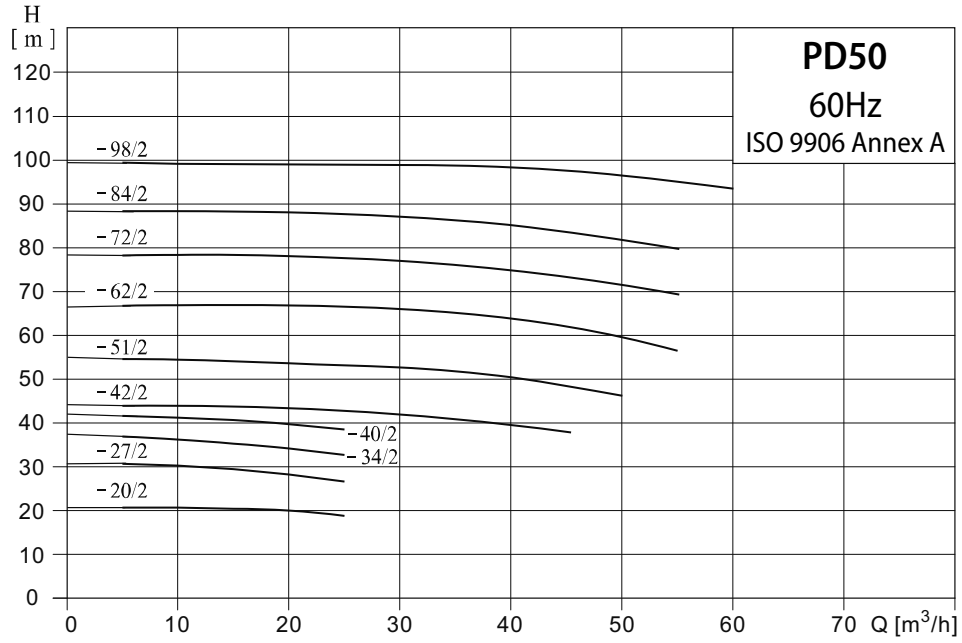
Size, weight, and volume for transportation

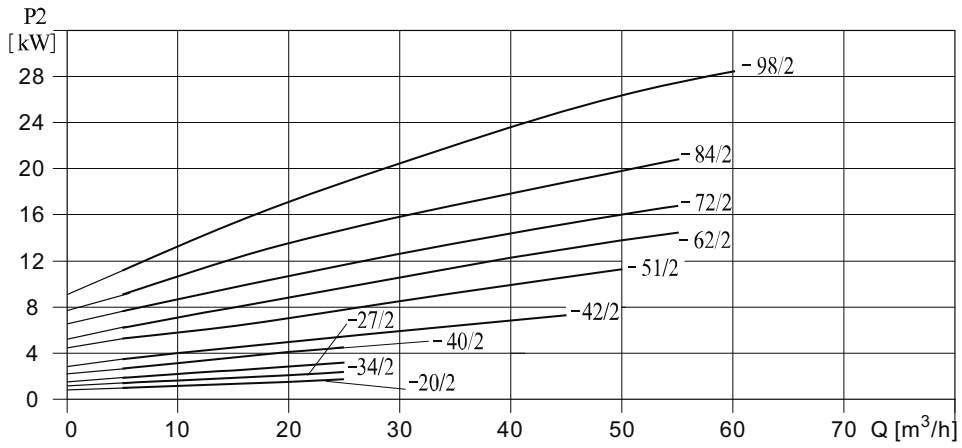
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD40-20/2	140	190	155	97	95	120	68	160	518	320	160	46
PD40-24/2	140	190	155	97	95	120	68	160	518	320	160	53
PD40-28/2	160	197	165	97	95	120	68	178	591	320	160	70
PD40-32/2	160	230	188	138	128	144	110	185	650	440	220	77
PD40-35/2	200	260	208	138	128	144	110	213	713	440	220	106
PD40-42/2	200	260	208	138	128	144	110	213	713	440	220	110
PD40-65/2	350	330	255	138	128	144	110	262	872	440	220	167
PD40-76/2	350	330	255	140	138	144	110	262	872	440	220	178
PD40-85/2	350	330	255	140	138	144	110	262	922	440	220	196

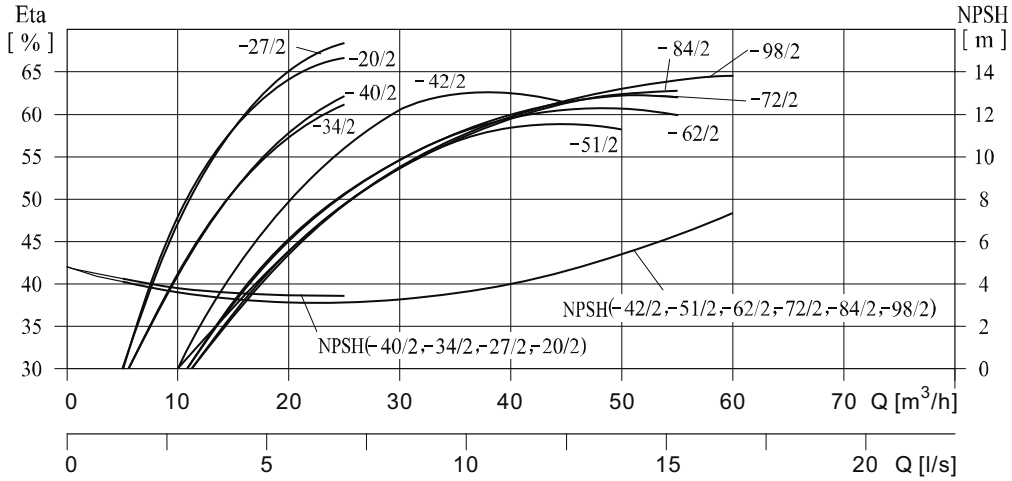
Performance Table

Model	Motor		Q [m^3/h]	5	10	15	20	25	30
	[kW]	[HP]							
PD40-20/2	1.5	2		23	22	18			
PD40-24/2	2.2	3		27	26	24	18		
PD40-28/2	3	4		35	33	28	20		
PD40-32/2	4	5.5	H	34	34	33	32	30	
PD40-35/2	5.5	7.5	[m]	38	38	37	36	35	33
PD40-42/2	7.5	10		45	45	44	43	42	40
PD40-65/2	11	15		69	69	68	67	65	63
PD40-76/2	15	20		79	79	78	77	76	73
PD40-85/2	18.5	25		91	91	90	89	87	85

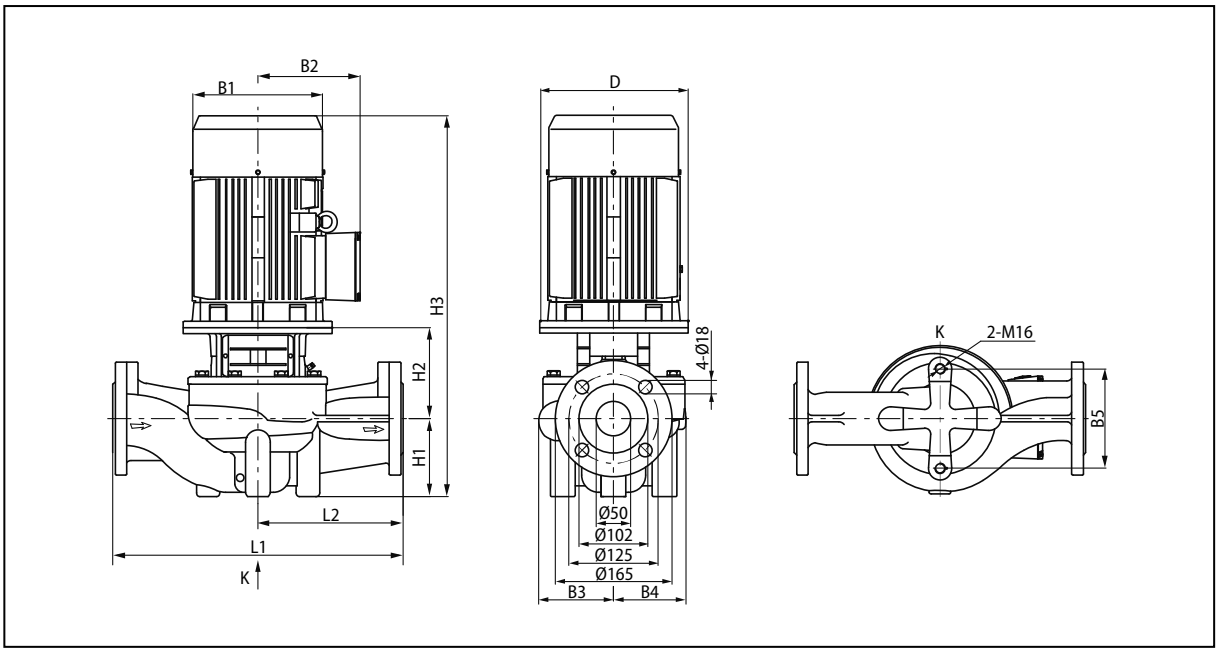
PD50-**/2


H
[m]
PD50
60Hz
ISO 9906 Annex A
-98/2
-84/2
-72/2
-62/2
-51/2
-42/2
-40/2
-34/2
-27/2
-20/2
Q [m3/h]


P2
[kW]
-98/2
-84/2
-72/2
-62/2
-51/2
-42/2
-27/2
-40/2
-34/2
-20/2
Q [m3/h]


Eta
[%]
NPSH
[m]
-27/2
-20/2
-40/2
-42/2
-34/2
-84/2
-98/2
-72/2
-62/2
-51/2
NPSH(-42/2,-51/2,-62/2,-72/2,-84/2,-98/2)
NPSH(-40/2,-34/2,-27/2,-20/2)
Q [m3/h]
Q [l/s]

PD50-**/2



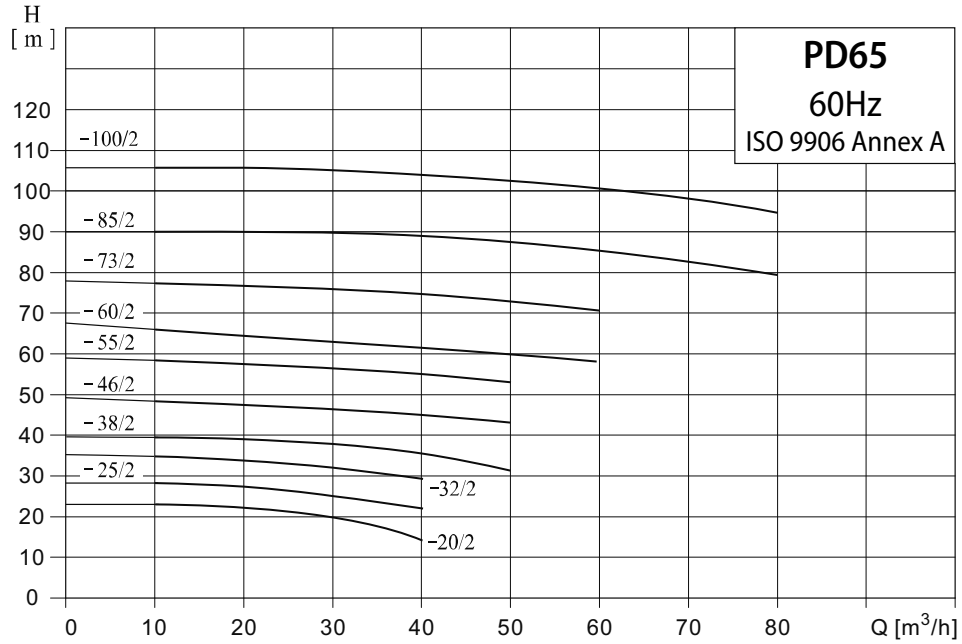
Size, weight, and volume for transportation

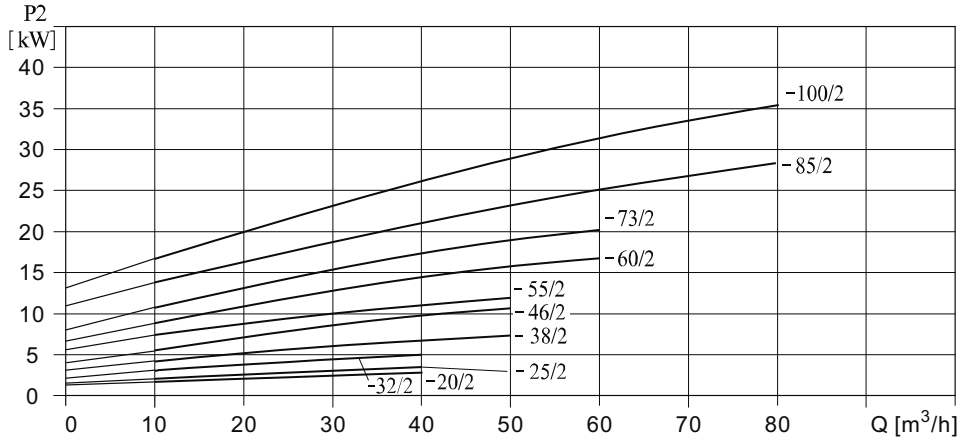
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD50-20/2	140	190	155	117	115	144	115	153	558	340	170	65
PD50-27/2	160	197	165	117	115	144	115	172	632	340	170	74
PD50-34/2	160	230	188	129	115	144	115	172	642	340	170	79
PD50-40/2	200	260	208	129	115	144	115	197	702	340	170	103
PD50-42/2	200	260	208	171	158	144	115	197	702	440	220	118
PD50-51/2	350	330	255	171	158	144	115	250	865	440	220	181
PD50-62/2	350	330	255	171	158	144	115	250	865	440	220	191
PD50-72/2	350	330	255	171	158	144	115	250	915	440	220	209
PD50-84/2	350	360	285	171	158	144	115	250	940	440	220	245
PD50-98/2	400	400	310	171	158	144	115	250	1015	440	220	296

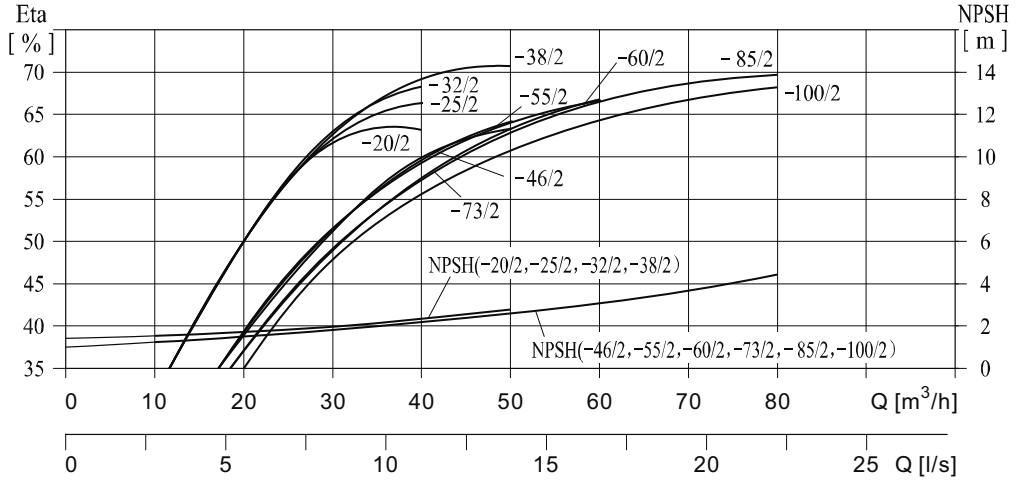
Performance Table

Model	Motor		Q [m^3/h]	5	10	15	20	25	30	40	50
	[kW]	[HP]									
PD50-20/2	2.2	3		21	20.5	20.3	20	18.5			
PD50-27/2	3	4		31	30	28.8	27	26			
PD50-34/2	4	5.5		37	36.2	35.3	34	32.7			
PD50-40/2	5.5	7.5		41.5	41.2	41	40	39			
PD50-42/2	7.5	10	H [m]	45.5	44		43		42	40	
PD50-51/2	11	15		54	53.5		52.5		52	50	47
PD50-62/2	15	20		66.5	66.6		66		65	63	59
PD50-72/2	18.5	25		77	77		77.2		76	73	71
PD50-84/2	22	30		88	88		88		87	85	83
PD50-98/2	30	40		99.1	99.4		99.6		99	98.5	98

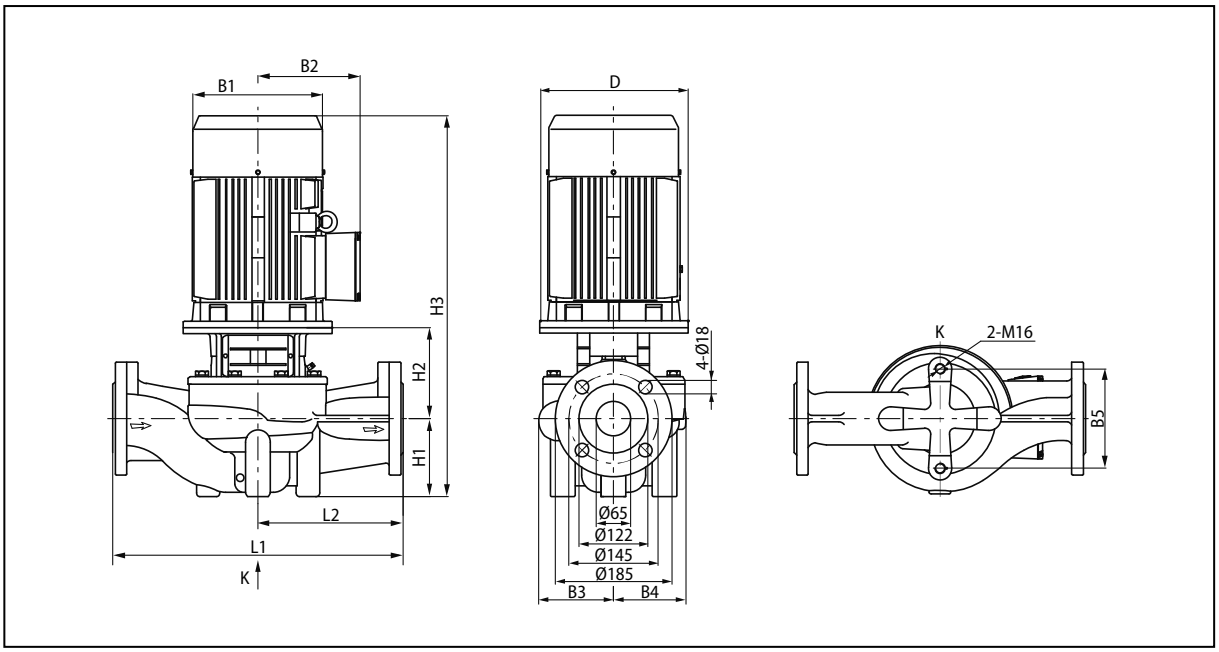
PD65-**/2


H
[m]
PD65
60Hz
ISO 9906 Annex A
-100/2
-85/2
-73/2
-60/2
-55/2
-46/2
-38/2
-25/2
-32/2
-20/2
Q [m3/h]


P2
[kW]
-100/2
-85/2
-73/2
-60/2
-55/2
-46/2
-38/2
-25/2
-32/2
-20/2
Q [m3/h]


Eta
[%]
NPSH
[m]
-38/2
-60/2
-85/2
-32/2
-25/2
-55/2
-100/2
-20/2
-46/2
-73/2
NPSH(-20/2,-25/2,-32/2,-38/2)
NPSH(-46/2,-55/2,-60/2,-73/2,-85/2,-100/2)
Q [m3/h]
Q [l/s]

PD65-**/2



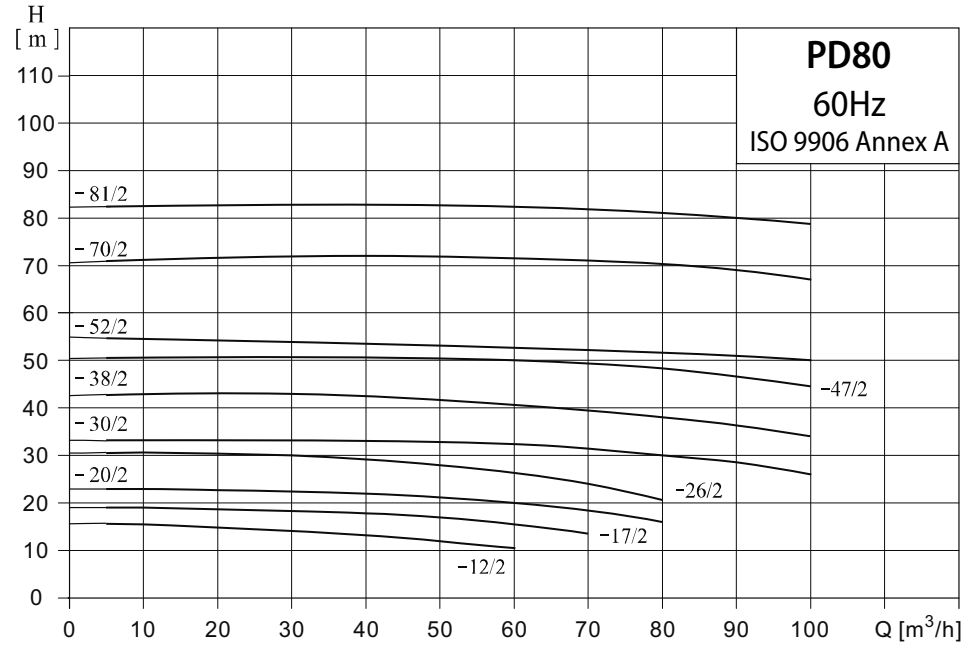
Size, weight, and volume for transportation

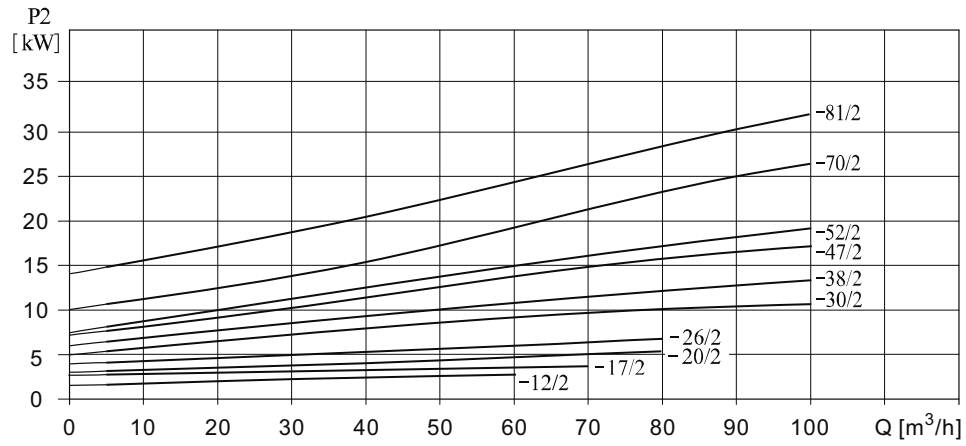
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD65-20/2	160	197	165	142	124	144	105	191	641	360	180	74
PD65-25/2	160	230	188	142	124	144	105	191	651	360	180	81
PD65-32/2	200	260	208	142	124	144	105	213	708	360	180	105
PD65-38/2	200	260	208	142	124	144	105	213	708	360	180	108
PD65-46/2	350	330	255	179	167	144	125	262	887	475	238	183
PD65-55/2	350	330	255	179	167	144	125	262	887	475	238	193
PD65-60/2	350	330	255	179	167	144	125	262	937	475	238	210
PD65-73/2	350	330	255	179	167	144	125	262	962	475	238	248
PD65-85/2	400	400	310	179	167	144	125	262	1037	475	238	309
PD65-100/2	400	400	310	179	167	144	125	262	1037	475	238	328

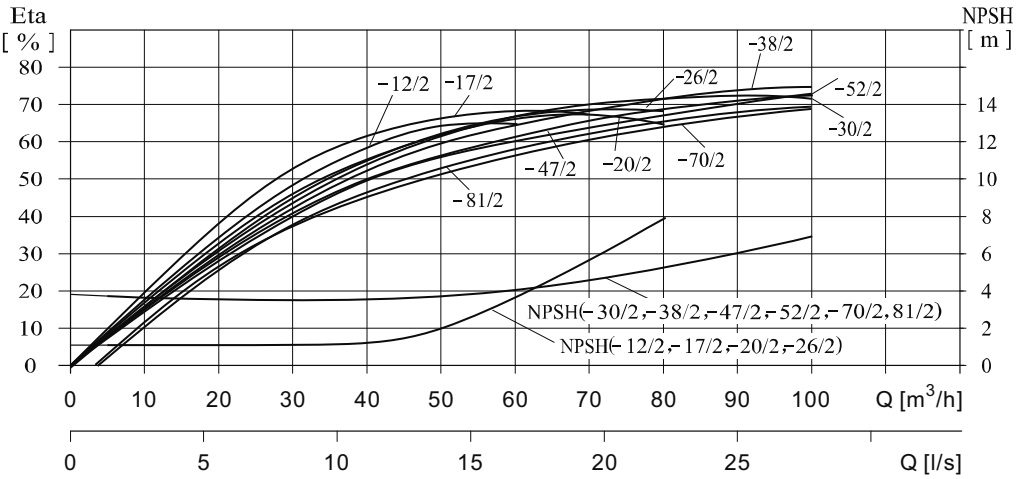
Performance Table

Model	Motor		Q [m^3/h]	10	20	30	40	50	60	70	80
	[kW]	[HP]									
PD65-20/2	3	4	H [m]	22.2	22	20	14.3				
PD65-25/2	4	5.5		28	27	25	21				
PD65-32/2	5.5	7.5		35	33.5	32	29.5				
PD65-38/2	7.5	10		39.5	38.7	38.5	36	31.5			
PD65-46/2	11	15		48	47	46.5	45	44			
PD65-55/2	15	20		57.3	56.5	56.2	54	52			
PD65-60/2	18.5	25		64	63.8	62	60.5	60	56		
PD65-73/2	22	30		78	77	76.5	75.5	73	71		
PD65-85/2	30	40		87.8	88	90	89.5	88.5	85	83	79
PD65-100/2	37	50		107.6	106	105	103	102	100	99.5	94

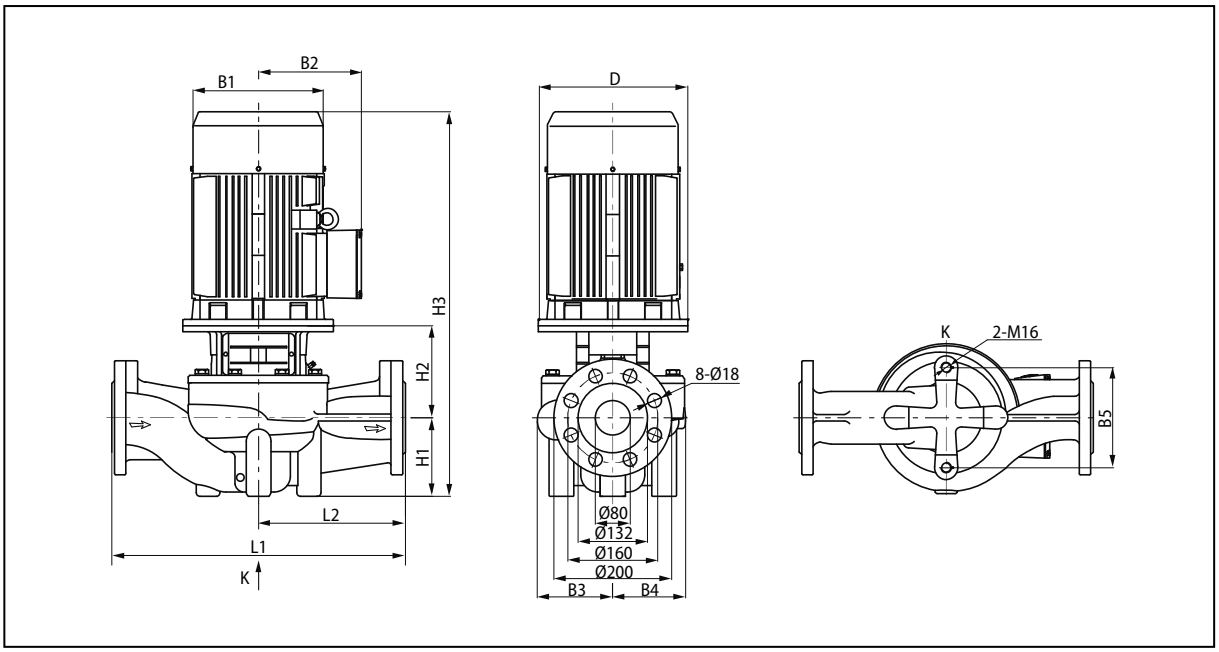
PD80-**/2


H
[m]
PD80
60Hz
ISO 9906 Annex A
-81/2
-70/2
-52/2
-38/2
-30/2
-20/2
-47/2
-26/2
-17/2
-12/2
Q [m3/h]


P2
[kW]
-81/2
-70/2
-52/2
-47/2
-38/2
-30/2
-26/2
-20/2
-17/2
-12/2
Q [m3/h]


Eta
[%]
NPSH
[m]
-38/2
-12/2
-17/2
-26/2
-52/2
-30/2
-47/2
-20/2
-70/2
-81/2
NPSH(-30/2,-38/2,-47/2,-52/2,-70/2,81/2)
NPSH(-12/2,-17/2,-20/2,-26/2)
Q [m3/h]
Q [l/s]

PD80-**/2



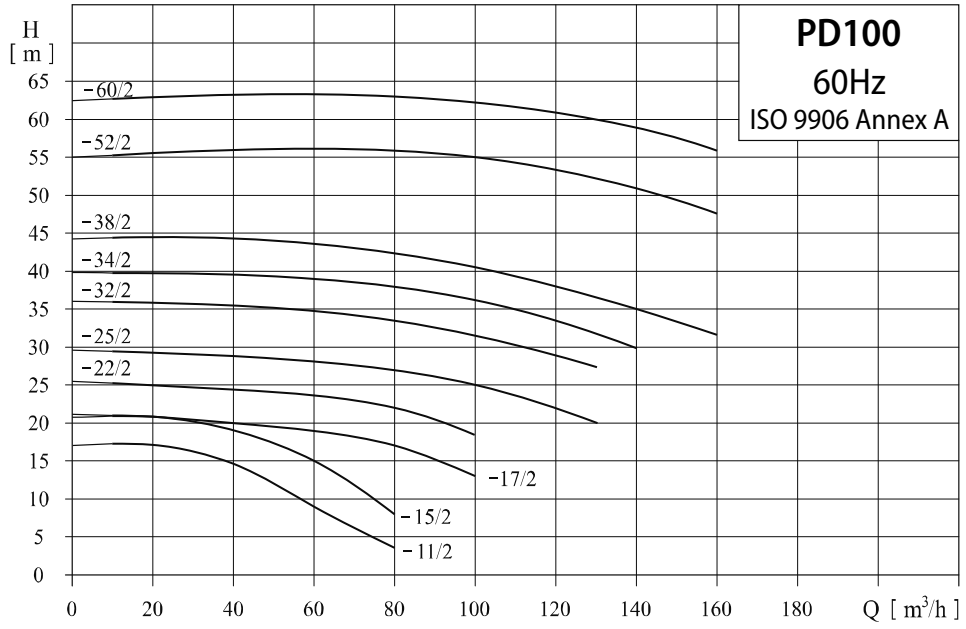
Size, weight, and volume for transportation

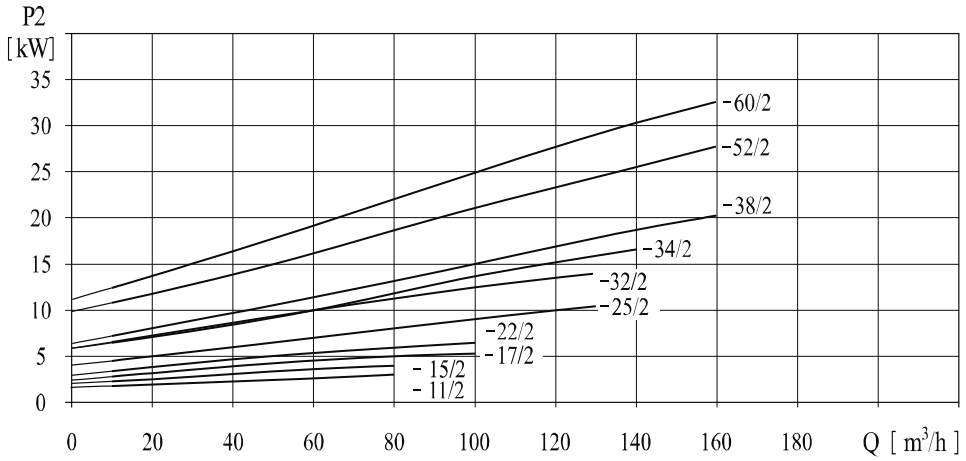
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD80-12/2	160	197	165	142	124	160	97	219	661	450	225	84
PD80-17/2	160	230	188	142	124	160	97	219	671	450	225	91
PD80-20/2	160	260	210	142	124	160	97	241	728	450	225	114
PD80-26/2	160	260	210	142	124	160	97	241	728	450	225	117
PD80-30/2	350	330	255	182	163	144	115	279	894	500	250	194
PD80-38/2	350	330	255	182	163	144	115	279	894	500	250	204
PD80-47/2	350	330	255	182	163	144	115	279	944	500	250	222
PD80-52/2	350	330	255	182	163	144	115	279	969	500	250	258
PD80-70/2	400	400	310	182	163	144	115	279	1044	500	250	319
PD80-81/2	400	400	310	182	163	144	115	279	1044	500	250	338

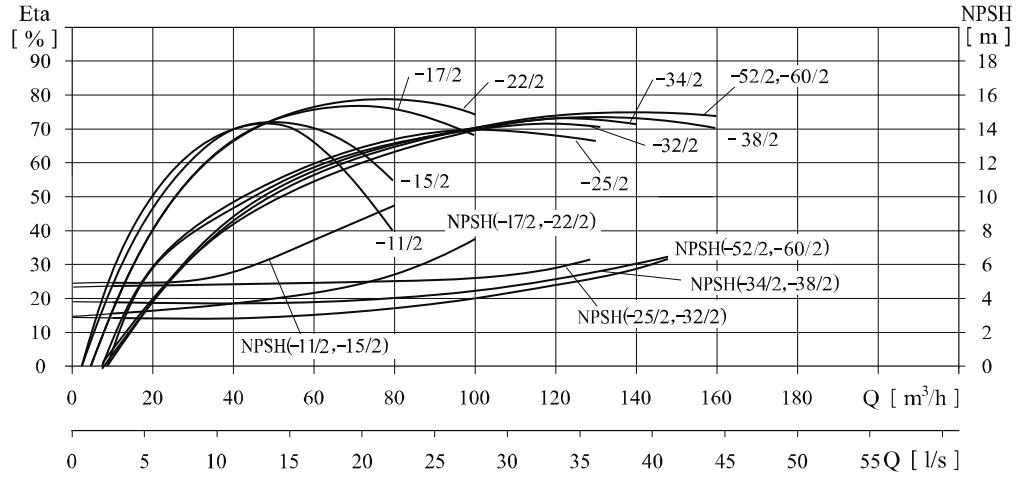
Performance Table

Model	Motor		Q [m³/h]	10	20	30	40	50	70	80	90
	[kW]	[HP]									
PD80-12/2	3	4	H [m]	15.6	15	14.5	13.5	12			
PD80-17/2	4	5.5		19	18.6	18.1	17.5	17	13.5		
PD80-20/2	5.5	7.5		23	23.6	22.8	22	21.2	19	16	
PD80-26/2	7.5	10		30.6	30.4	30	29	28	25	21	
PD80-30/2	11	15		36.8	36.7	35.8	35.3	34.2	32.4	30	27.8
PD80-38/2	15	20		43	43.1	43	42.6	42	39.5	38	36.2
PD80-47/2	18.5	25		51.5	50.9	50.5	50.3	50.2	49.4	47	46.5
PD80-52/2	22	30		55.5	55.2	55	54.8	54.5	53.4	52	50.5
PD80-70/2	30	40			71.4		72	71.9	71	70	69.3
PD80-81/2	37	50			82.8		82.9		82.4	81	80

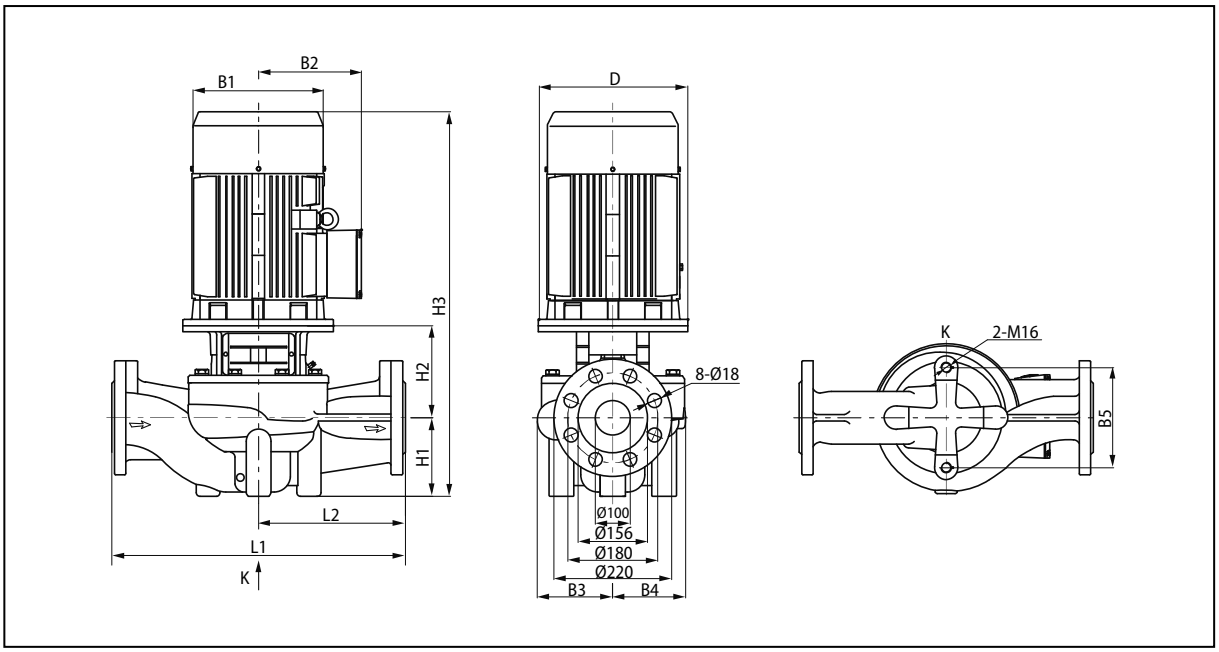
PD100-**/2


H
[m]
PD100
60Hz
ISO 9906 Annex A
-60/2
-52/2
-38/2
-34/2
-32/2
-25/2
-22/2
-17/2
-15/2
-11/2
Q [m3/h]


P2
[kW]
-60/2
-52/2
-38/2
-34/2
-32/2
-25/2
-22/2
-17/2
-15/2
-11/2
Q [m3/h]


Eta
[%]
NPSH
[m]
-17/2
-22/2
-34/2
-52/2,-60/2
-32/2
-38/2
-15/2
-25/2
-11/2
NPSH(-17/2,-22/2)
NPSH(-52/2,-60/2)
NPSH(-34/2,-38/2)
NPSH(-25/2,-32/2)
NPSH(-11/2,-15/2)
Q [m3/h]
Q [l/s]

PD100-**/2



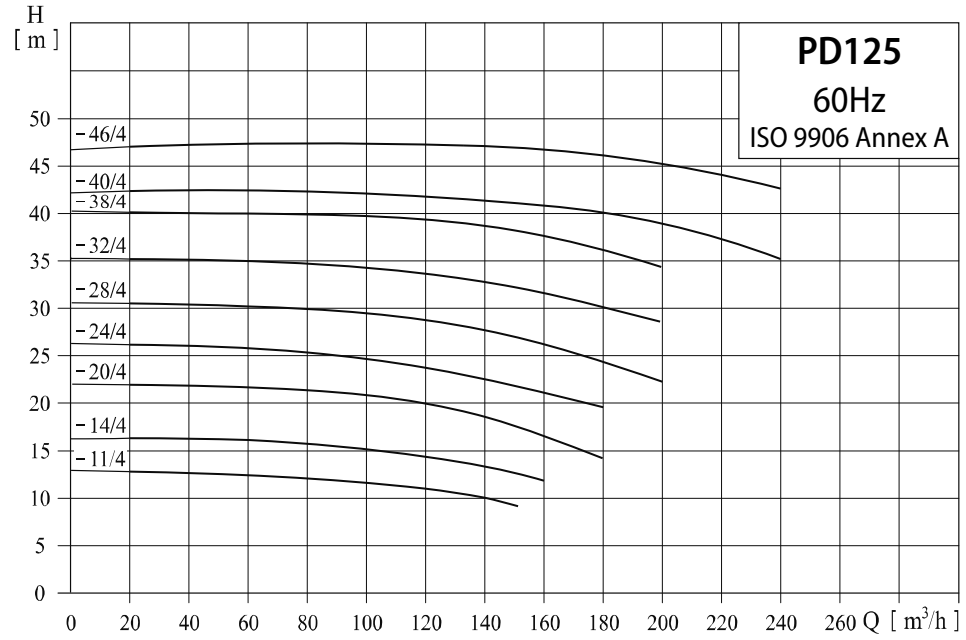
Size, weight, and volume for transportation

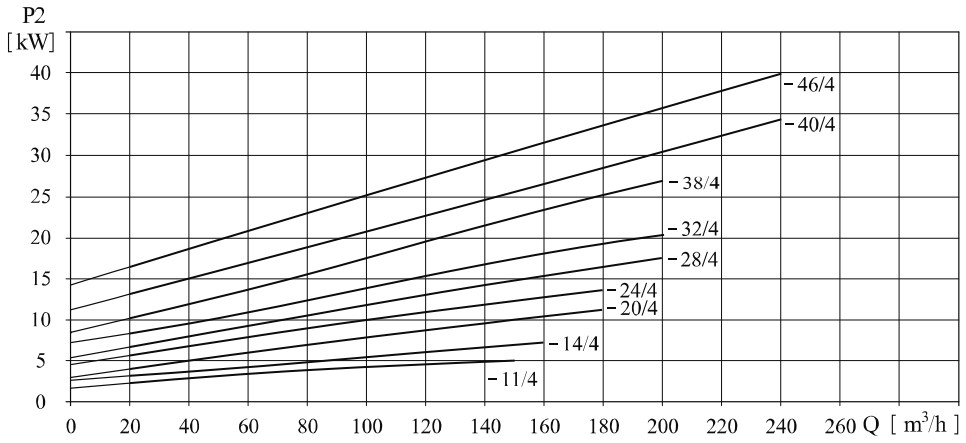
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD100-11/2	160	215	190	134	101	160	105	190	640	450	225	65
PD100-15/2	160	215	190	134	101	160	105	190	650	450	225	83
PD100-17/2	200	260	205	150	117	144	140	215	745	500	250	119
PD100-22/2	200	260	205	150	117	144	140	215	745	500	250	122
PD100-25/2	350	350	245	181	152	230	140	270	910	550	275	197
PD100-32/2	350	350	265	181	152	230	140	270	910	550	275	207
PD100-34/2	350	350	265	181	152	230	140	270	960	550	275	224
PD100-38/2	350	350	280	181	152	230	140	270	985	550	275	260
PD100-52/2	400	400	305	181	152	230	140	270	1060	550	275	318
PD100-60/2	400	400	305	181	152	230	140	270	1060	550	275	337

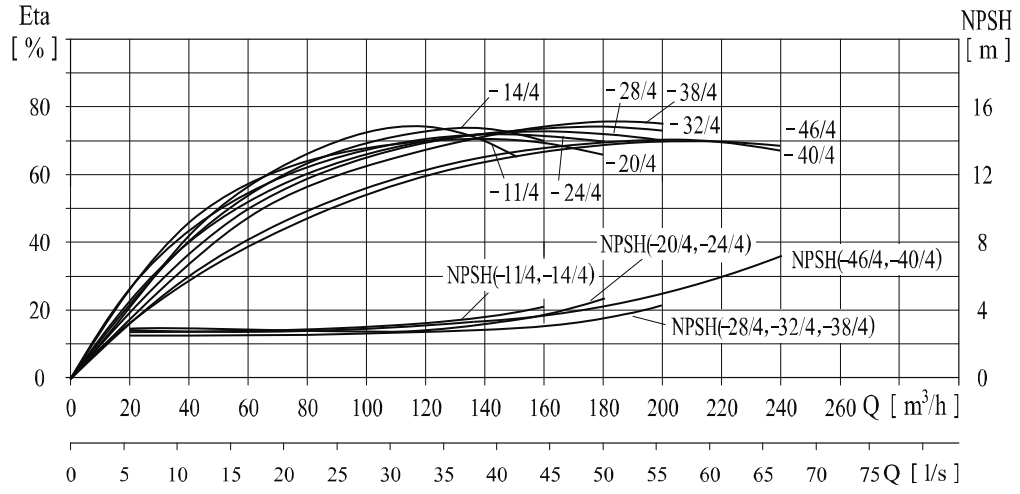
Performance Table

Model	Motor		Q [m^3/h]	20	40	60	80	100	120	130	140
	[kW]	[HP]									
PD100-11/2	3	4	H [m]	17.1	14.6	9	6.3				
PD100-15/2	4	5.5		20.8	17.9	15	8				
PD100-17/2	5.5	7.5		20.8	20	19.2	17	13			
PD100-22/2	7.5	10		25.4	24.4	23.5	22	18.4			
PD100-25/2	11	15		29.5	28.8	27.8	26.6	25	19.8	19.4	
PD100-32/2	15	20		36.6	35.6	34.6	33.5	32	28.9	25.5	
PD100-34/2	18.5	25		39.4	39.5	39	37.8	36.2	34	33.4	31
PD100-38/2	22	30		44.5	44.2	43.8	42.5	40.5	38	36.4	35
PD100-52/2	30	40		55.8	55.9	55.9	55.5	55	53.6	52	50.9
PD100-60/2	37	50		62.9	63.3	63.2	63	62	60.3	60	57.6

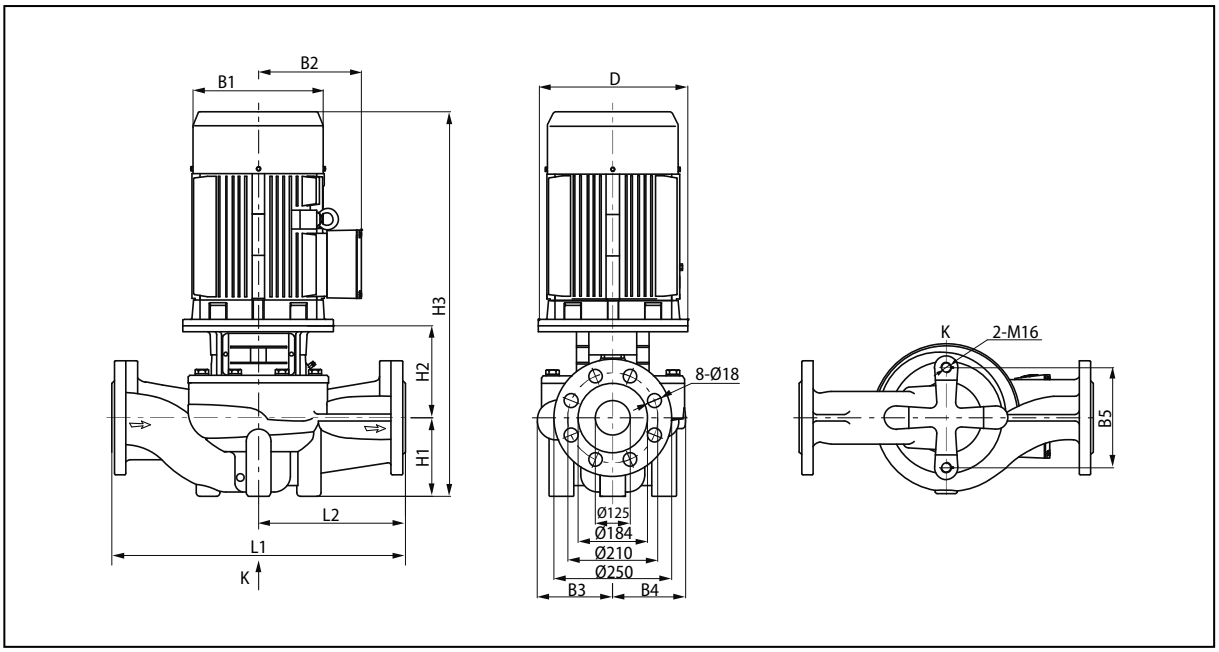
PD125-**/4


H
[m]
PD125
60Hz
ISO 9906 Annex A
-46/4
-40/4
-38/4
-32/4
-28/4
-24/4
-20/4
-14/4
-11/4
0 5 10 15 20 25 30 35 40 45 50
0 20 40 60 80 100 120 140 160 180 200 220 240 260 Q [m3/h]


P2
[kW]
-46/4
-40/4
-38/4
-32/4
-28/4
-24/4
-20/4
-14/4
-11/4
0 5 10 15 20 25 30 35 40
0 20 40 60 80 100 120 140 160 180 200 220 240 260 Q [m3/h]


Eta
[%]
NPSH
[m]
-14/4
-28/4
-38/4
-32/4
-46/4
-40/4
-20/4
-11/4
-24/4
NPSH(-20/4,-24/4)
NPSH(-46/4,-40/4)
NPSH(-11/4,-14/4)
NPSH(-28/4,-32/4,-38/4)
0 20 40 60 80
0 4 8 12 16
0 20 40 60 80 100 120 140 160 180 200 220 240 260 Q [m3/h]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 Q [l/s]

PD125-**/4



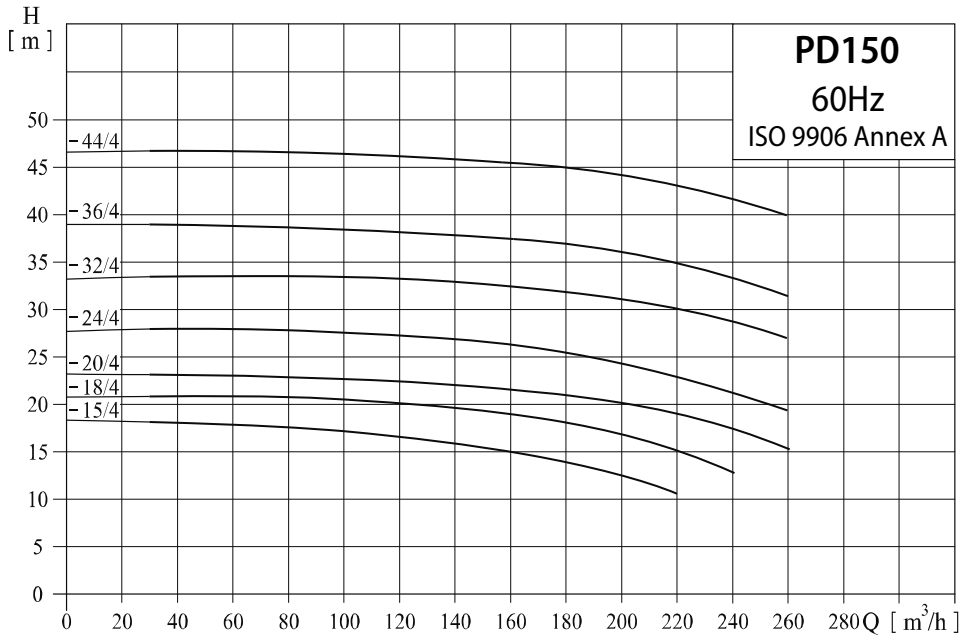
Size, weight, and volume for transportation

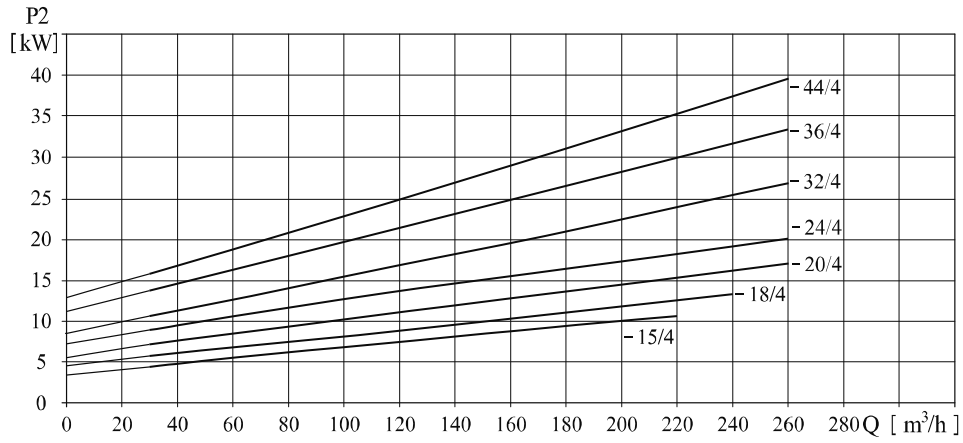
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD125-11/4	200	260	208	216	176	230	215	228	832	620	310	166
PD125-14/4	200	260	208	216	176	230	215	228	832	620	310	169
PD125-20/4	350	330	225	236	208	230	215	298	1011	800	400	292
PD125-24/4	350	330	225	236	208	230	215	298	1053	800	400	302
PD125-28/4	350	330	225	236	208	230	215	298	1090	800	400	321
PD125-32/4	350	330	225	236	208	230	215	298	1128	800	400	356
PD125-38/4	400	400	310	236	208	230	215	298	1162	800	400	416
PD125-40/4	450	450	325	272	248	230	215	314	1203	800	400	499
PD125-46/4	450	450	325	272	248	230	215	314	1226	800	400	536

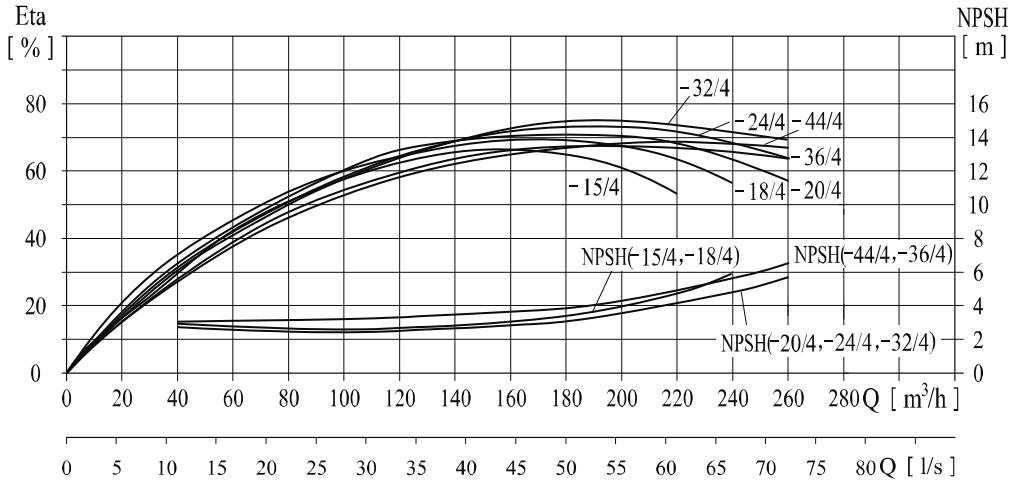
Performance Table

Model	Motor		Q [m^3/h]	20	40	60	80	100	120	140	160	200	220
	[kW]	[HP]											
PD125-11/4	5.5	7.5		12.9	12.7	12.6	12.2	11.6	11	10			
PD125-14/4	7.5	10		16.2	16.1	16	15.9	15.3	14	13.8	12.5		
PD125-20/4	11	15		21.8	21.4	21.2	21	20.6	20	18	16.4		
PD125-24/4	15	20	H	26.2	25.9	25.7	25.5	24.8	24	22.9	21.2		
PD125-28/4	18.5	25	[m]	30.4	30.2	30.1	29.9	29.4	28.6	28	26.6	22.5	
PD125-32/4	22	30		35.2	34.9	34.8	34.5	34.2	33.5	32.7	31.3	27.8	
PD125-38/4	30	40		40.2	40.1	40	39.9	39.8	39.5	38.6	37.8	33.8	
PD125-40/4	37	50		42.6	42.8	42.9	42.7	42.4	41.9	41.3	40.7	38.9	37.4
PD125-46/4	45	60		47.2	47.4	47.6	47.7	47.6	47.5	47.2	46.7	45.1	44.1

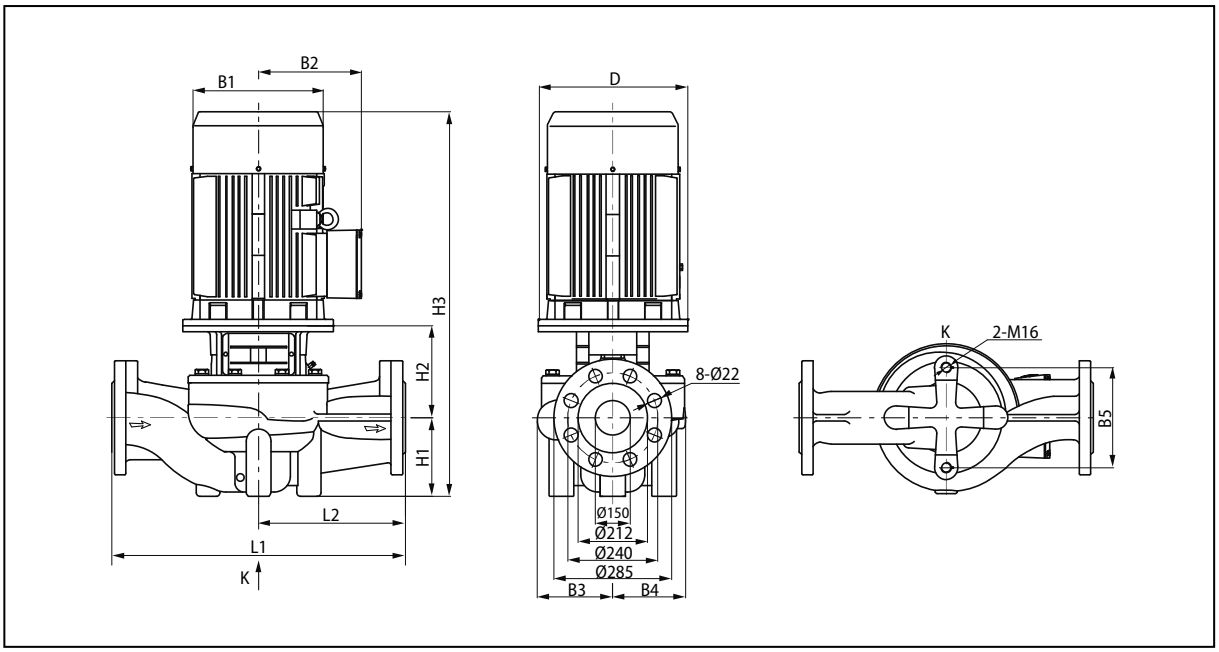
PD150-**/4


H
[m]
PD150
60Hz
ISO 9906 Annex A
44/4
36/4
32/4
24/4
20/4
18/4
15/4
0 5 10 15 20 25 30 35 40 45 50
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 Q [m3/h]


P2
[kW]
44/4
36/4
32/4
24/4
20/4
18/4
15/4
0 5 10 15 20 25 30 35 40
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 Q [m3/h]


Eta
[%]
NPSH
[m]
32/4
24/4
44/4
36/4
15/4
18/4
20/4
NPSH(-15/4,-18/4)
NPSH(-44/4,-36/4)
NPSH(-20/4,-24/4,-32/4)
0 20 40 60 80
0 2 4 6 8 10 12 14 16
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 Q [m3/h]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 Q [l/s]

PD150-**/4



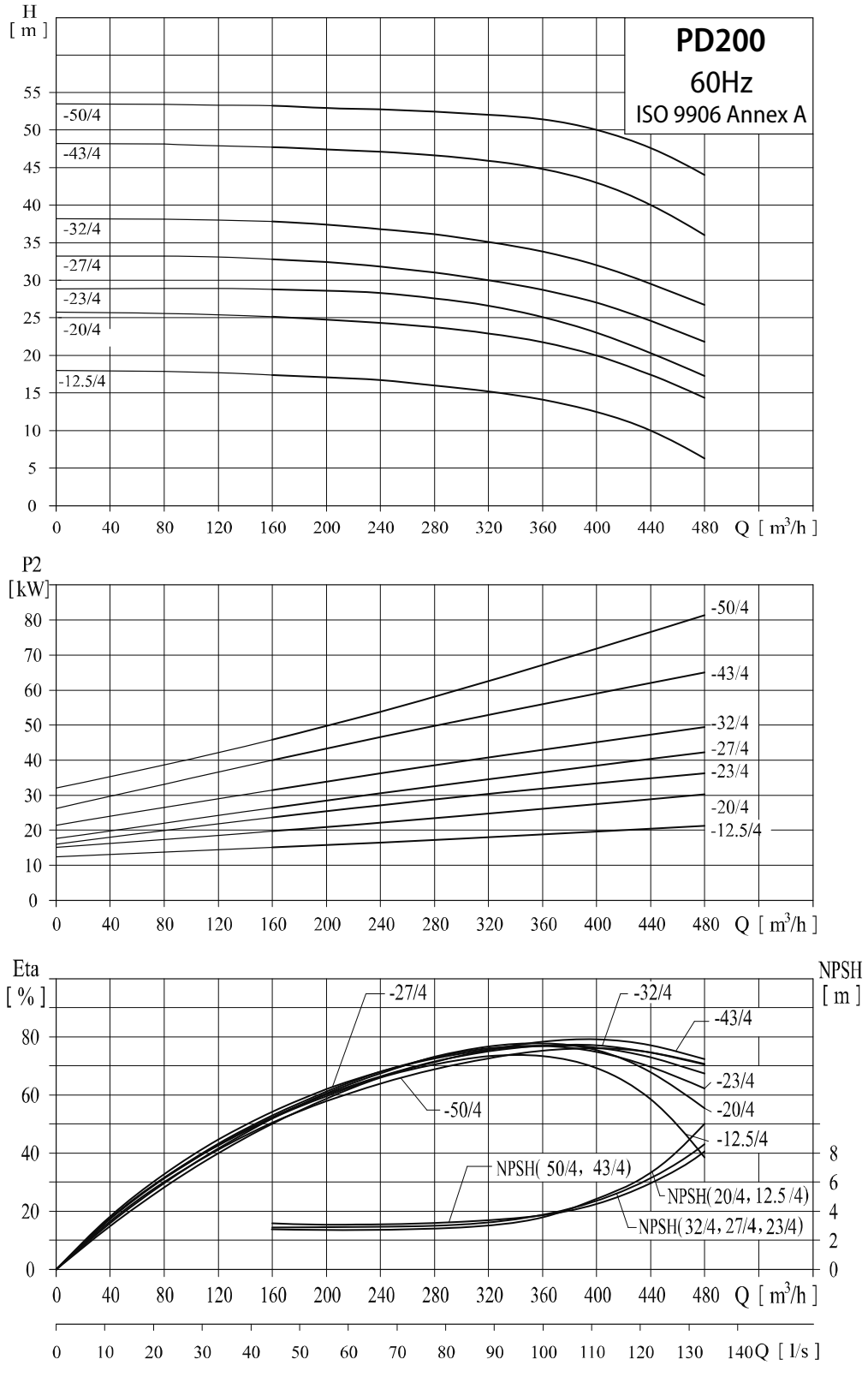
Size, weight, and volume for transportation

Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD150-15/4	350	315	250	238	208	230	215	269	982	800	400	280
PD150-18/4	350	315	250	238	208	230	215	269	1024	800	400	300
PD150-20/4	350	360	275	238	208	230	215	269	1061	800	400	336
PD150-24/4	350	360	275	238	208	230	215	269	1099	800	400	352
PD150-32/4	400	400	305	238	208	230	215	269	1133	800	400	403
PD150-36/4	450	450	325	267	248	230	230	288	1192	900	450	508
PD150-44/4	450	450	325	267	248	230	230	288	1215	900	450	545

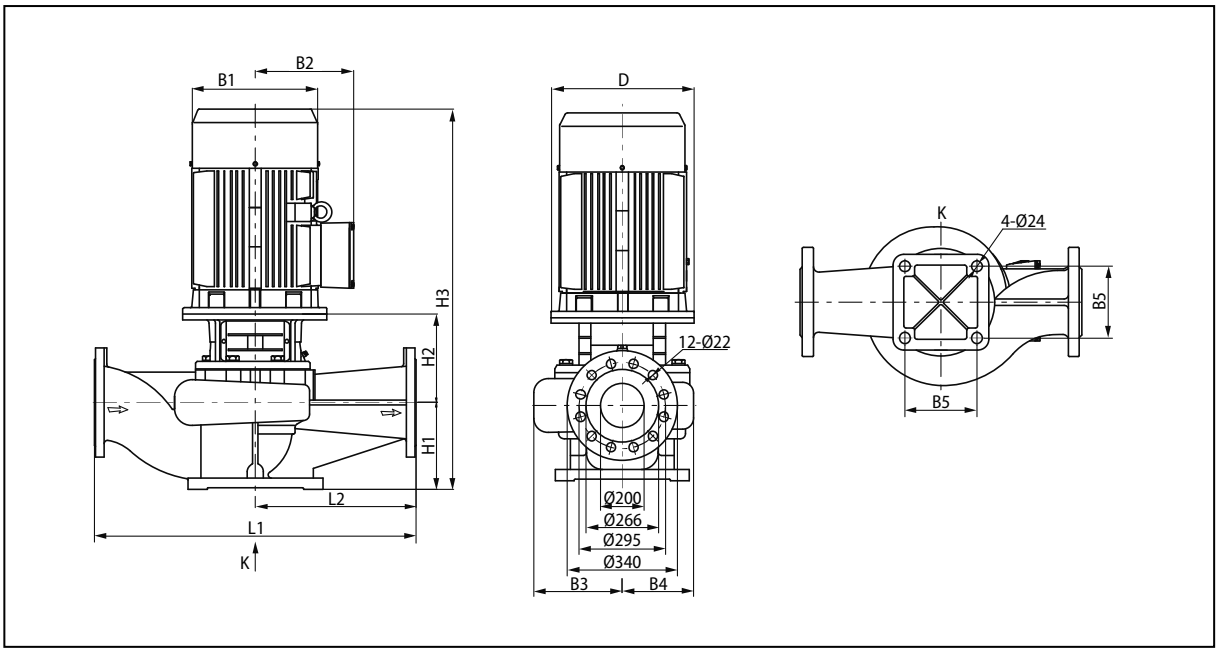
Performance Table

Model	Motor		Q [m^3/h]	30	60	90	120	140	160	180	200	220	240
	[kW]	[HP]											
PD150-15/4	11	15	H [m]	19.1	18.4	17.6	16.7	15.9	15	14.1	12.7	10.5	
PD150-18/4	15	20		21.6	21.3	20.8	20.1	19.5	18.8	18	16.9	15.4	12.6
PD150-20/4	18.5	25		24	23.6	23.3	22.9	22.4	21.7	20.9	20	18.9	17.4
PD150-24/4	22	30		27	27.2	27.1	26.8	26.3	25.8	24.9	24	22.8	21.5
PD150-32/4	30	40		34.2	34.4	34.6	34.4	34	33.5	32.8	32	30.9	29.4
PD150-36/4	37	50		39.7	39.3	38.8	38.2	37.8	37.3	36.7	36	34.9	33.6
PD150-44/4	45	60		47.3	47.4	47.2	46.8	46.4	45.8	45	44	42.9	41.7

PD200-**/4


PD200
60Hz
ISO 9906 Annex A
H [m]
-50/4
-43/4
-32/4
-27/4
-23/4
-20/4
-12.5/4
Q [m³/h]
P2 [kW]
Eta [%]
NPSH [m]
NPSH(50/4, 43/4)
NPSH(20/4, 12.5/4)
NPSH(32/4, 27/4, 23/4)
Q [l/s]

PD200-**/4



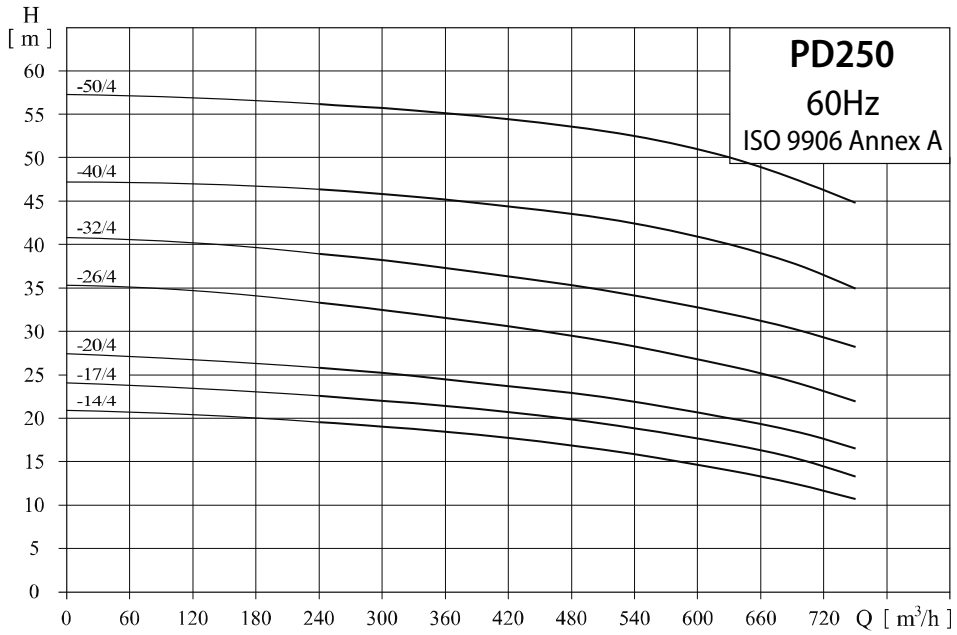
Size, weight, and volume for transportation

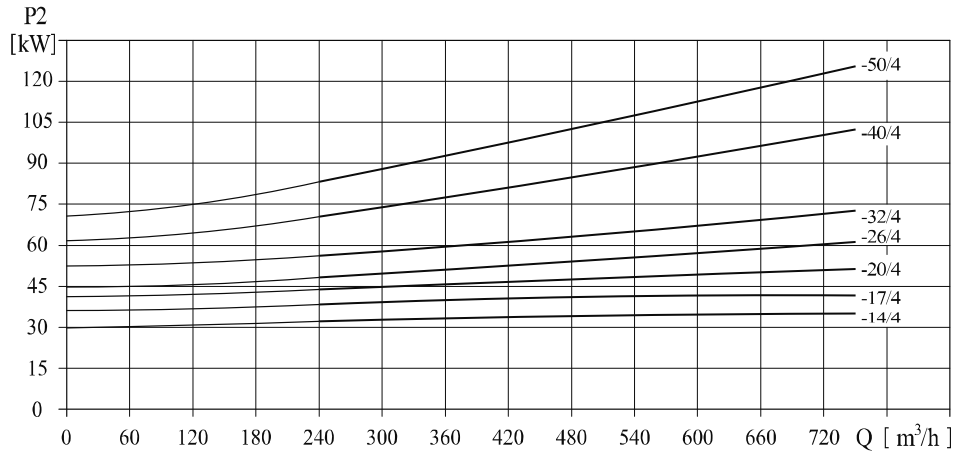
Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD200-12.5/4	350	360	280	278	219	360	270	415	1300	1000	500	431
PD200-20/4	400	400	305	278	219	360	270	415	1334	1000	500	490
PD200-23/4	450	450	335	303	252	360	270	445	1389	1100	550	600
PD200-27/4	450	450	335	303	252	360	270	445	1412	1100	550	636
PD200-32/4	550	490	365	303	252	360	270	445	1488	1100	550	707
PD200-43/4	550	550	400	315	269	360	270	457	1556	1100	550	880
PD200-50/4	550	550	400	315	269	360	270	457	1607	1100	550	971

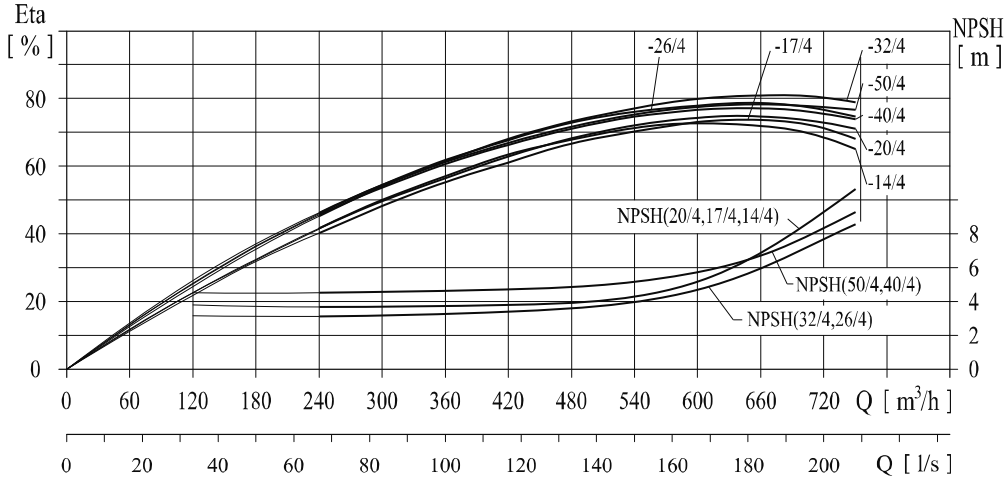
Performance Table

Model	Motor		Q [m^3/h]	160	200	240	280	320	360	400	440
	[kW]	[HP]									
PD200-12.5/4	22	30	H [m]	17.4	17.1	16.7	16	15.2	14.1	12.5	10
PD200-20/4	30	40		25.1	24.8	24.3	23.8	23	21.8	20	17.5
PD200-23/4	37	50		28.8	28.6	28.3	27.6	26.6	25.1	23	20.3
PD200-27/4	45	60		32.8	32.4	31.8	31	30	28.7	27	24.6
PD200-32/4	55	75		37.8	37.4	36.8	36.1	35.1	33.8	32	29.5
PD200-43/4	75	100		47.7	47.4	47.1	46.6	45.9	44.8	43	40
PD200-50/4	90	120		53.2	52.9	52.7	52.4	52	51.4	50	47.6

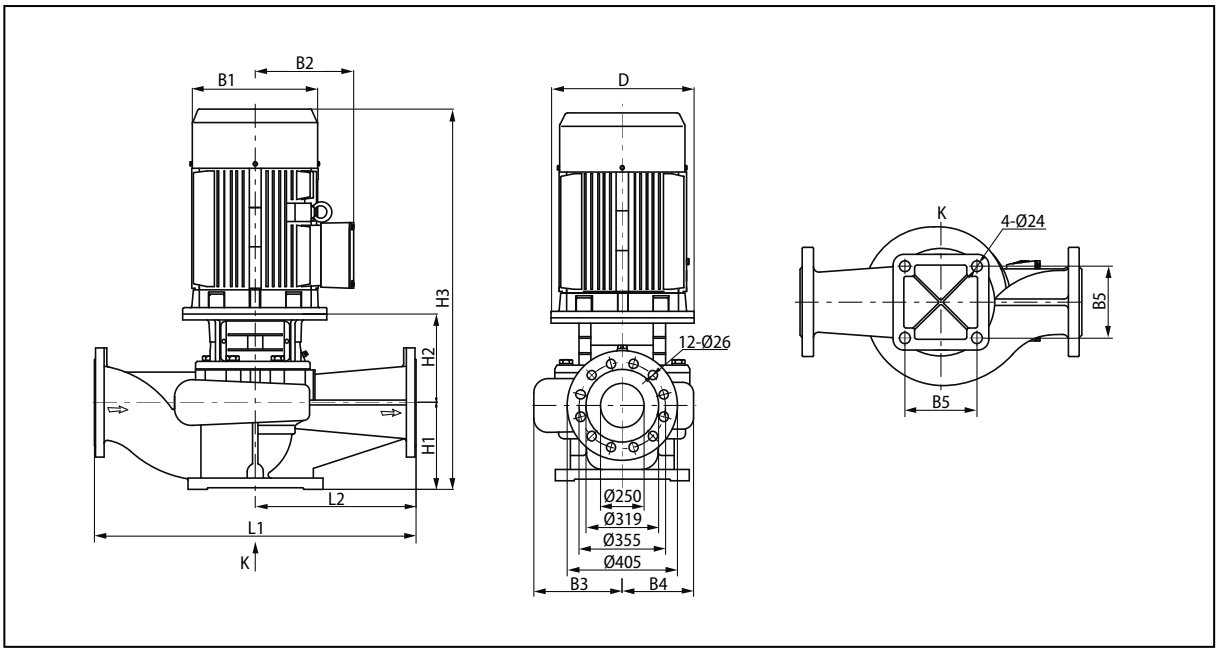
PD250-**/4


H
[m]
PD250
60Hz
ISO 9906 Annex A
-50/4
-40/4
-32/4
-26/4
-20/4
-17/4
-14/4
0 60 120 180 240 300 360 420 480 540 600 660 720 Q [m3/h]


P2
[kW]
-50/4
-40/4
-32/4
-26/4
-20/4
-17/4
-14/4
0 60 120 180 240 300 360 420 480 540 600 660 720 Q [m3/h]


Eta
[%]
NPSH
[m]
-26/4
-17/4
-32/4
-50/4
-40/4
-20/4
-14/4
NPSH(20/4,17/4,14/4)
NPSH(50/4,40/4)
NPSH(32/4,26/4)
0 60 120 180 240 300 360 420 480 540 600 660 720 Q [m3/h]
0 20 40 60 80 100 120 140 160 180 200 Q [l/s]

PD250-**/4



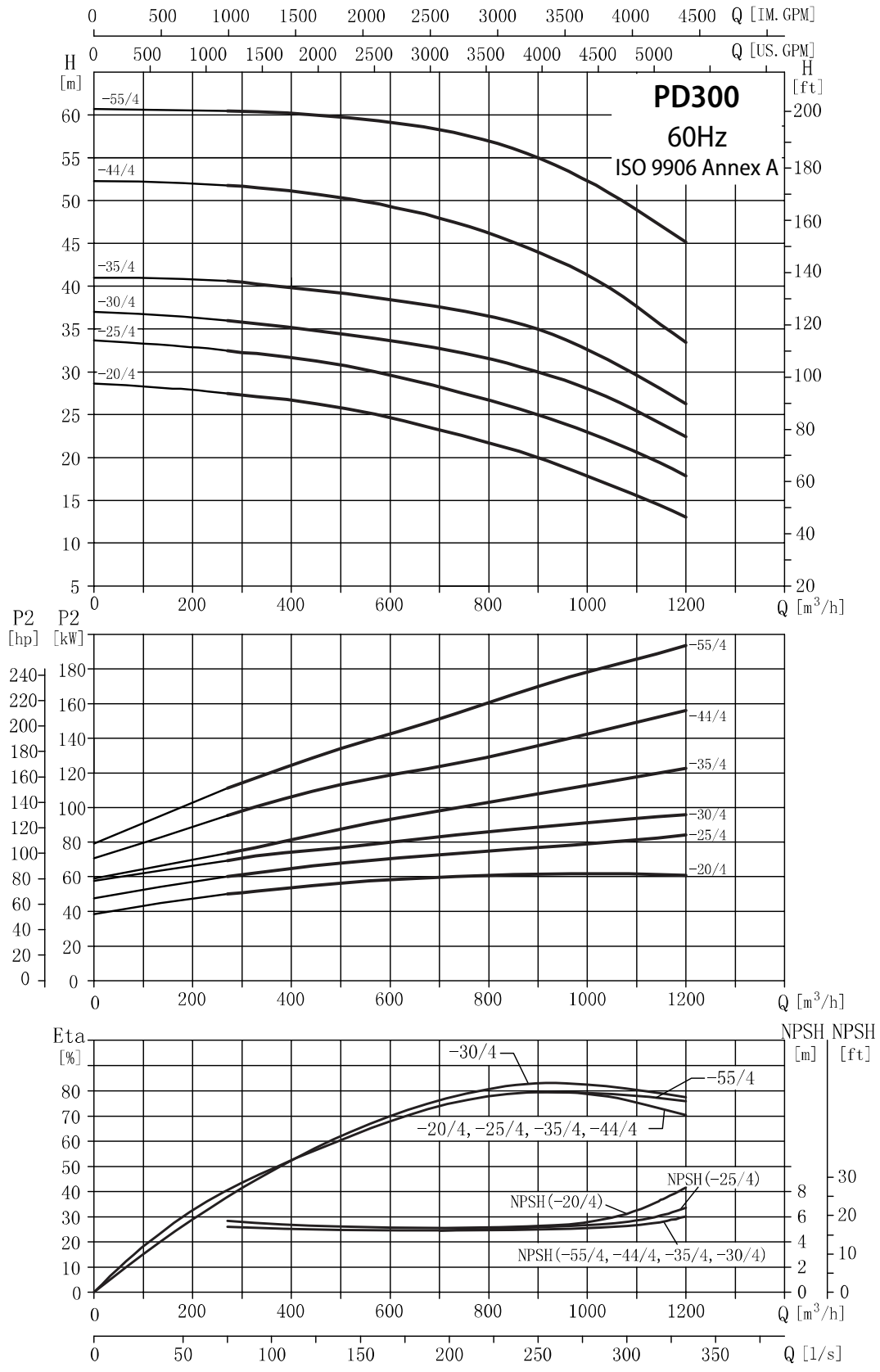
Size, weight, and volume for transportation

Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD250-14/4	450	450	335	316	243	390	300	495	1469	1100	550	610
PD250-17/4	450	450	335	316	243	390	300	495	1492	1100	550	647
PD250-20/4	550	490	365	316	243	390	300	495	1568	1100	550	720
PD250-26/4	550	550	400	329	264	440	300	507	1636	1100	550	906
PD250-32/4	550	550	400	329	264	440	300	507	1687	1100	550	997
PD250-40/4	660	625	555	347	292	440	305	525	1840	1200	600	1386
PD250-50/4	660	625	555	347	292	440	305	525	1990	1200	600	1469

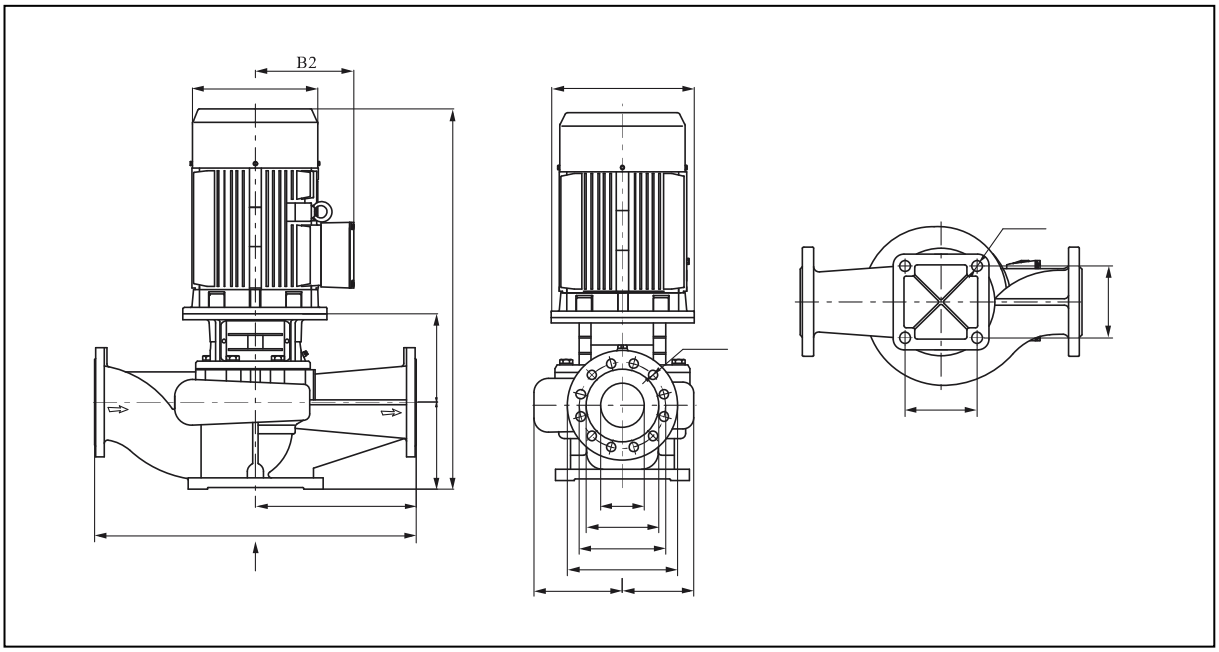
Performance Table

Model	Motor		Q [m^3/h]	240	300	360	420	480	540	600	660
	[kW]	[HP]									
PD250-14/4	37	50		19.6	19.1	18.4	17.7	16.8	15.9	14.7	13.3
PD250-17/4	45	60		22.5	22.1	21.4	20.7	19.9	18.9	17.6	16.3
PD250-20/4	55	75		25.8	25.2	24.5	23.7	22.9	21.9	20.7	19.3
PD250-26/4	75	100		33.3	32.5	31.5	30.6	29.5	28.2	26.8	25.2
PD250-32/4	90	120		38.9	38.2	37.3	36.3	35.3	34.2	32.8	31.2
PD250-40/4	110	150		46.4	45.8	45.2	44.4	43.6	42.4	40.9	39
PD250-50/4	132	180		56.1	55.7	55.1	54.4	53.6	52.5	50.9	48.9

PD300-**/4


PD300
60Hz
ISO 9906 Annex A
Q [IM.GPM]
Q [US.GPM]
H [m]
H [ft]
-55/4
-44/4
-35/4
-30/4
-25/4
-20/4
Q [m³/h]
P2 [hp]
P2 [kW]
Eta [%]
NPSH [m]
NPSH [ft]
-30/4
-55/4
-20/4, -25/4, -35/4, -44/4
NPSH(-25/4)
NPSH(-20/4)
NPSH(-55/4, -44/4, -35/4, -30/4)
Q [l/s]

PD300-**/4



Size, weight, and volume for transportation

Model	Size [mm]											Weight [kg]
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
PD300-20/4	550	550	400	345	250	440	290	649	1770	1200	600	1070
PD300-25/4	550	550	400	345	250	440	290	649	1820	1200	600	1120
PD300-30/4	660	625	550	345	250	440	290	649	2200	1200	600	1460
PD300-35/4	660	625	550	345	250	440	290	649	2150	1200	600	1540
PD300-44/4	660	625	550	380	295	480	290	702	2150	1200	600	1780
PD300-55/4	660	625	550	380	295	480	290	702	2150	1200	600	1900

Performance Table

Model	Motor		Q $[m^3/h]$	270	360	450	630	750	900	1080	1200
	[kW]	[HP]									
PD300-20/4	75	100	H [m]	27.5	27	26.3	26.3	22.5	20	16	13
PD300-25/4	90	120		32.5	32	31.3	31.3	27.6	25	21.1	17.9
PD300-30/4	110	150		36	35.4	34.8	34.8	32.1	30	26	22.4
PD300-35/4	132	180		40.6	40	40	39.6	37	35	30.2	26.3
PD300-44/4	160	215		51.8	51.3	51.3	50.7	47.1	44	38.5	33.5
PD300-55/4	200	270		60.5	60.3	60.3	60	57.7	55	49.6	45

Swiss **P**ump **Co**mpany AG
Moosweg 36
CH - 3645 Thun - Gwatt
Switzerland
Tel. +41 33 223 11 00
Fax +41 33 223 11 22
mail@swisspump.com

www.swisspump.com