KOLMEKS

PUMP CATALOGUE

AE-, L-, AL- and AKN-SERIES

INLINE PUMPS WITH FIXED-SPEED MOTOR

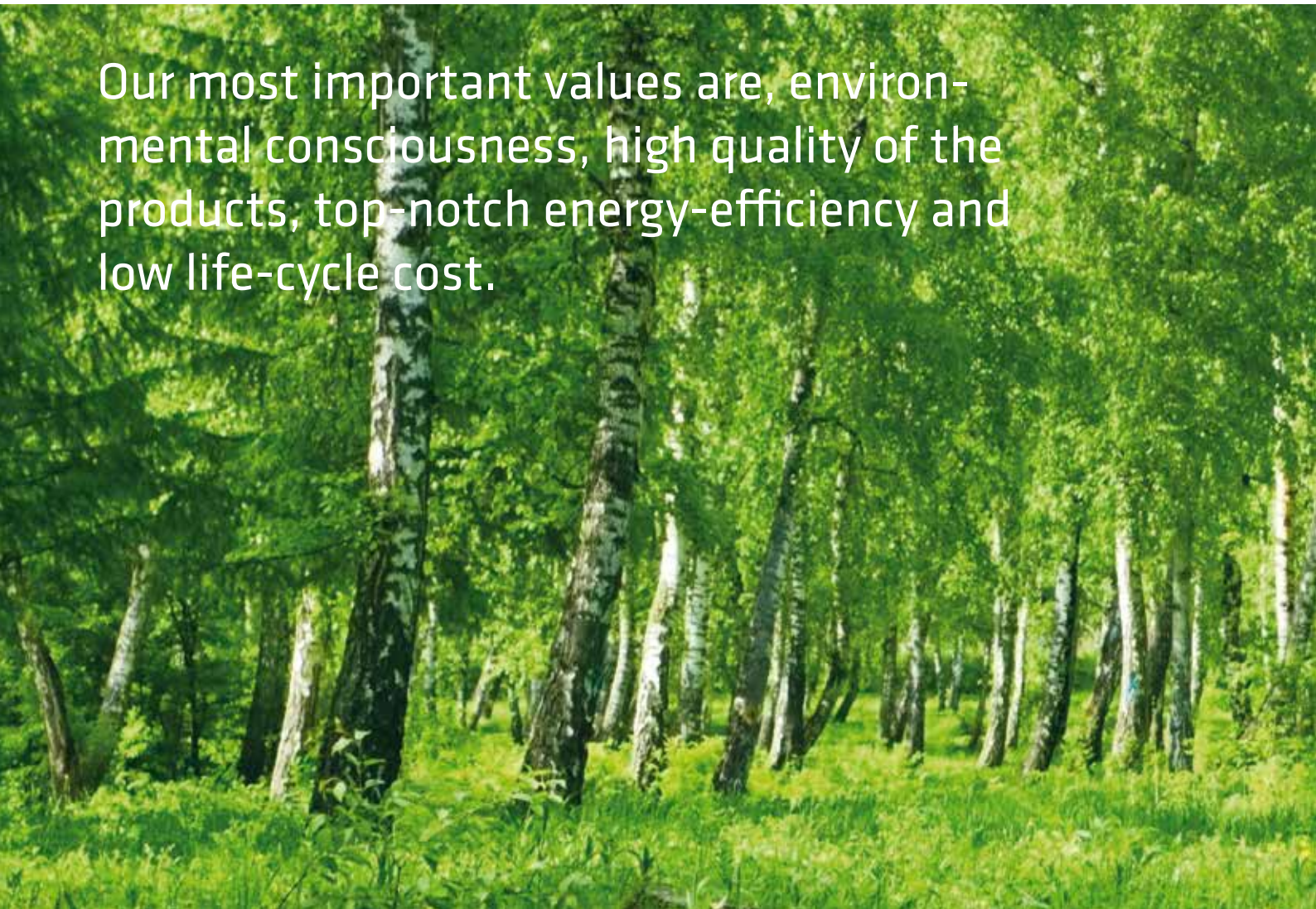
Kolmeks Ltd is a Finnish pump and electric motor manufacturer and part of the privately owned Brandt Group. Kolmeks Ltd is one of the most successful companies in the pump business in Finland, operating in three main business areas; pumps, electric motors and HVAC systems. Kolmeks specializes in centrifugal pumps for application in heating and air-conditioning. In addition, Kolmeks' products are used in district heating plants as well as in district heating primary circulation systems.

Kolmeks – Efficient reliability

In industry, the pumps are typically used in the pulp, paper and chemical industries as well as in other process industries. Notably, the major part of Finnish spas and swimming halls are equipped with Kolmeks' bronze pumps suitable for chlorinated water.

The pumps and their motors are designed and manufactured in Finland and they meet the demands of the Eco Design directive in force as from 2013.

Kolmeks was also among the first Finnish companies to have received the ISO 9001 quality certificate and the ISO 14001 environmental certificate.



Pump ranges

Kolmeks has three ranges of pumps with integrated frequency control; the SC-, VS- and NC-ranges. The smallest pump with integrated frequency control is 0,08 kW, the largest 45 kW. In addition all of the pumps are suited for control by external frequency control.

Kolmeks pumps are available in four different materials; grey cast iron, nodular cast iron, bronze and stainless steel casting. The pumps are also available with several different shaft sealing solutions – which makes them suitable for numerous pumping applications.

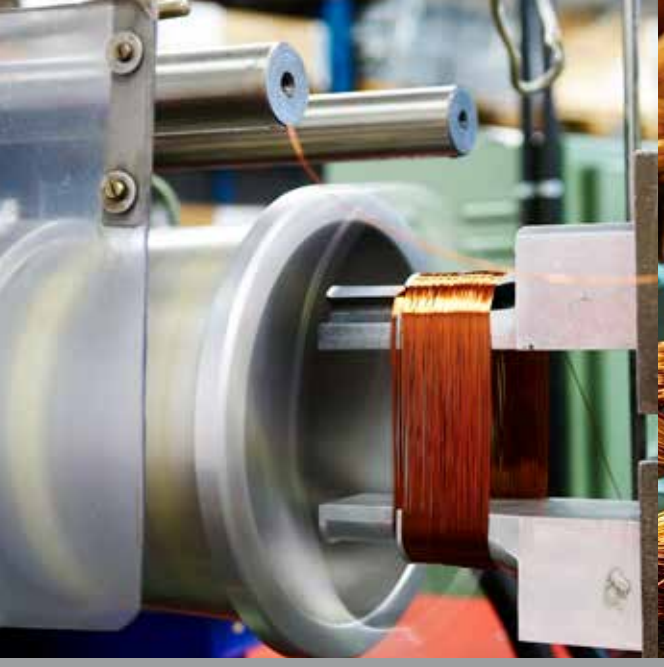
Finnish internationalism

In Finland, the market share of Kolmeks is, obviously, very large. A large part, however, of Kolmeks' pumps end up to be exported, to all major European countries, including Russia. More and more Kolmeks products are also being exported to Middle-Eastern, Asian and African countries.

Ask us about our products and services! We will be more than happy to provide you with solutions

www.kolmeks.fi/com

INLINE PUMPS WITH FIXED-SPEED MOTORS



KOLMEKS
EFFICIENT RELIABILITY

TECHNICAL INFORMATION

INLINE PUMPS WITH FIXED-SPEED MOTOR

3x400V

www.kolmeks.fi/com

General technical data

AE series pumps:

- Centrifugal pumps equipped with thread connections.
- Pumps can be used as circulation, pressure boosting and transfer pumps for clean liquids.

L, AL and AKN series pumps:

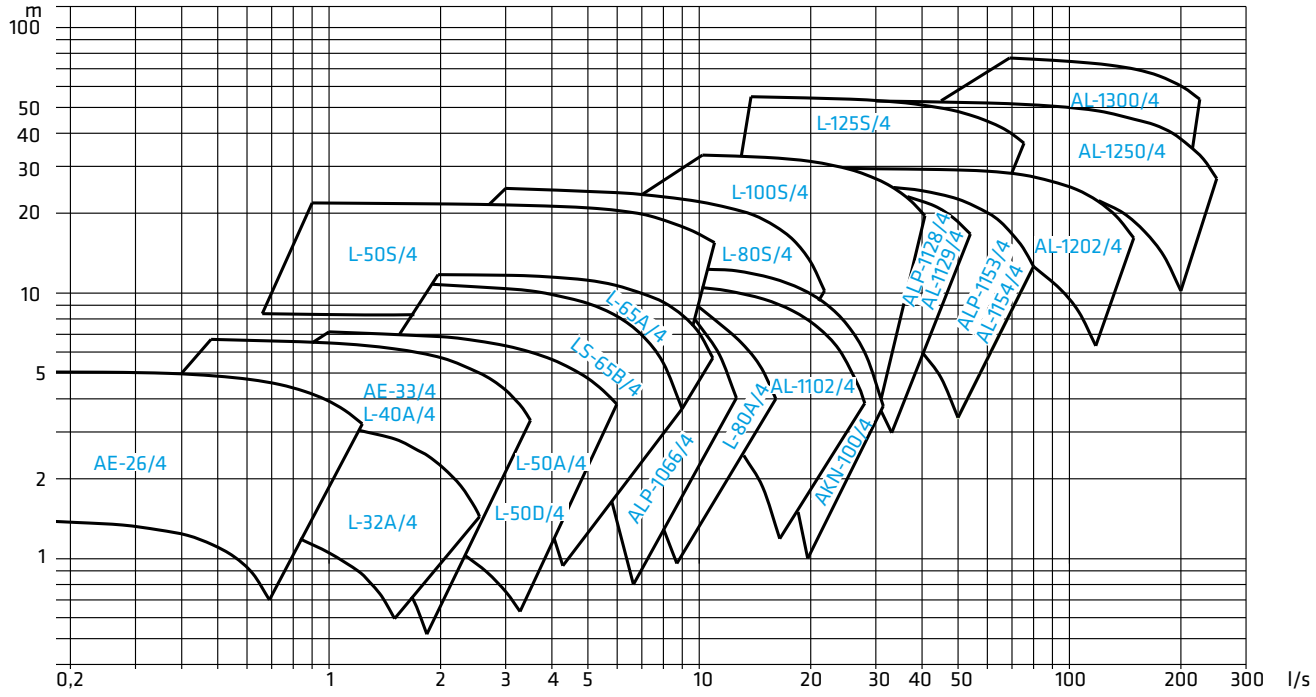
- Inline centrifugal pumps equipped with flange connections.

Applications:

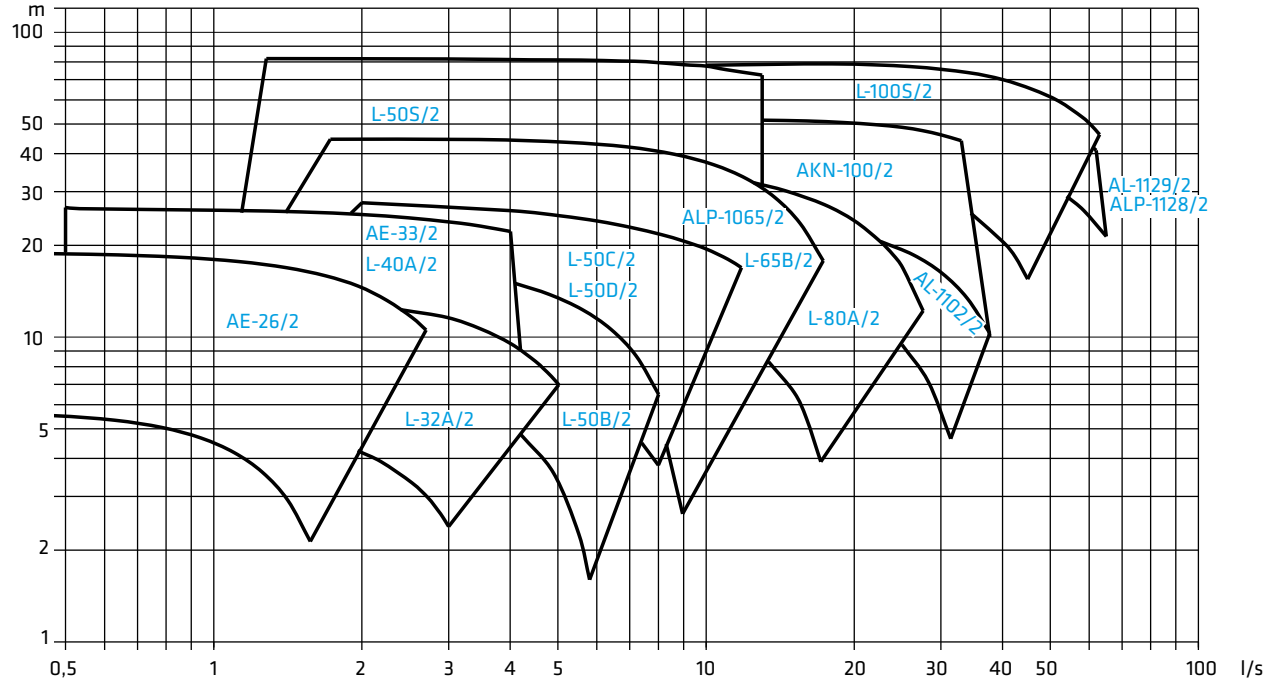
- Grey cast iron (L, AL and AKN) pumps can be used as circulation, pressure boosting and transfer pumps for clean liquids.
- Nodular cast iron (LH, ALH and AKNH) pumps can be used in power plants and as pressure boosting pumps for primary district heating.
- Bronze (LP and ALP) pumps can be used as domestic hot water, circulation, pressure boosting and transfer pumps for clean oxygen-rich and some slightly aggressive liquids.
- Stainless steel (LS, ALS, ALX and ALM) pumps can be used as circulation, pressure boosting and transfer pumps for acid and alkaline liquids.

Note! The suitability of materials and seals for the liquid to be pumped must always be confirmed when selecting a pump.

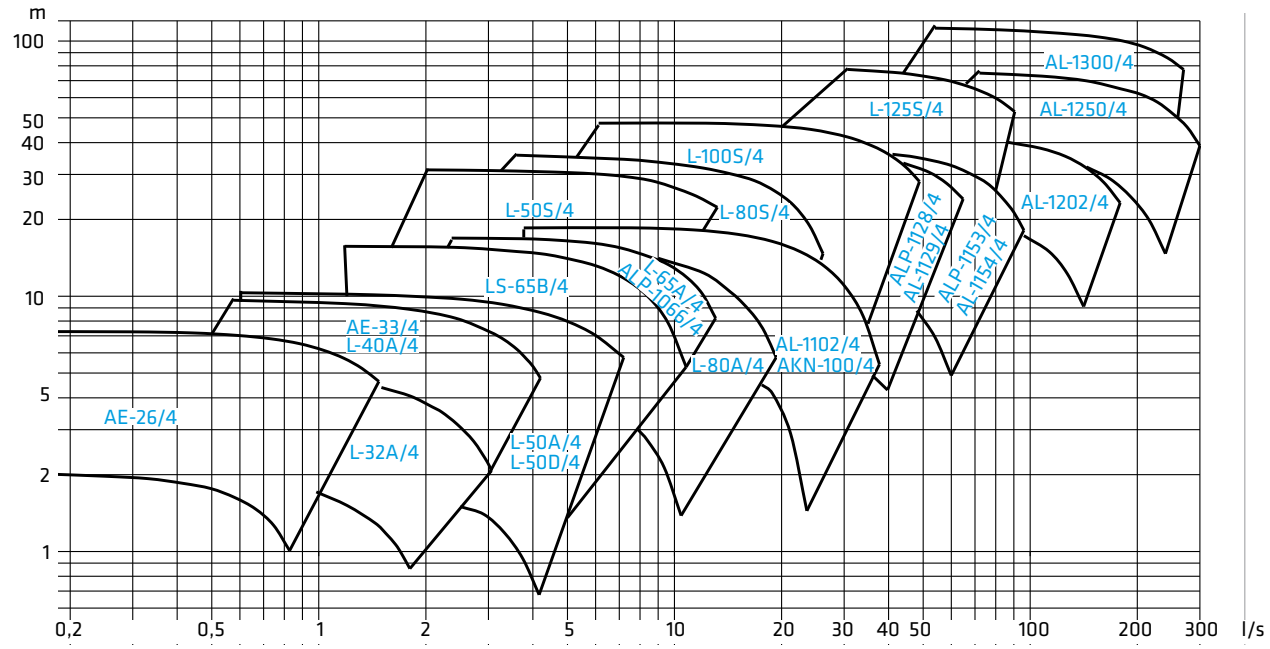
Quick selection chart AE-, L- AL-, and AKN-series 4-poles, 50Hz



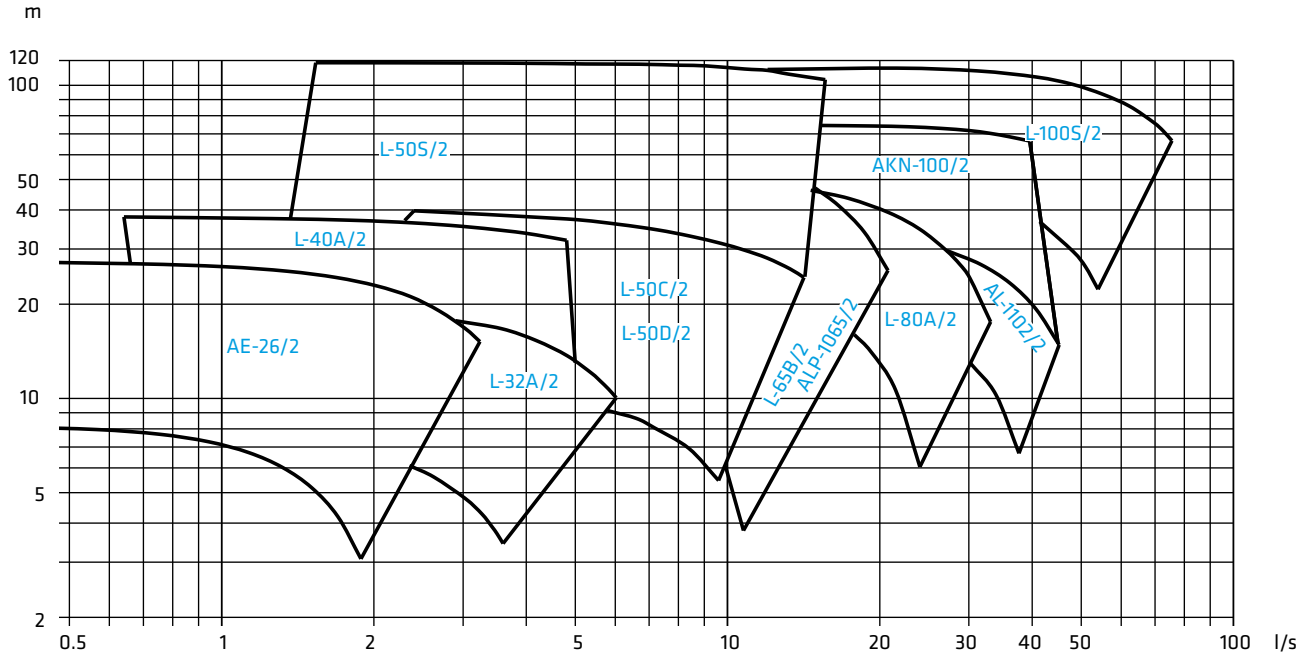
Quick selection chart AE-, L-, AL- and AKN-series 2-poles, 50Hz



Quick selection chart AE-, L-, AL- and AKN-series 4-poles, 60Hz



Quick selection chart AE-, L-, AL- and AKN-series 2-poles, 60Hz



Standard materials and fields of application AE_- / L_- / AL_- / AKN_-pumps

Connection	Grey cast iron	Nodular cast iron	Bronze	Stainless steel	Stainless steel Duplex A890	Stainless steel SS 2378	Shaft seal, PN10	O-ring	O-ring	Motor
G or DN	EN-GJL-200, PN10	EN-GJS-400, PN16	CuSn10Zn2, PN10	AISI 316, PN16	Grade 3A	254 SMO	Ø [mm], materials	Size [mm]	Material	[kW]
G 1	AE-26/4	-	AEP-26/4	-	-	-	12, carbon/SiC Viton	123 X 2,5	NBR	0,05 and 0,08
	AE-26/2	-	AEP-26/2	-	-	-	12, carbon/SiC Viton	123 X 2,5	NBR	0,25, 0,65 and 1,1
G 1 1/4	AE-33/4	-	AEP-33/4	-	-	-	12, carbon/SiC Viton	145 X 2,5	NBR	0,2 and 0,37
	AE-33/2	-	AEP-33/2	-	-	-	12, carbon/SiC Viton	145 X 2,5	NBR	1,1 and 1,5
DN 32	L-32A/4	-	-	-	-	-	12, carbon/SiC EPDM	100 X 2,5	NBR	0,05, 0,08 and 0,2
	L-32A/2	-	-	-	-	-	12, carbon/SiC EPDM	100 X 2,5	NBR	0,25, 0,65 and 1,1
DN 40	L-40A/4	-	-	-	-	-	12, carbon/SiC EPDM	145 X 2,5	NBR	0,2 and 0,37
	L-40A/2	-	-	-	-	-	12, carbon/SiC EPDM	145 X 2,5	NBR	1,1 and 1,5
DN 50	L-50A/4	LH-50A/4	LP-50A/4	-	-	-	12, carbon/SiC EPDM	150 X 3	NBR	0,2, 0,25, 0,37 and 0,55
	L-50B/2	-	LP-50B/2	-	-	-	12, carbon/SiC EPDM	150 X 3	NBR	1,1
	L-50D/4	LH-50D/4	LP-50D/4	-	-	-	18, carbon/SiC EPDM	150 X3	NBR	0,37 and 0,55
	L-50D/2	LH-50D/2	LP-50D/2	-	-	-	18, carbon/SiC EPDM	150 X 3	NBR	1,5, 2,2, 3 and 4
	L-50C/2	LH-50C/2	LP-50C/2				18, carbon/SiC EPDM	150 X 3	NBR	1,5, 2,2, 3 and 4
	L-50S/4	LH-50S/4	-	-	-	-	28, carbon/SiC EPDM	265 X 4	EPDM	1,1, 1,5, 2,2, 3, 4 and 5,5
	L-50S/2	LH-50S/2	-	-	-	-	28, carbon/SiC EPDM	265 X 4	EPDM	5,5, 7,5 11, 15 and 18,5
DN 65	L-65A/4	LH-65A/4	-	-	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	0,2, 0,37, 0,55, 0,75, 1,1, 1,5, 2,2 and 3
				LS-65B/4			18, carbon/SiC EPDM	179,3 X 5,7	EPDM	0,2, 0,37, 0,55, 0,75, 1,1, 1,5, 2,2 and 3
	L-65B/2	LH-65B/2	-	LS-65B/2	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	1,5, 2,2, 3, 4, 5,5 and 7,5
	-	-	ALP-1066/4	-	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	0,37, 0,55, 0,75, 1,1, 1,5, 2,2 and 3
	-	-	ALP-1065/2	-	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	1,5, 2,2, 3, 4, 5,5 and 7,5
DN 80	L-80A/4	LH-80A/4	-	LS-80A/4	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	0,37, 0,55, 0,75, 1,1, 2,2 and 3
	L-80A/2	LH-80A/2	-	LS-80A/2	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	2,2, 3, 4, 5,5 and 7,5
	L-80S/4	LH-80S/4	-	-	-	-	28, carbon/SiC EPDM	265 X 4	EPDM	1,1, 1,5, 2,2, 3, 4, 5,5 and 7,5
DN 100	AL-1102/4	ALH-1102/4	ALP-1102/4	ALS-1102/4	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	0,55, 0,75, 1,1, 1,5, 2,2 and 3
	AL-1102/2	ALH-1102/2	ALP-1102/2	ALS-1102/2	-	-	18, carbon/SiC EPDM	179,3 X 5,7	EPDM	4, 5,5 and 7,5
	AL-1102/2	ALH-1102/2	ALP-1102/2	ALS-1102/2			25, carbon/SiC EPDM	179,3 X 5,7	EPDM	11 and 13
	AKN-100/4	AKNH-100/4	-	-	-	-	25, carbon/SiC EPDM	240 X 3	NBR	1,5, 2,2 and 3
	AKN-100/2	AKNH-100/2	-	-	-	-	25, carbon/SiC EPDM	240 X 3	NBR	7,5, 11, 15, 18,5 and 22
	L-100S/4	LH-100S/4	LP-100S/4	-	-	-	32, carbon/SiC EPDM	315 x 6,3	EPDM	3, 4, 5,5, 7,5, 11, 15, 18,5 and 22
	L-100S/2	LH-100S/2	LP-100S/2	-	-	-	32, carbon/SiC EPDM	315 x 6,3	EPDM	15, 18,5, 22, 30 and 37
	L-100S/2	LH-100S/2	LP-100S/2	-	-	-	40, carbon/SiC EPDM	315 x 6,3	EPDM	45
DN 125	AL-1129/4	ALH-1129/4	-	ALS-1129/4	ALX-1129/4 *)	ALM-1129/4 *)	32, carbon/SiC EPDM	309/295X1	gasket	3, 4, 5,5, 7,5, 11, 15, 18,5 and 22
	AL-1129/2	ALH-1129/2	-	ALS-1129/2	ALX-1129/2 *)	ALM-1129/2 *)	32, carbon/SiC EPDM	309/295X1	gasket	30 and 37
	-	-	ALP-1128/4	-	-	-	32, carbon/SiC EPDM	309/295X1	gasket	3, 4, 5,5, 7,5, 11, 15, 18,5 and 22
	-	-	ALP-1128/2	-	-	-	32, carbon/SiC EPDM	309/295X1	gasket	30 and 37
	L-125S/4	LH-125S/4	-	LS-125S/4	-	-	40, carbon/SiC EPDM	405 X 7	EPDM	18,5, 22, 30 and 37
	L-125S/4	LH-125S/4	-	LS-125S/4	-	-	50, carbon/SiC EPDM	405 X 7	EPDM	45 and 55
DN 150	-	-	ALP-1153/4	-	-	-	32, carbon/SiC EPDM	309/295X1	gasket	4, 5,5, 7,5, 11, 15, 18,5, 22 and 30
	AL-1154/4	ALH-1154/4	-	ALS-1154/4	ALX-1154/4 *)	ALM-1154/4 *)	32, carbon/SiC EPDM	309/295X1	gasket	4, 5,5, 7,5, 11, 15, 18,5, 22 and 30
DN 200	AL-1202/4	ALH-1202/4	ALP-1202/4	ALS-1202/4	ALX-1202/4 *)	ALM-1202/4 *)	32, carbon/SiC EPDM	315 x 6,3	EPDM	15 and 18,5
	AL-1202/4	ALH-1202/4	ALP-1202/4	ALS-1202/4	ALX-1202/4 *)	ALM-1202/4 *)	40, carbon/SiC EPDM	315 x 6,3	EPDM	22, 30 and 37
	AL-1202/4	ALH-1202/4	ALP-1202/4	ALS-1202/4	ALX-1202/4 *)	ALM-1202/4 *)	50, carbon/SiC EPDM	315 x 6,3	EPDM	45
DN 250	AL-1250/4	ALH-1250/4	-	ALS-1250/4	ALX-1250/4 *)	-	40, carbon/SiC EPDM	405 X 7	EPDM	37
	AL-1250/4	ALH-1250/4	-	ALS-1250/4	ALX-1250/4 *)	-	50, carbon/SiC EPDM	405 X 7	EPDM	45 and 55
	AL-1250/4	ALH-1250/4	-	ALS-1250/4	ALX-1250/4 *)	-	65, carbon/SiC EPDM	405 X 7	EPDM	75, 90 and 110
DN 300	AL-1300/4	ALH-1300/4	-	ALS-1300/4	-	-	75, carbon/ceramic. EPDM	475 X 8	EPDM	110, 132 and 160

Series	Pressure class / temperature [°C]	Housing material Name	Marking	Sealing flange	Impeller	Pump shaft	Difference in materials
AE / L / AL / AKN	PN10 / -15...+120	grey cast iron	EN-GJL-200	EN-GJL-200	EN-GJL-200	AISI329	AE-26 / L-32 impeller Noryl GFN2 (max temperature +100) AL_-1300 impeller EN-GJS-400 ALH-1300 impeller EN-GJS-400
LH / ALH / AKNH	PN16 / -15...+180 (depending on seal constrution)	nodular cast iron	EN-GJS-400	EN-GJS-400	EN-GJL-200	AISI329	
AEP / LP / ALP	PN10 / -15...+120	bronze	CuSn10Zn2	CuSn10Zn2	CuSn10Zn2	AISI329	Bronze impeller available to all pumps
LS / ALS	PN16 / -15...+180 (depending on seal construction)	stainless steel	AISI316	AISI316	AISI316	AISI329	On special request also Duplex A890 Grade 3A (ALX-pumps) and SS 2378/254 SMO (ALM-pumps)

Standard shaft material is Stainless steel AISI 329. In LM / ALM-pumps shaft material is Stainless steel SMO, SS2378.

Structure

Pump

AE, L and AL series pumps are monoblock centrifugal pumps equipped with a dry asynchronous motor. The pump impeller is installed directly onto the shaft of the electric motor (no separate couplings).

Electric motor

The electric motor of AE, L and AL series pump is a Kolmeks asynchronous motor designed specially for pump use. The electric motor is highly efficient and has low noise levels. The electric motor is suitable for frequency converter use.

Standard voltages:	400/230 V, 50 Hz	0,03–3 kW	
	690/400 V, 50 Hz	4–160 kW	
Enclosure classes:	IP 54	0,03–3 kW	4-poles motor: 1500 r/min 50Hz and 1800 r/min 60Hz
		0,25–4 kW	2-poles motor: 3000 r/min 50Hz and 3600 r/min 60Hz
	IP55	4–160 kW	4-poles motor: 1500 r/min 50Hz and 1800 r/min 60Hz
		5,5–55 kW	2-poles motor: 3000 r/min 50Hz and 3600 r/min 60Hz
Insulation class:	F		
Duty type:	S1 (continuous duty)		
Ambient temperature:	max. +45°C		

NOTE! **Kolmeks electric motors are available in other enclosure classes and voltages by request.**

Connections

The AE series pumps are equipped with G thread connections according to ISO 228/1.
The L, AL and AKN series pump is equipped with flanged connections (PN10 or PN16) according to ISO 7005 Flanges to ANSI/JIS standards are available by request.

Seals

The shaft seal of an AE series pump is a single mechanical seal. The pump housing seal is an O-ring

The standard shaft seal on L, AL and AKN series pumps is a single mechanical seal. The pump housing seal is an O-ring or flat gasket.

By request, there are several seal materials and structure alternatives available depending on the properties and temperature of the liquid.

Standard surface treatment

All parts of the pumps are painted according to Standard SFS-EN ISO 12944-5, AY100/1-FeSa2½. The colour is RAL3020 Kolmeks red. By request, standard surface colour blue RAL5010 available free of charge. Epoxy surface treatment and colour alternatives are available by request.

Rating plate

Accessories:
X = Pump without baseplate
P = Single phase motor
N = Seal kit no.7
T = External shaft seal
H = Recirculation
KT = Double shaft seal
Sn = Non-standard shaft seal
Kn = Non-standard surface treatment
Ln = Motor thermal protectors
En = Other difference (e.g. EXE)
Vn = Special voltage

Material:
P = Bronze
H = Nodular Cast Iron
S = Stainless steel

Flange DN-size

Non-standard material of impeller:
PM = Bronze
SS = Stainless steel AISI316

Pump type
Serial number,
Duty point and max. temperature of liquid
Minimum efficiency index (MEI)
Motor type
Nominal voltages and currents
Bearing types,

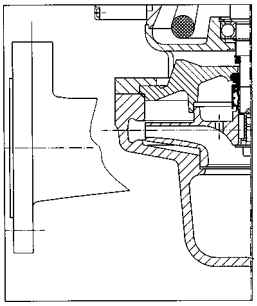
Motor code
Pressure class and impeller diameter
Electrical power at duty point (if required)
Continuous duty
Nominal power and rotation speed
Enclosure and insulation class
Efficiency class of electric motor
Manufacturer, Country and CE marking

Seal structure alternatives

Standard structure

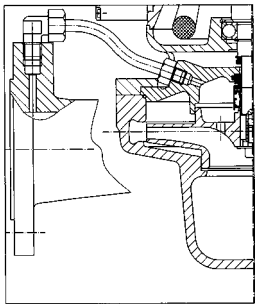
- Single mechanical seal
- Max. operating temperature +120°C.

The standard-construction shaft seal can also be used for water-glycol mixtures and most other indirect refrigeration systems. The recommended glycol is propylene glycol with a concentration of up to 50%. Most often, a concentration of 30–40% is adequate.



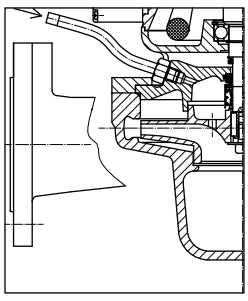
Internal flushing

- Single mechanical seal
- Recirculation from the discharge flange of the pump to the seal chamber which flushes the seal
- Max. +150°C water
- Available for flange sizes DN50 ... DN300. . This is indicated with an additional marking 'H' in the pump type e.g. LS-65B/4H.



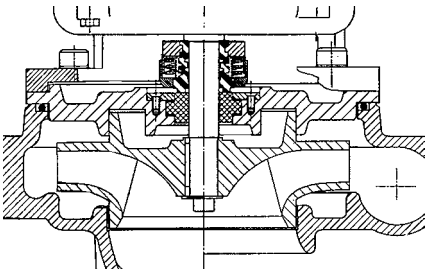
External flushing

- Single mechanical seal
- A pipe from an external source plugged to the seal chamber, which makes it possible to flush the seal with external pressure if required
- Available for pumps in flange sizes DN 50–300
- Crystallising and accumulative liquids



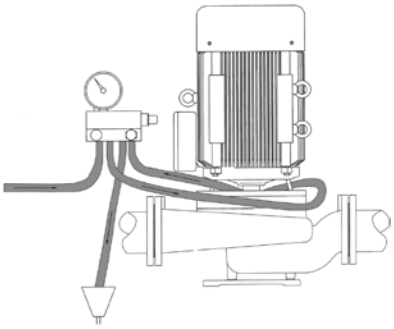
External seal

- Externally-mounted single mechanical Teflon bellows
- Available for flange sizes DN 65–300 ALS- and LS-pumps
- Extremely corrosive liquids, e.g. sulfuric acid
- Marking 'T' in the pump type e.g. LS-65B/4T
- NOTE! Maximum working pressure 10 bar



Double mechanical seal system (cartridge)

- Two opposing seals with sealing liquid brought from outside (circulation). The pressure of the liquid can be lower or higher than that of the liquid being pumped
- Available for flange sizes DN 65–300 pumps
- Max. operating temperature +180°C for water
- Requires a separate seal water monitoring unit (available from Kolmeks)
- Marking 'KT' in the pump type e.g. ALS-1154/4KT
- Hot, crystallizing and accumulative liquids

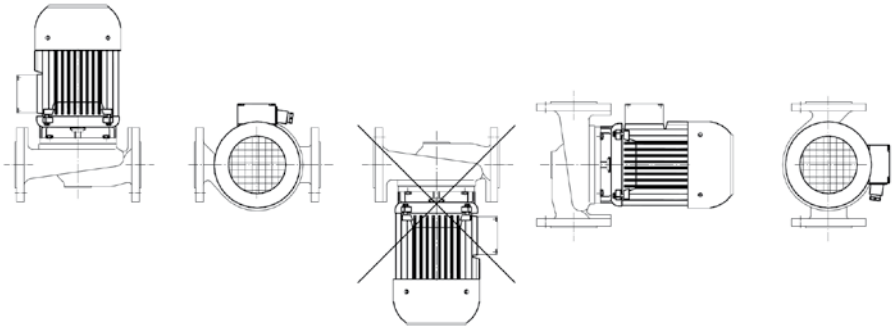


Installation

Ensure the following when installing the pump:
- Enough room for service and inspection
- Possibility to use lifting and transfer devices if required
- Shut-off valves on both sides of the pump, allowing the position of the drive unit and the electrical terminal connection box to be changed by removing the drive unit from the pump housing and by installing it in the required position ---(not applicable when using internal seal flushing, marking 'H' which is standard in the LH/ALH series)

Kolmeks inline pumps are suitable for both vertical and horizontal pipe mounted positions. Small pumps are usually installed without a base in a vertical or horizontal position. Large pumps are installed with the base in a vertical position.

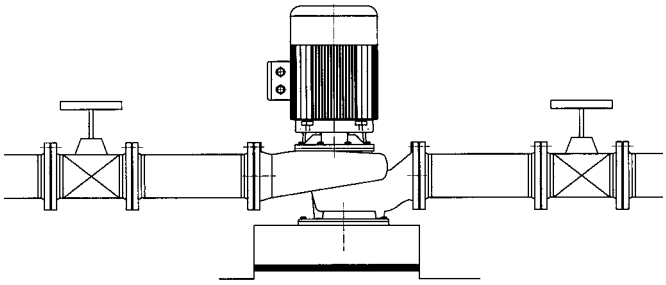
When selecting a method of installation, please consider at least the following:
- Enough room for installation and service
- Strength, rigidity and support of the piping
- Vibration and noise level requirements



Recommended general limits without the base:

Size	Power
G1 ... DN 50	max. 2,2 kW
DN 65	4 kW
DN 80	4 kW
DN 100	7,5 kW
DN 125	7,5 kW

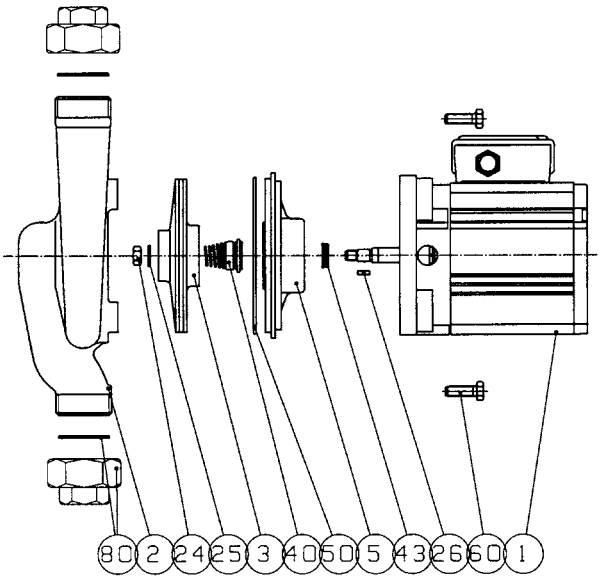
Large pumps are fastened by their base plate onto a freely moving concrete plinth, which is separated from the floor.by a 20-mm thick rubber or cork mat for example. The weight of the concrete base must be about 1.5 times the weight of the pump.



Pump service

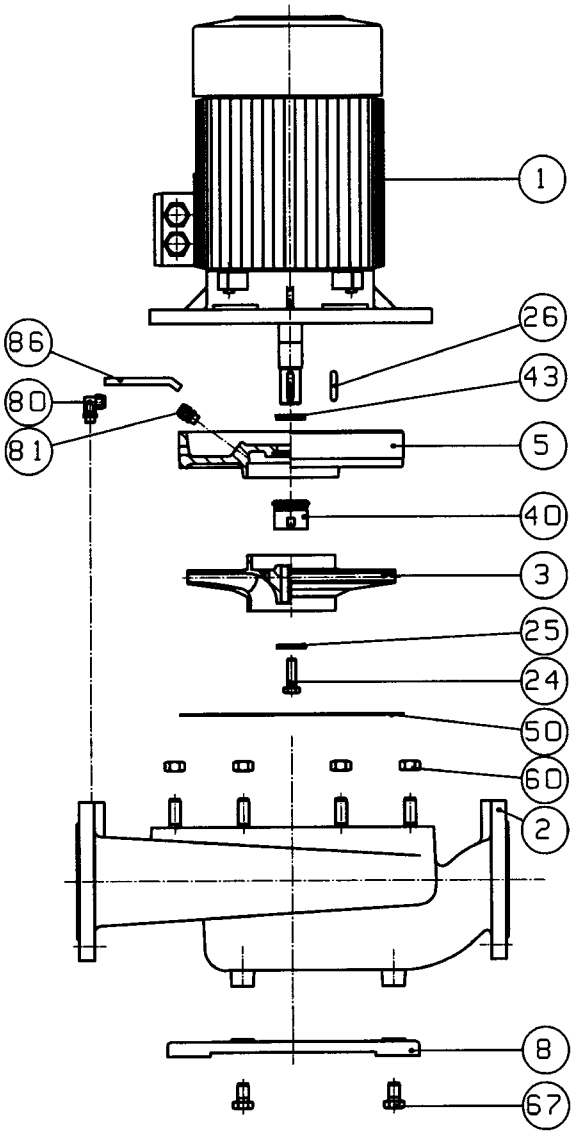
Parts for AE_-pumps

1 Electric motor
2 Pump housing
3 Impeller
5 Sealing flange
24 Nut / Screw
25 Washer
26 Key
40 Mechanical seal
43 V-ring
50 O-ring / gasket
60 Nut / Screw
80 Pipe joint (AE-26, AE-33)



Parts for L_-, AL_-, ja AKN- pumps

1 Electric motor
2 Pump housing
3 Impeller
5 Sealing flange
8 Base plate (not always)
24 Nut / Screw
25 Washer
26 Key
40 Mechanical seal
43 V-ring (not always)
50 O-ring / gasket
60 Nut / screw
67 Screw
80 Pipe joint (ALH-series)
81 Pipe joint (ALH-series)
86 Pipe (ALH-series)

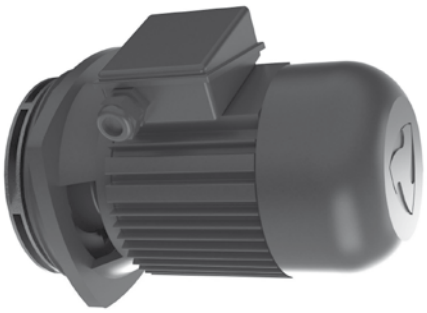


Drive unit

The pump drive unit is a new stand-by operation unit which includes:

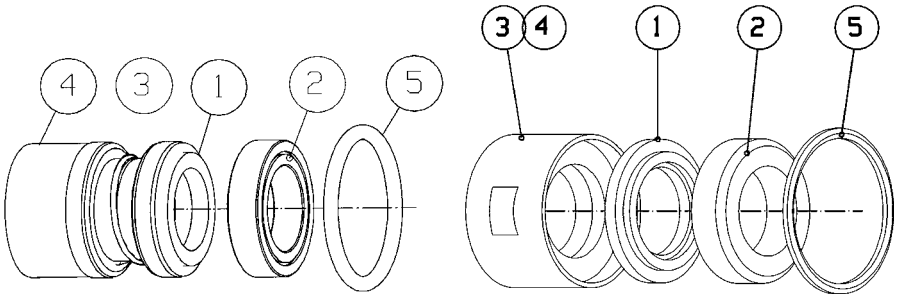
1) Motor
2) Sealing flange
3) Impeller
4) Seals

If a motor malfunction or a seal leak occurs, replacing the drive unit is simple and quick and does not require long periods of stoppage. No procedures need to be carried out on the piping, because there is no need to detach the pump housing.



Shaft seal

If a seal leak occurs in a new pump, e.g. during commissioning , it is possible to replace only the shaft seal with a new one.



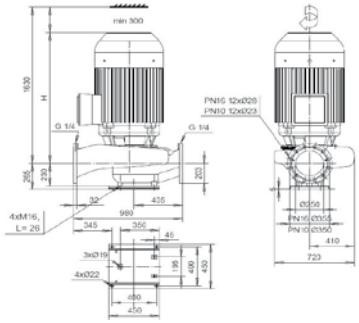
Parts of single mechanical shaft seal

1	Rotating ring
2	Stationary ring
3	Body/bellows
4	Spring
5	O-ring

Reading curves and selecting a pump

AL-1250/4 | **ALH-1250/4** | **ALS-1250/4** | **ALX-1250/4**

AL_-1250/4 DN250



	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KP-225 K2 F41	37	67,1	625	900
	KP-225 K2 F42	45	81,1	630	900
	KP-256 J2 F42	55	98,6	755	950
	KP-288 K2 F43	75	133,8	920	1070
	KP-288 K2 F43	90	156,9	935	1070
	KPR-314 H2 F43	110	189,2	1265	1330
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KP-225 K2 F42	45 (54)	80,4 (84,6)	630	900
	KP-256 J2 F42	55 (66)	96,8 (101,0)	755	950
	KP-288 K2 F43	75 (90)	135,1 (137,7)	920	1070
	KP-288 K2 F43	90 (105)	162,8 (158,2)	935	1070
	KPR-314 H2 F43	110 (132)	190,6 (195,8)	1265	1330

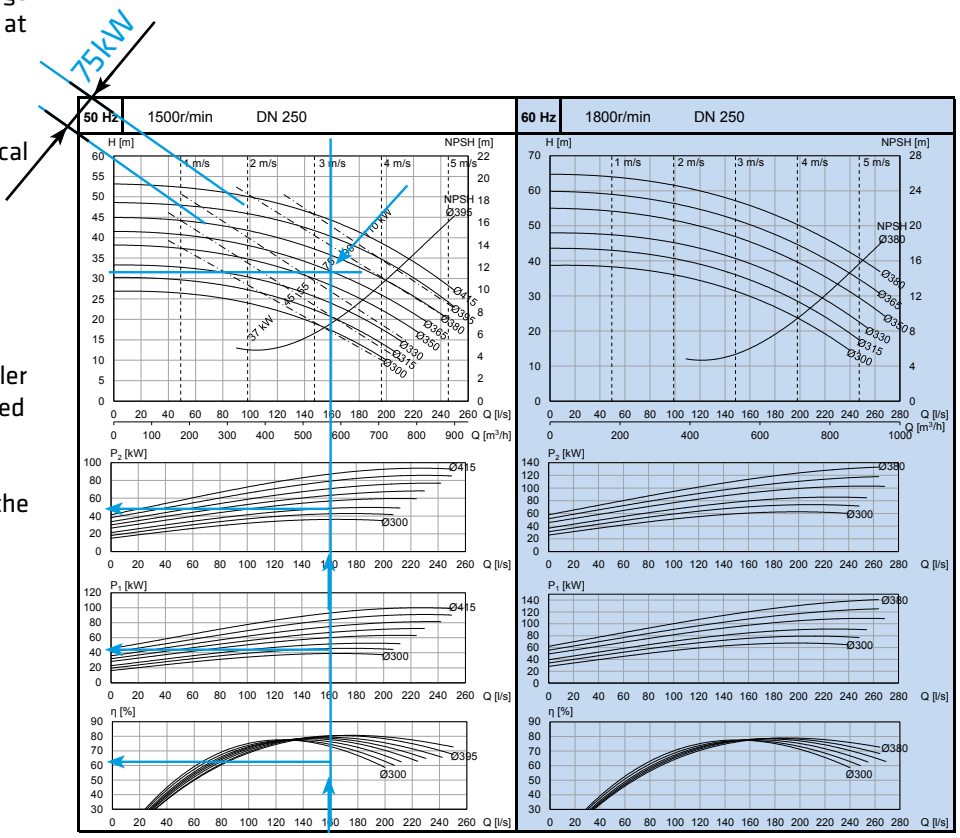
Selecting a fixed speed pump from 50 Hz pump curve (curves on the left)
E.g. duty point: flow =160 l/s, head = 35 m, liquid: water +20°C.

1. Use the quick selection chart at the beginning of the catalogue or browse through the product catalogue in order to find a pump of the correct size range such that the required flow 160 l/s is at the best efficiency point (η = 80%).

2. Select the impeller size [Ø= mm] from the QH curve by drawing a vertical line through the point of 160 l/s flow and, equivalently, a horizontal line through the the point of 35m head.

3. Find the impeller size at the intersection= 380 mm. Note! If the intersection falls between two impeller sizes, the impeller diameter is selected halfway between the two sizes.

4. Read the nominal shaft power of the motor from the section in which the QH curve is.
In this example, the motor nominal shaft power is P_2N = 75 kW.
According to the shaft power P_2, P_2 = 71 kW, the motor nominal power becomes P_2N = 75 kW (the closest highest motor nominal power).



5. Check the nominal current of the electric motor from the column on the right-hand side of the nominal power column in the table, I_N = 133.9 A. Select an overload protection for the motor according to nominal current.

6. Read the pump weight from the same table [kg] = 850 kg.

7. For energy calculation, read the electrical power of the device = P1 [kW], from the P1 curve with a required flow of Q = 160 l/s and at the point of the selected impeller size, Ø = 380 mm.
In this example, the device electrical power is P_1= 74 kW.

8. Energy cost = Electrical power P_1 [kW] x energy price [€/ kWh] x operating time [h].

Characteristic curves apply to +20°C water.

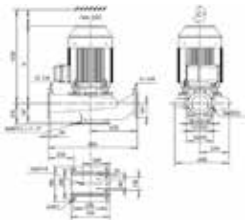
Note! Please contact Kolmeks for additional information on the following issues!

1. When pumping liquids whose viscosity differs from that of water, the effect of viscosity must be considered in pump selection.
2. Liquid density is directly proportional to the power requirement. The sufficiency of motor power must be checked for liquids denser than water.

Selecting an optimal pump for frequency converter operation from a 60Hz curve

CORRECTLY-SIZED PUMP

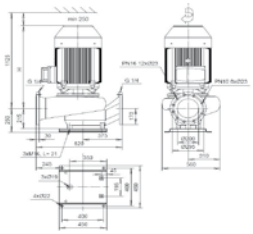
AL-1154/4 **ALH-1154/4** **ALS-1154/4** **ALX-1154/4** **ALM-1154/4**



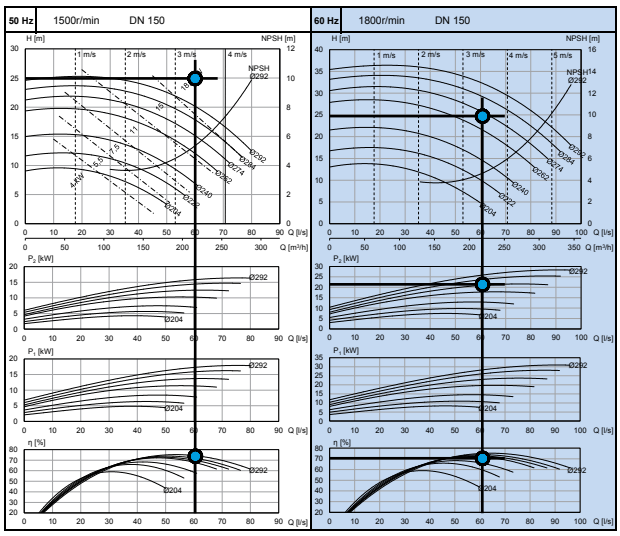
	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-132 C2 F31	4	8,13	177	500
	KH-132 E2 F31	5,5	10,95	184	500
	KP-134 H2 F31	7,5	14,58	214	600
	KP-166 G2 F31	11	22,51	270	690
	KP-166 G2 F31	15	28,86	275	690
	KP-187 K2 BF31	18,5	34,40	335	770
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	177	500
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	184	500
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	214	600
	KP-166 G2 F31	11 (13)	22,32 (22,78)	270	690
	KP-166 G2 F31	15 (18)	28,06 (29,43)	275	690
	KP-187 K2 BF31	18,5 (22)	34,20 (34,70)	335	770
	KP-187 K2 BF32	22 (26)	39,40 (40,30)	340	770
	KP-205 K2 F32	30 (36)	54,20 (56,50)	400	780

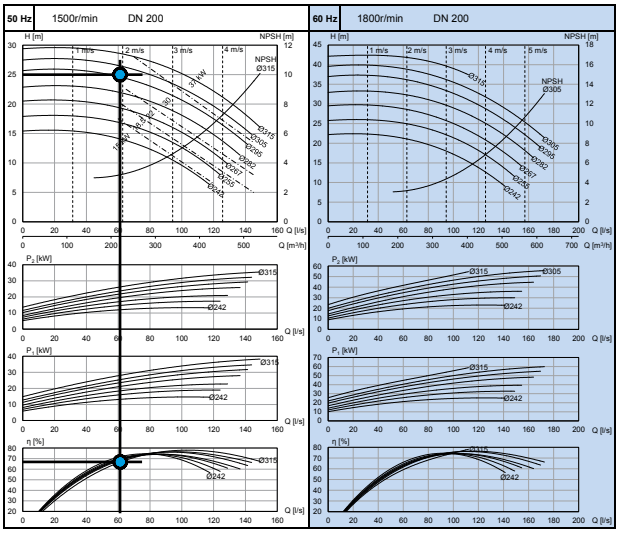
OVERSIZED PUMP

AL-1202/4 **ALH-1202/4** **ALP-1202/4** **ALS-1202/4** **ALX-1202/4** **ALM-1202/4**



	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KP-166 G2 F31	15	28,86	330	720
	KP-187 K2 BF31	18,5	34,4	405	830
	KP-187 K2 BF32	22	39,7	410	830
	KP-205 K2 F32	30	55,0	465	830
	KP-225 K2 F32	37	67,1	530	865
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	405	830
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	410	830
	KP-205 K2 F32	30 (36)	54,2 (56,5)	465	830
	KP-225 K2 F32	37 (44)	67,0 (70,1)	530	865
	KP-225 K2 F42	45 (54)	80,4 (84,6)	525	880





E.g. duty point: flow = 60 l/s, head = 25 m, pumped liquid being water +20°C.

1. Use the quick selection chart at the beginning of the catalogue or check the data sheets in the product catalogue to find a pump in the correct size range such that the required flow is in the best efficiency point. The AL-1154/4 pump is selected because its efficiency is the best in the required duty point η = 75%.
2. The duty point is outside the operating range of the AL-1154/4 50 Hz pump.
3. Usually when selecting the pump from the 50 Hz curve to the required higher duty point (Q = 60 l/s, 25 m), the next largest pump is selected.
   In the above example, we choose AL-1202/4, Ø300mm, P_2N = 30 kW, η = 67%. This is an oversized pump whose best flow range is within 100–120 l/s, where its efficiency is the highest η = 80 %.
4. Select the pump AL-1154/4 from the 60 Hz curve, whereby the impeller is Ø274mm.The nominal motor shaft power P_2N is selected according to the shaft power curve P_2.
   Shaft power P_2 = 21 kW and the next higher nominal power is P_2N = 22 kW.
   In this example, we choose AL-1154/4, Ø274mm, P_2N = 22 kW, η = 75%.

QH curves are available for 50 Hz and 60 Hz on the same data sheet in order to facilitate the customer's selection of the most energy efficient pump for frequency converter operation.

How does careful pump selection benefit the customer?

1. The pump saves energy, because it has been selected from the range of the best efficiency.
2. The total purchase cost is lower, because the pump, the electric motor and the frequency converter are one size smaller.
3. The pumps are designed to operate at the best efficiency where they run with low noise and vibration and have a long service life.
4. A smaller pump saves energy in partial flows, because its efficiency is better for the entire operating range.

NPSH and cavitation

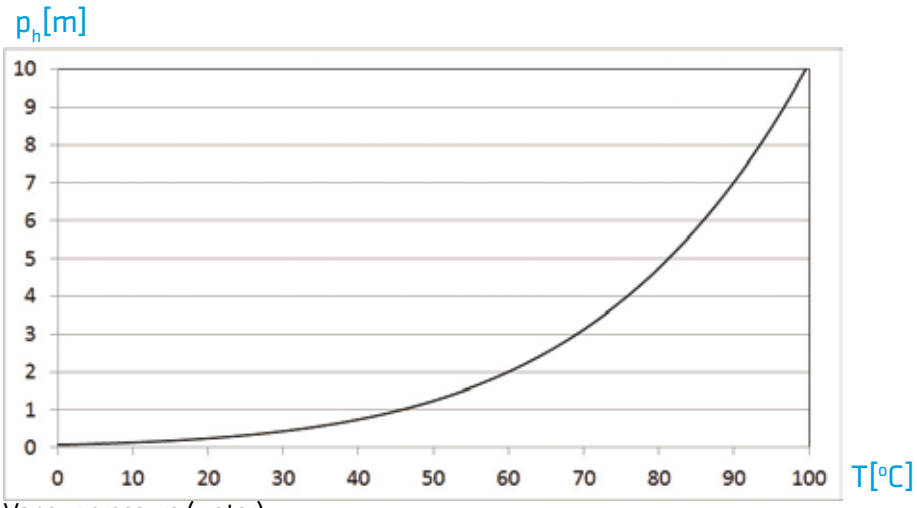
$NPSH_{re} < NPSH_{av}$

$NPSH_{re} < p + h - h_{suction} - p_h$

$NPSH_{re} < p_{suction} - p_h$

The $NPSH_{av}$ value of a system refers to the actual difference between inlet pressure (in the suction flange) and vapour pressure of the liquid being pumped. The $NPSH_{re}$ value required of the pump must be smaller than the $NPSH_{av}$ value in order to prevent cavitation from occurring. A safety margin of 0.5 m must be added to the measurement value.

$NPSH_{av}$ = difference between available inlet pressure (in suction flange) and vapour pressure of liquid being pumped
$NPSH_{re}$ = NPSH value required by the pump
p = Absolute air pressure
p_h = Absolute liquid vapour pressure at the operating temperature
h = Liquid geodetic suction head
$h_{suction}$ = Pressure losses in suction pipes
$p_{suction}$ = Absolute suction pressure



Vapour pressure (water)

At normal air pressure levels (10 m water column, 1,013 mbar = 760 mm Hg), clean water boils at 100°C. It can be seen from the curve that water boils at 60°C when the absolute pressure is 2 m wc (i.e. 8 m wc below atmospheric pressure). The boiling point of water at less than 40°C can be achieved at a very low pressure. Vice versa, at the top of Mount Everest, where air pressure is about 0.6 bar (6 m), water boils at +85°C.

Example:

Open tank (p = air pressure = 10 m) where the water temperature is + 90°C (ph = 7 m), suction pipe losses 1 m and liquid suction head flange +2 m. The pump duty point 20 l/s, 7.8 m.

Is the selected pump suitable for the use in question? An example of calculation:

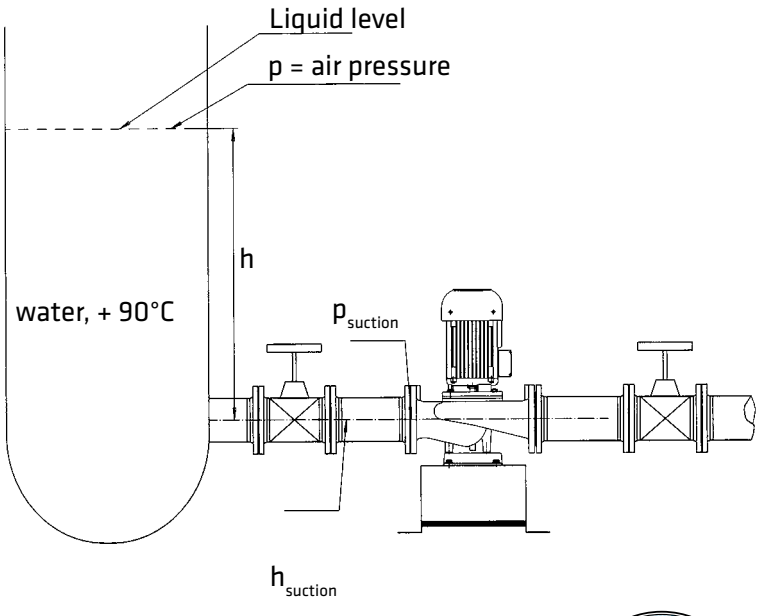
Pump type: AL_-1102/4/Ø188 2,2 kW

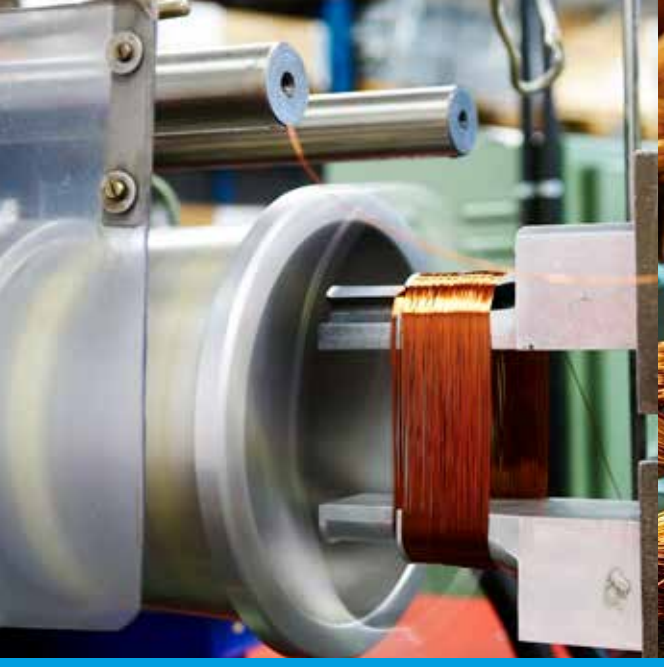
$NPSH_{re} < p + h - h_{suction} - p_h$

$NPSH_{re} < 10\ m + 2\ m - 1\ m - 7\ m$

$NPSH_{re} < 4\ m$

When observing the safety margin 0.5 m, the $NPSH_{re}$ value of the pump must be smaller than 3.5 m in order to prevent the pump from cavitating. $NPSH_{re}$ of pump AL_-1102/4/Ø188 = 2.7 m, whereby it will not cavitate.





KOLMEKS
EFFICIENT RELIABILITY

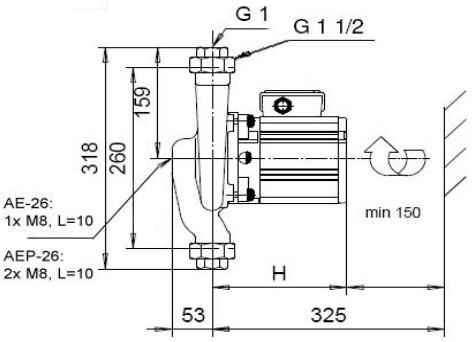
DATA SHEETS

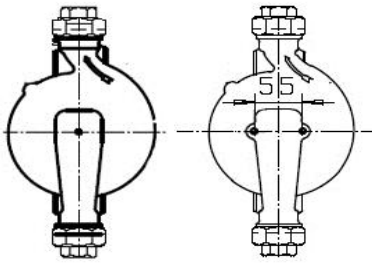
AE_-series, threaded G1 - G1 1/4

L_-, AL_- and AKN_-series, flanged DN32-DN300

www.kolmeks.fi/com

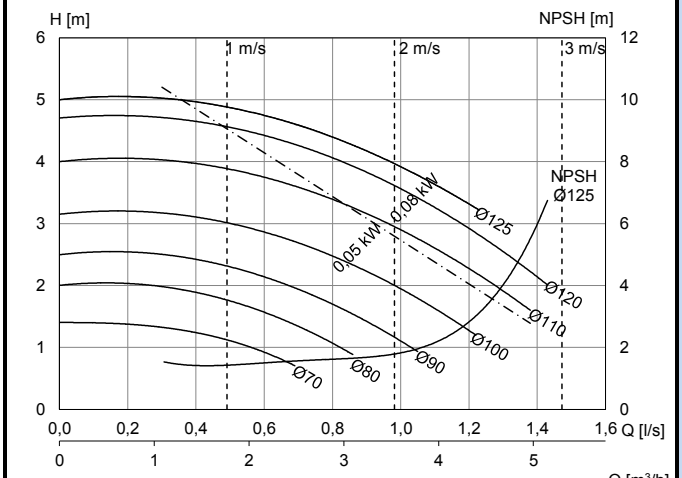
AE-26/4 AEP-26/4

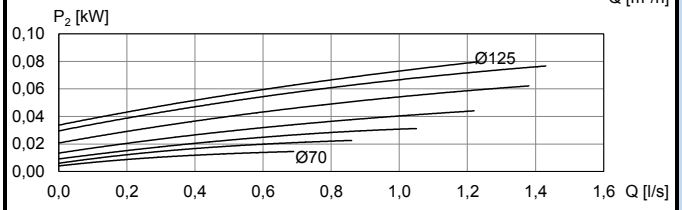


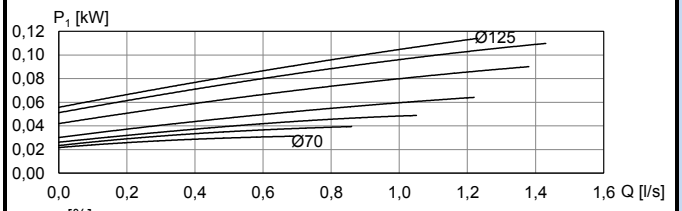


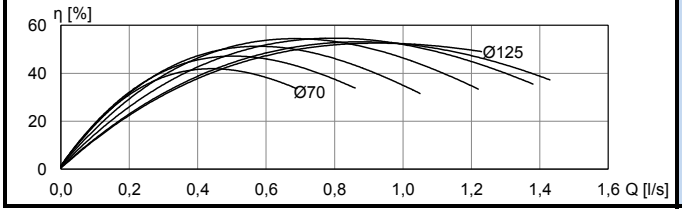
	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	OP-732 B N12	0,05	0,17	9,5	175
	OP-742 N12	0,08	0,23	10,5	175
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	OP-732 B N12	0,05 (0,06)	0,18 (0,18)	9,5	175
	OP-742 N12	0,08 (0,09)	0,23 (0,24)	10,5	175

50 Hz 1500r/min G 1

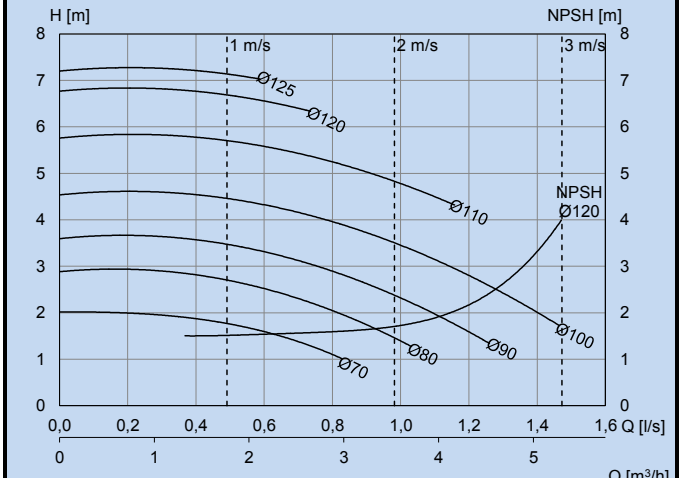


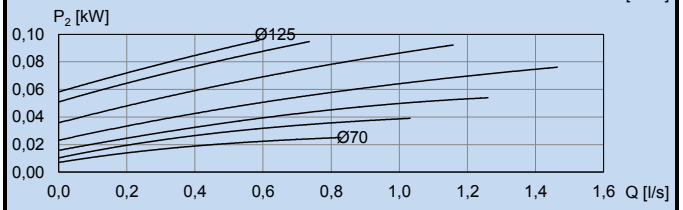


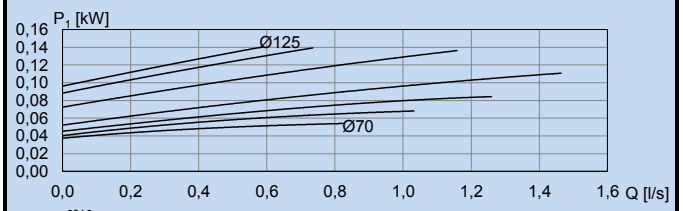


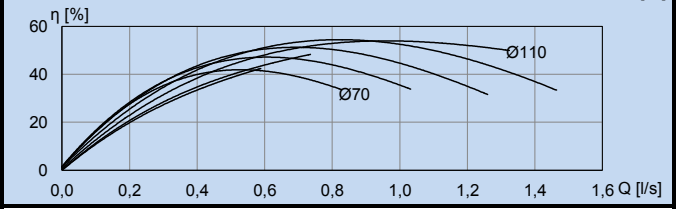


60 Hz 1800r/min G 1

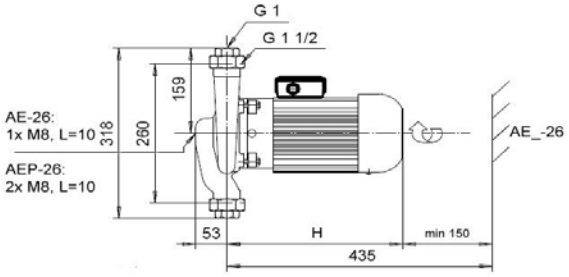


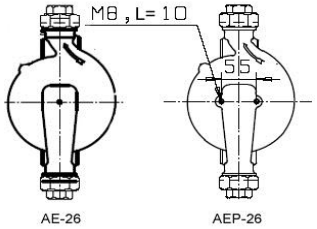






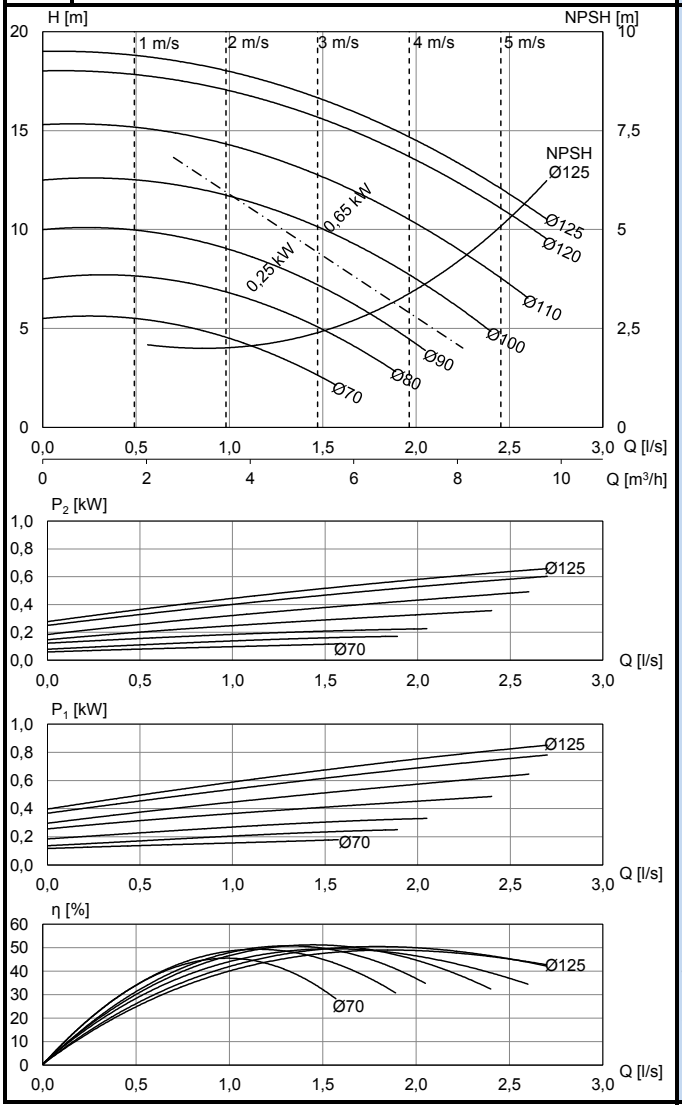
AE-26/2 AEP-26/2



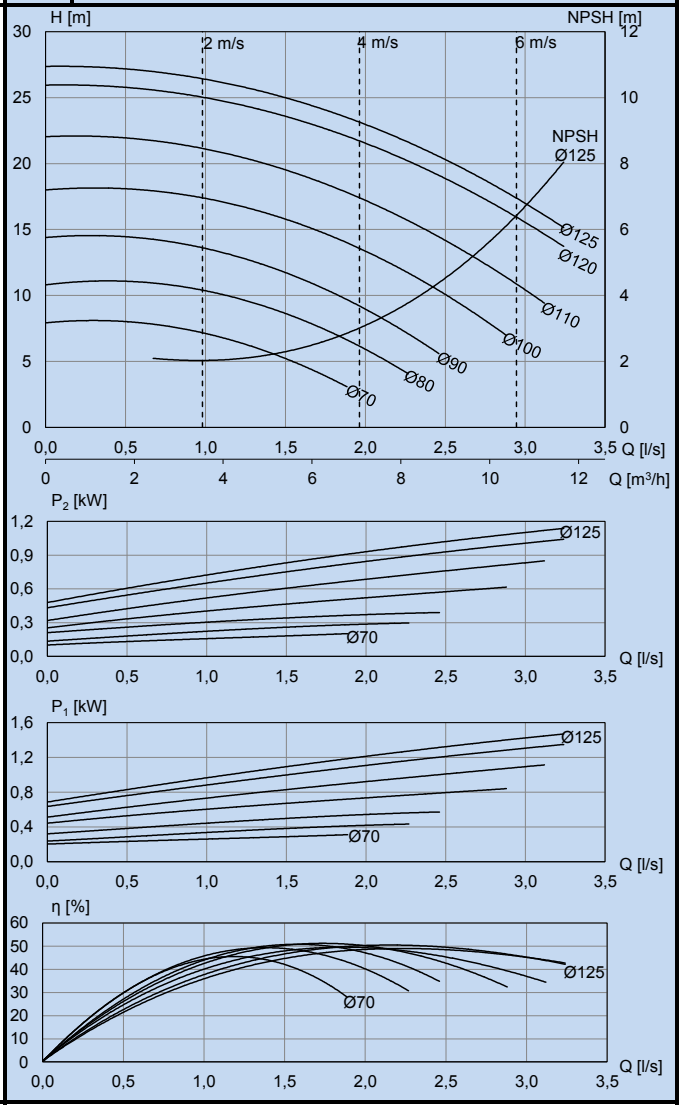


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OP-741 N12	0,25	0,66	10,5	215
	OKN-841 D N12	0,65	1,69	15	260
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OP-741 N12	0,25 (0,3)	0,67 (0,70)	10,5	215
	OKN-841 D N12	0,65 (0,75)	1,6 (1,6)	15	260
	KH-871 N12	1,1 (1,3)	2,35 (2,50)	17	295

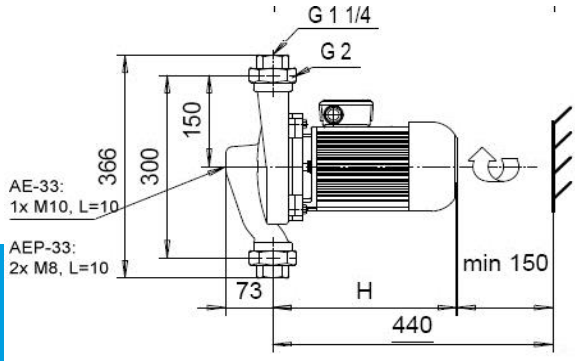
50 Hz 3000r/min G 1

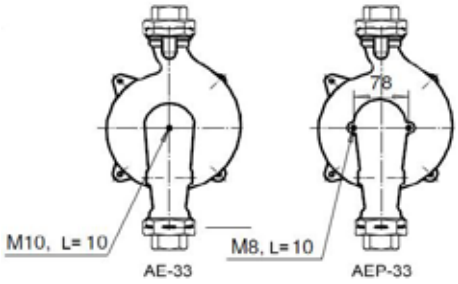


60 Hz 3600r/min G 1



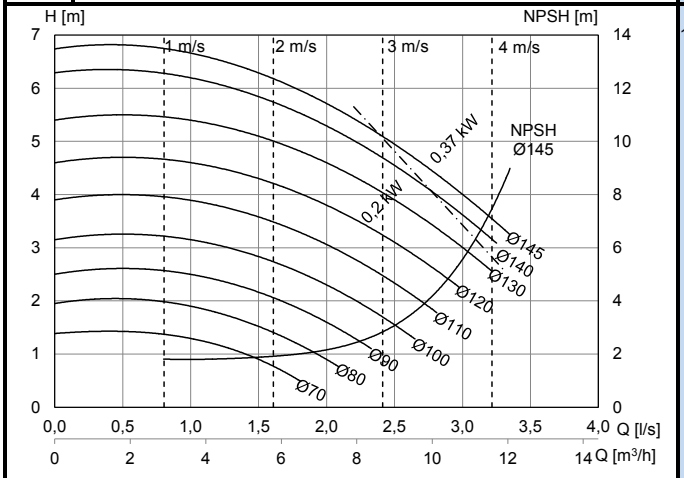
AE-33/4 AEP-33/4

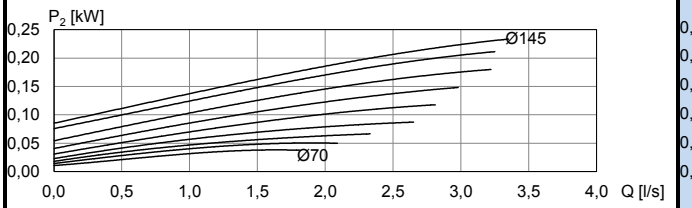


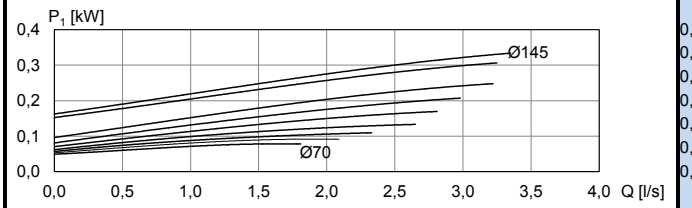


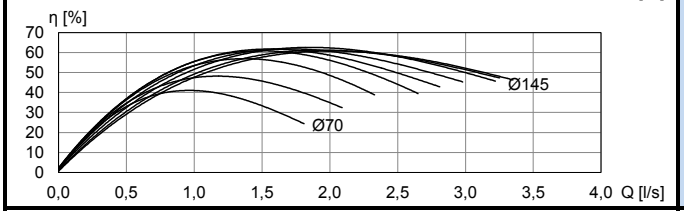
	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	OP-752 N13	0,2	0,57	16	240
	OKN-862L D N13	0,37	1,08	20	290
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	OP-752 N13	0,2 (0,24)	0,57 (0,60)	16	240
	OKN-862L D N13	0,37 (0,44)	1,1 (1,1)	20	290

50 Hz 1500r/min G 1 1/4

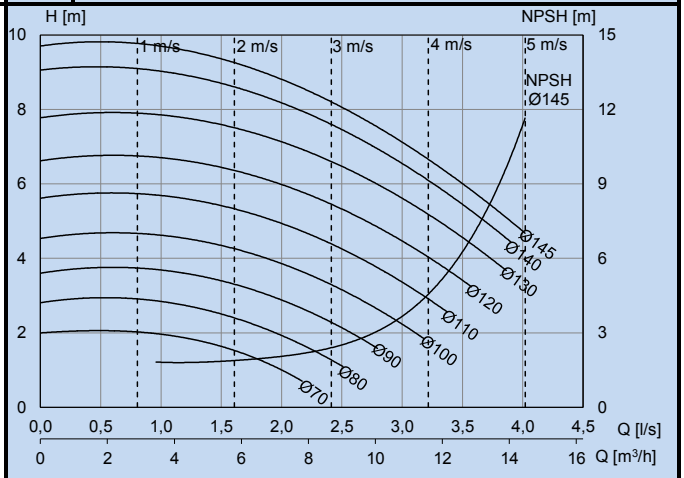


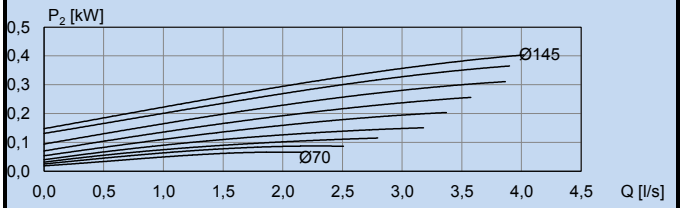


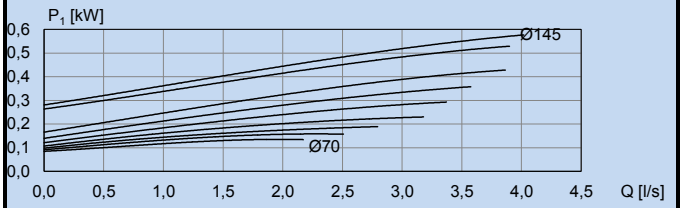


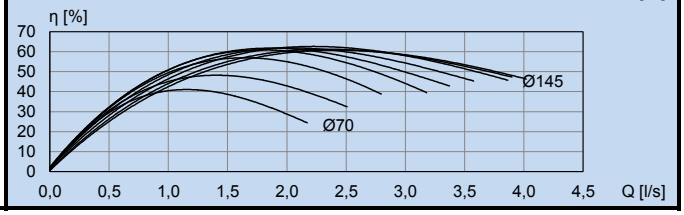


60 Hz 1800r/min G 1 1/4

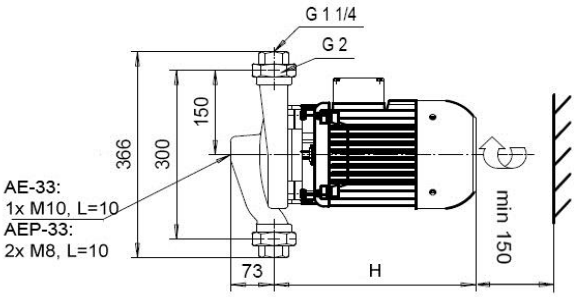




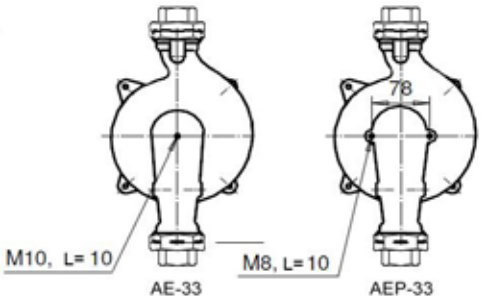




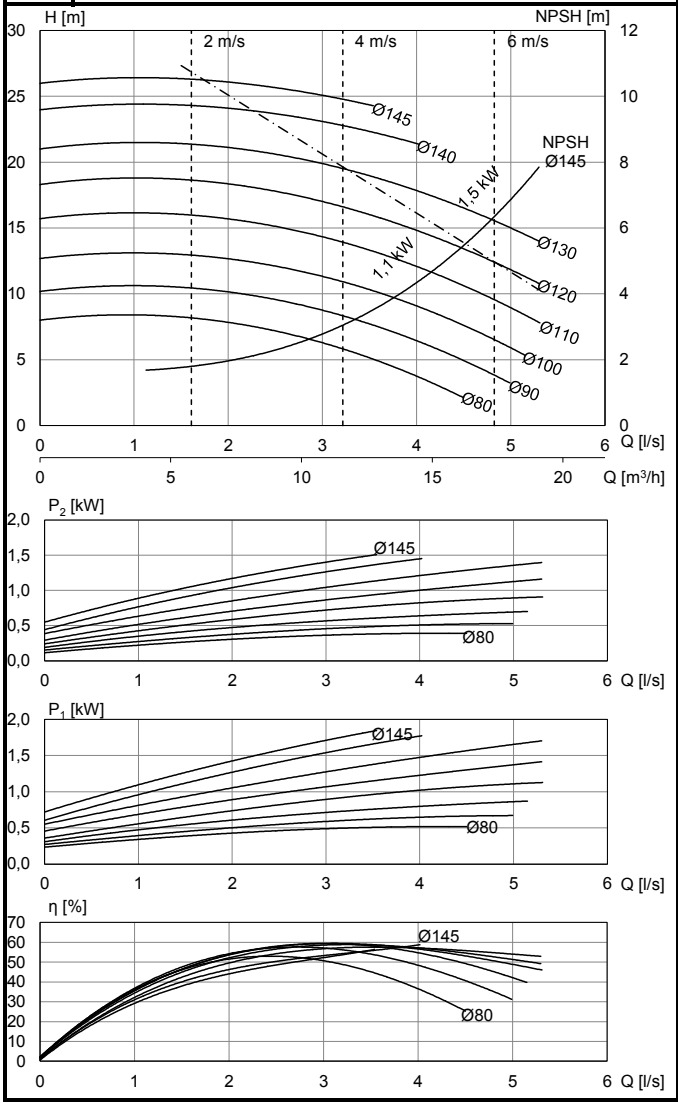
AE-33/2 AEP-33/2



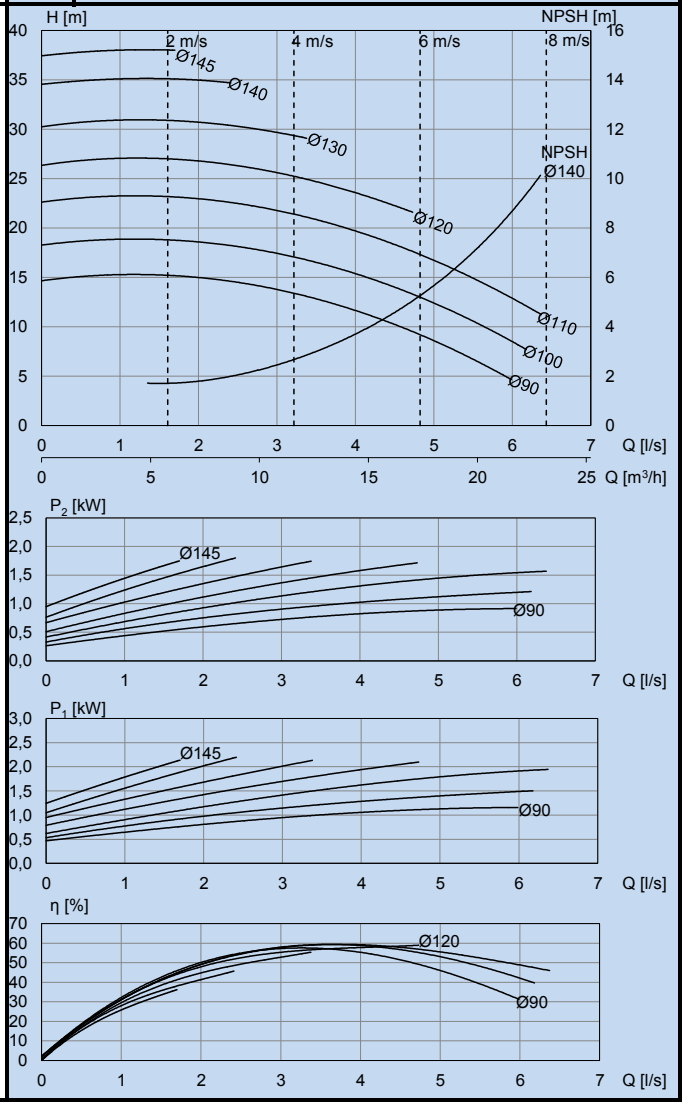
	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-871 N13	1,1	2,55	21	295
	KH-101 C1 N13	1,5	2,95	32	335
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KH-871 N13	1,1 (1,3)	2,35 (2,50)	21	295
	KH-101 C1 N13	1,5 (1,8)	2,98 (3,02)	32	335



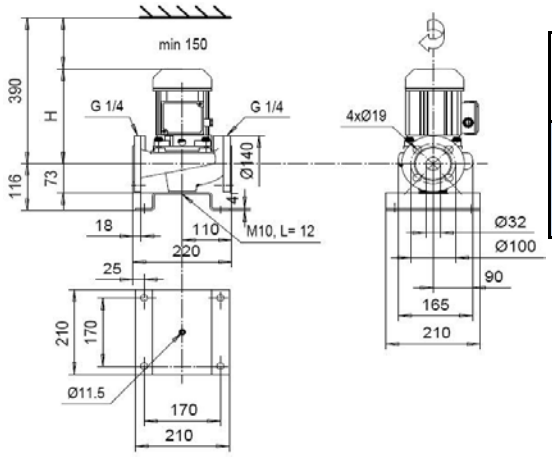
50 Hz 3000r/min G 1 1/4



60 Hz 3600r/min G 1 1/4

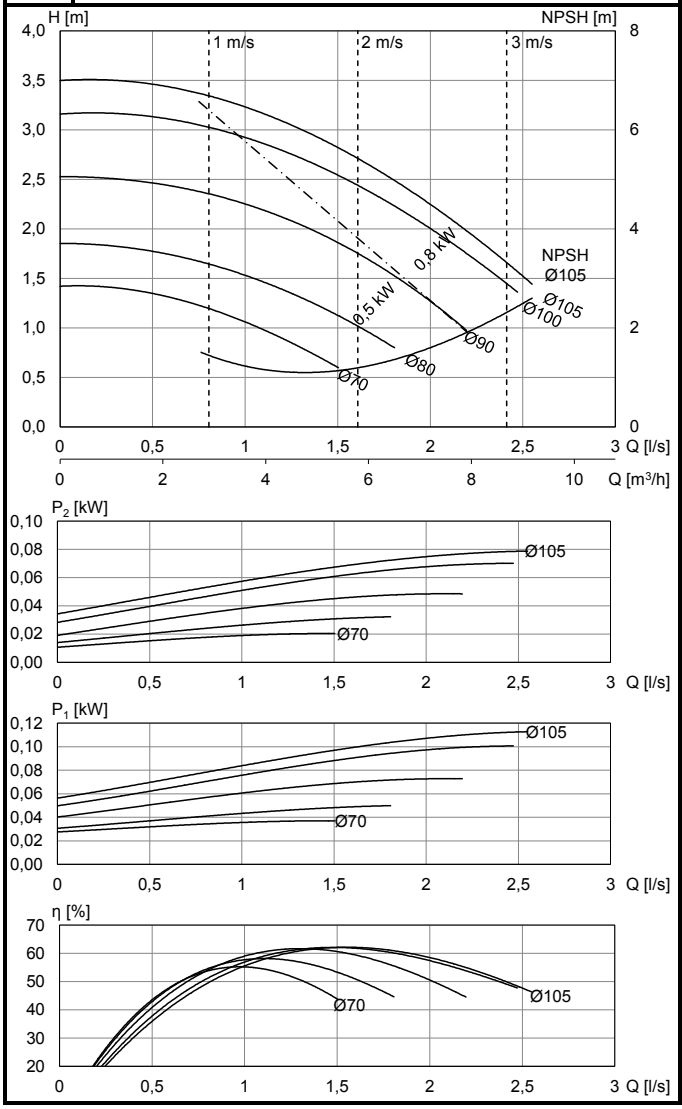


L-32A/4

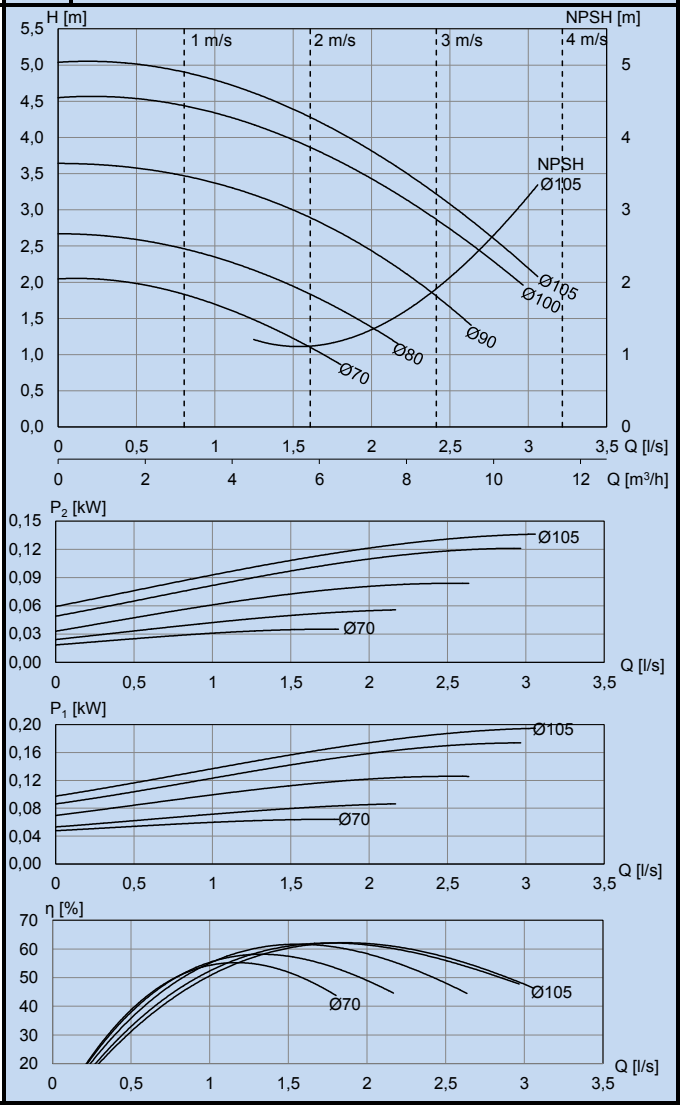


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OP-732 B N12	0,05	0,17	16	185
	OP-742 N12	0,08	0,23	16,5	185
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OP-732 B N12	0,05 (0,06)	0,18 (0,18)	16	185
	OP-742 N12	0,08 (0,09)	0,23 (0,24)	16,5	185
	OP-752 N12	0,2 (0,24)	0,65 (0,65)	19	240

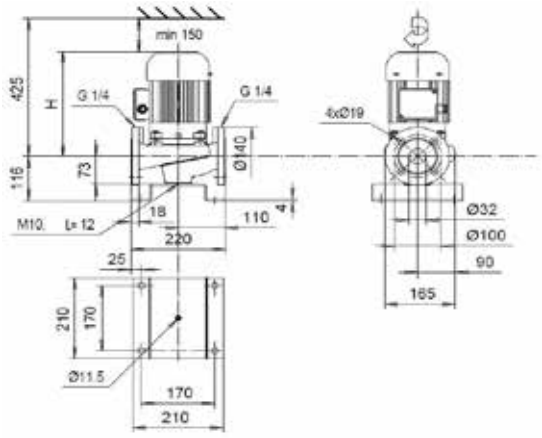
50 Hz 1500r/min DN 32



60 Hz 1800r/min DN 32

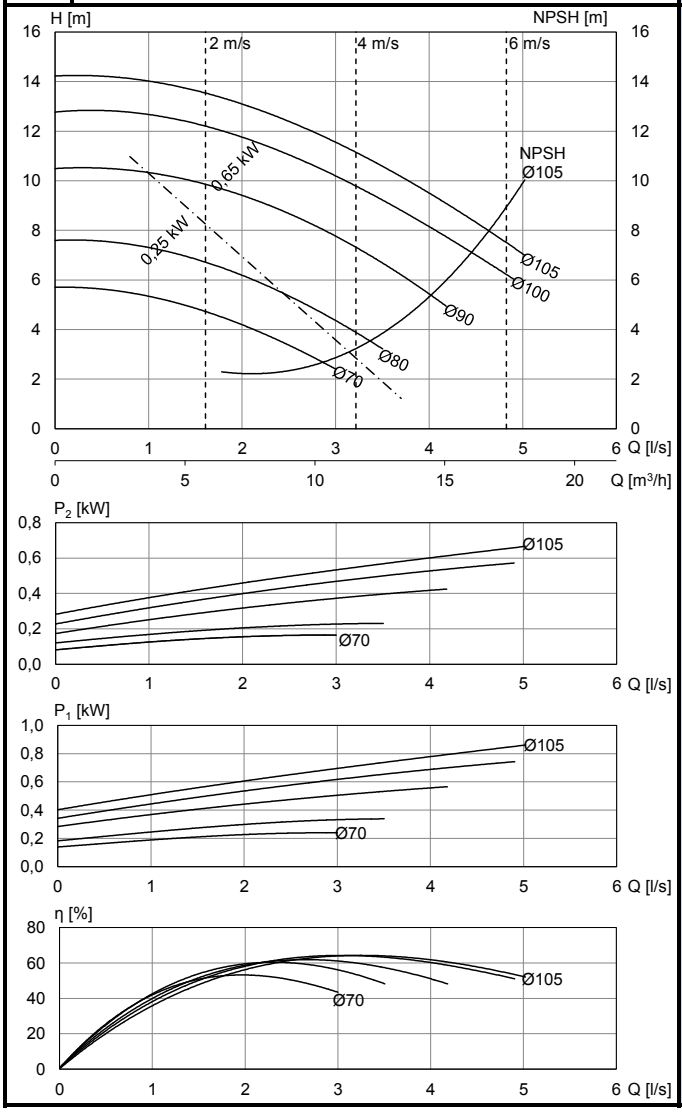


L-32A/2

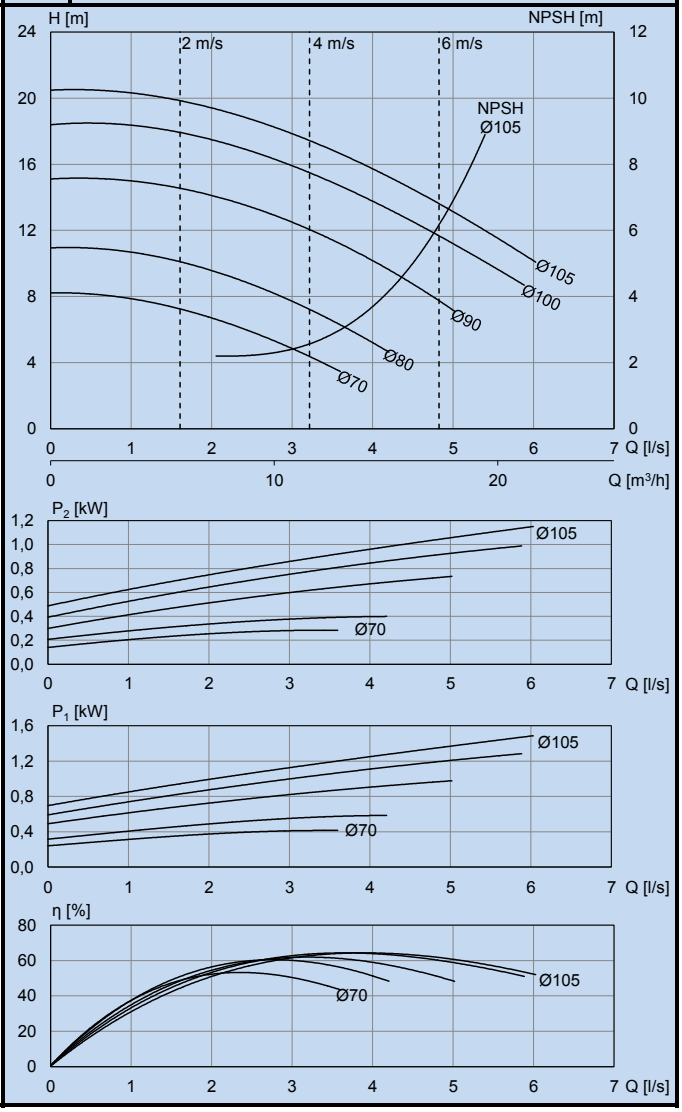


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OP-741 N12	0,25	0,66	17	225
	OKN-841 D N12	0,65	1,69	21	275
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OP-741 N12	0,25 (0,3)	0,67 (0,70)	17	225
	OKN-841 D N12	0,65 (0,75)	1,6 (1,6)	21	275
	KH-871 N12	1,1 (1,3)	2,35 (2,5)	24	295

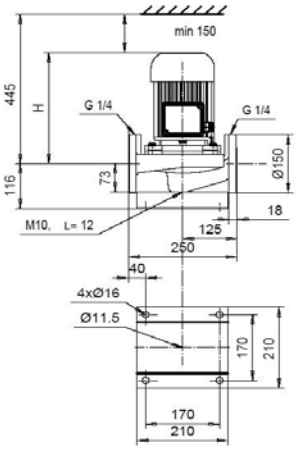
50 Hz 3000r/min DN 32

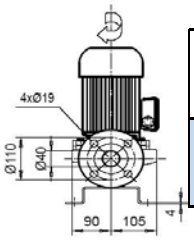


60 Hz 3600r/min DN 32



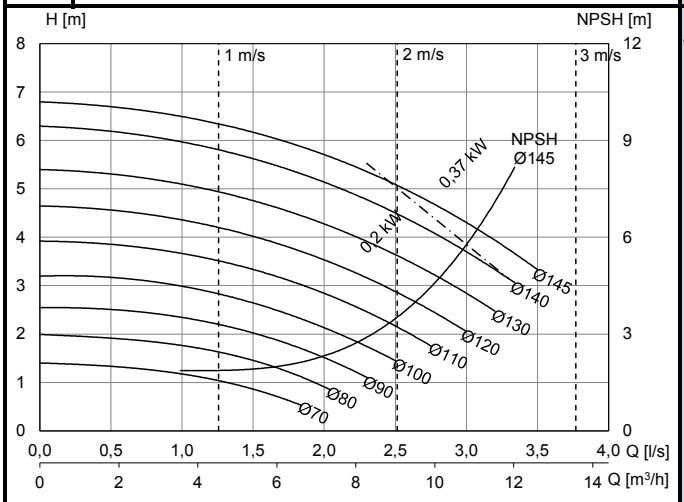
L-40A/4

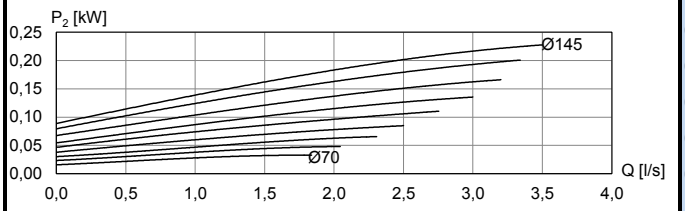


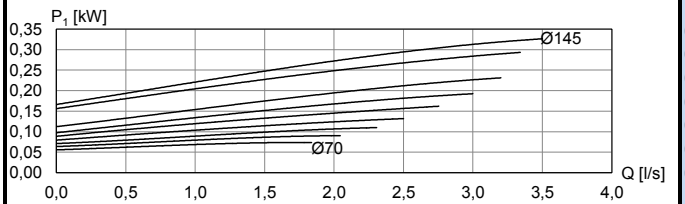


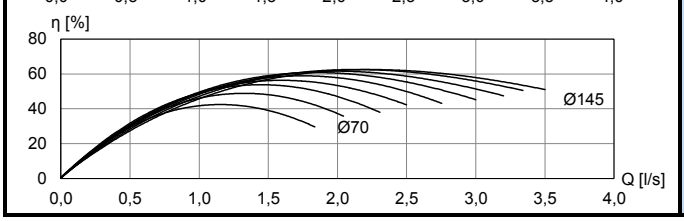
	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	OP-752 N13	0,2	0,57	21	240
	OKN-862L D N13	0,37	1,08	25	295
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	OP-752 N13	0,2 (0,24)	0,57 (0,60)	21	240
	OKN-862L D N13	0,37 (0,44)	1,10 (1,10)	25	295

50 Hz 1500r/min DN 40

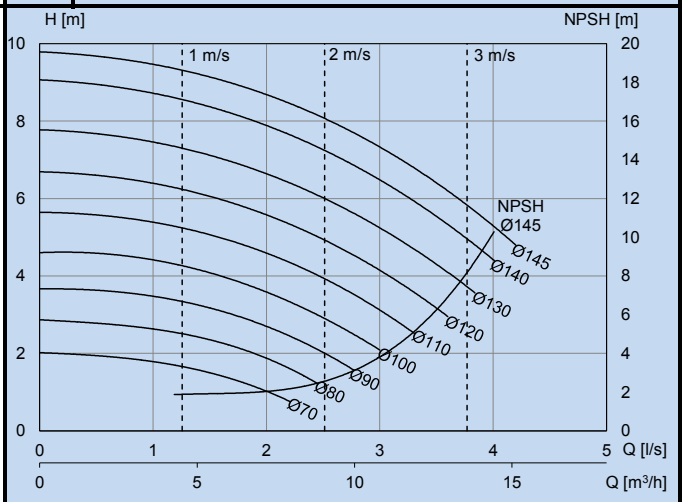


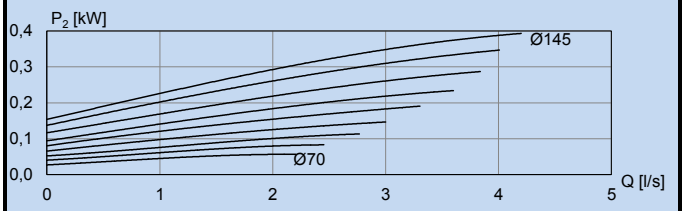


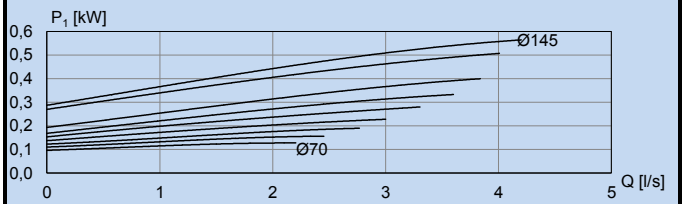


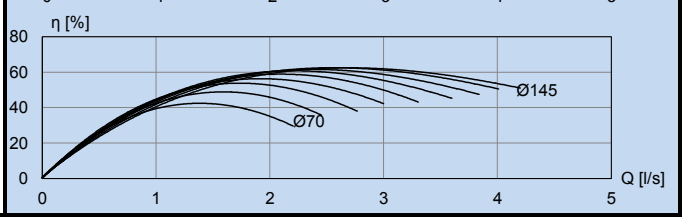


60 Hz 1800r/min DN 40

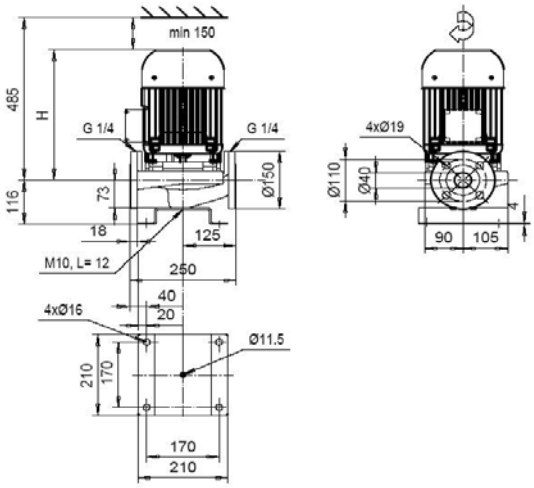






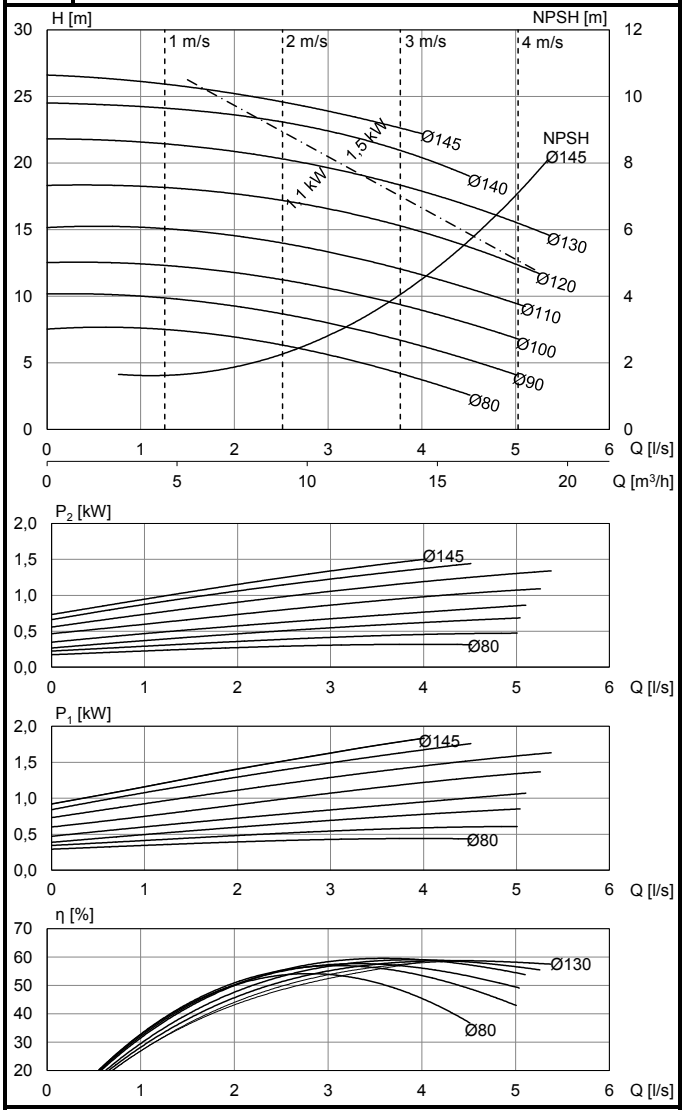


L-40A/2

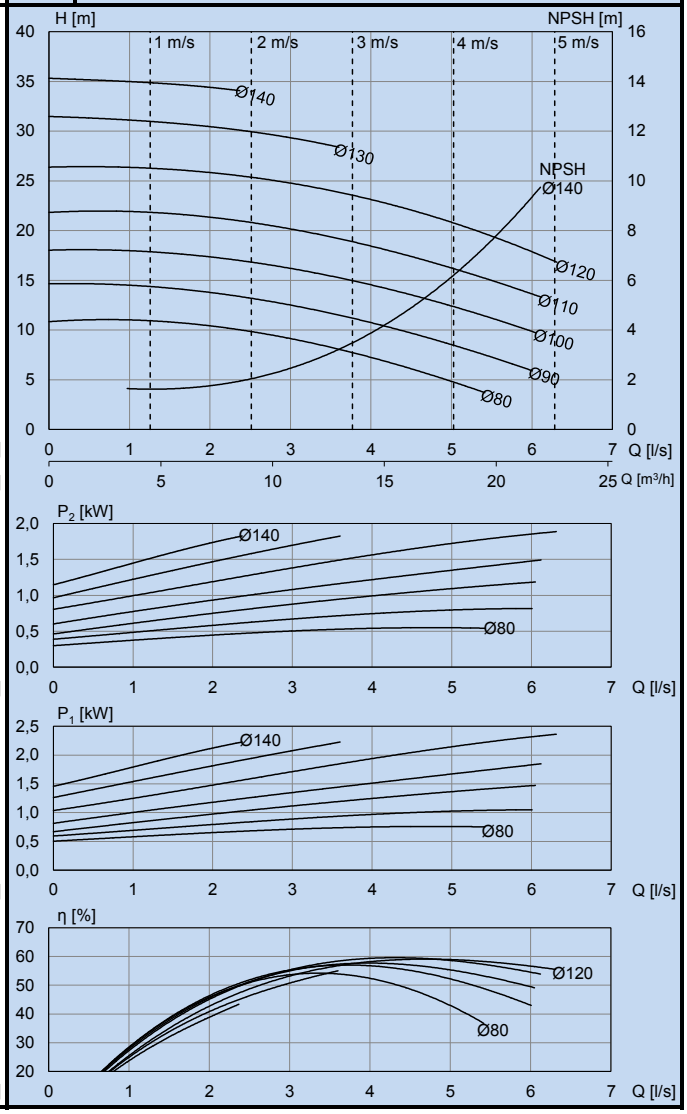


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-871 N13	1,1	2,55	26	295
	KH-101 C1 N13	1,5	2,95	37	335
60HZ	**Motor 380-400V(460-480V)**	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
	KH-871 N13	1,1 (1,3)	2,35 (2,50)	26	295
	KH-101 C1 N13	1,5 (1,8)	2,98 (3,02)	37	335

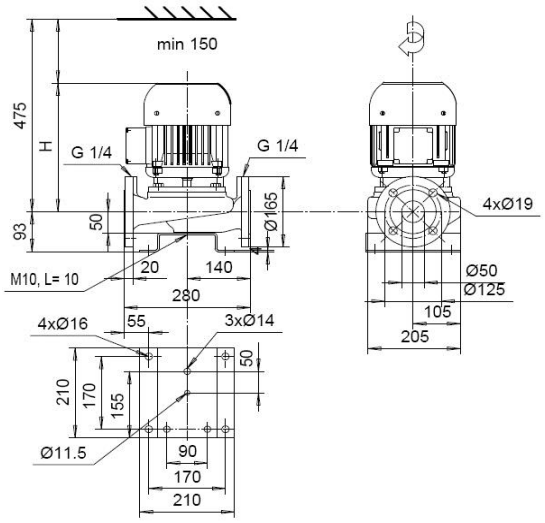
50 Hz 3000r/min DN 40



60 Hz 3600r/min DN 40

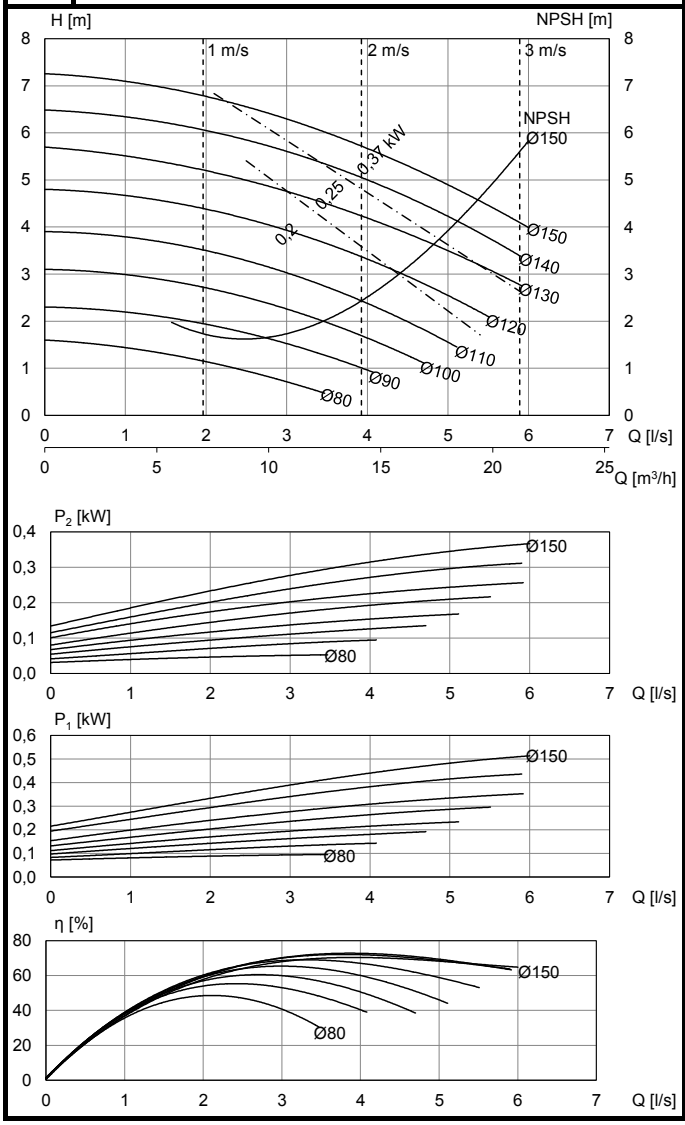


L-50A/4 | LH-50A/4 | LP-50A/4

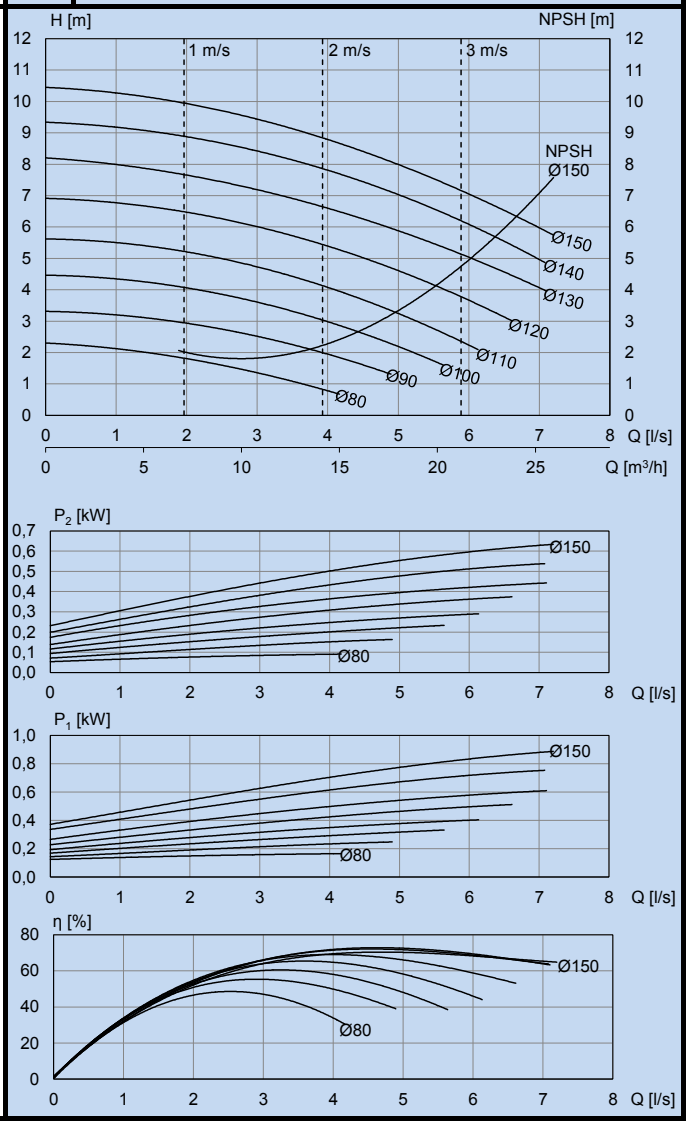


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OP-752 F15	0,2	0,57	23	250
	OP-762 F15	0,25	0,71	23	250
	OKN-862 D F15	0,37	1,08	27	280
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OP-752 F15	0,2 (0,24)	0,57 (0,60)	23	250
	OP-762 F15	0,25 (0,3)	0,72 (0,72)	23	250
	OKN-862 D F15	0,37 (0,44)	1,10 (1,10)	27	280
	KH-100 A2 F15	0,55 (0,66)	1,28 (1,30)	35	325

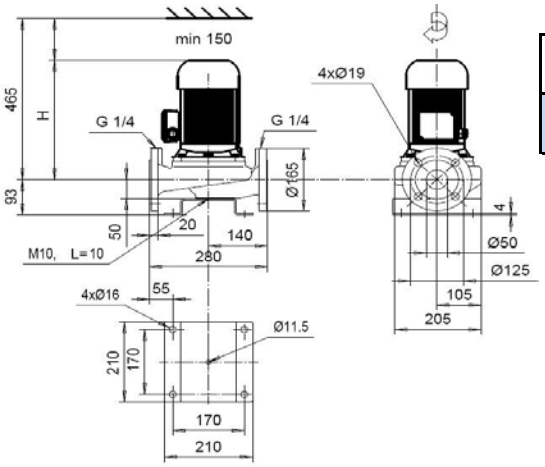
50 Hz 1500r/min DN 50



60 Hz 1800r/min DN 50

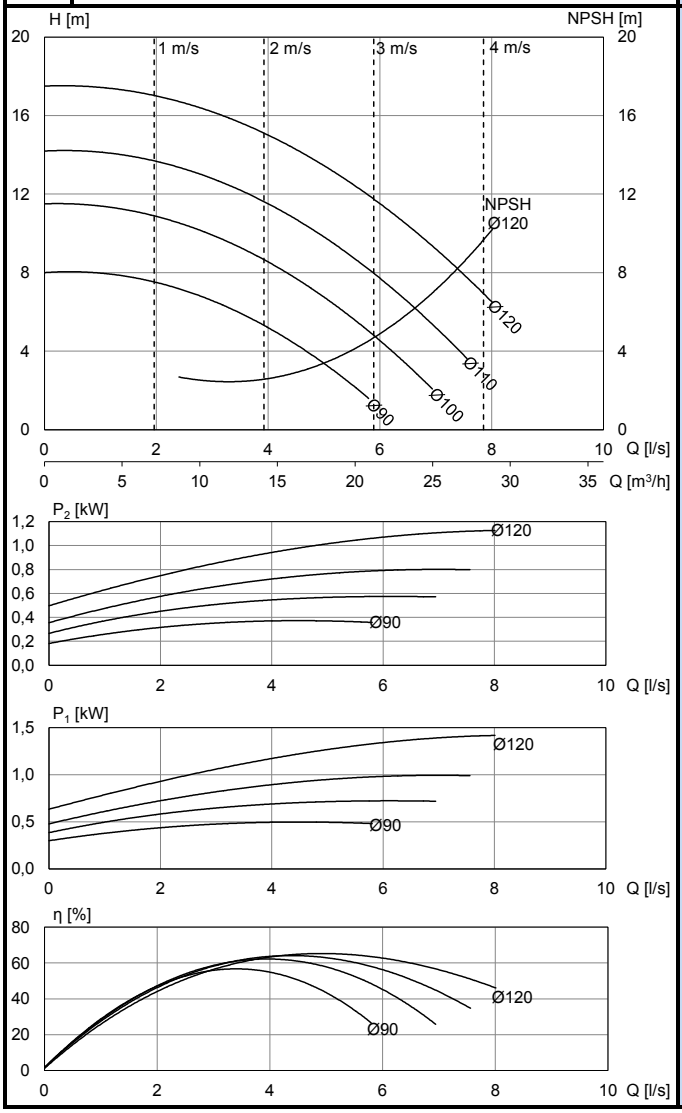


L-50B/2 | LH-50B/2 | LP-50B/2

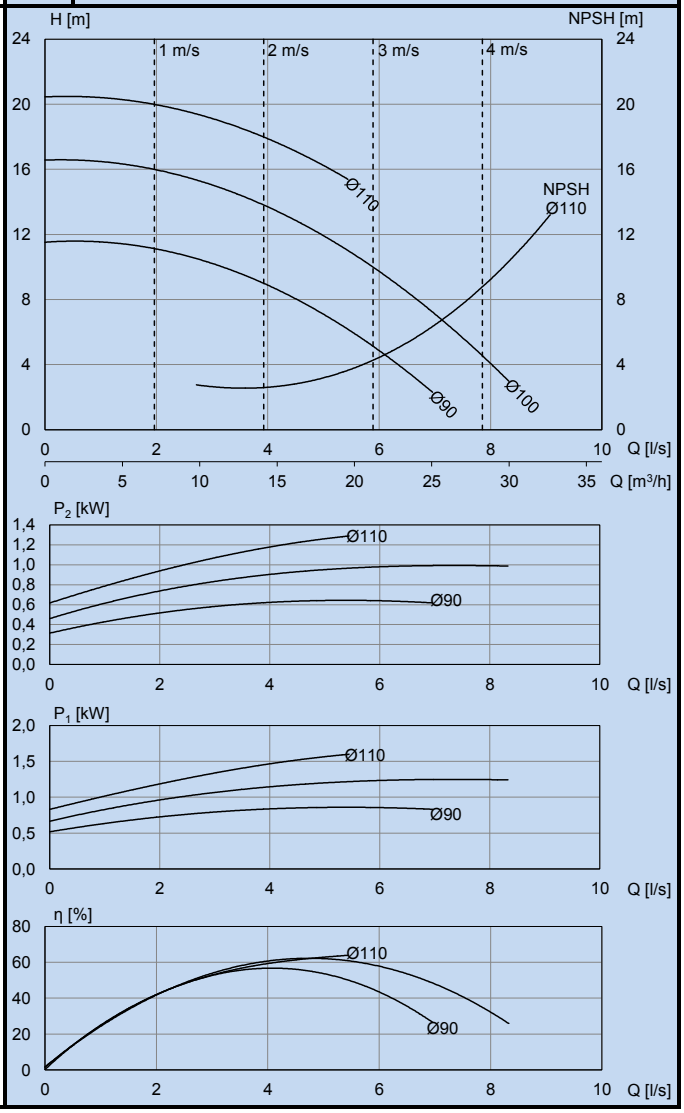


50HZ	**Motor 400V**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-871 F15	1,1	2,55	30	315
60HZ	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-871 F15	1,1 (1,3)	2,35 (2,50)	30	315

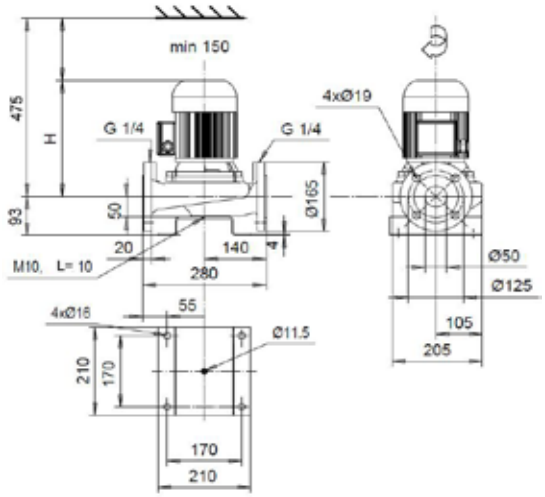
50 Hz 3000r/min DN 50



60 Hz 3600r/min DN 50

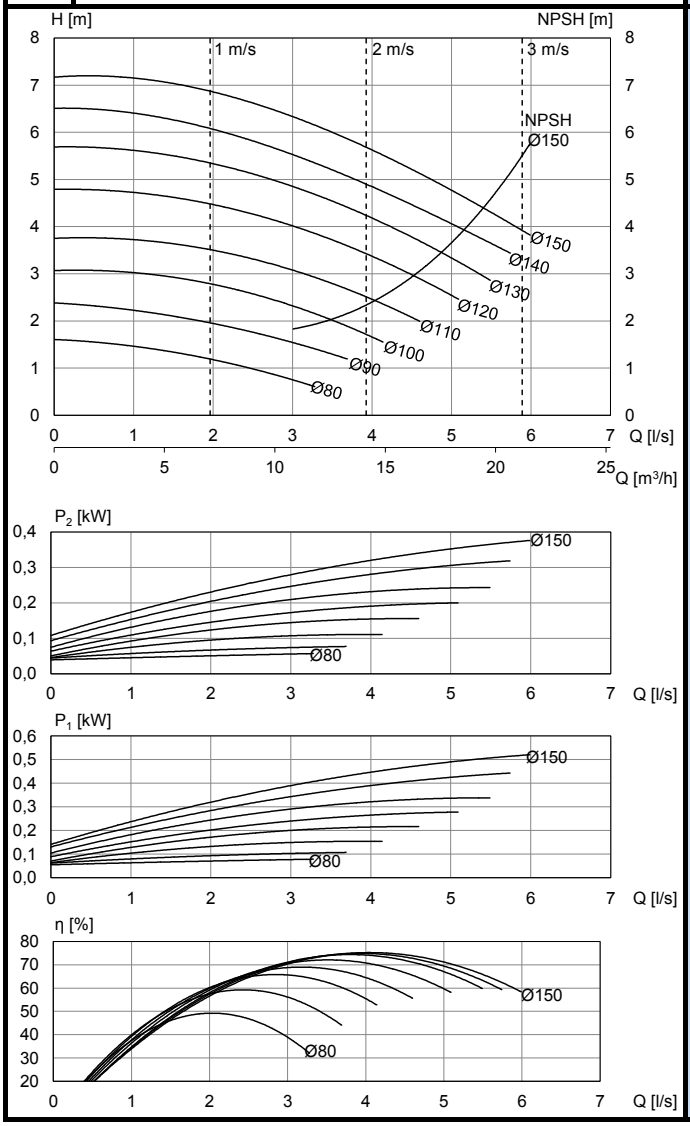


L-50D/4 | LH-50D/4 | LP-50D/4

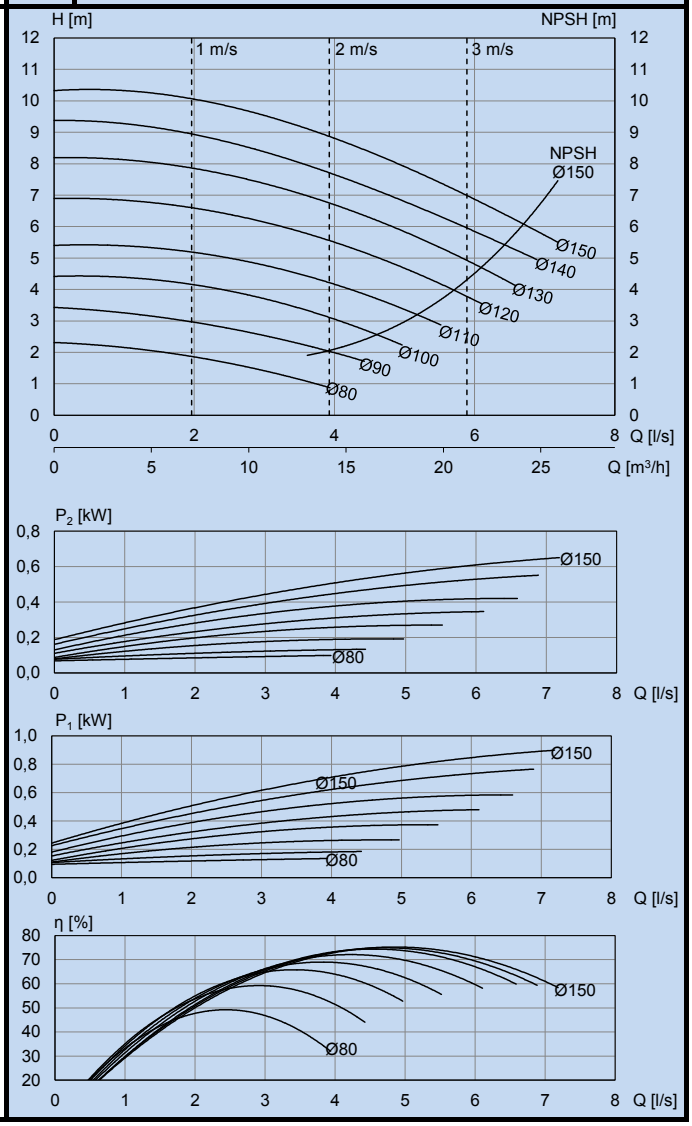


50Hz	**Motor 400V**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	OKN-862L D F16	0,37	1,15	30	280
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	OKN-862L D F16	0,37 (0,44)	1,15 (1,15)	30	280
	KH-100 A2 F15	0,55 (0,66)	1,28 (1,30)	35	325

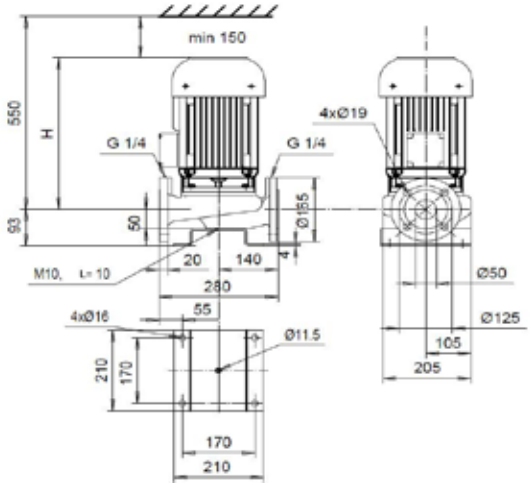
50 Hz 1500r/min DN 50



60 Hz 1800r/min DN 50

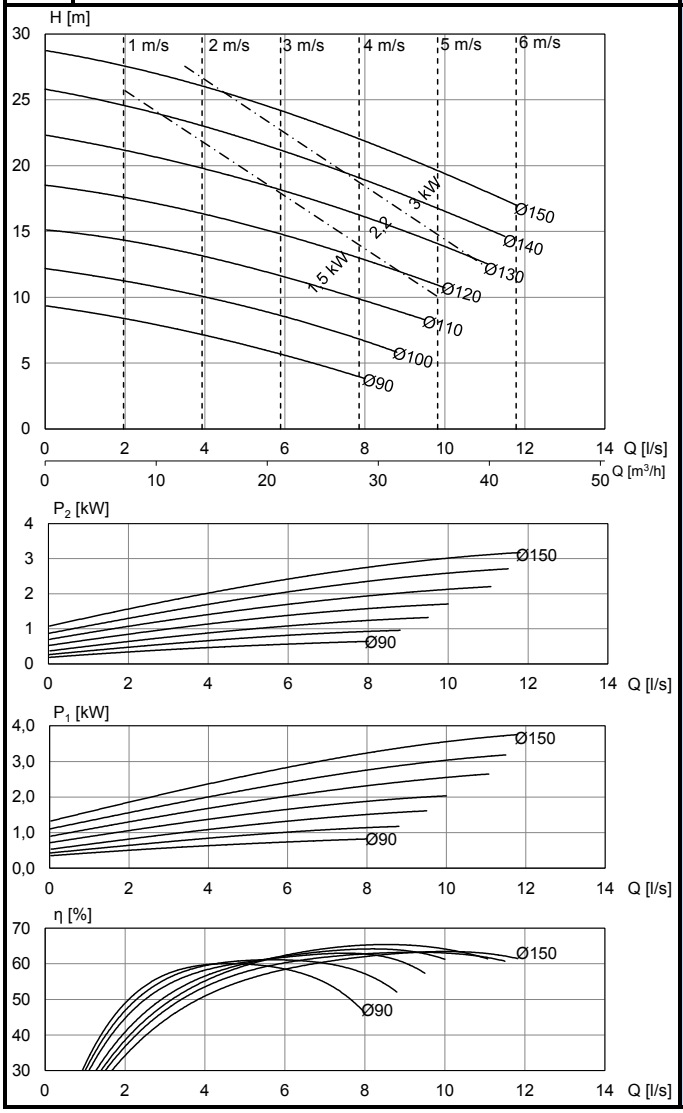


L-50D/2 | LH-50D/2 | LP-50D/2

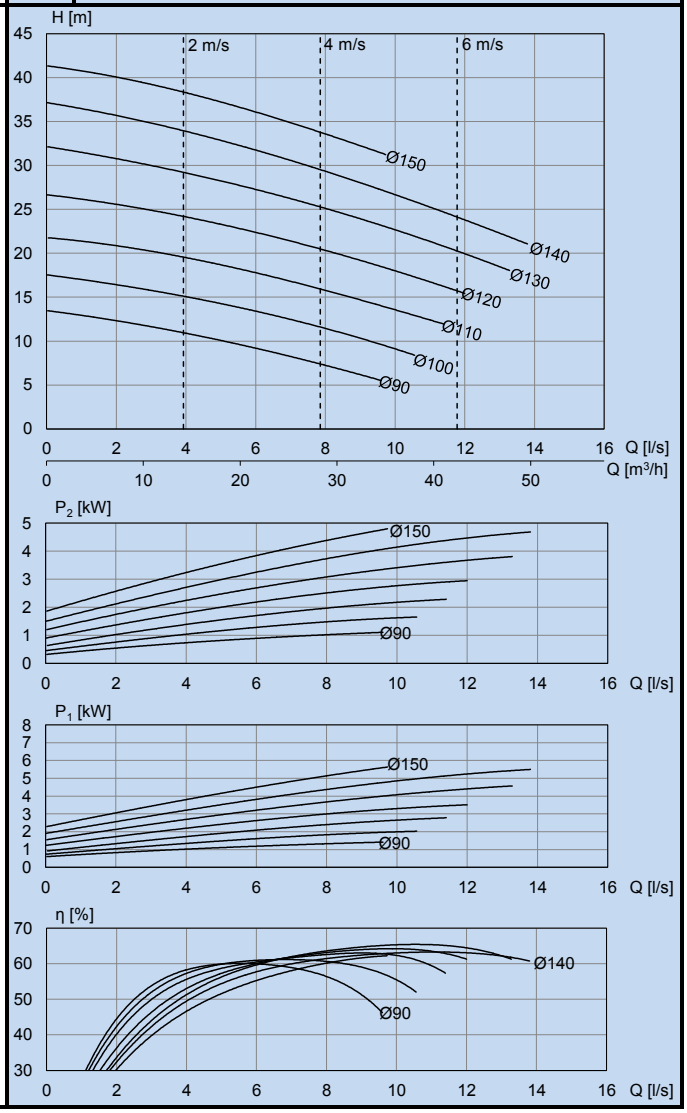


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-101 C1 F16	1,5	2,95	40	355
	KH-101 D1 F16	2,2	4,28	43	355
	KH-112 C1 F16	3	6,05	49	400
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KH-101 C1 F16	1,5 (1,8)	2,98 (3,02)	40	355
	KH-101 D1 F16	2,2 (2,6)	4,35 (4,33)	43	355
	KH-112 C1 F16	3 (3,6)	6,0 (6,05)	49	400
	KH-112 E1 F16	4 (4,8)	7,9 (8,0)	54	400

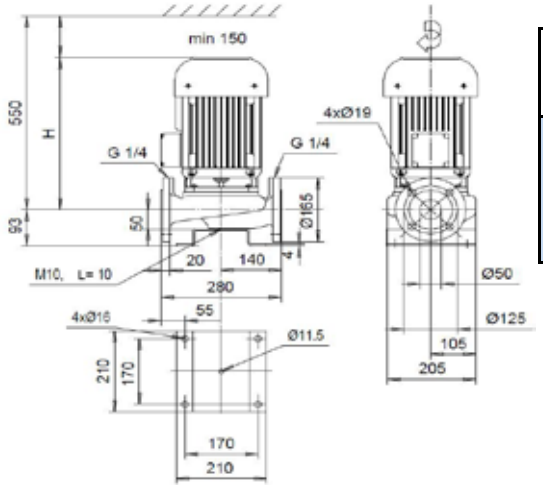
50 Hz 3000r/min DN 50



60 Hz 3600r/min DN 50

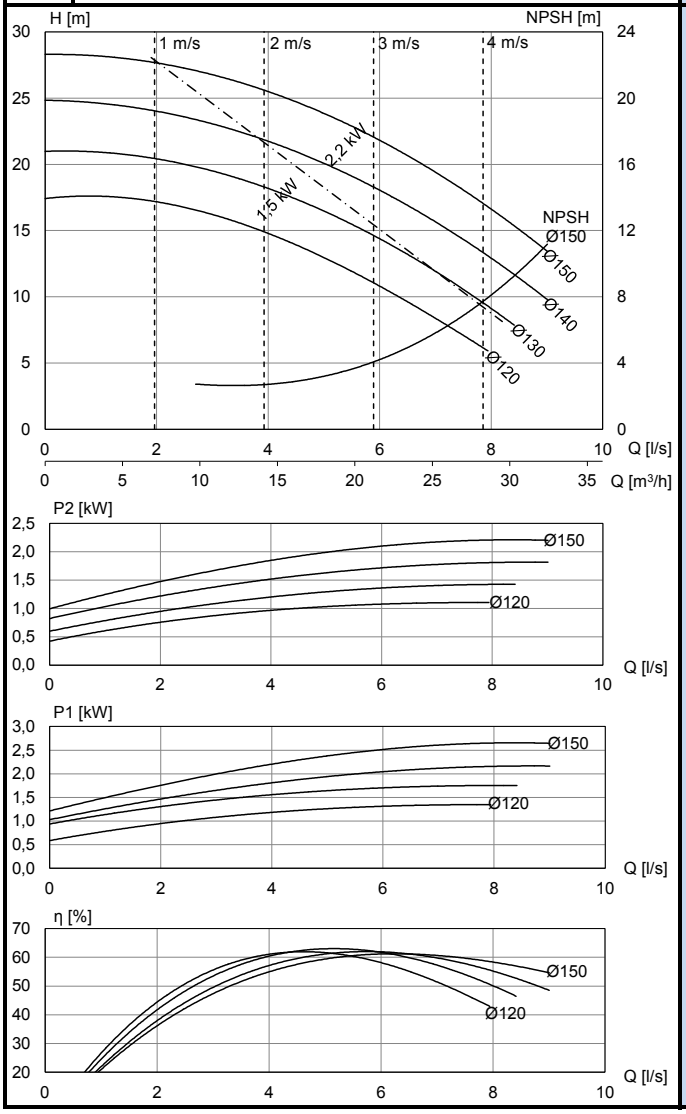


L-50C/2 | LH-50C/2 | LP-50C/2

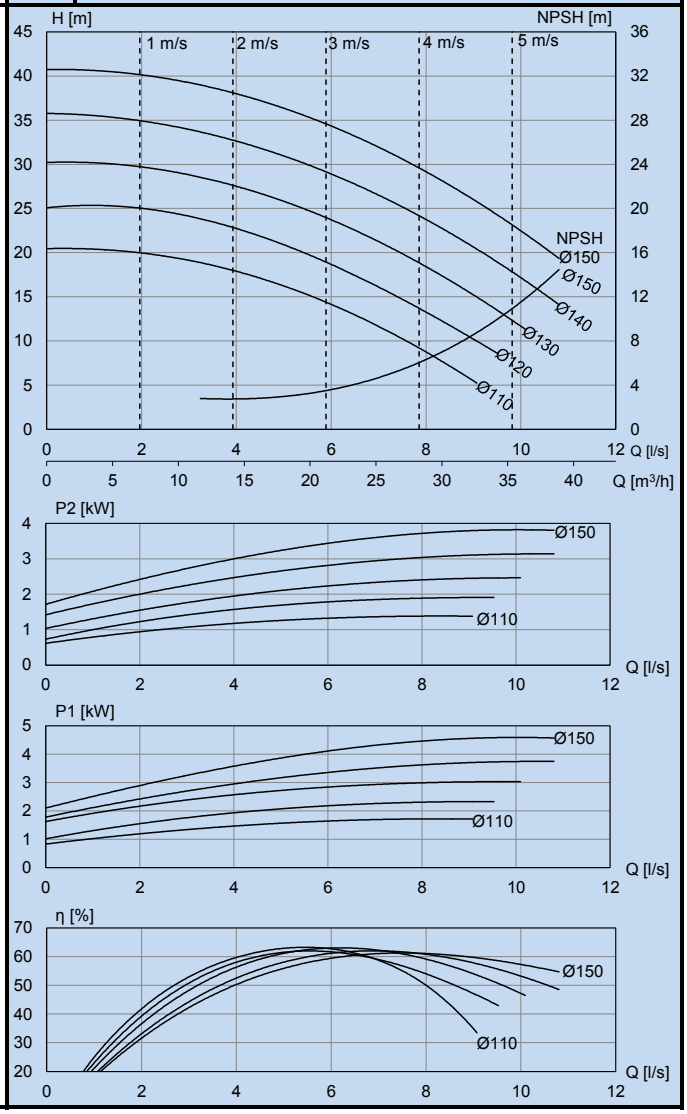


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 C1 F16	1,5	2,95	40	355
	KH-101 D1 F16	2,2	4,28	43	355
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 C1 F16	1,5 (1,8)	2,98 (3,02)	40	355
	KH-101 D1 F16	2,2 (2,6)	4,35 (4,33)	43	355
	KH-112 C1 F16	3 (3,6)	6,00 (6,05)	49	400
	KH-112 E1 F16	4 (4,8)	7,9 (8,0)	54	400

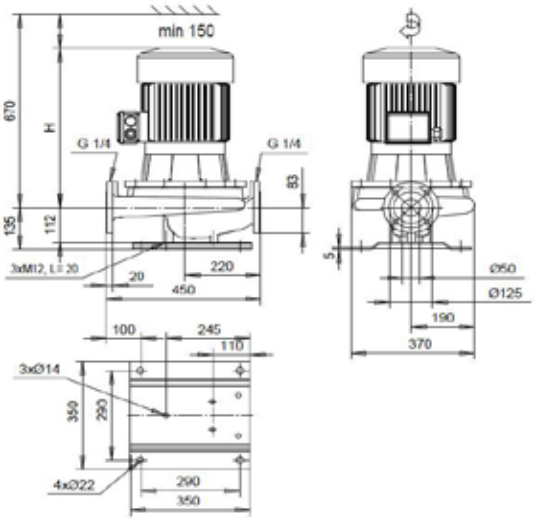
50 Hz 3000r/min DN 50



60 Hz 3600r/min DN 50

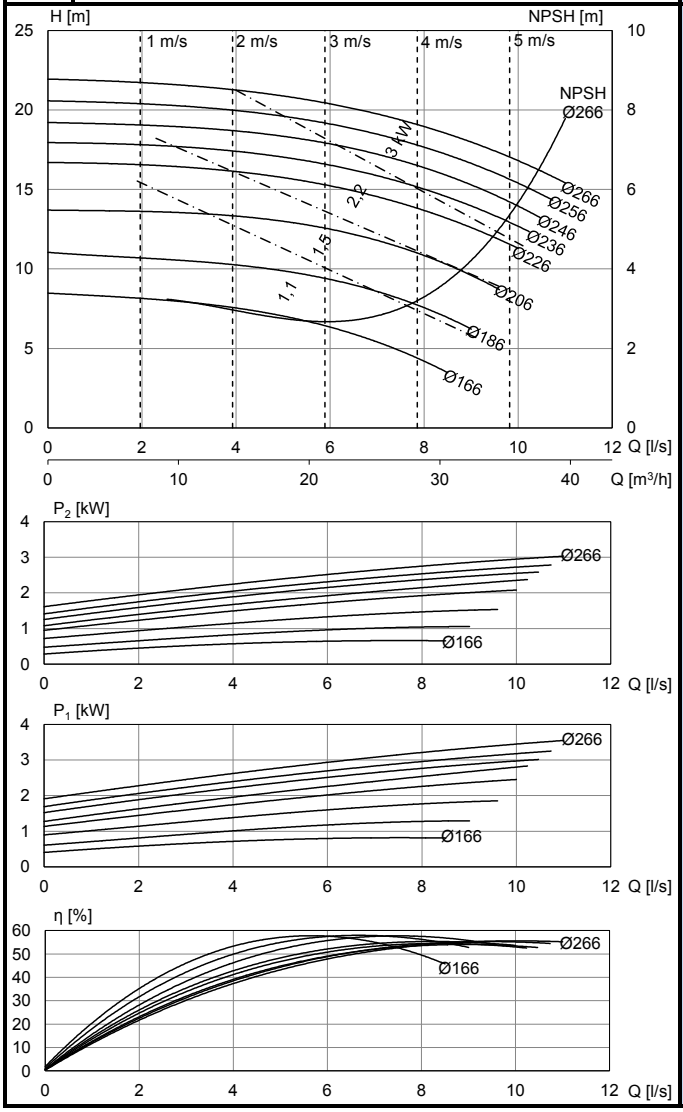


L-50S/4 LH-50S/4

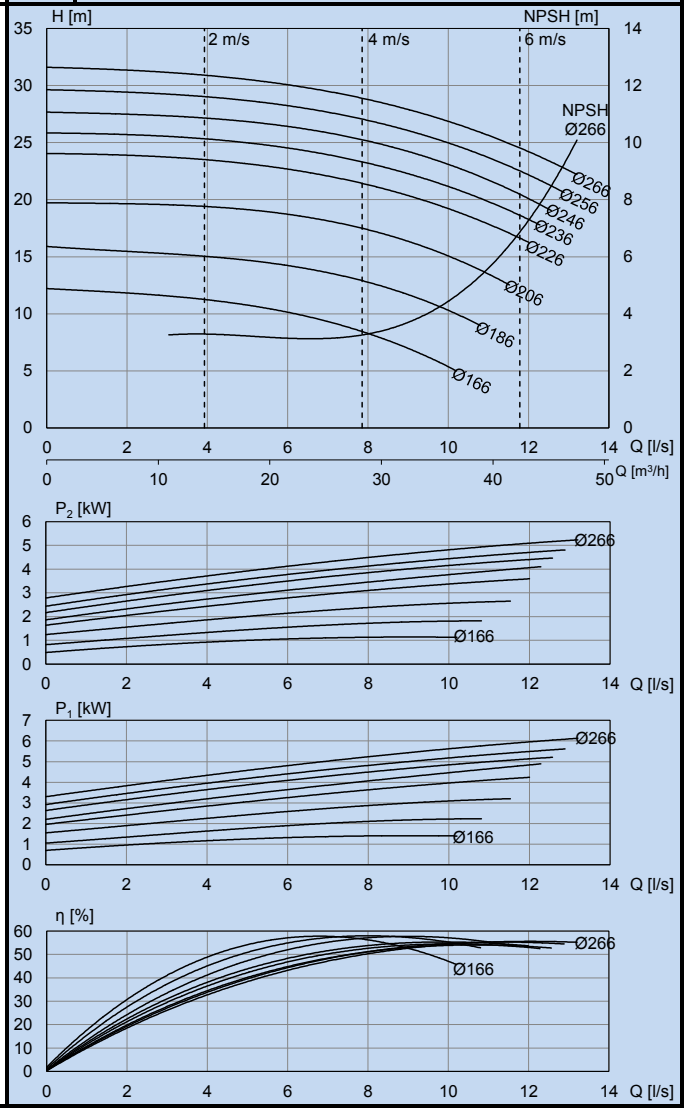


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 C2 F29	1,1	2,44	85	430
	KH-101 D2 F29	1,5	3,27	88	430
	KH-112 C2 F29	2,2	4,60	93	475
	KH-112 E2 F29	3	6,25	98	475
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 C2 F29	1,1 (1,3)	2,43 (2,43)	85	430
	KH-101 D2 F29	1,5 (1,8)	3,23 (3,32)	88	430
	KH-112 C2 F29	2,2 (2,6)	4,55 (4,60)	93	475
	KH-112 E2 F29	3 (3,6)	6,15 (6,25)	98	475
	KH-132 C2 F29	4 (4,8)	8,17 (8,30)	125	520
	KH-132 E2 F29	5,5 (6,6)	11,00 (11,15)	130	520

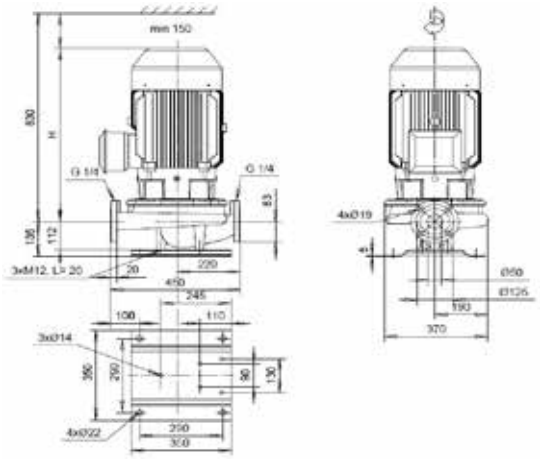
50 Hz 1500r/min DN 50



60 Hz 1800r/min DN 50

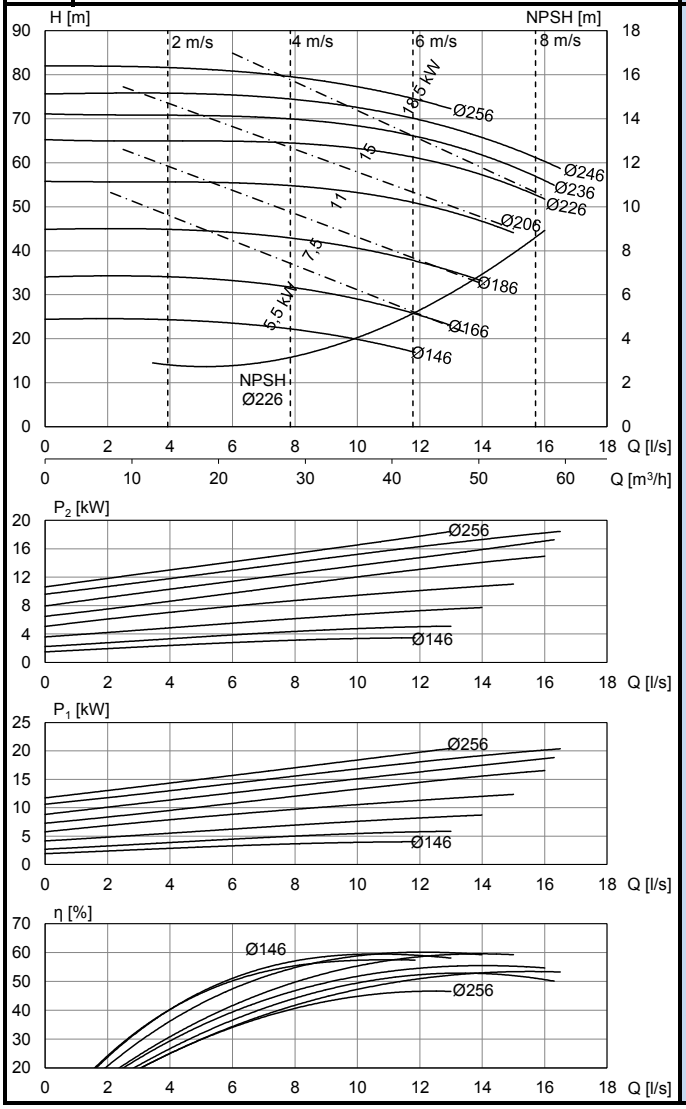


L-50S/2 LH-50S/2

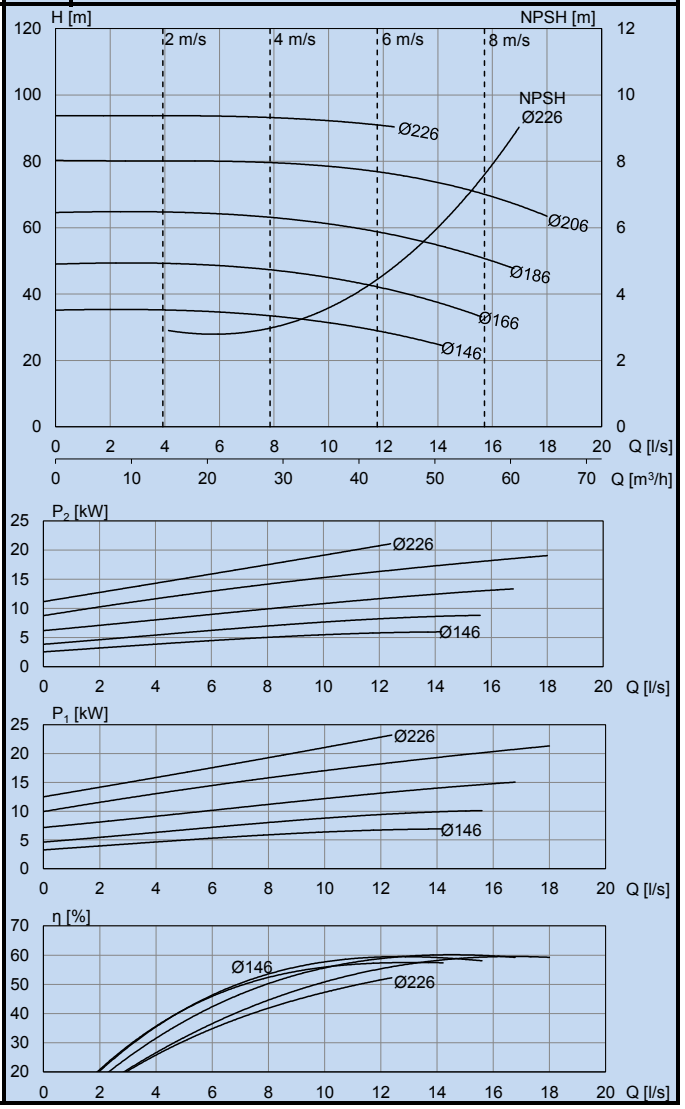


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-132 C1 F29	5,5	10,20	125	520
	KH-132 E1 F29	7,5	13,75	135	520
	KZ-165 E1 F29	11	20,20	185	680
	KZ-165 F1 F29	15	26,95	190	680
	KZ-165A H1 F29	18,5	32,60	195	680
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KH-132 C1 F29	5,5 (6,6)	10,25 (10,40)	125	520
	KH-132 E1 F29	7,5 (9)	13,80 (14,05)	135	520
	KZ-165 E1 F29	11 (13)	20,60 (20,30)	185	680
	KZ-165 F1 F29	15 (18)	28,05 (27,90)	190	680
	KZ-165A H1 F29	18,5 (22)	33,90 (33,60)	195	680

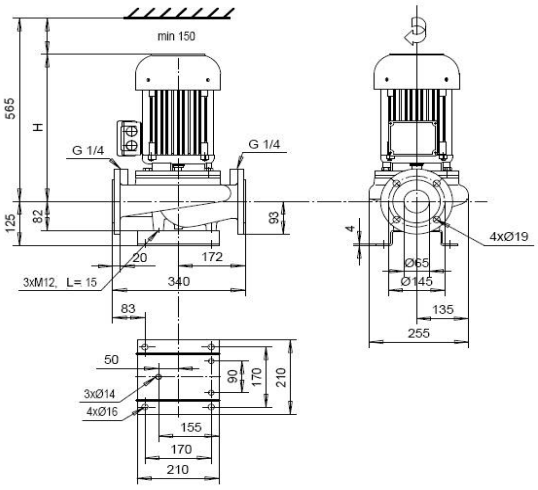
50 Hz 3000r/min DN 50



60 Hz 3600r/min DN 50

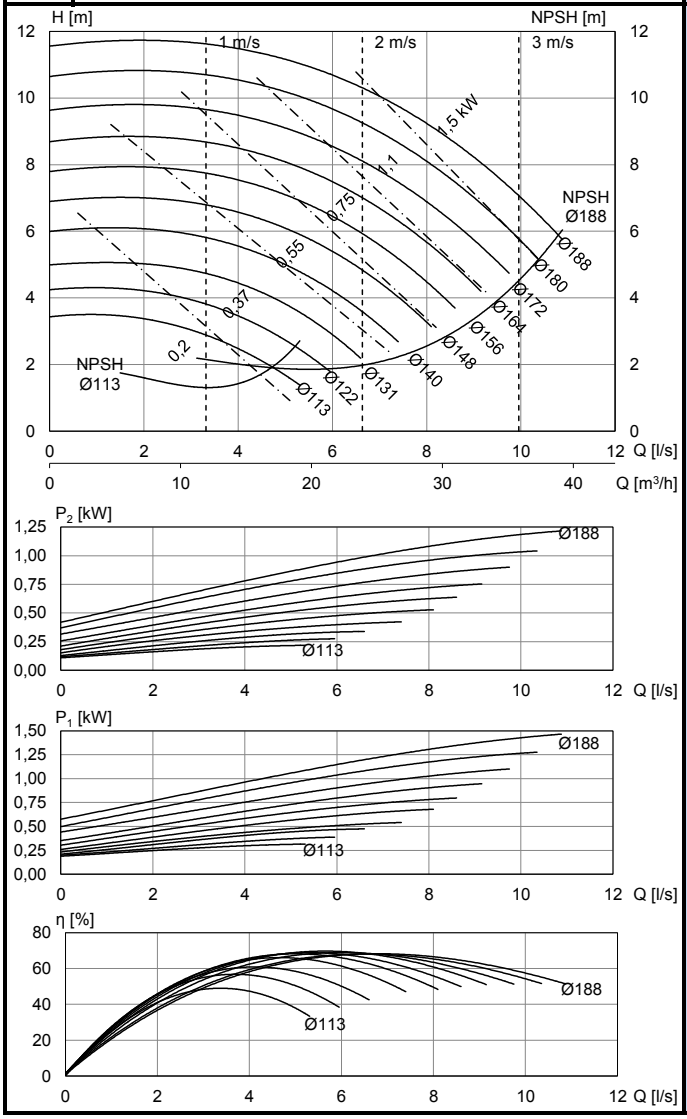


L-65A/4 LH-65A/4

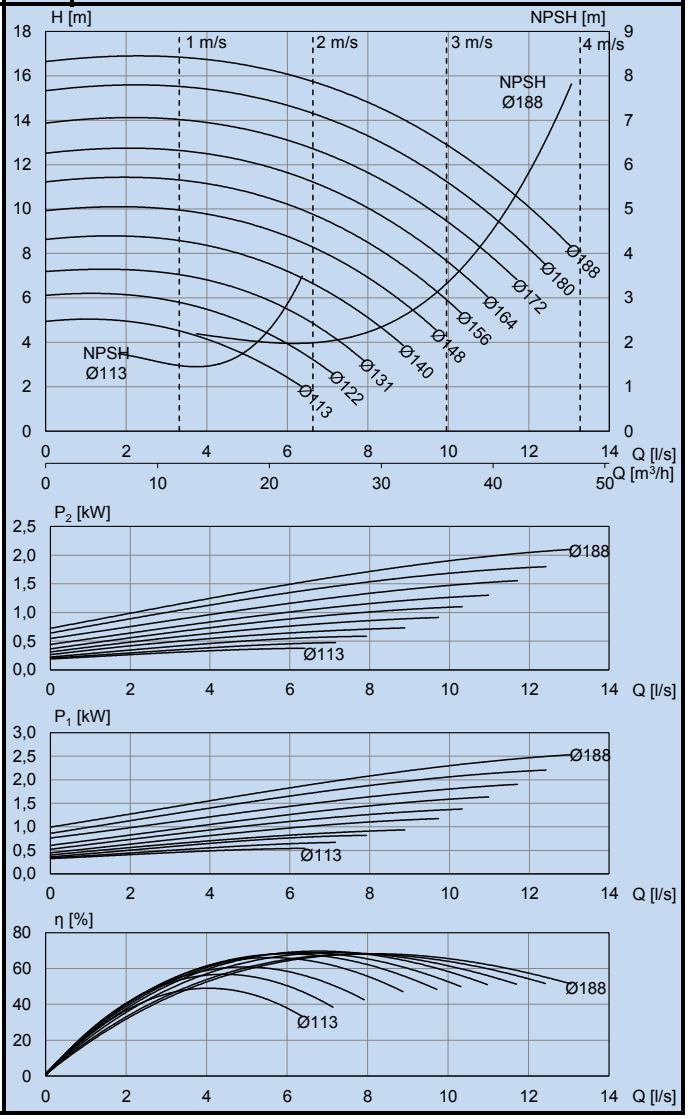


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OKN-852 D F19	0,2	0,75	37	310
	OKN-852 D F19	0,37	1	37	310
	KH-100 A2 F19	0,55	1,27	45	320
	KH-100 B2 F19	0,75	1,74	45	320
	KH-101 C2 F19	1,1	2,44	50	370
	KH-101 D2 F19	1,5	3,27	52	370
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OKN-852 D F19	0,37 (0,44)	1 (1)	37	310
	KH-100 A2 F19	0,55 (0,66)	1,28 (1,30)	45	320
	KH-100 B2 F19	0,75 (0,9)	1,70 (1,74)	45	320
	KH-101 C2 F19	1,1 (1,3)	2,43 (2,43)	50	370
	KH-101 D2 F19	1,5 (1,8)	3,23 (3,32)	52	370
	KH-112 C2 F19	2,2 (2,6)	4,55 (4,60)	58	415
	KH-112 E2 F19	3 (3,6)	6,15 (6,25)	62	415

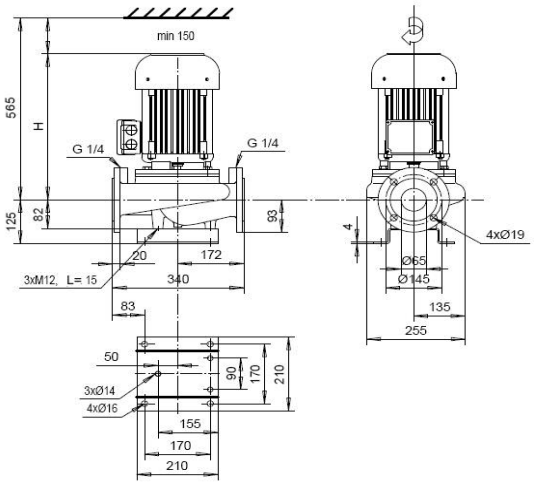
50 Hz 1500r/min DN 65



60 Hz 1800r/min DN 65

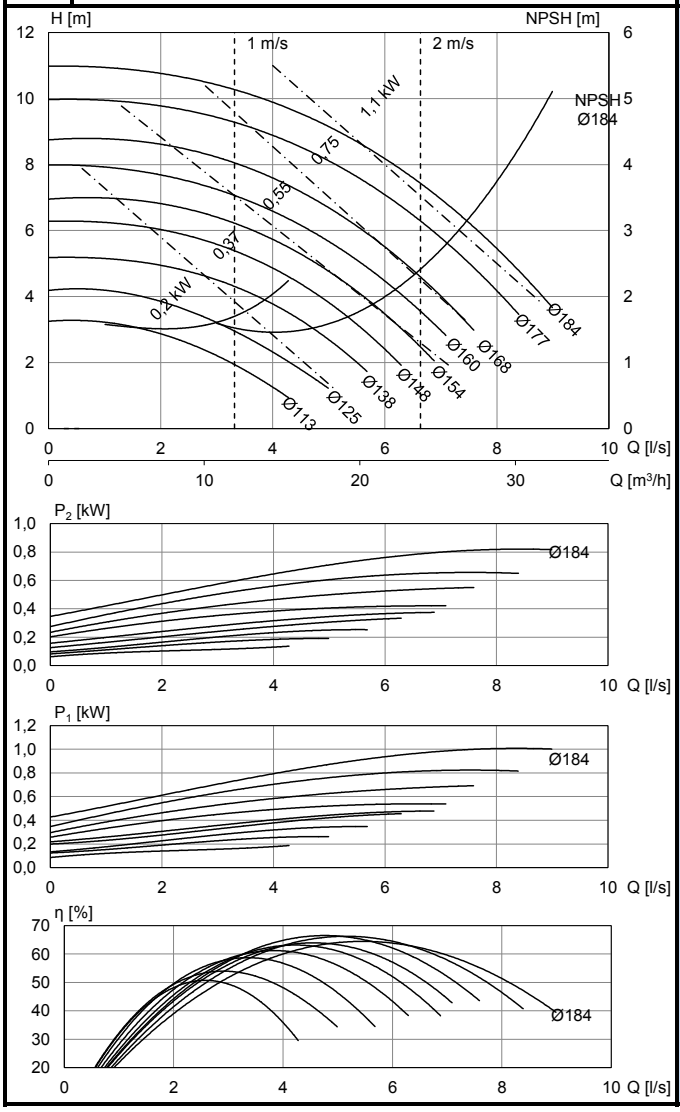


LS-65B/4

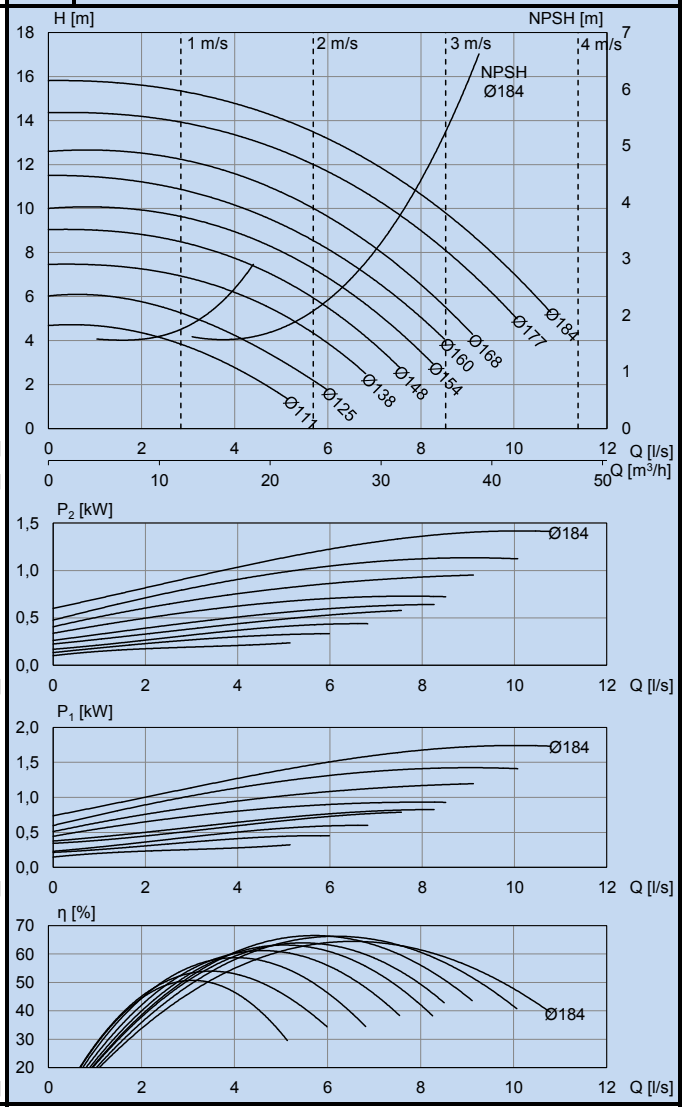


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	OKN-852 D F19	0,2	0,75	37	310
	OKN-852 D F19	0,37	1	37	310
	KH-100 A2 F19	0,55	1,27	44	320
	KH-100 B2 F19	0,75	1,74	44	320
	KH-101 C2 F19	1,1	2,44	48	370
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	OKN-852 D F19	0,37 (0,44)	1 (1)	37	310
	KH-100 A2 F19	0,55 (0,66)	1,28 (1,30)	44	320
	KH-100 B2 F19	0,75 (0,9)	1,70 (1,74)	44	320
	KH-101 C2 F19	1,1 (1,3)	2,43 (2,43)	48	370

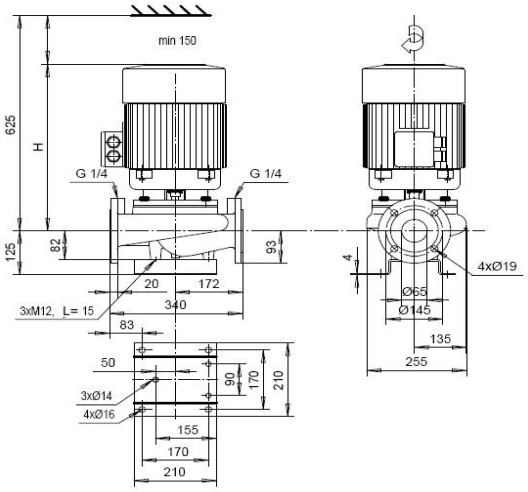
50 Hz 1500r/min DN 65



60 Hz 1800r/min DN 65

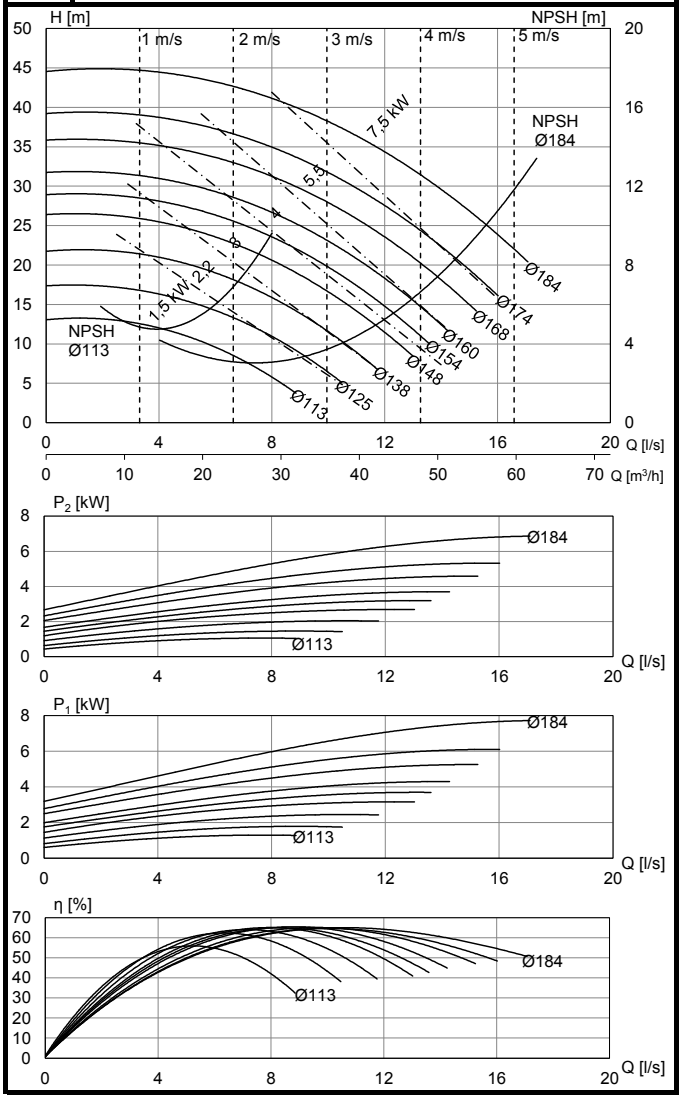


L-65B/2 | LH-65B/2 | LS-65B/2

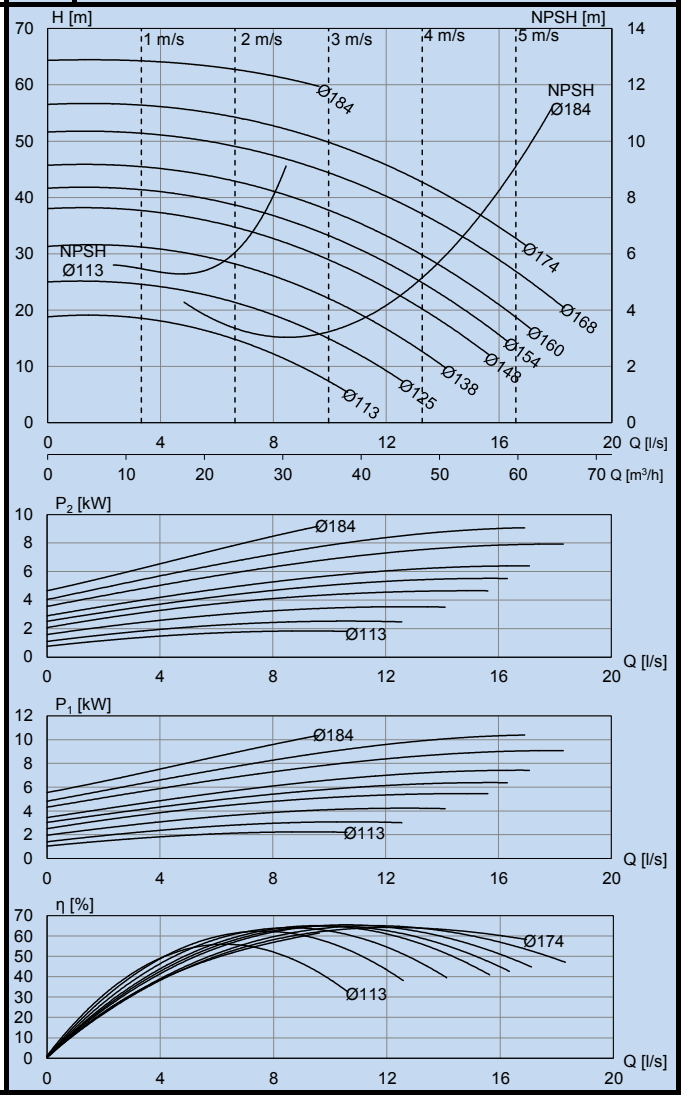


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 C1 F19	1,5	2,95	50	370
	KH-101 D1 F19	2,2	4,28	52	370
	KH-112 C1 F19	3,0	6,05	58	415
	KH-112 E1 F19	4,0	7,95	63	415
	KH-132 C1 F19	5,5	10,20	87	475
	KP-132 E1 F19	7,5	13,27	95	475
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 C1 F19	1,5 (1,8)	2,98 (3,02)	50	370
	KH-101 D1 F19	2,2 (2,6)	4,35 (4,33)	52	370
	KH-112 C1 F19	3 (3,6)	6,00 (6,05)	58	415
	KH-112 E1 F19	4 (4,8)	7,90 (8,00)	63	415
	KH-132 C1 F19	5,5 (6,6)	10,25 (10,40)	87	475
	KP-132 E1 F19	7,5 (9)	13,19 (13,91)	95	475

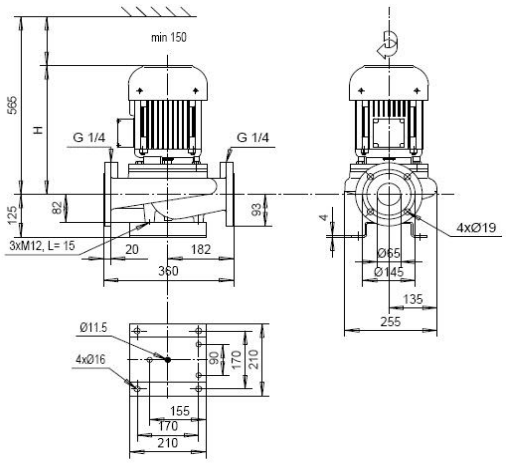
50 Hz 3000r/min DN 65



60 Hz 3600r/min DN 65

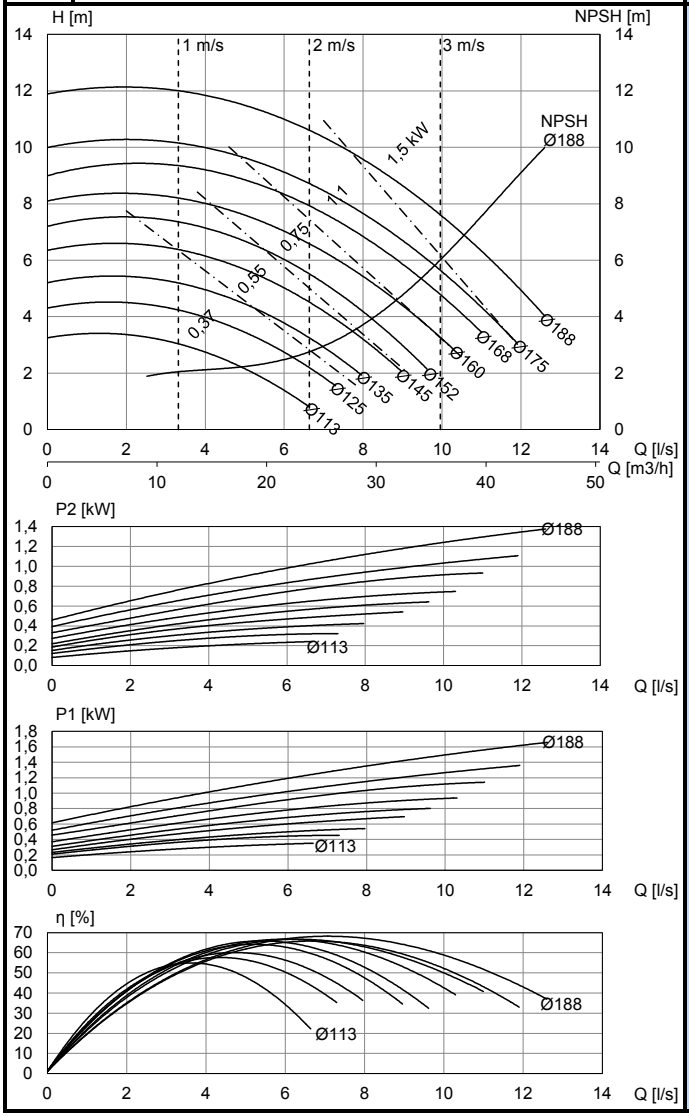


ALP-1066/4

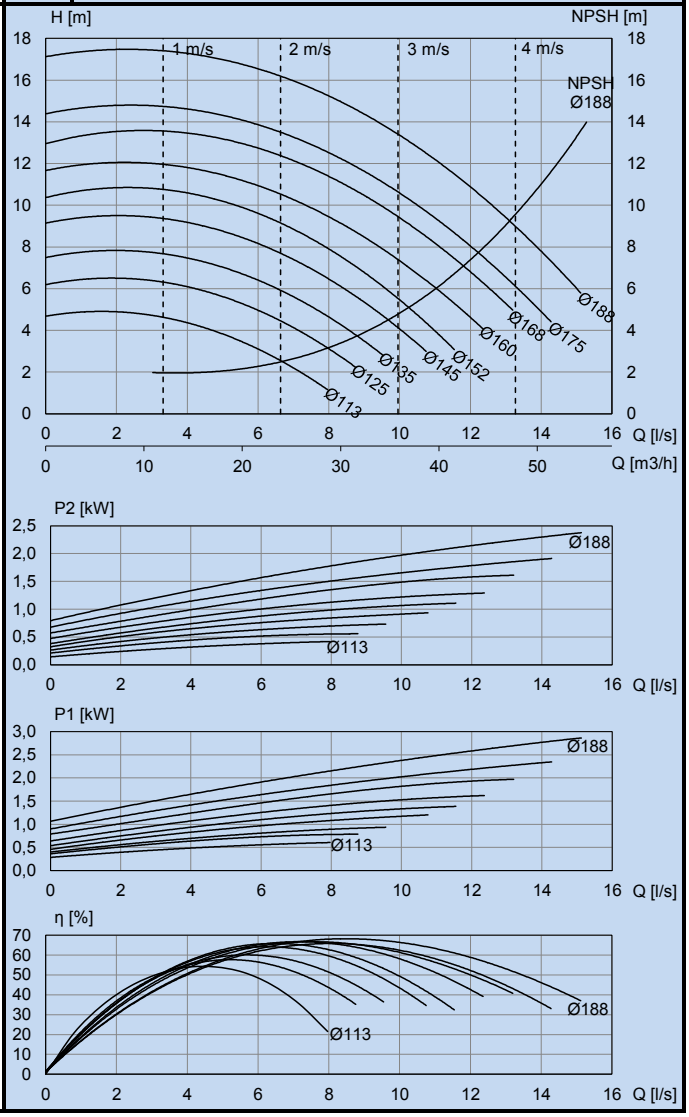


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	OKN-852 D F19	0,37	1,0	37	310
	KH-100 A2 F19	0,55	1,27	44	320
	KH-100 B2 F19	0,75	1,74	44	320
	KH-101 C2 F19	1,1	2,44	48	370
	KH-101 D2 F19	1,5	3,27	52	370
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	OKN-852 D F19	0,37 (0,44)	1 (1)	37	310
	KH-100 A2 F19	0,55 (0,66)	1,28 (1,3)	44	320
	KH-100 B2 F19	0,75 (0,9)	1,70 (1,74)	44	320
	KH-101 C2 F19	1,1 (1,3)	2,43 (2,43)	48	370
	KH-101 D2 F19	1,5 (1,8)	3,23 (3,32)	52	370
	KH-112 C2 F19	2,2 (2,6)	4,55 (4,6)	58	415
	KH-112 E2 F19	3 (3,6)	6,15 (6,25)	62	415

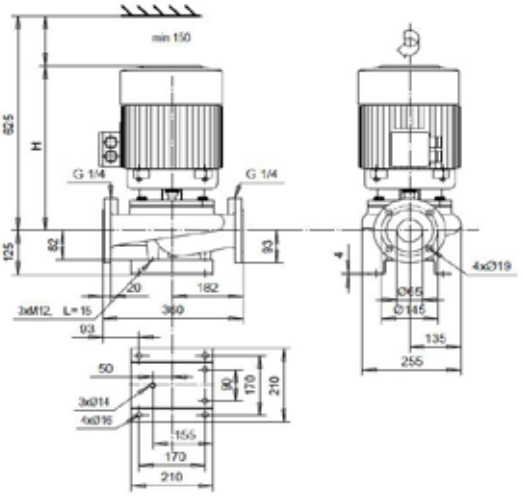
50 Hz 1500r/min DN 65



60 Hz 1800r/min DN 65

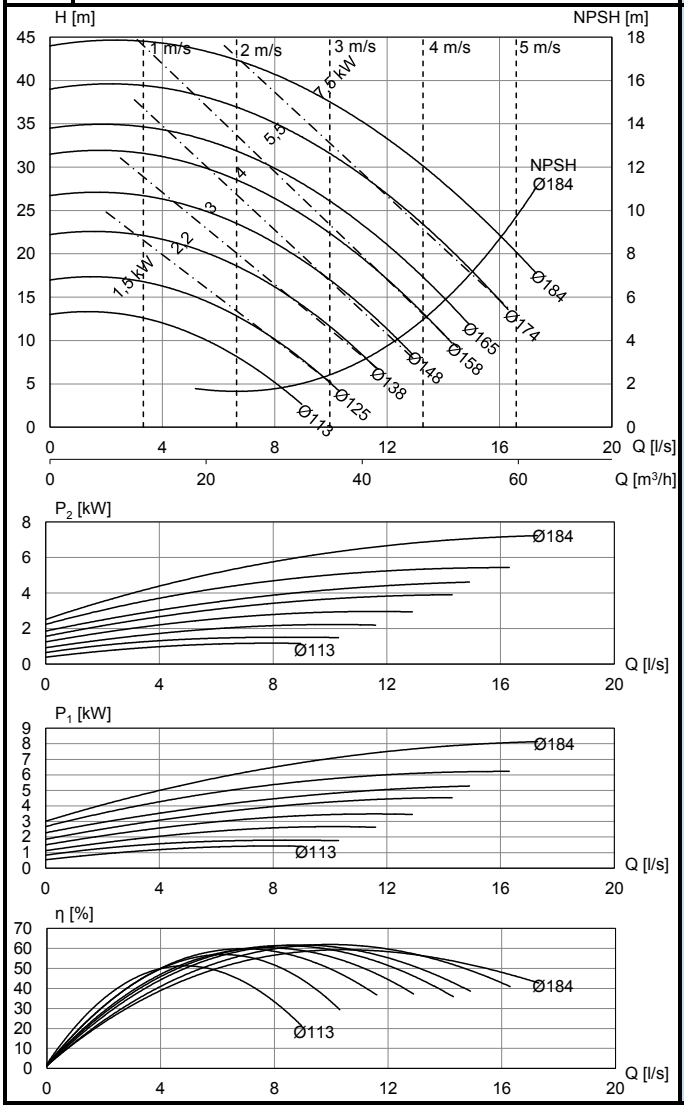


ALP-1065/2

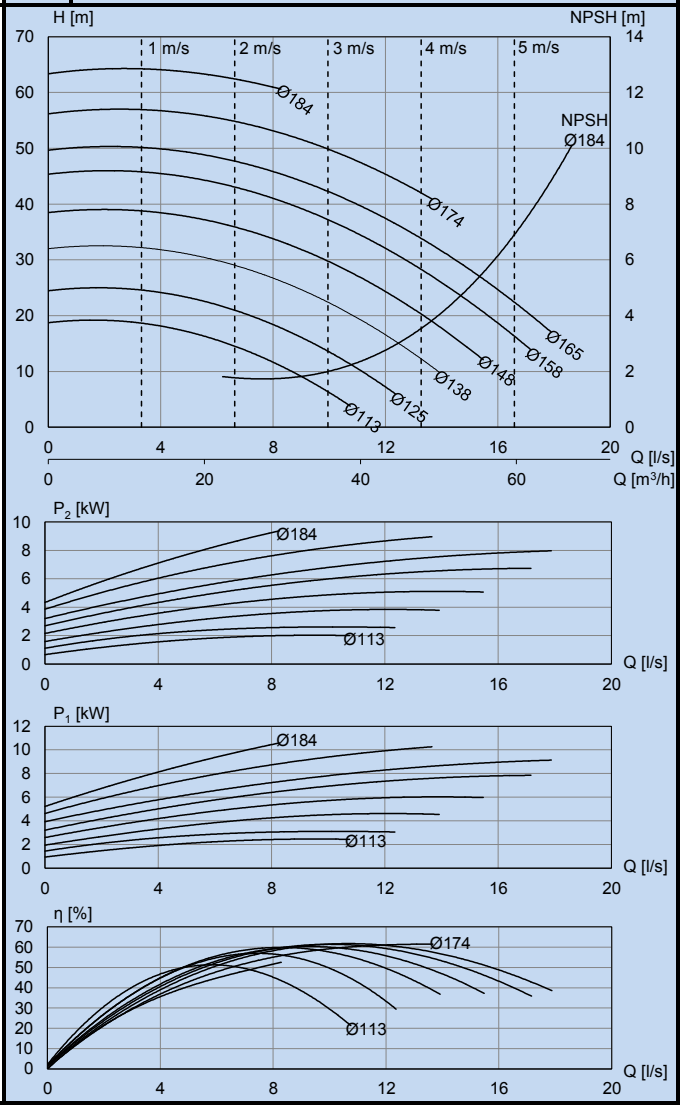


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 C1 F19	1,5	2,95	51	370
	KH-101 D1 F19	2,2	4,28	52	370
	KH-112 C1 F19	3	6,05	58	415
	KH-112 E1 F19	4	7,95	62	415
	KH-132 C1 F19	5,5	10,20	86	475
	KP-132 E1 F19	7,5	13,27	94	475
60HZ	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-101 D1 F19	2,2 (2,6)	4,35 (4,33)	52	370
	KH-112 C1 F19	3 (3,6)	6,00 (6,05)	58	415
	KH-112 E1 F19	4 (4,8)	7,90 (8,00)	62	415
	KH-132 C1 F19	5,5 (6,6)	10,25 (10,40)	86	475
	KP-132 E1 F19	7,5 (9)	13,19 (13,91)	94	475

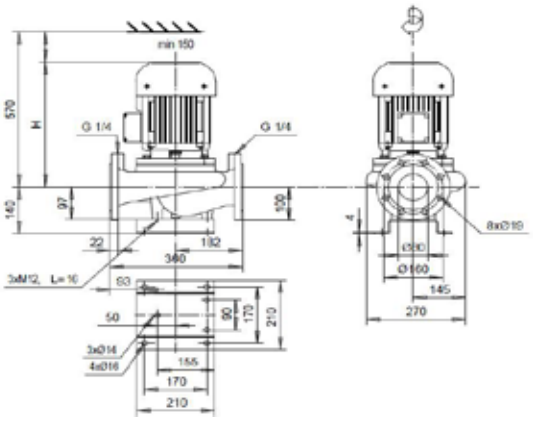
50 Hz 3000r/min DN 65



60 Hz 3600r/min DN 65

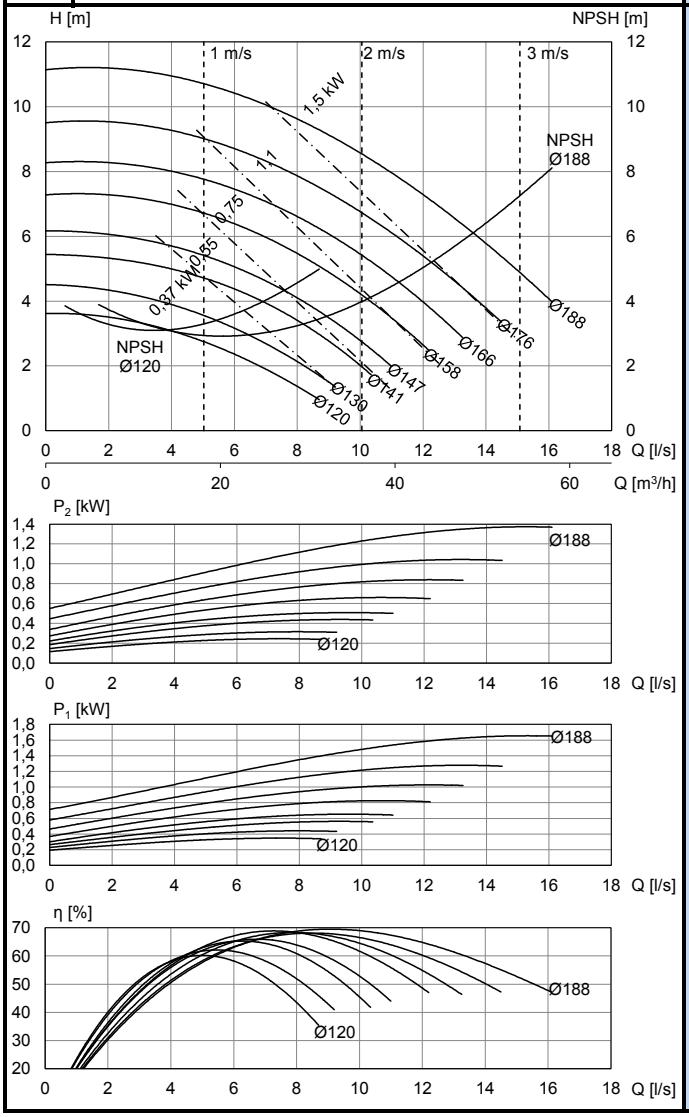


L-80A/4 | LH-80A/4 | LS-80A/4

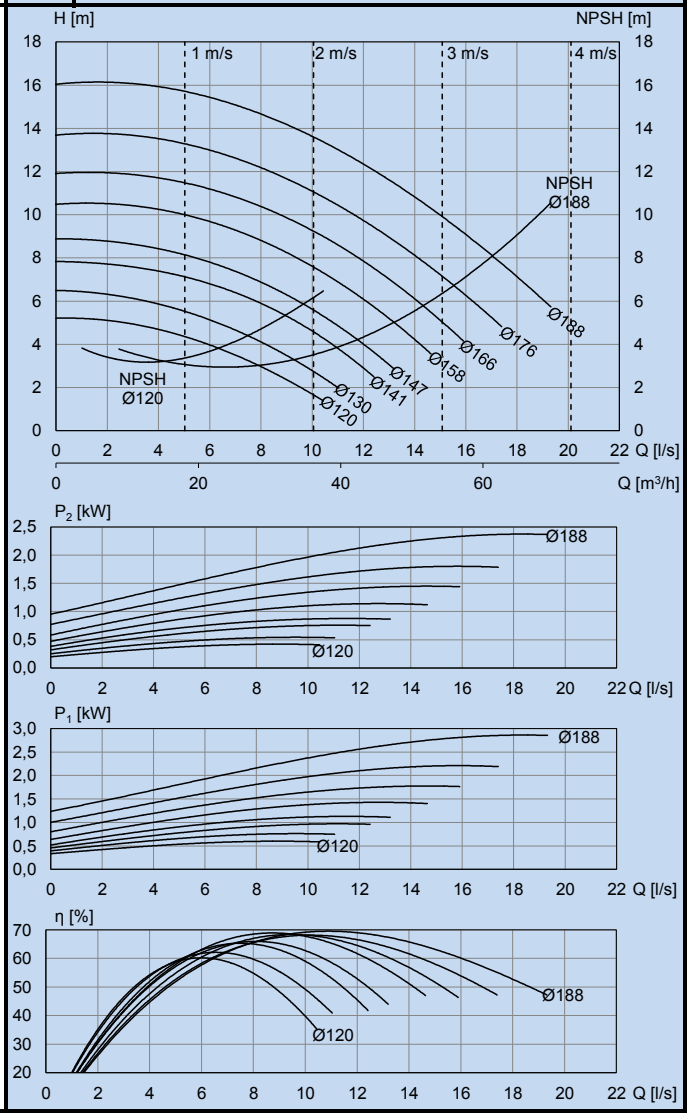


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	OKN-852 D F19	0,37	1	38	315
	KH-100 A2 F19	0,55	1,27	46	325
	KH-100 B2 F19	0,75	1,74	46	325
	KH-101 C2 F19	1,1	2,44	51	375
	KH-101 D2 F19	1,5	3,27	54	375
	KH-112 C2 F19	2,2	4,60	60	420
	KH-112 E2 F19	3	6,25	64	420
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-100 A2 F19	0,55 (0,66)	1,27 (1,30)	46	325
	KH-100 B2 F19	0,75 (0,9)	1,74 (1,74)	46	325
	KH-101 C2 F19	1,1 (1,3)	2,43 (2,43)	51	375
	KH-101 D2 F19	1,5 (1,8)	3,23 (3,32)	54	375
	KH-112 C2 F19	2,2 (2,6)	4,55 (4,60)	60	420
	KH-112 E2 F19	3 (3,6)	6,15 (6,25)	64	420

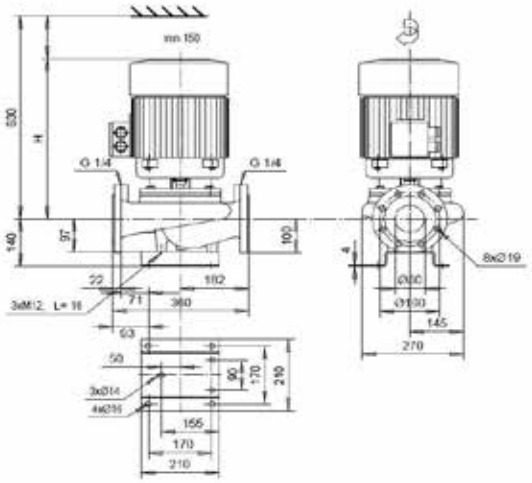
50 Hz 1500r/min DN 80



60 Hz 1800r/min DN 80

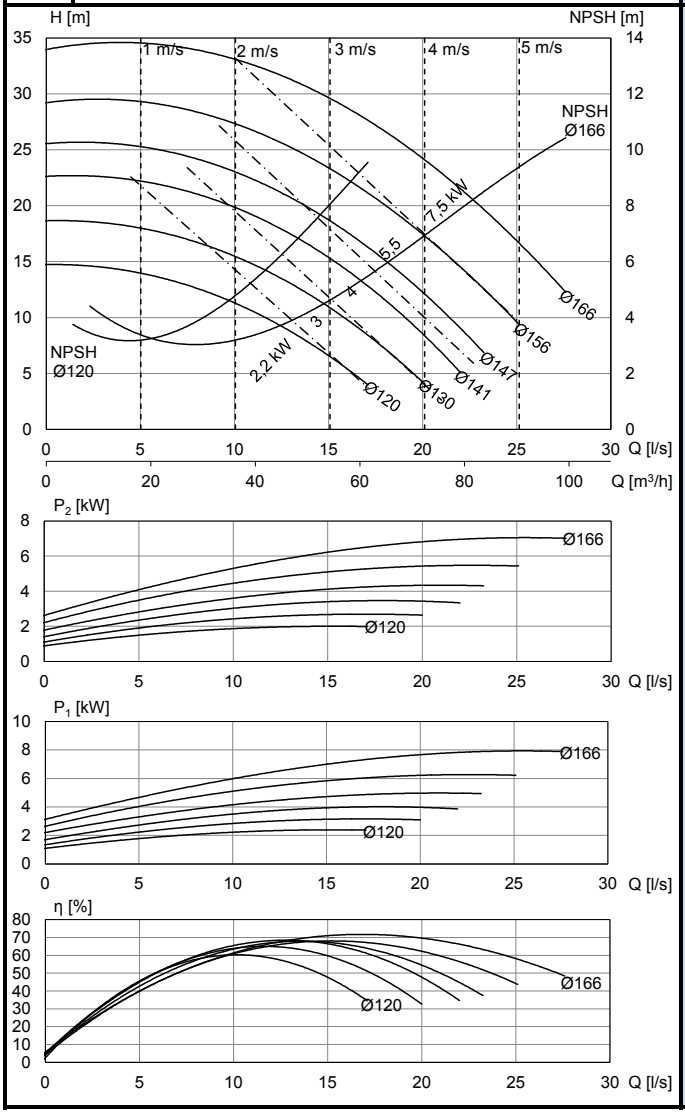


L-80A/2 LH-80A/2 LS-80A/2

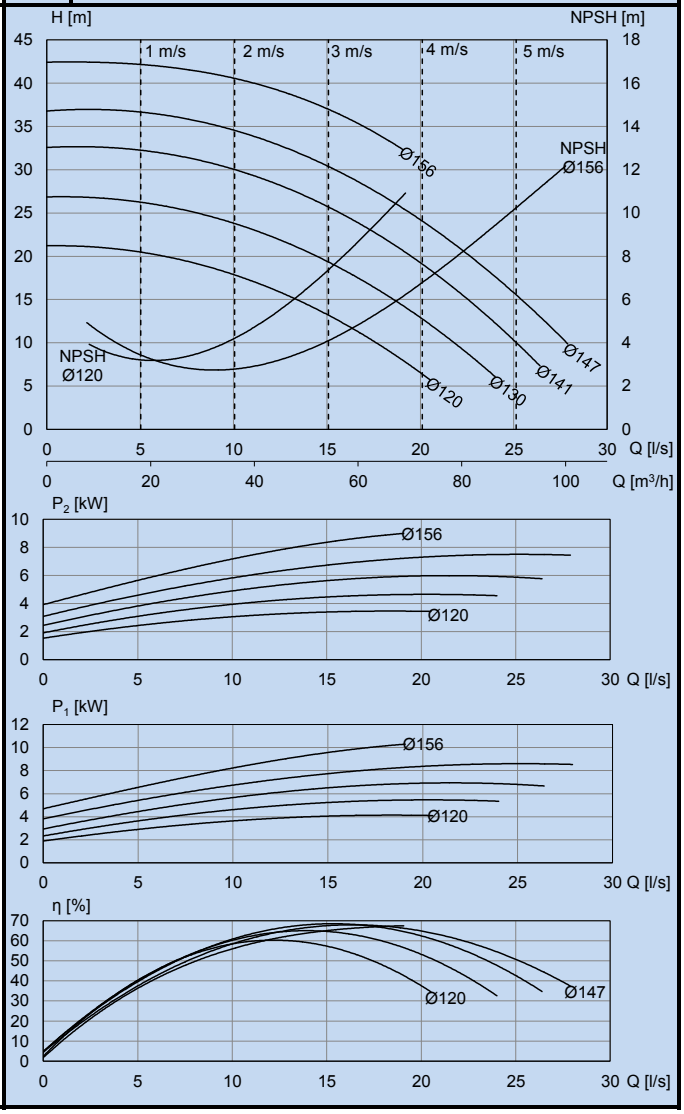


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 D1 F19	2,2	4,28	54	375
	KH-112 C1 F19	3	6,05	60	420
	KH-112 E1 F19	4	7,95	64	420
	KH-132 C1 F19	5,5	10,2	88	480
	KP-132 E1 F19	7,5	13,27	96	480
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-112 C1 F19	3 (3,6)	6,00 (6,05)	60	420
	KH-112 E1 F19	4 (4,8)	7,9 (8,0)	64	420
	KH-132 C1 F19	5,5 (6,6)	10,25 (10,40)	88	480
	KP-132 E1 F19	7,5 (9)	13,19 (13,91)	96	480

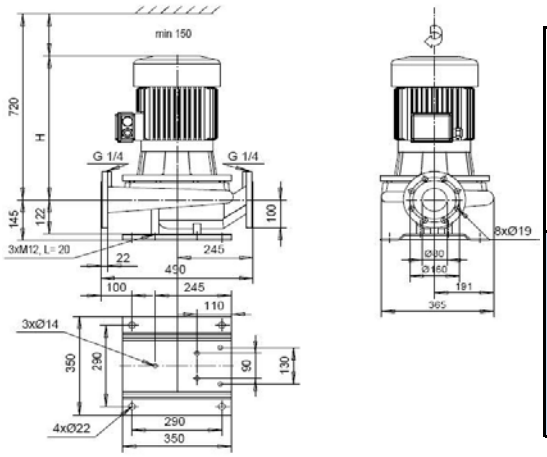
50 Hz 3000r/min DN 80



60 Hz 3600r/min DN 80

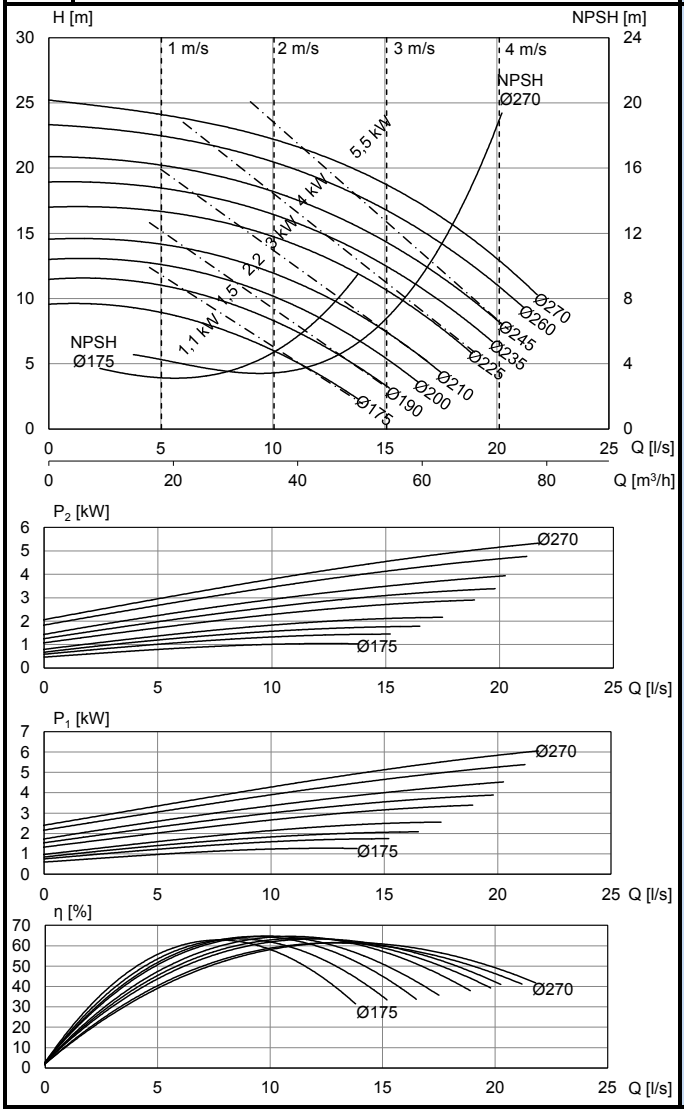


L-80S/4 LH-80S/4

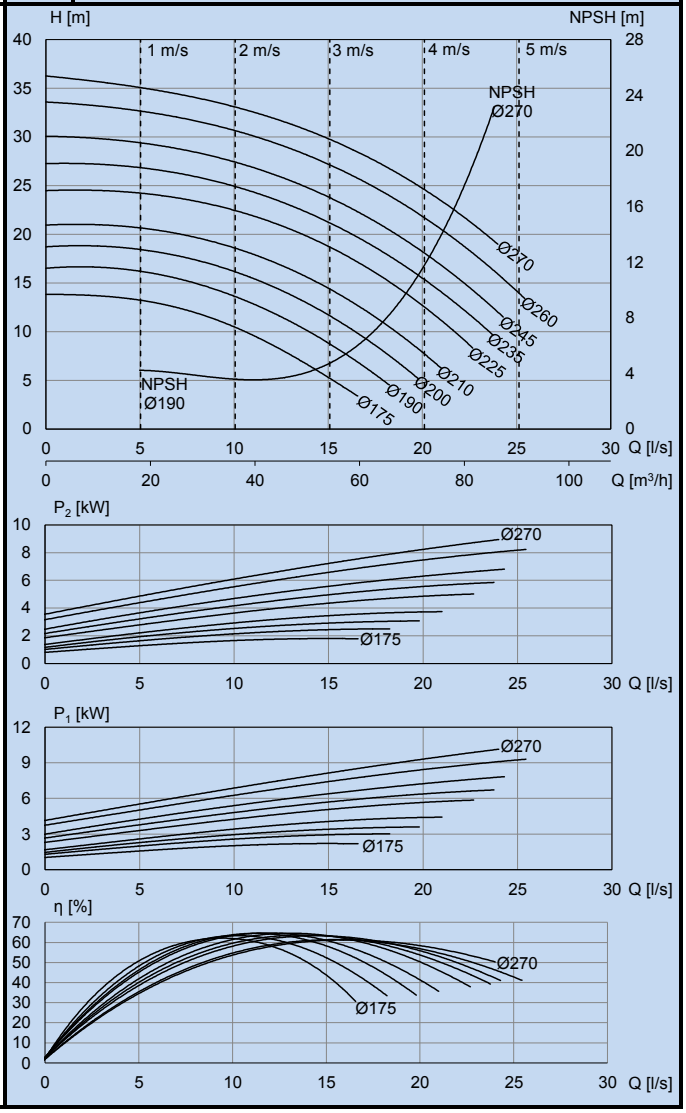


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 C2 F29	1,1	2,44	86	430
	KH-101 D2 F29	1,5	3,27	89	430
	KH-112 C2 F29	2,2	4,6	94	475
	KH-112 E2 F29	3	6,25	99	475
	KH-132 C2 F29	4	8,13	125	520
	KH-132 E2 F29	5,5	10,95	135	520
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 D2 F29	1,5 (1,8)	3,23 (3,32)	89	430
	KH-112 C2 F29	2,2 (2,6)	4,55 (4,6)	94	475
	KH-112 E2 F29	3 (3,6)	6,15 (6,25)	99	475
	KH-132 C2 F29	4 (4,8)	8,17 (8,3)	125	520
	KH-132 E2 F29	5,5 (6,6)	11,00 (11,15)	135	520
	KH-133 G2 F29	7,5 (9)	14,80 (15,47)	147	570

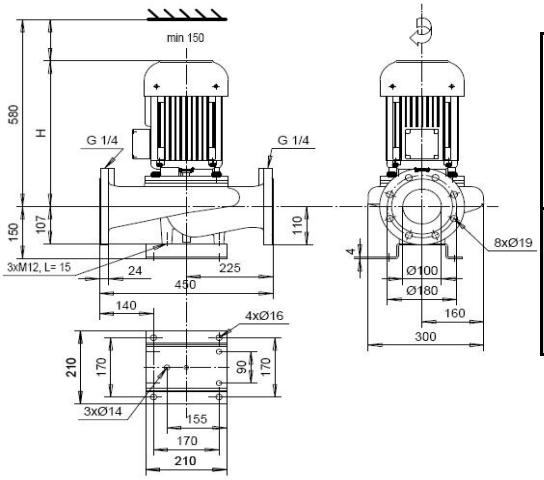
50 Hz 1500r/min DN 80



60 Hz 1800r/min DN 80

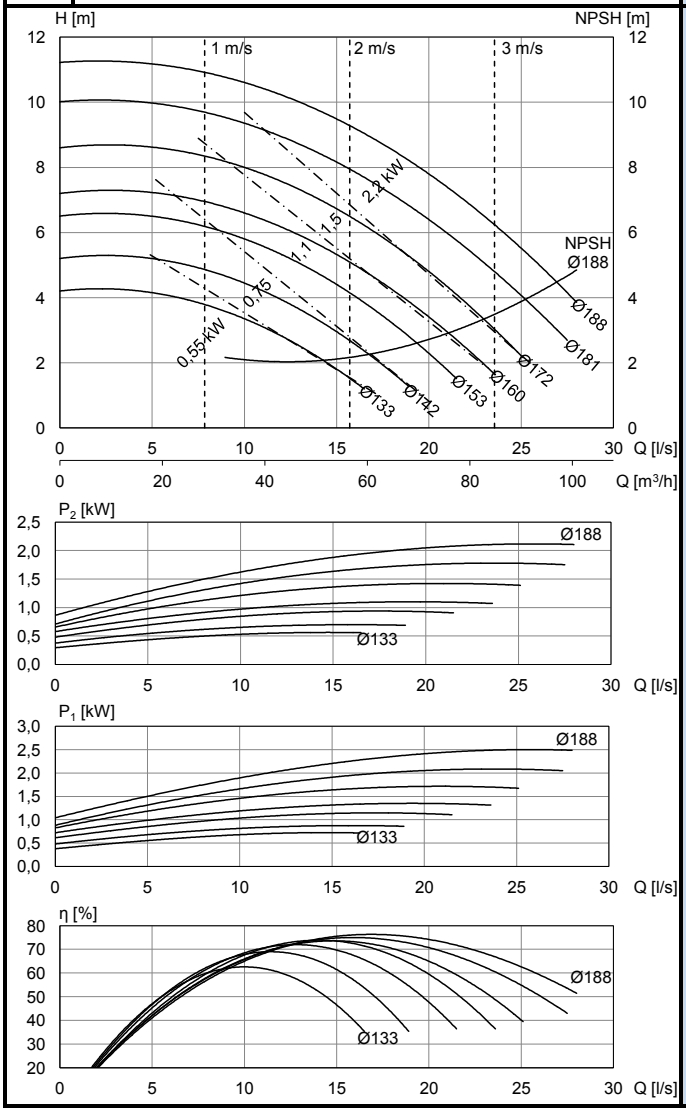


AL-1102/4 ALH-1102/4 ALP-1102/4 ALS-1102/4

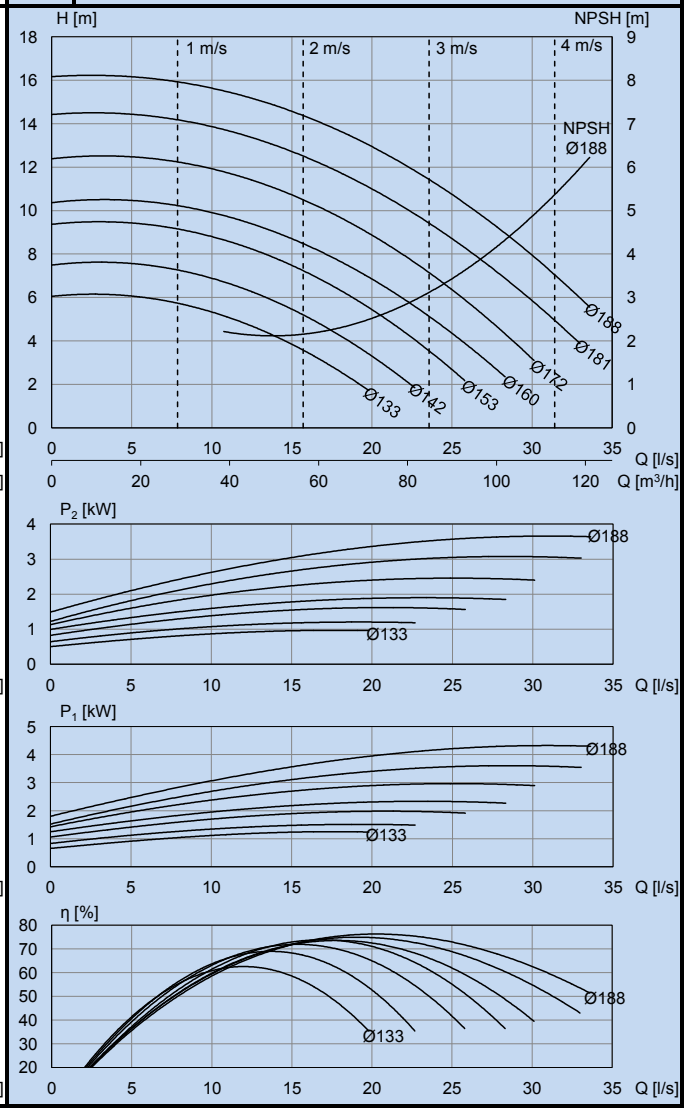


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-100 A2 F19	0,55	1,27	55	335
	KH-100 B2 F19	0,75	1,74	55	335
	KH-101 C2 F19	1,1	2,44	60	385
	KH-101 D2 F19	1,5	3,27	63	385
	KH-112 C2 F19	2,2	4,60	69	430
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 C2 F19	1,1 (1,3)	2,43 (2,43)	60	385
	KH-101 D2 F19	1,5 (1,8)	3,23 (3,32)	63	385
	KH-112 C2 F19	2,2 (2,6)	4,55 (4,60)	69	430
	KH-112 E2 F19	3 (3,6)	6,15 (6,25)	72	430

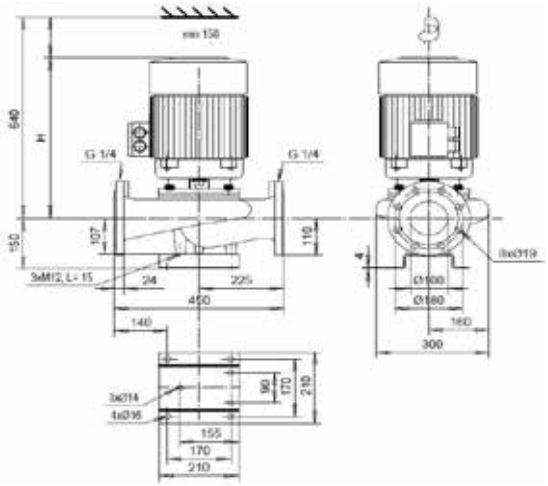
50 Hz 1500r/min DN 100



60 Hz 1800r/min DN 100

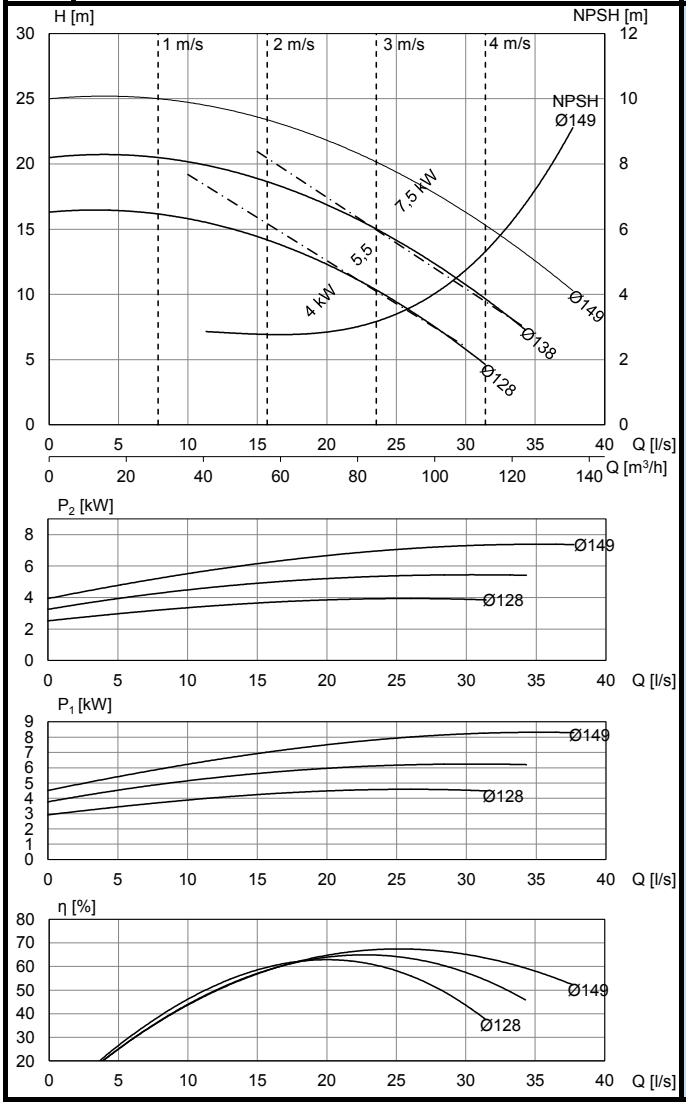


AL-1102/2 ALH-1102/2 ALP-1102/2 ALS-1102/2

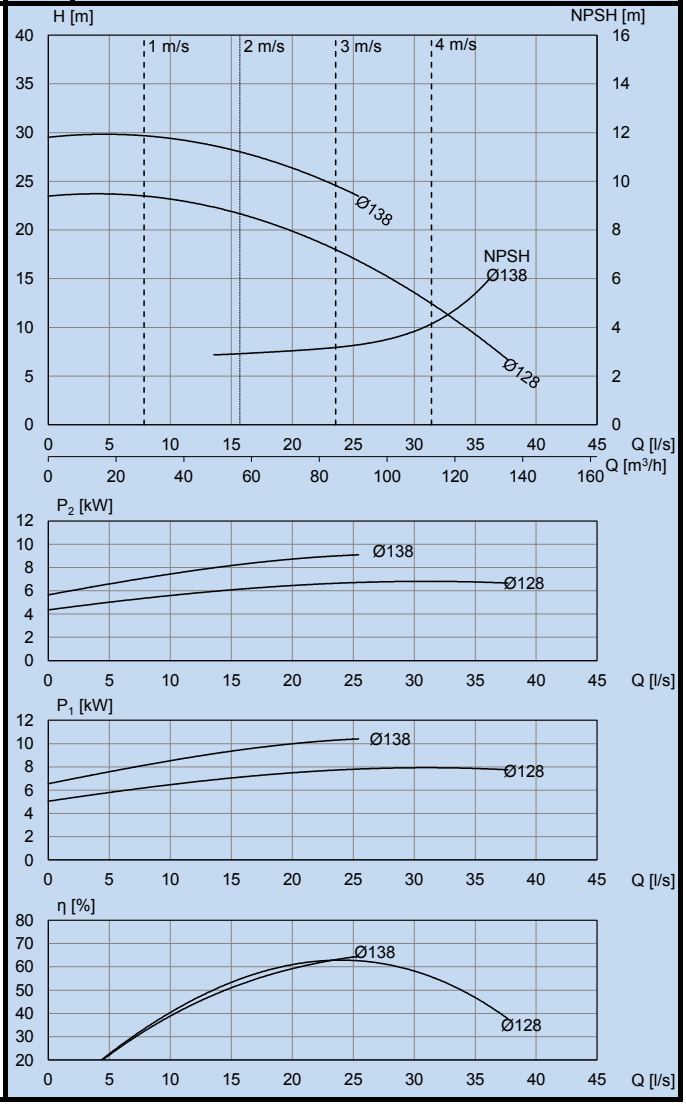


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-112 E1 F19	4	7,95	73	430
	KH-132 C1 F19	5,5	10,2	98	490
	KH-132 E1 F19	7,5	13,75	105	490
60HZ	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KH-132 C1 F19	5,5 (6,6)	10,25 (10,40)	98	490
	KH-132 E1 F19	7,5 (9)	13,80 (14,05)	105	490

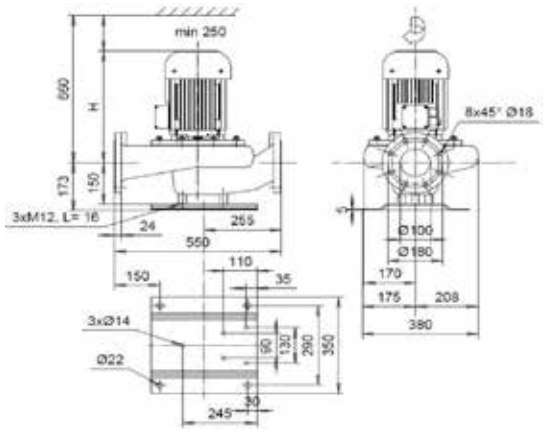
50 Hz 3000r/min DN 100



60 Hz 3600r/min DN 100

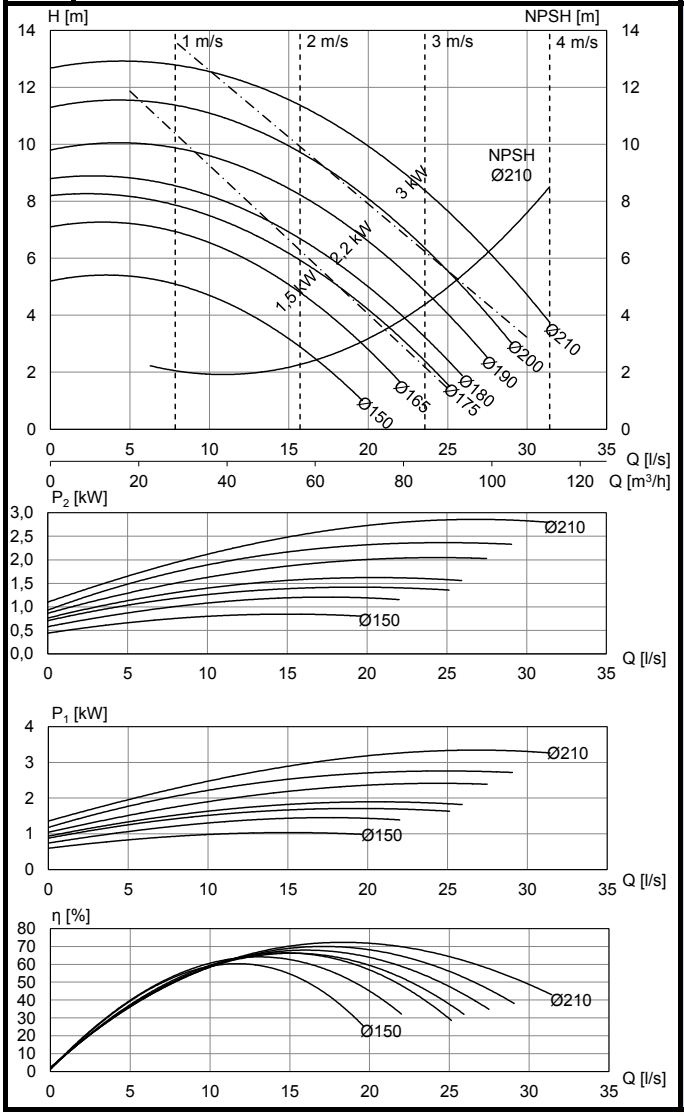


AKN-100/4 AKNH-100/4

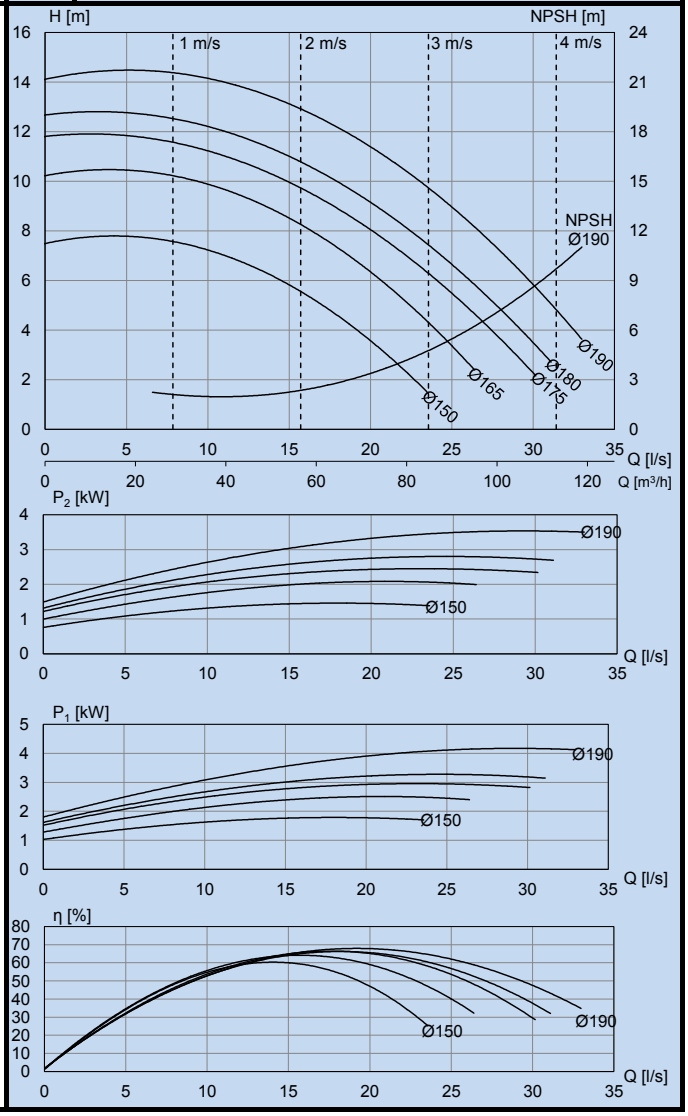


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-101 D2 N26	1,5	3,27	83	365
	KH-112 C2 N26	2,2	4,60	89	410
	KH-112 E2 N26	3	6,25	93	410
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-101 D2 N26	1,5 (1,8)	3,23 (3,32)	83	365
	KH-112 C2 N26	2,2 (2,6)	4,55 (4,60)	89	410
	KH-112 E2 N26	3 (3,6)	6,15 (6,25)	93	410

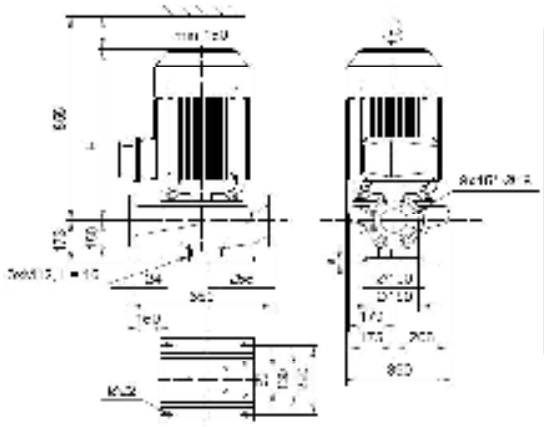
50 Hz 1500r/min DN 100



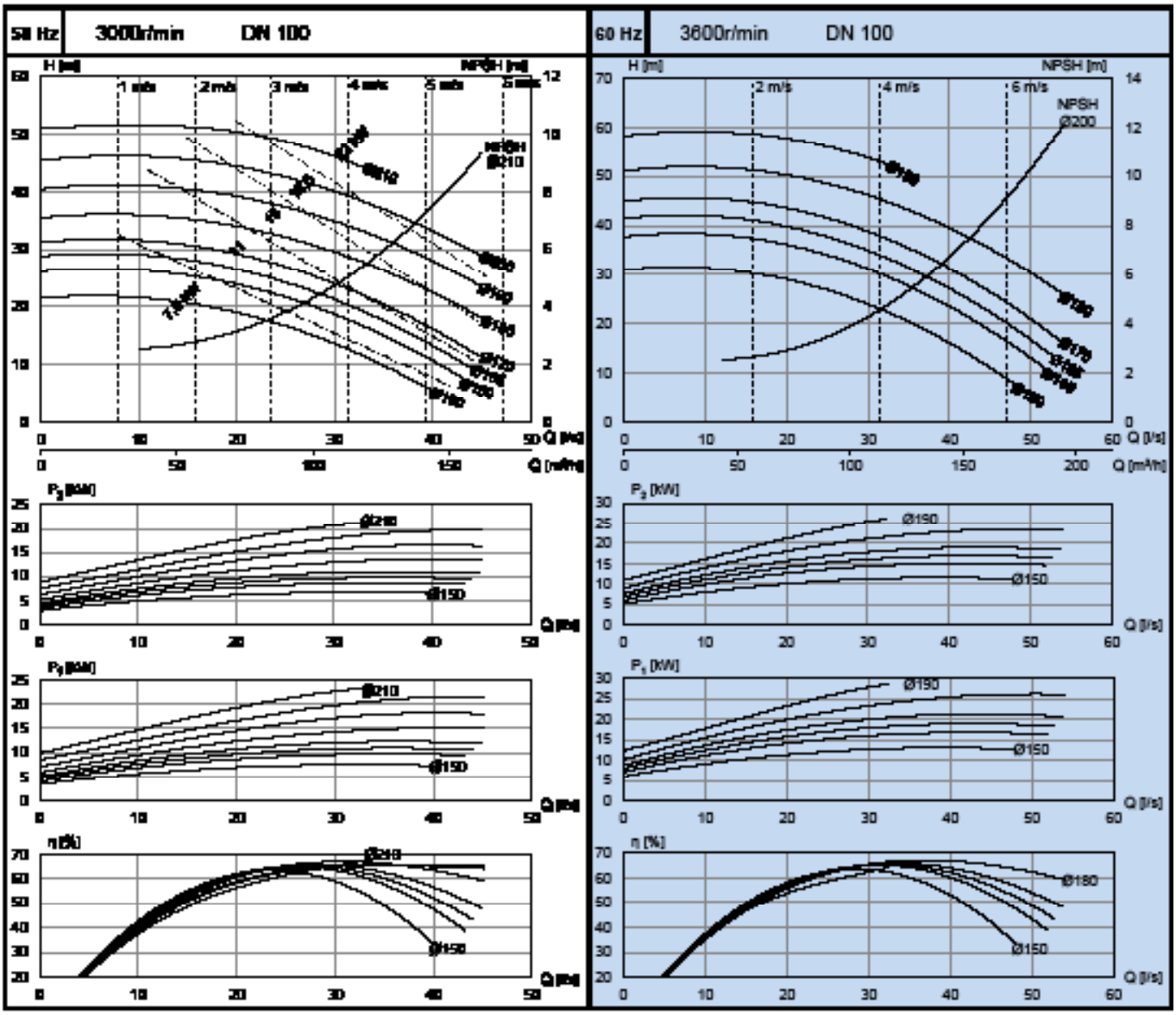
60 Hz 1800r/min DN 100



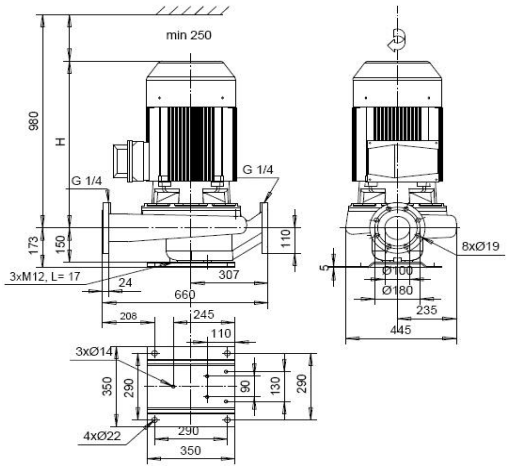
AKN-100/2 AKNH-100/2



	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-132 E1 N26	7,5	13,75	125	465
	KZ-165 E1 N26	11	20,20	185	640
	KZ-165 F1 N26	15	26,95	190	640
	KZ-165A H1 N26	18,5	32,60	205	640
	KZ-186 J1 N26	22	38,60	250	710
60Hz	Motor 380-400V(460-480V)	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
	KZ-165 E1 N26	11 (13)	20,60 (20,30)	185	640
	KZ-165 F1 N26	15 (18)	28,05 (27,90)	190	640
	KZ-165A H1 N26	18,5 (22)	33,90 (33,60)	205	640
	KZ-186 J1 N26	22 (26)	40,30 (39,60)	250	710

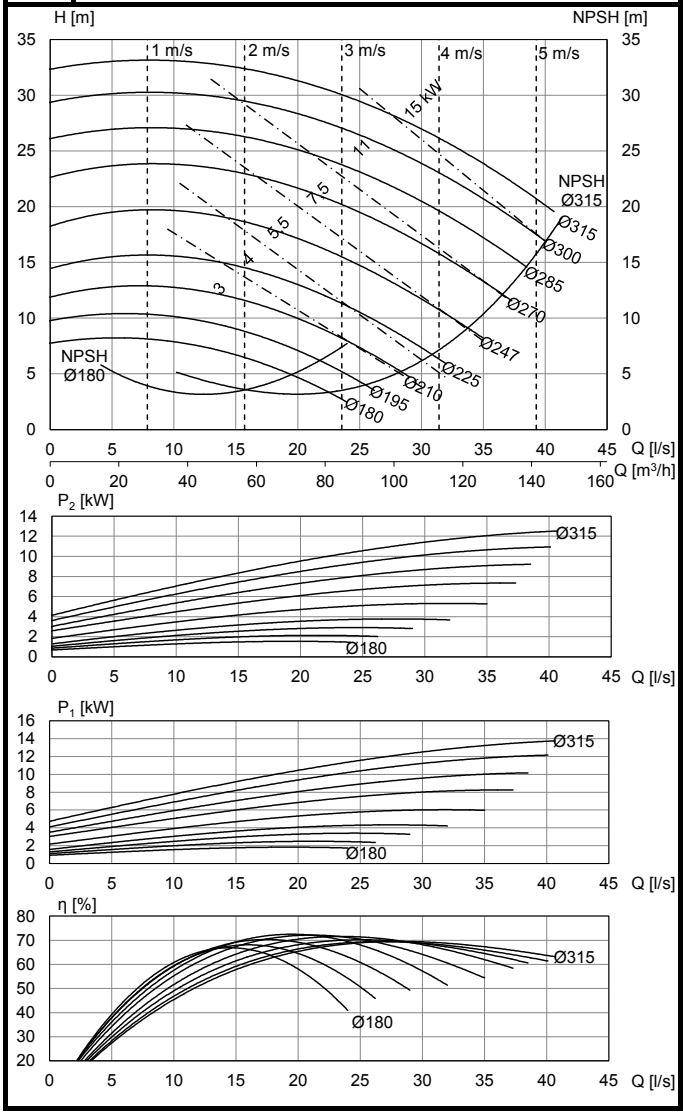


L-100S/4 | LH-100S/4 | LP-100S/4

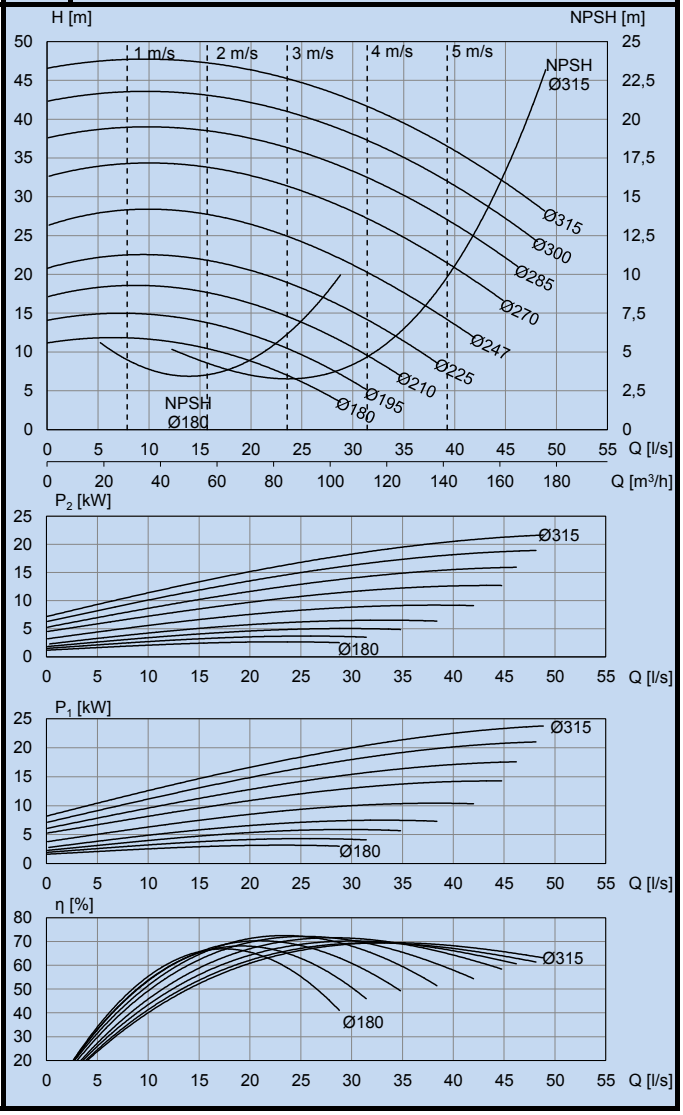


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-112 E2 F31	3	6,25	140	440
	KH-132 C2 F31	4	8,13	165	510
	KH-132 E2 F31	5,5	10,95	175	510
	KP-134 H2 F31	7,5	14,58	203	610
	KP-166 G2 F31	11	22,51	260	700
	KP-166 G2 F31	15	28,86	265	700
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-112 E2 F31	3 (3,6)	6,15 (6,25)	140	440
	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	165	510
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	175	510
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	203	610
	KP-166 G2 F31	11 (13)	22,32 (22,78)	260	700
	KP-166 G2 F31	15 (18)	28,06 (29,43)	265	700
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	330	780
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	335	780

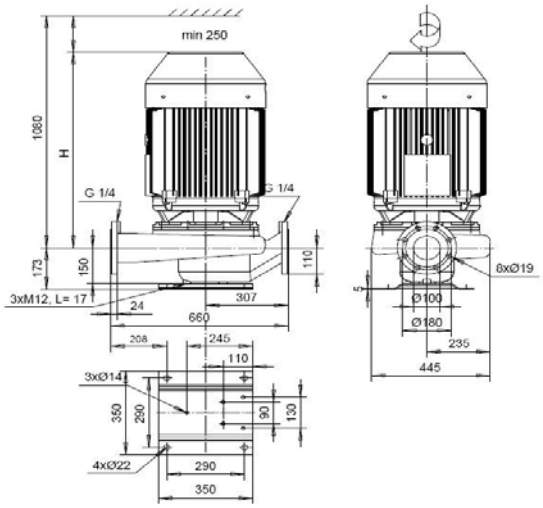
50 Hz 1500r/min DN 100



60 Hz 1800r/min DN 100

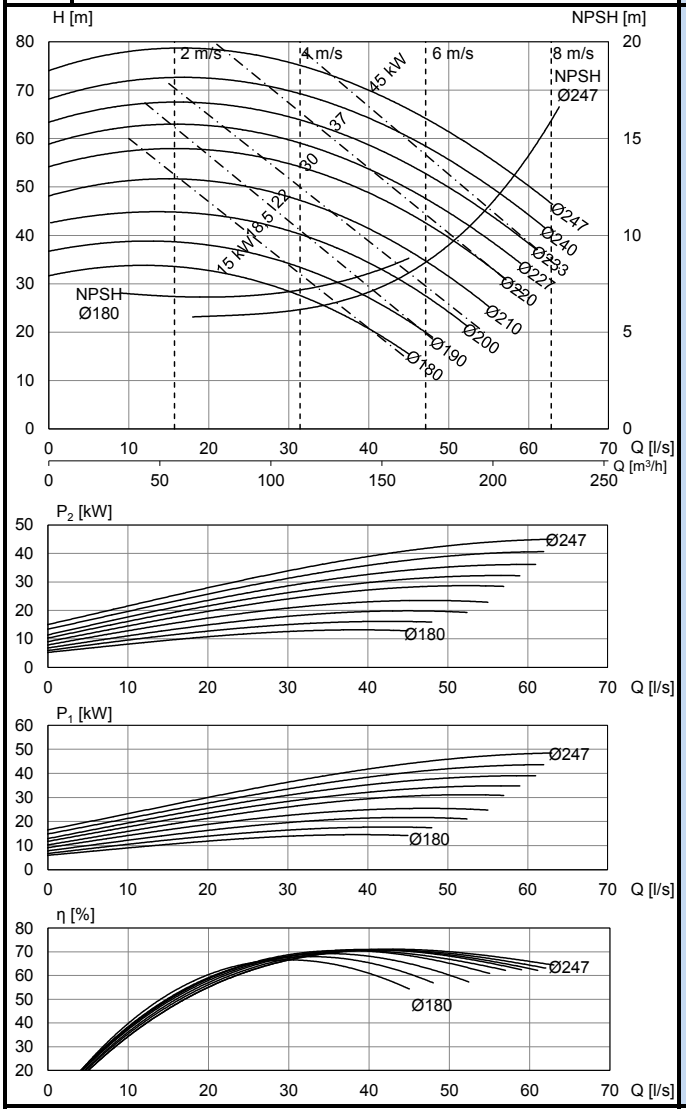


L-100S/2 | LH-100S/2 | LP-100S/2

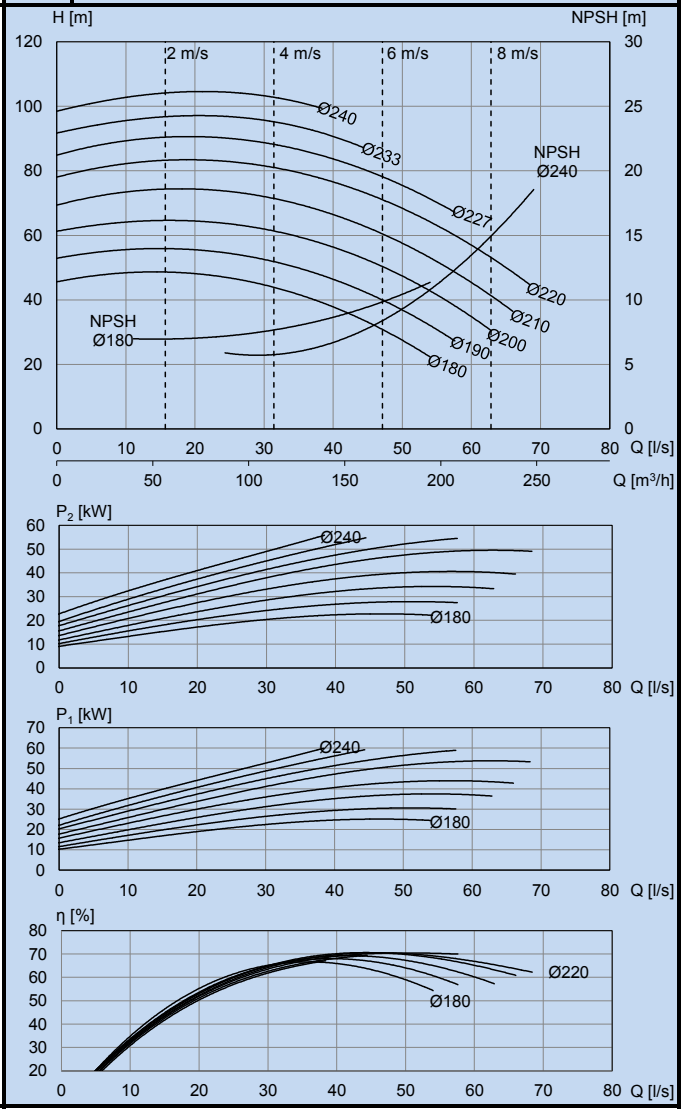


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KP-166 H1 F31	15	26,35	255	700
	KP-166 H1 F31	18,5	32,23	260	700
	KP-186 J1 BF31	22	37,9	315	730
	KP-205 J1 F31	30	53,8	370	730
	KP-205 J1 F31	37	64,8	375	780
	KP-225 H1 F32	45	77,6	460	830
60Hz	**Motor 380-400V(460-480V)**	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
	KP-166 H1 F31	15 (18)	26,70 (27,37)	255	700
	KP-166 H1 F31	18,5 (22)	32,36 (33,46)	260	700
	KP-186 J1 BF31	22 (26)	38,4 (39,2)	315	730
	KP-205 J1 F31	30 (36)	54,5 (55,9)	370	730
	KP-205 J1 F31	37 (44)	64,5 (66,3)	375	780
	KP-225 H1 F32	45 (54)	77,0 (81,3)	460	830

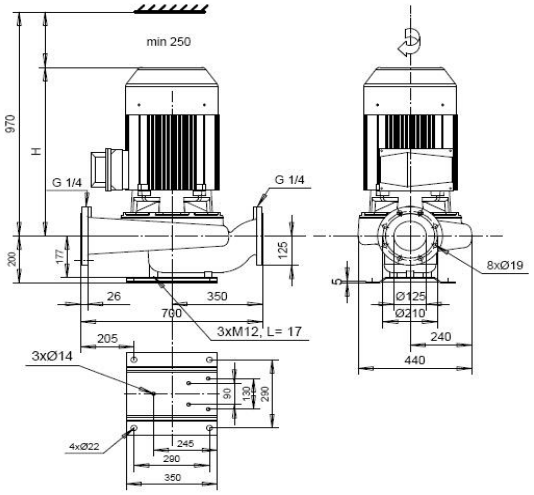
50 Hz 3000r/min DN 100



60 Hz 3600r/min DN 100

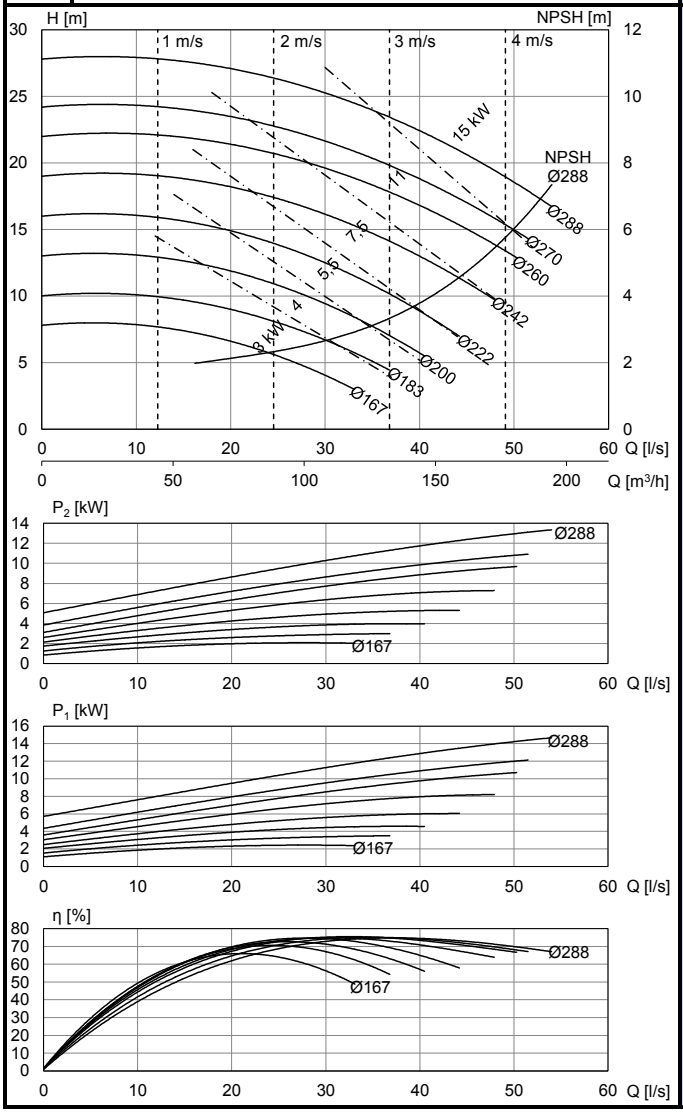


AL-1129/4 ALH-1129/4 ALS-1129/4 ALX-1129/4 ALM-1129/4

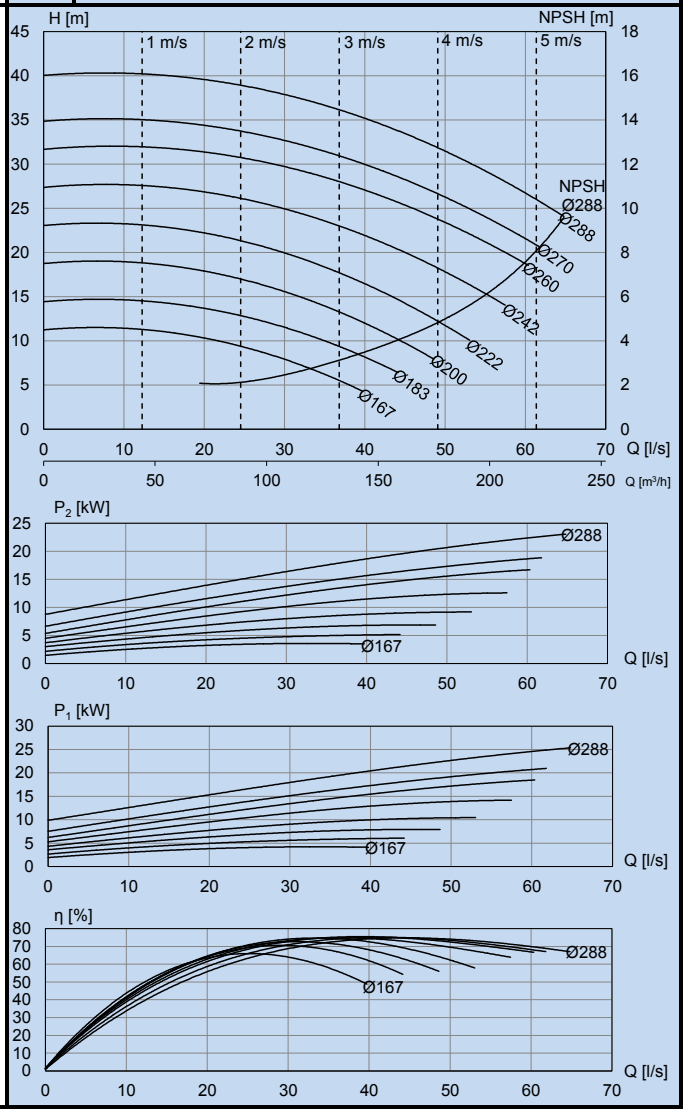


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-112 E2 F31	3	6,25	136	440
	KH-132 C2 F31	4	8,13	164	500
	KH-132 E2 F31	5,5	10,95	171	500
	KP-134 H2 F31	7,5	14,58	201	600
	KP-166 G2 F31	11	22,51	270	690
	KP-166 G2 F31	15	28,86	275	690
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	164	500
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	171	500
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	201	600
	KP-166 G2 F31	11 (13)	22,32 (22,78)	270	690
	KP-166 G2 F31	15 (18)	28,06 (29,43)	275	690
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	350	770
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	355	770

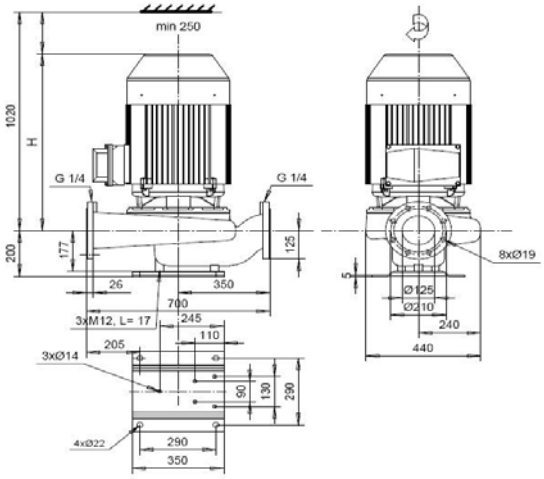
50 Hz 1500r/min DN 125



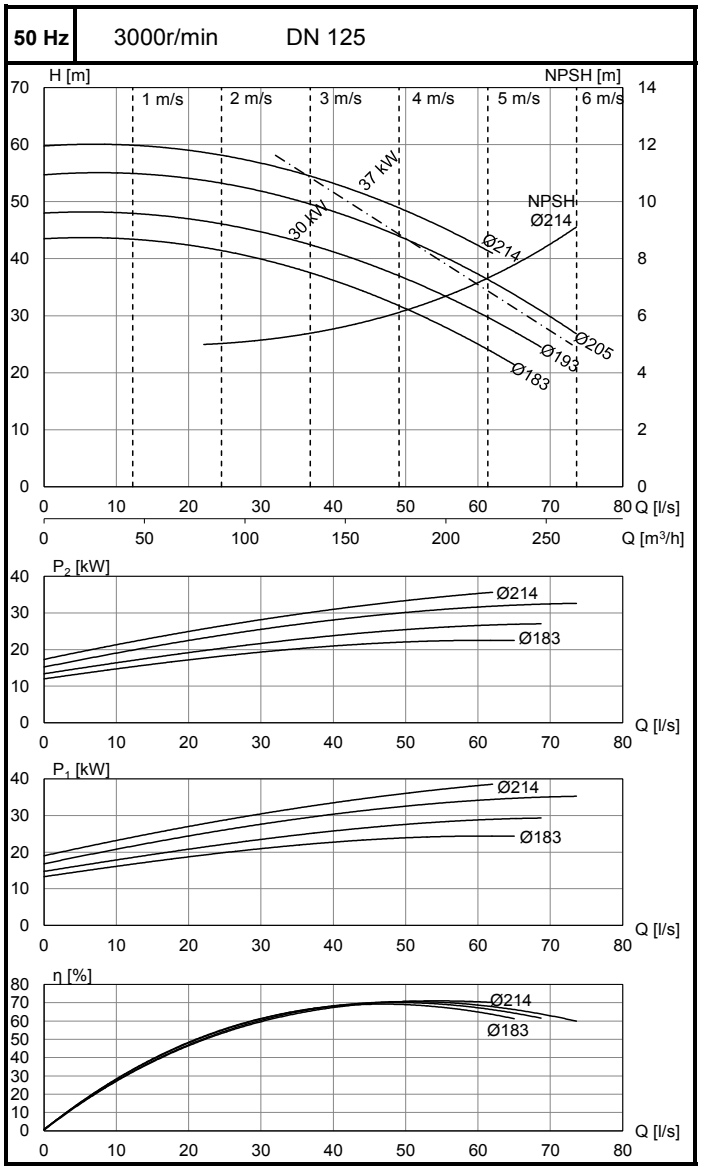
60 Hz 1800r/min DN 125



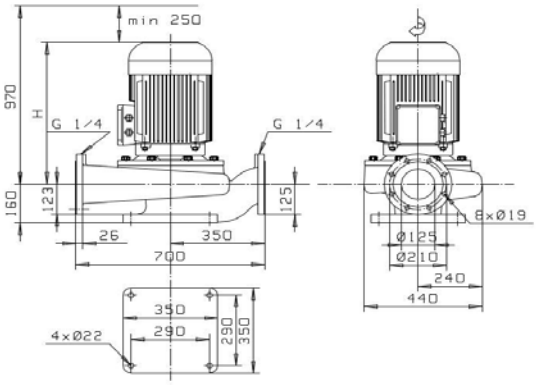
AL-1129/2 ALH-1129/2 ALS-1129/2 ALX-1129/2 ALM-1129/2



50HZ	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
	KP-205 J1 F31	30	53,8	370	770
	KP-205 J1 F31	37	64,8	375	770

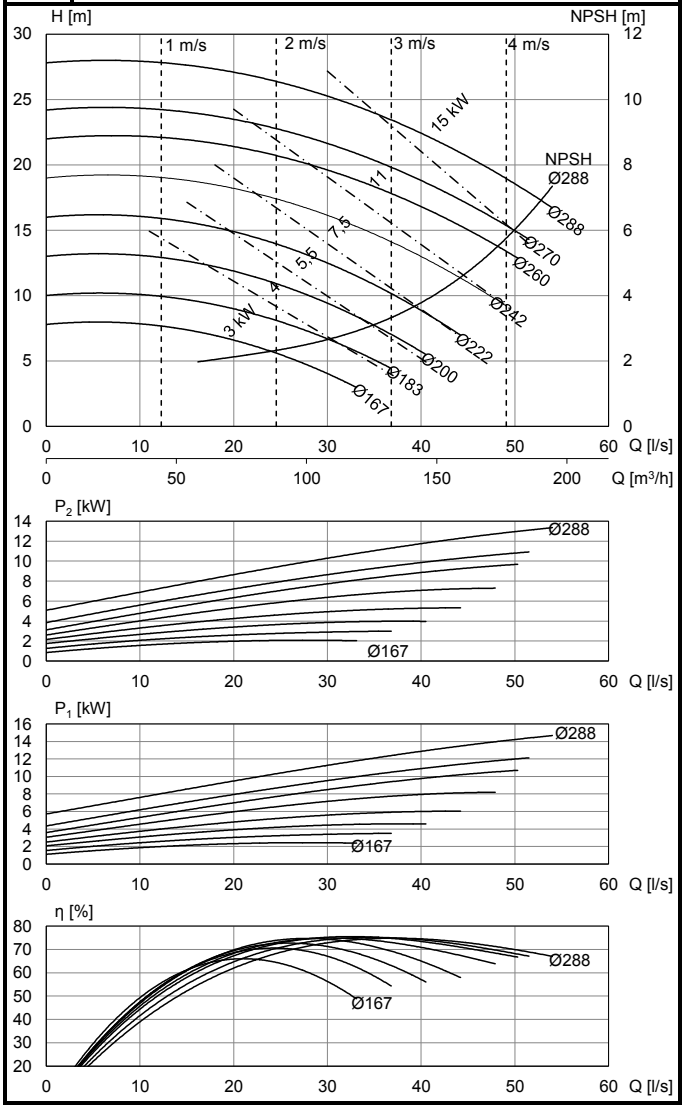


ALP-1128/4

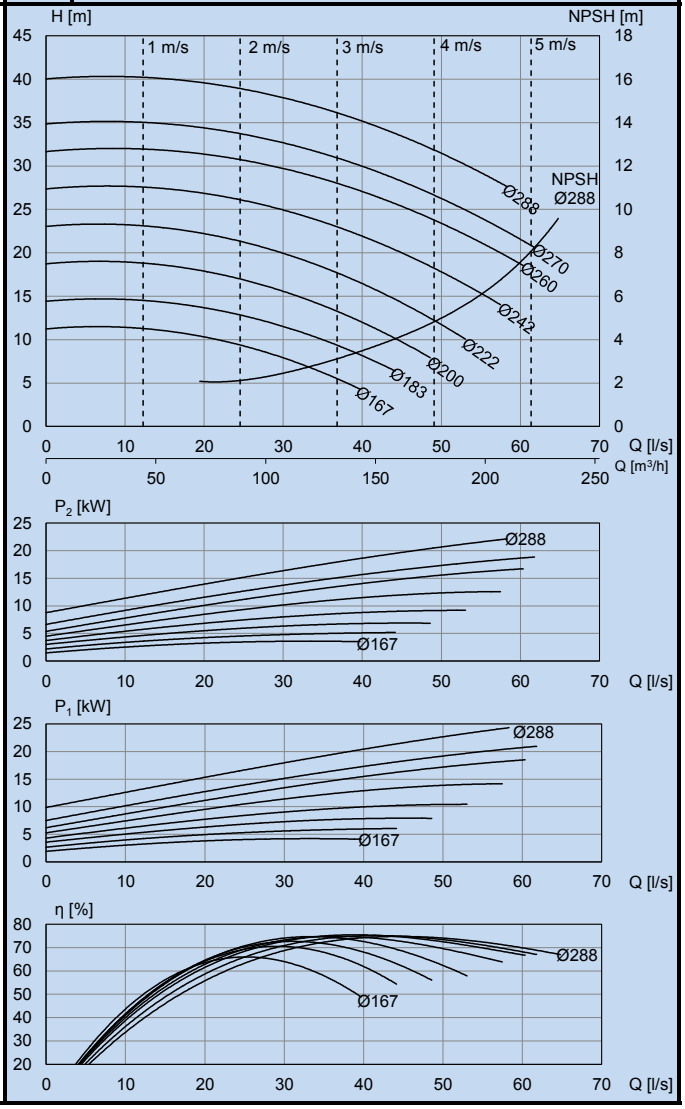


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-112 E2 F31	3	6,25	136	435
	KH-132 C2 F31	4	8,13	164	500
	KH-132 E2 F31	5,5	10,95	171	500
	KP-134 H2 F31	7,5	14,58	201	600
	KP-166 G2 F31	11	22,51	270	690
	KP-166 G2 F31	15	28,86	275	690
	Motor 380-400V(460-480V)	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
60HZ	KH-112 E2 F31	3 (3,6)	6,15 (6,25)	136	435
	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	164	500
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	171	500
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	201	600
	KP-166 G2 F31	11 (13)	22,32 (22,78)	270	690
	KP-166 G2 F31	15 (18)	28,06 (29,43)	275	690
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	350	770
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	355	770

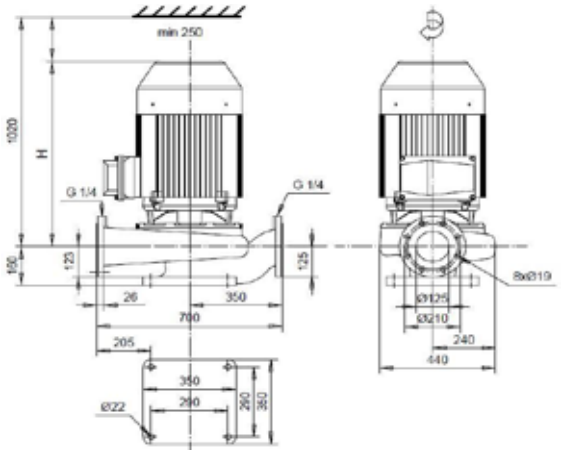
50 Hz 1500r/min DN 125



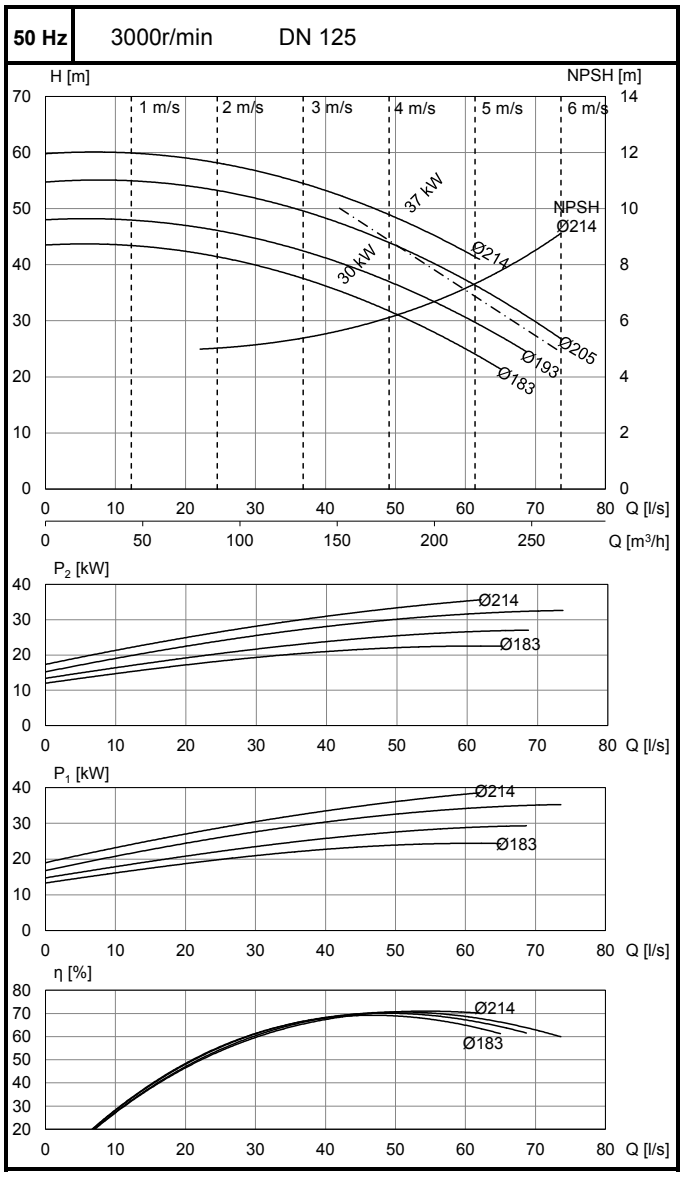
60 Hz 1800r/min DN 125



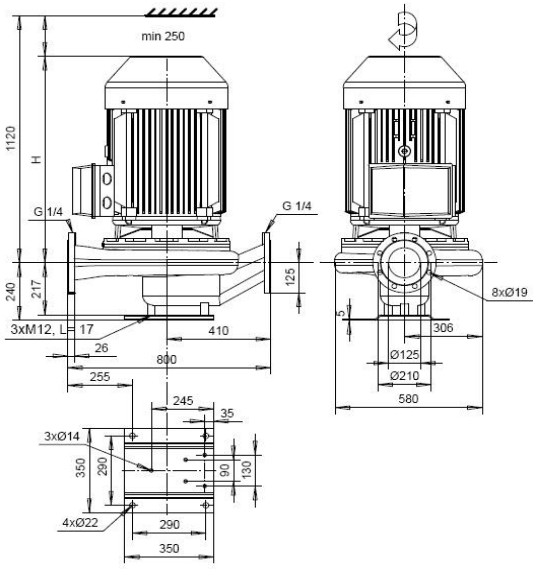
ALP-1128/2



50HZ	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
	KP-205 J1 F31	30	53,8	370	770
	KP-205 J1 F31	37	64,8	375	770

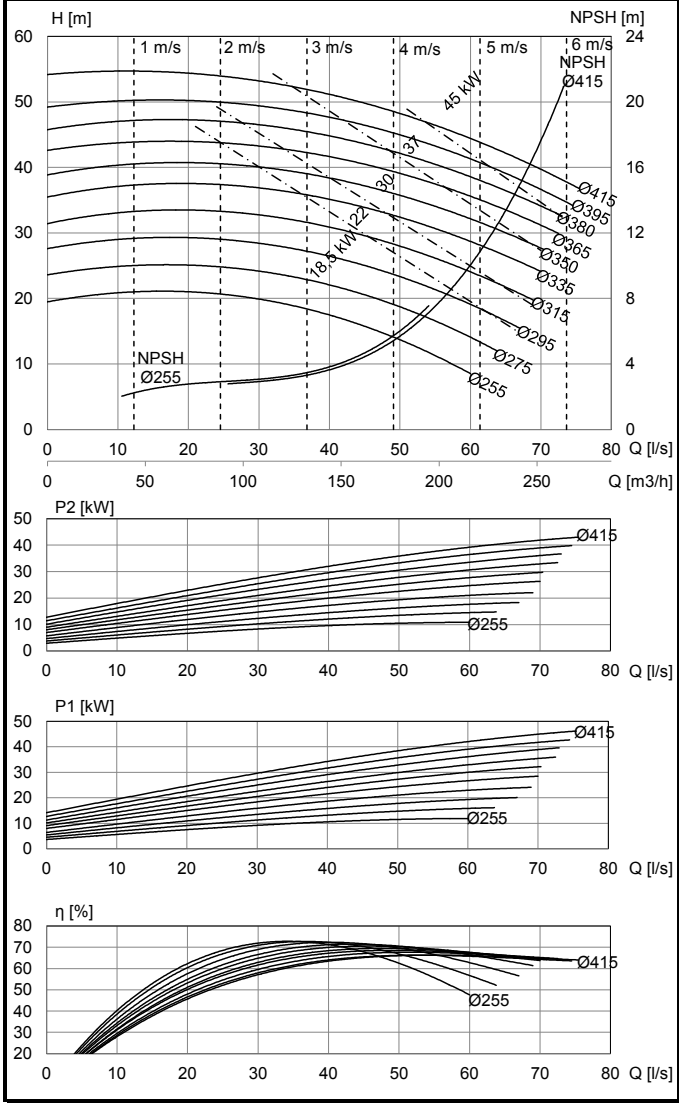


L-125S/4 | LH-125S/4 | LS-125S/4

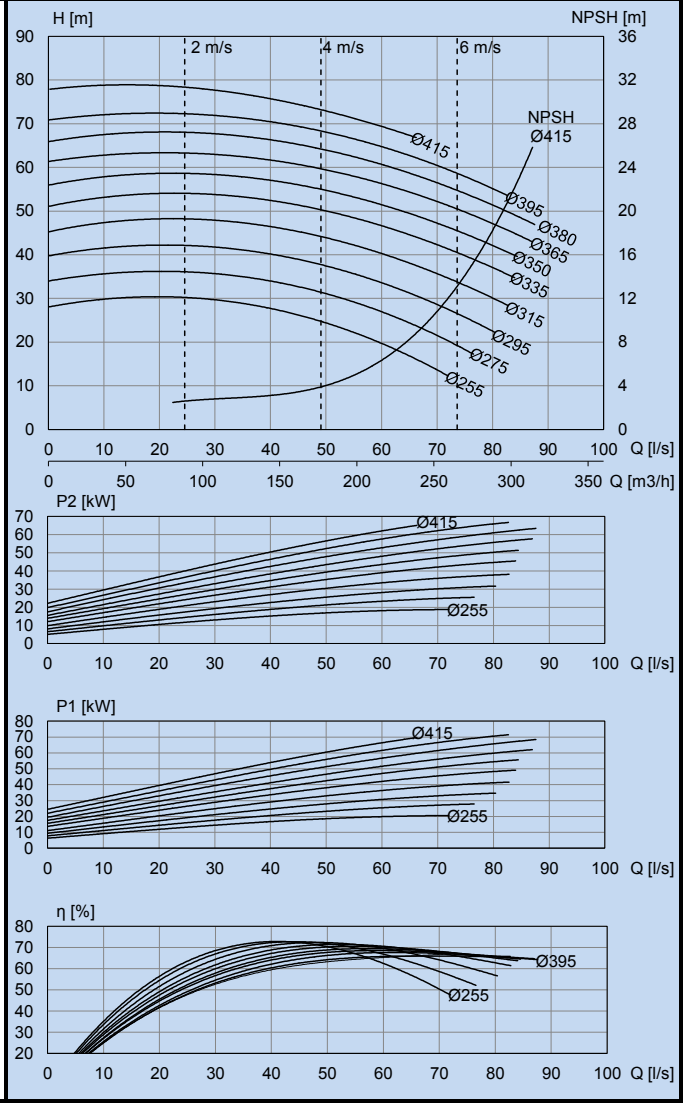


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KP-187 K2 F41	18,5	34,4	375	780
	KP-187 K2 F41	22	39,7	380	780
	KP-205 K2 F41	30	55,0	435	800
	KP-225 K2 F42	37	67,1	500	825
	KP-225 K2 F42	45	81,1	510	830
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KP-187 K2 F41	18,5 (22)	34,2 (34,7)	375	780
	KP-187 K2 F41	22 (26)	39,4 (40,3)	380	780
	KP-205 K2 F41	30 (36)	54,2 (56,5)	435	800
	KP-225 K2 F42	37 (44)	67,0 (70,1)	500	825
	KP-225 K2 F42	45 (54)	80,4 (84,6)	510	830
	KP-256 J2 F42	55 (66)	96,8 (101,0)	605	910

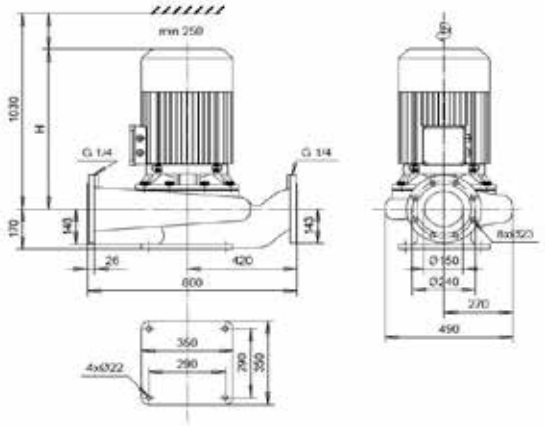
50 Hz 1500r/min DN 125



60 Hz 1800r/min DN 125

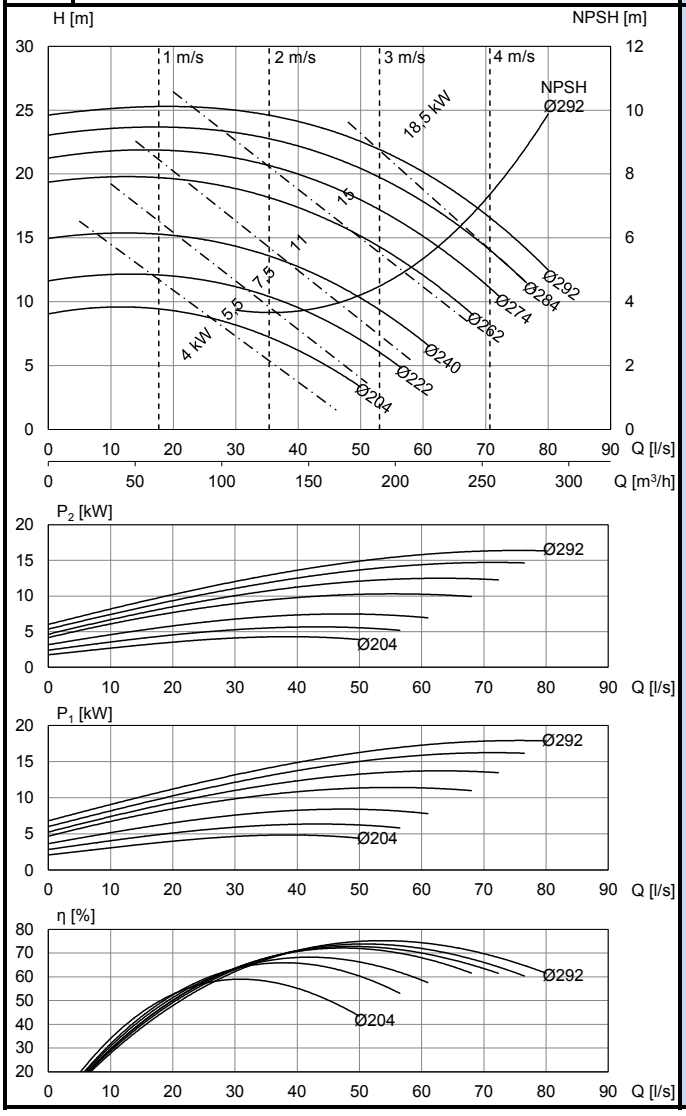


ALP-1153/4

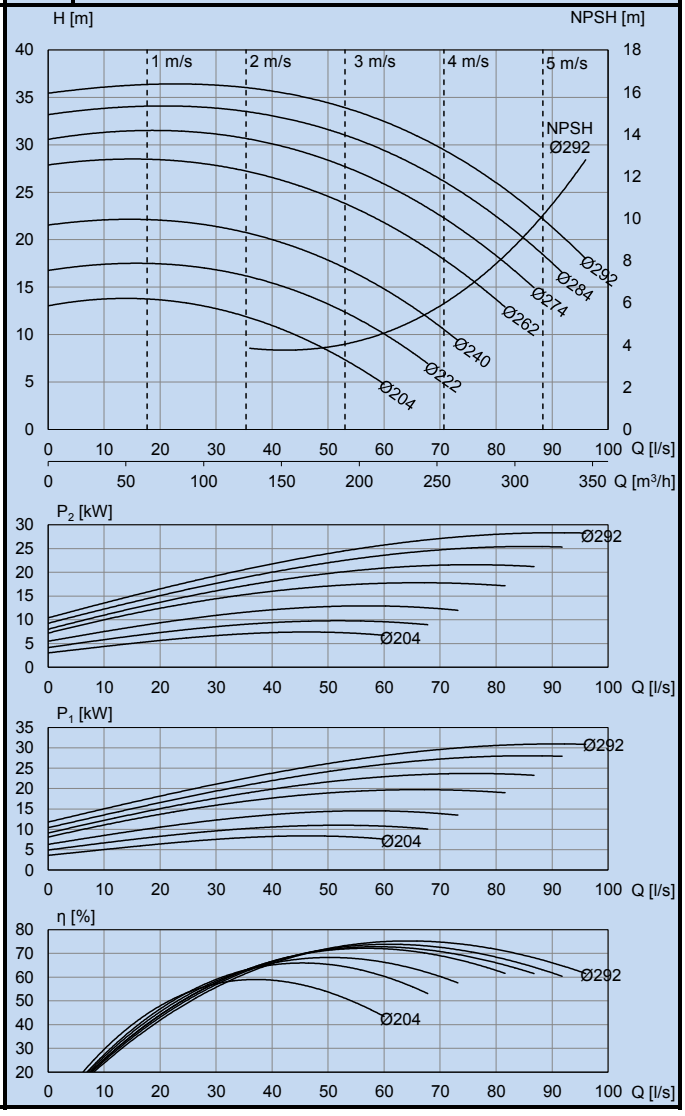


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KH-132 C2 F31	4	8,13	177	500
	KH-132 E2 F31	5,5	10,95	184	500
	KP-134 H2 F31	7,5	14,58	214	600
	KP-166 G2 F31	11	22,51	270	690
	KP-166 G2 F31	15	28,86	275	690
	KP-187 K2 BF31	18,5	34,4	335	770
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	177	500
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	184	500
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	214	600
	KP-166 G2 F31	11 (13)	22,32 (22,78)	270	690
	KP-166 G2 F31	15 (18)	28,06 (29,43)	275	690
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	335	770
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	340	770
	KP-205 K2 F32	30 (36)	54,2 (56,5)	400	780

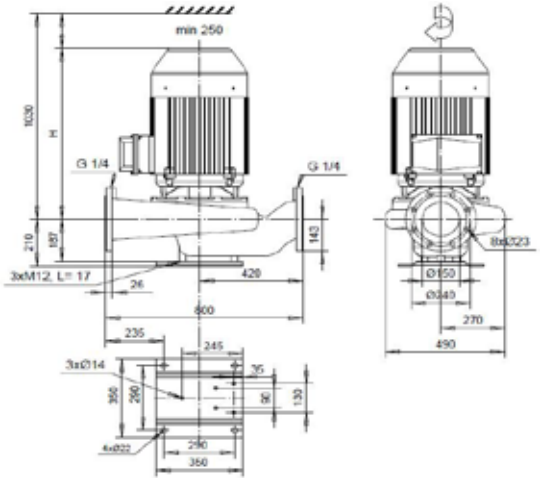
50 Hz 1500r/min DN 150



60 Hz 1800r/min DN 150

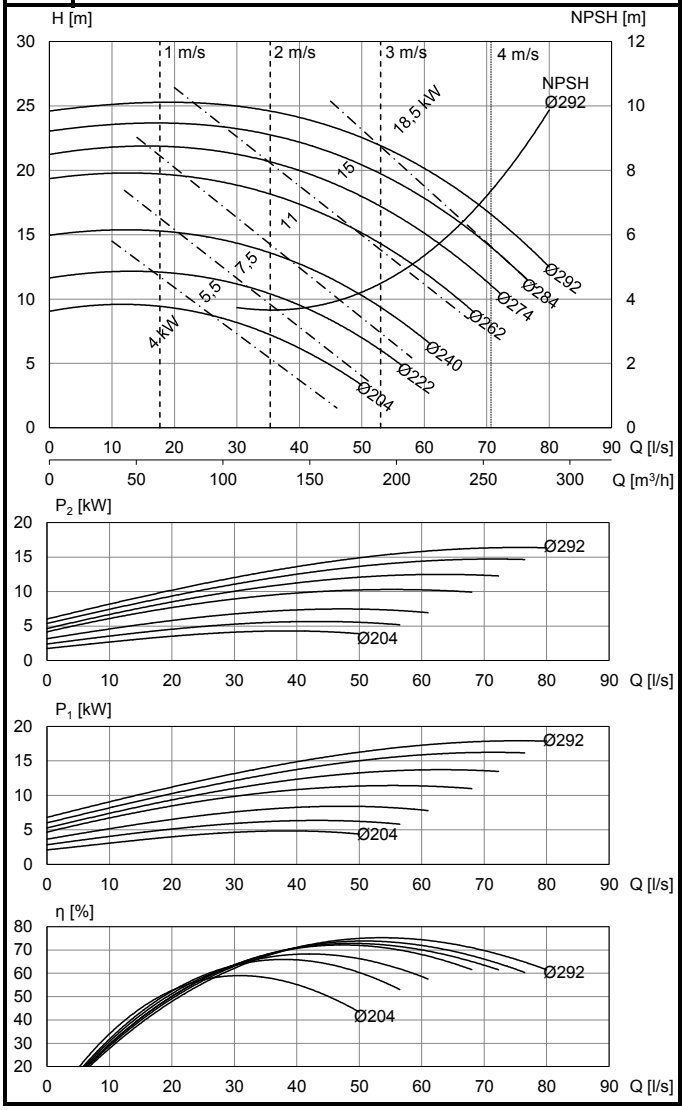


AL-1154/4 ALH-1154/4 ALS-1154/4 ALX-1154/4 ALM-1154/4

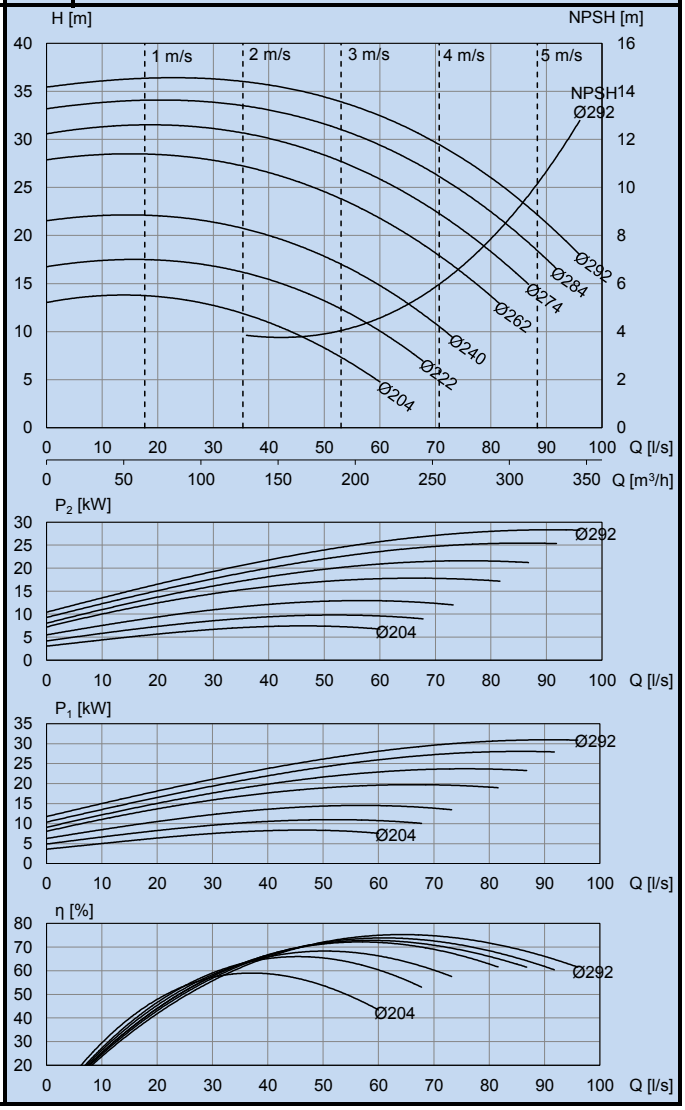


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50HZ	KH-132 C2 F31	4	8,13	177	500
	KH-132 E2 F31	5,5	10,95	184	500
	KP-134 H2 F31	7,5	14,58	214	600
	KP-166 G2 F31	11	22,51	270	690
	KP-166 G2 F31	15	28,86	275	690
	KP-187 K2 BF31	18,5	34,40	335	770
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60HZ	KH-132 C2 F31	4 (4,8)	8,17 (8,30)	177	500
	KH-132 E2 F31	5,5 (6,6)	11,00 (11,15)	184	500
	KP-134 H2 F31	7,5 (9)	14,23 (15,21)	214	600
	KP-166 G2 F31	11 (13)	22,32 (22,78)	270	690
	KP-166 G2 F31	15 (18)	28,06 (29,43)	275	690
	KP-187 K2 BF31	18,5 (22)	34,20 (34,70)	335	770
	KP-187 K2 BF32	22 (26)	39,40 (40,30)	340	770
	KP-205 K2 F32	30 (36)	54,20 (56,50)	400	780

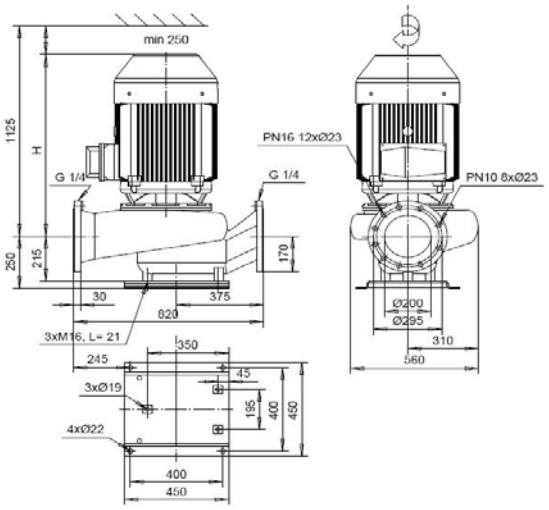
50 Hz 1500r/min DN 150



60 Hz 1800r/min DN 150

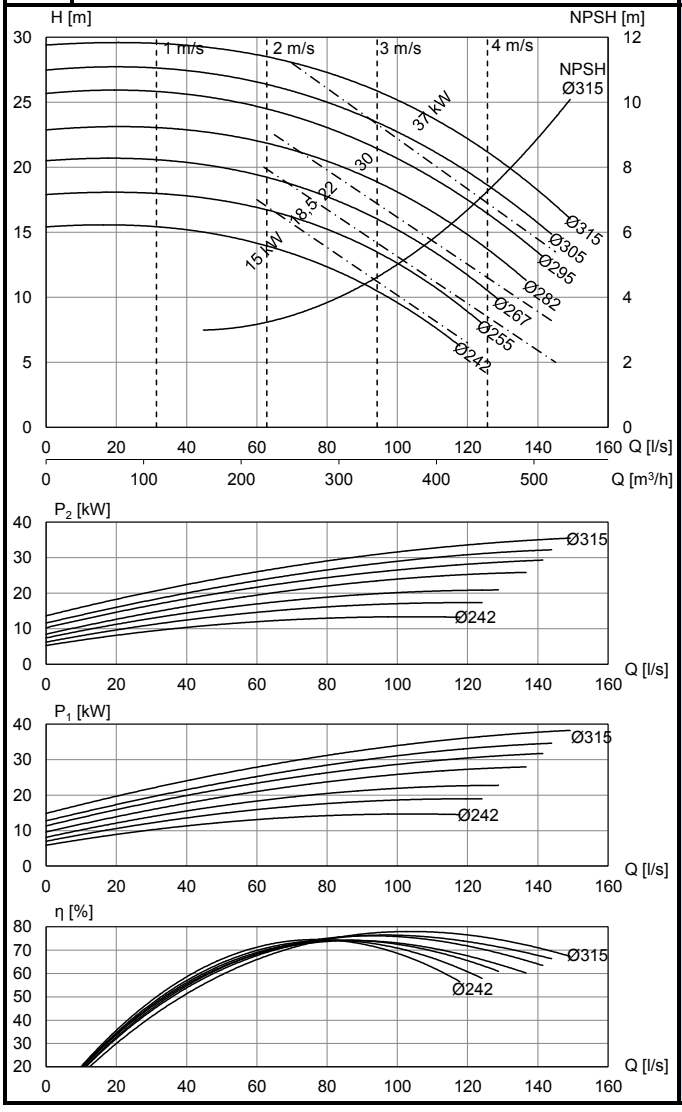


AL-1202/4 ALH-1202/4 ALP-1202/4 ALS-1202/4 ALX-1202/4 ALM-1202/4

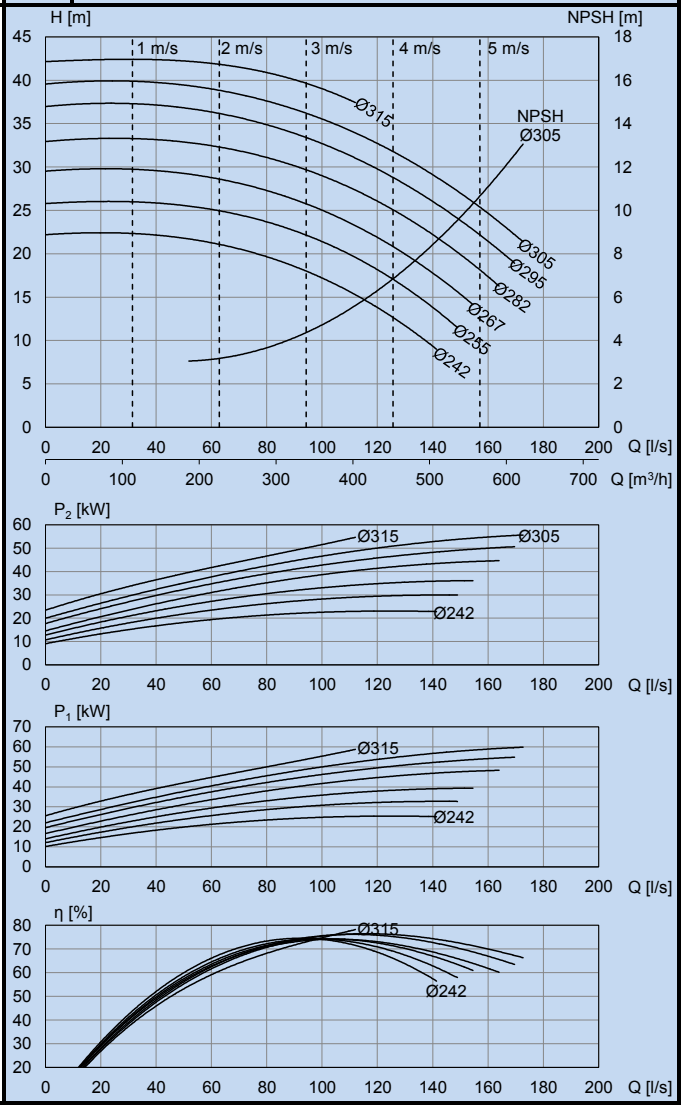


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KP-166 G2 F31	15	28,86	330	720
	KP-187 K2 BF31	18,5	34,4	405	830
	KP-187 K2 BF32	22	39,7	410	830
	KP-205 K2 F32	30	55,0	465	830
	KP-225 K2 F32	37	67,1	530	865
60Hz	**Motor 380-400V(460-480V)**	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
	KP-187 K2 BF31	18,5 (22)	34,2 (34,7)	405	830
	KP-187 K2 BF32	22 (26)	39,4 (40,3)	410	830
	KP-205 K2 F32	30 (36)	54,2 (56,5)	465	830
	KP-225 K2 F32	37 (44)	67,0 (70,1)	530	865
	KP-225 K2 F42	45 (54)	80,4 (84,6)	525	880

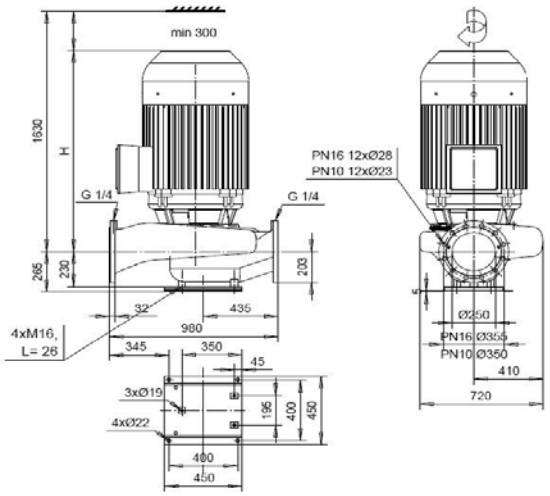
50 Hz 1500r/min DN 200



60 Hz 1800r/min DN 200

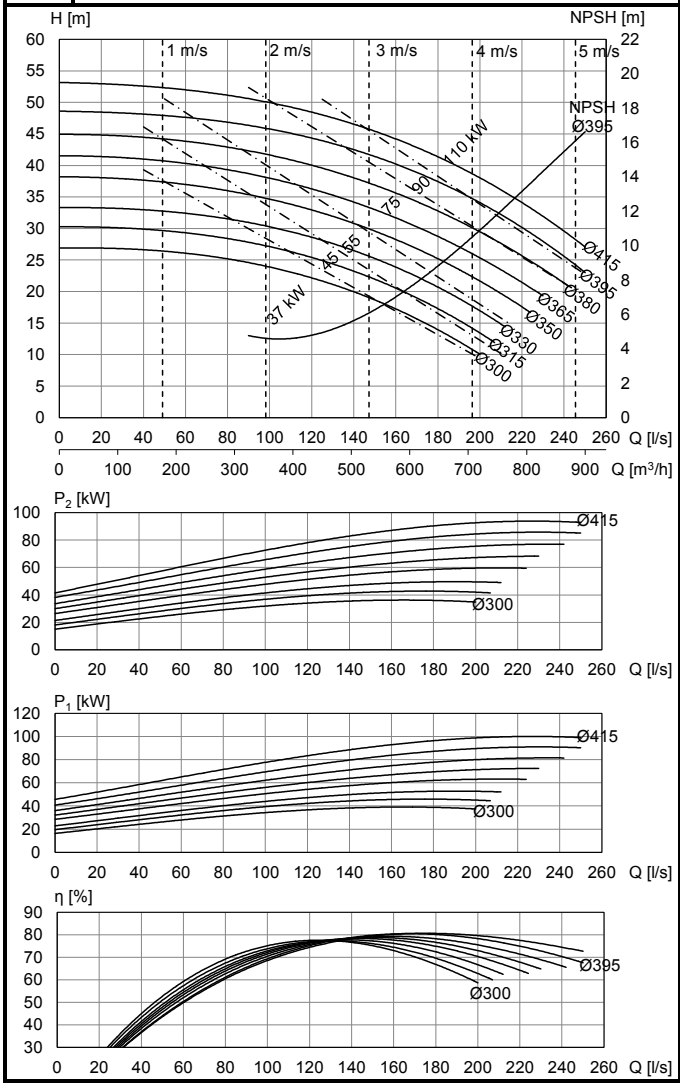


AL-1250/4 ALH-1250/4 ALS-1250/4 ALX-1250/4

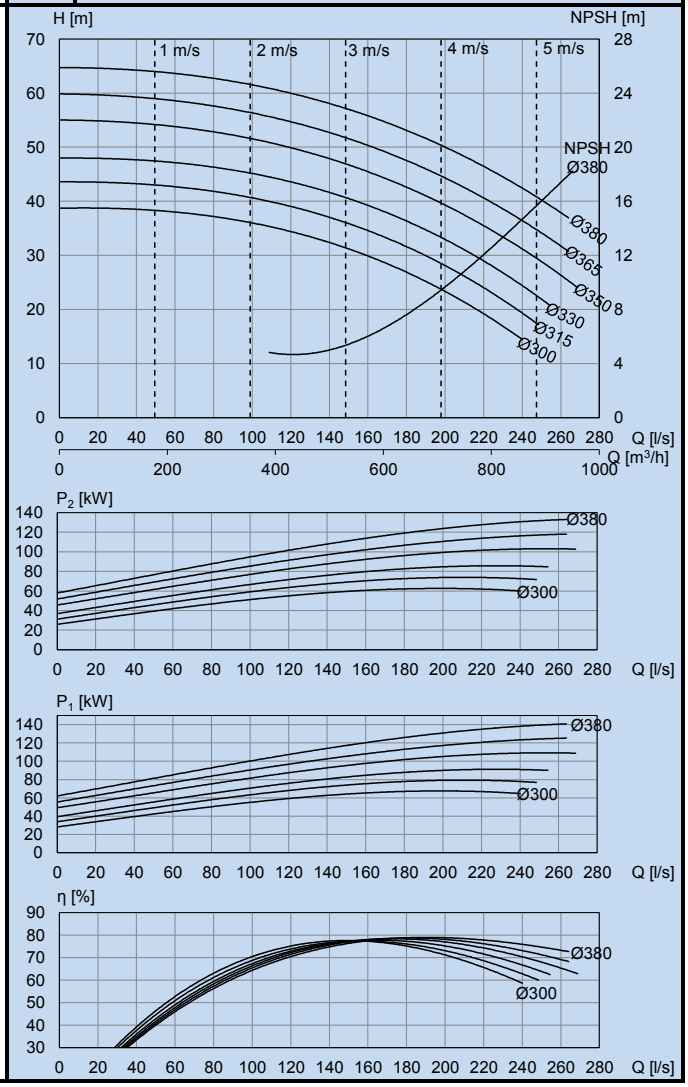


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KP-225 K2 F41	37	67,1	625	900
	KP-225 K2 F42	45	81,1	630	900
	KP-256 J2 F42	55	98,6	755	950
	KP-288 K2 F43	75	133,8	920	1070
	KP-288 K2 F43	90	156,9	935	1070
	KPR-314 H2 F43	110	189,2	1265	1330
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KP-225 K2 F42	45 (54)	80,4 (84,6)	630	900
	KP-256 J2 F42	55 (66)	96,8 (101,0)	755	950
	KP-288 K2 F43	75 (90)	135,1 (137,7)	920	1070
	KP-288 K2 F43	90 (105)	162,8 (158,2)	935	1070
	KPR-314 H2 F43	110 (132)	190,6 (195,8)	1265	1330

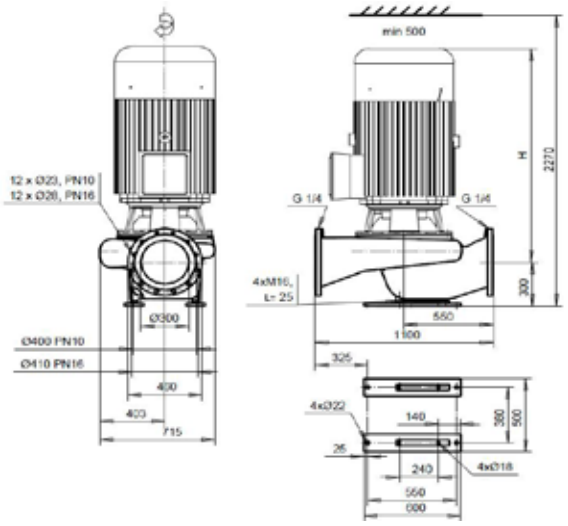
50 Hz 1500r/min DN 250



60 Hz 1800r/min DN 250

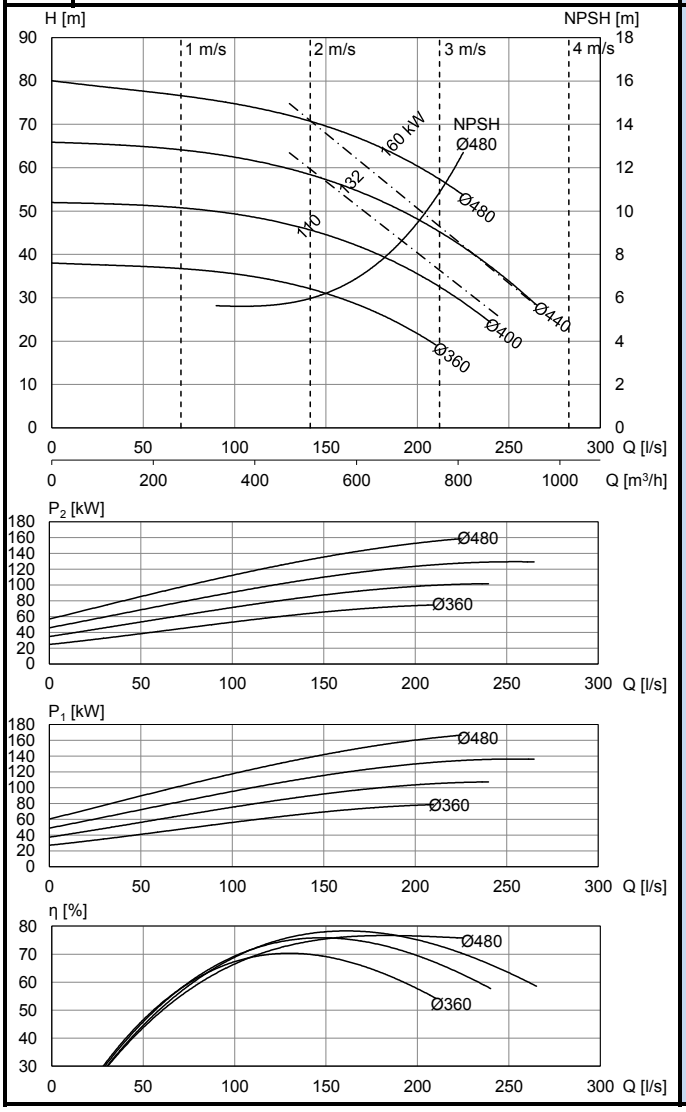


AL-1300/4 ALH-1300/4 ALS-1300/4

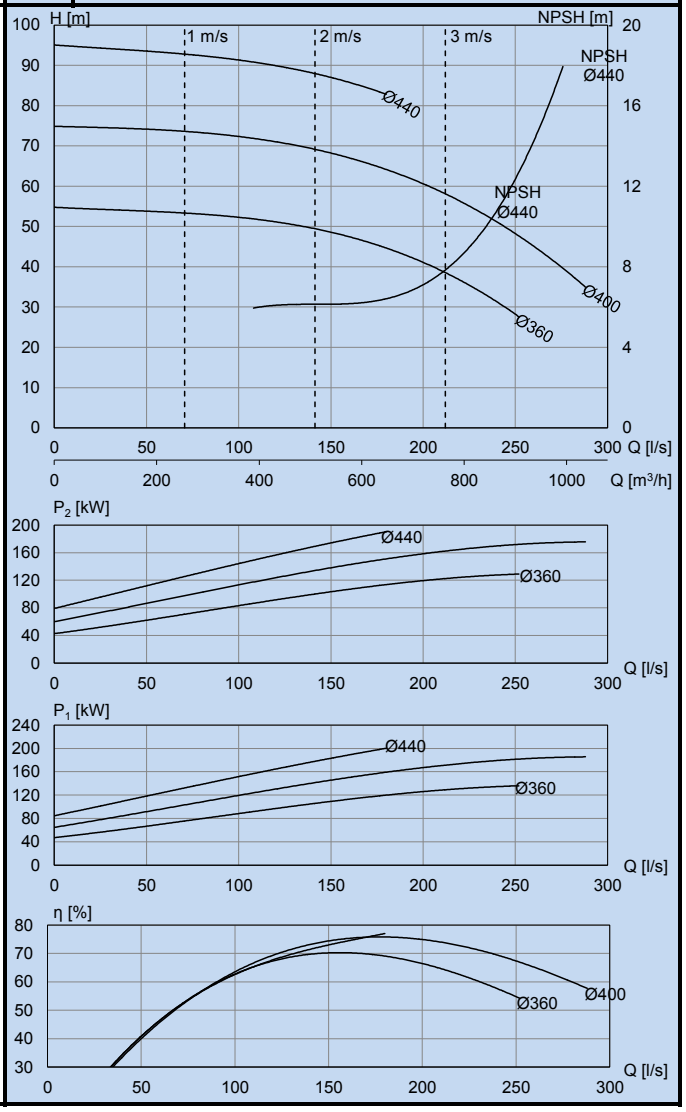


	Motor 400V	P_{2N} [kW]	I_N [A]	[kg]	H [mm]
50Hz	KPR-314 H2 F53	110	189,2	1520	1360
	KPR-316 K2 F53	132	225,8	1730	1470
	KPR-316 K2 F53	160	273,9	1750	1470
	Motor 380-400V(460-480V)	**P_{2N} [kW]**	**I_N [A]**	**[kg]**	**H [mm]**
60Hz	KPR-314 H2 F53	110 (132)	190,6 (195,8)	1520	1360
	KPR-316 K2 F53	132 (158)	227,7 (234,3)	1730	1470
	KPR-316 K2 F53	160 (190)	275,9 (285,0)	1750	1470

50 Hz 1500r/min DN 300



60 Hz 1800r/min DN 300



KOLMEKS

Kolmeks Oy
Taimistotie 2
FI-14200 Turenki
FINLAND

Phone. +358 20 7521 31
Fax +358 20 7521 200

kolmeks@kolmeks.fi
www.kolmeks.fi/com