Kolmeks

Технические характеристики (eng)

Насосы с резьбовым соединением ALP, LP

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General technical data

AEP, LP and ALP pumps are bronze domestic hot water pumps equipped with an integrated frequency converter according to the SCA version.

Other versions are also available if needed, see Frequency converter pumps SC series in this product catalogue.

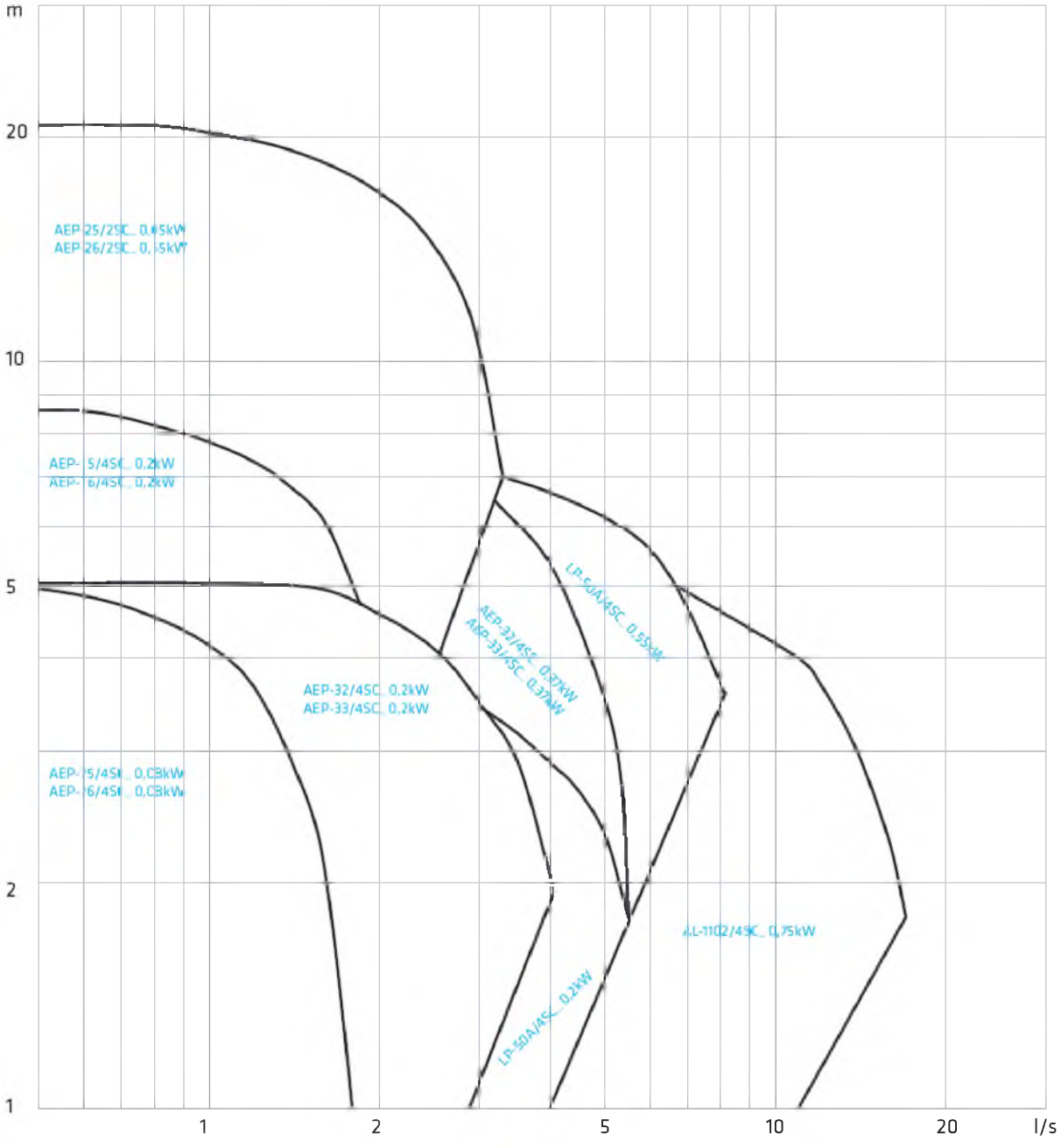
- AEP pumps are equipped with threads – G 1 ¼
- LP and ALP pumps are equipped flanges DN50 ... DN100

Applications

These bronze pumps are mainly used for the circulation of domestic hot water.

They can also be used in standard circulation systems, as pressure boosters and as transfer pumps for various clean oxygen-rich liquids.

Quick Selection Chart



Structure

Pump

SCA domestic hot water pumps are centrifugal pumps equipped with a dry motor suitable for horizontal or vertical pipe installation. The impeller is installed directly onto the shaft of the electric motor (no separate couplings). A frequency converter is integrated into the pump motor.

Electric motor

The electric motor is a three-phase Kolmeks asynchronous motor designed for pump and frequency converter operation, which guarantees high starting torque and low energy consumption. The electric motor is highly efficient and has low noise levels.

Supply voltage:	1 x 230 V, 50 Hz
Enclosure class:	IP 54
Insulating class:	F
Duty type:	Continuous duty (S1)
Ambient temperature:	0 ... +40°C (max. +35°C diurnal average)

Connection types

Threaded:

The SC_ pump threads are dimensioned according to Standard ISO 228/1.

Flanged:

The flanges of an SC_ pump fit counter-flanges dimensioned according to ISO 7005.

Seals:

The standard shaft seal of an SC_ series pump is a single mechanical seal. The pump housing seal is an O-ring or a gasket. Other seal options are available by request.

AEP domestic hot water pumps with SCA frequency converters
Standard materials

Connection G or DN	Bronze CuSn10Zn2, PN10	Shaft seal, PN10 Ø [mm], materials	Housing size [mm]	O-ring material	Motor [kW]
G 1	AEP-25/4-26/4 SCA	12, carbon/SiC Viton	123 X 2,5	NBR	0,08 - 0,2
	AEP-25/2-26/2 SCA	12, carbon/SiC Viton	123 X 2,5	NBR	0,65
G 1 1/4	AEP-32/4-33/4 SCA	12, carbon/SiC Viton	145 X 2,5	NBR	0,2 - 0,37
DN50	LP-50A/4 SCA	12, carbon/SiC EPDM	150 X 3	NBR	0,2 and 0,55
DN100	ALP-1102/4 SCA	18, carbon/ SiC EPDM	179,3 X 5,7	EPDM	0,75

Kolmeks recommendation for pumps in district heating circulation systems

SCA-version bronze domestic hot water pump equipped with an integrated frequency converter.

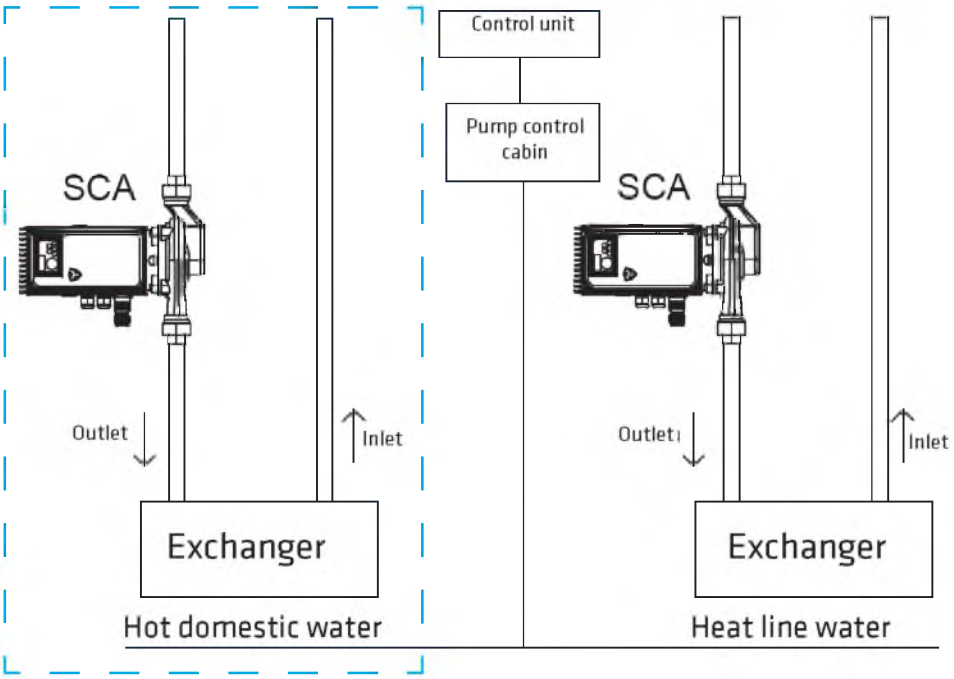
Supply voltage 1 x 230 V

Advantages of SC pump

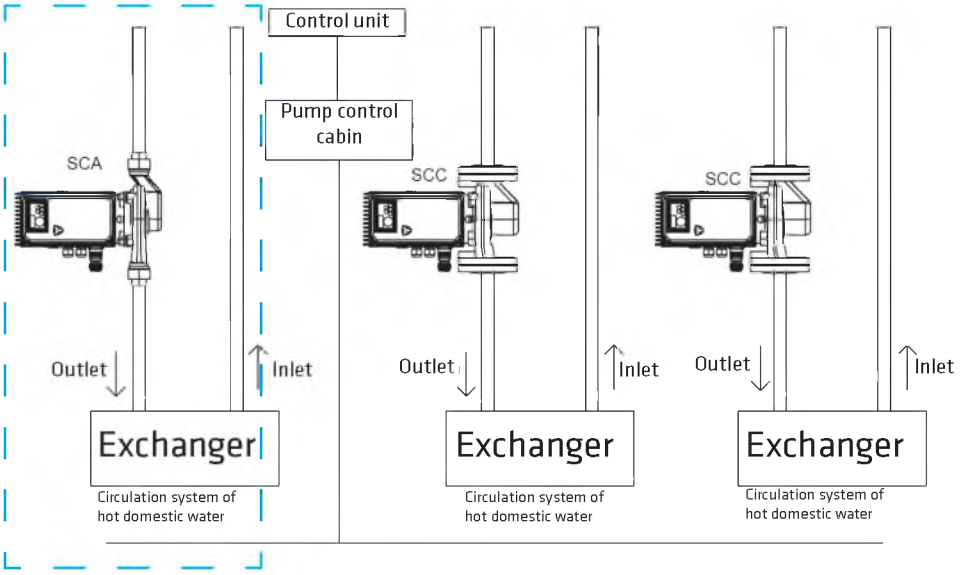
- Alarms to BMS
- Duty point can be adjusted in one step
- Automatically adapts to system heat/cooling requirements (radiator and air heating circulation)
- Energy savings
- Reliable operation
- Reduced wear in pipework and system valves leading to proponged life. - Smoother system operation
- Replacement motor unit service

Domestic hot water

District heating system with two secondary circuits



District heating system with three secondary circuits



Rating plate information

Accessories:
T = External mechanical seal for aggressive liquids
H = Flushing
KT = Double mechanical seal
Sn = Non-standard mechanical seal
Kn = Non-standard surface treatment

Special impeller material:
PM = Bronze
SS = Stainless steel AISI316

1 2 3 4 5

AL - 110 2 / 4 SC B

L P - 50 A / 4 SC C

1) Pump series:

AE-, L-, AL-

2) Housing, sealing flange and impeller material:

no letter = Grey cast iron EN-GJL-200
H = Nodular cast iron EN-GJS-400
P = Bronze CuSn10Zn2
S = Stainless steel AISI 316

3) Connection sizes:

20 = 3/4"
25 = 1"
32 = 1 1/4" or DN 32
40 = DN 40
50 = DN 50
65 = DN 65
80 = DN 80
110 = DN 100

4) Electric motor pole number:

2 = rotation speed 50 r/s (50 Hz)
4 = rotation speed 25 r/s (50 Hz)
rotation speed 30 r/s (60 Hz)
rotation speed 32.5 r/s (65 Hz)

5) SC = SC frequency converter integrated in pump:

Pump adjustment method SCA, SCB, SCC, SCD, SCF, SCG, SCM

Installation:

The pump can be installed directly in the pipework without additional support.

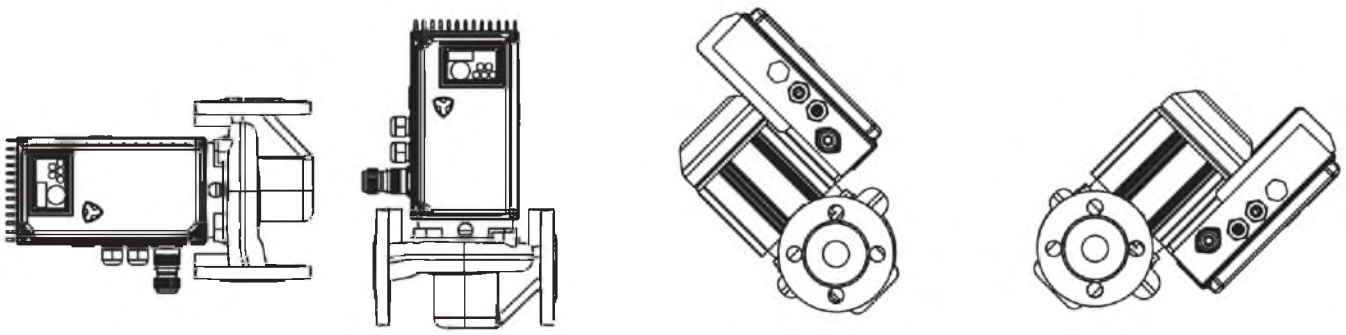
The position of the motor unit and therefore the location of the frequency converter box can be changed by detaching the motor unit from the pump housing and rotating it to the required position, with certain limitations.

Ensure the following when installing the pump:

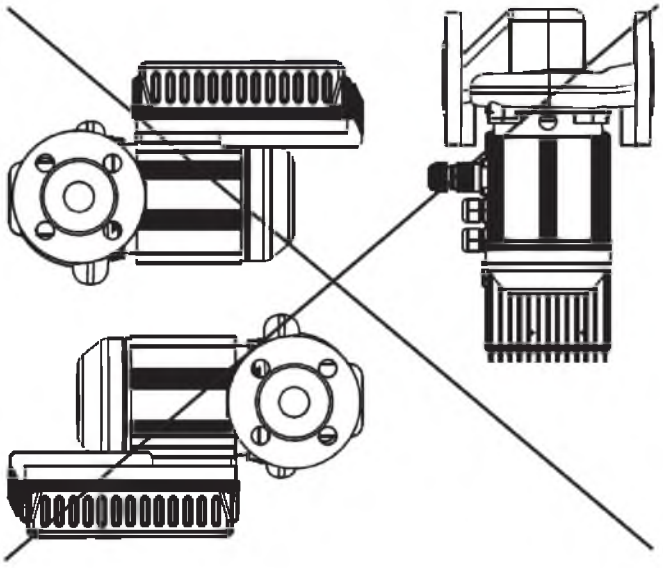
- Enough room for control, service and inspections
- The installation position should be chosen such that the display is readable; a separate control panel can also be used if required.
- Possibility to use lifting and transfer devices if needed
- Shut-off valves on both sides of the pump
- Pump must be installed in such a position that the integrated frequency converter is not in the immediate vicinity of a hot pipes and is fully accessable.

Operating positions

Permitted operating positions



Prohibited operating positions



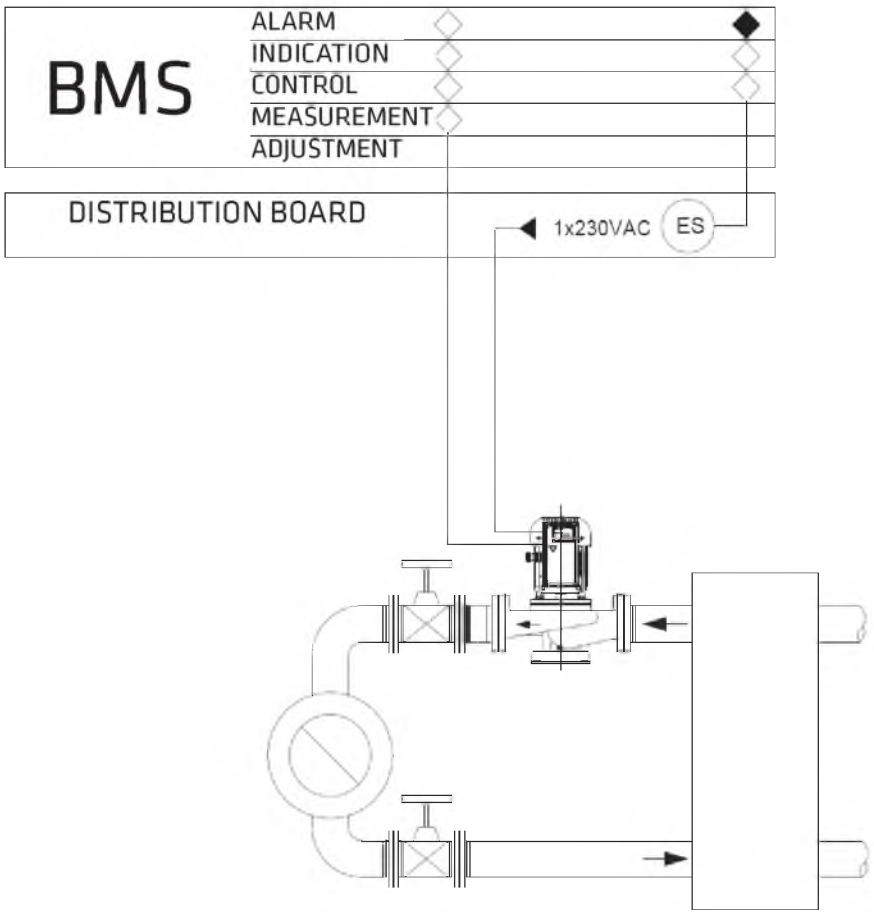
SCA pump: Direct speed reference using a potentiometer

Applications
For systems with no continuous automatic adjustment requirement and a constant duty point, such as domestic hot water circulation systems, for example.

Accessories
Pump and frequency converter.

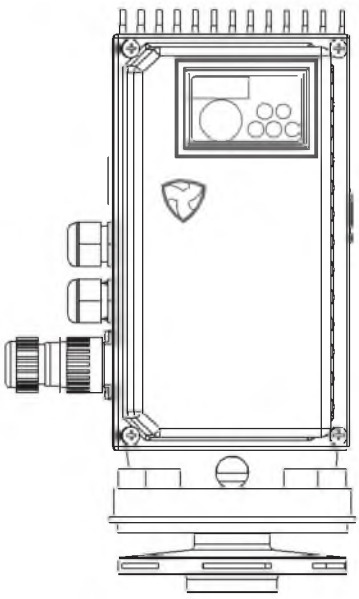
Operating principle
The rotation speed of the pump is set in one step during commissioning using the buttons on the frequency converter. The desired frequency is selected using the control panel potentiometer and saved by pushing the SET button. The pump rotates at a fixed speed. As the pump rotates, it is possible to select the motor current (A) or frequency (Hz) on the display by pushing the SET button. Panel use can be locked by pushing the MODE button for 2 seconds. The panel can be unlocked in the same way.

Pump curve
The pump QH curve equals the QH curve of a standard speed pump.



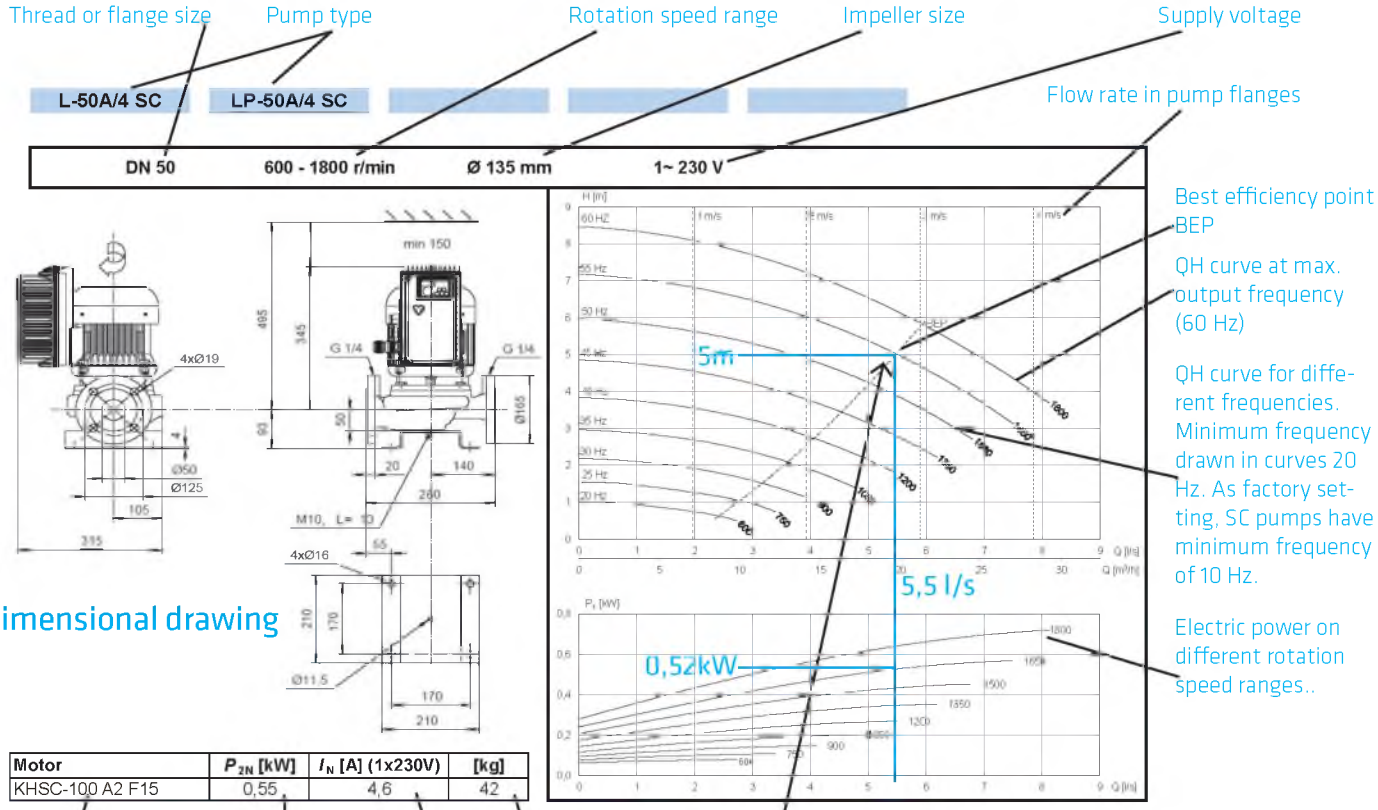
Motor unit:

Motor unit (SCA, SCG)
The pump motor unit without the transmitter includes an electric motor, a frequency converter, a sealing flange, an impeller, and seals. When replacing the motor unit, no procedures need to be carried out on the piping or electricity, because there is no need to detach the pump housing and the power supply is connected using a quick connection plug.



Reading curves:

Characteristic curves apply to +20°C water.



Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
KHSC-100 A2 F15	0,55	4,6	42

Electric motor type

Pump nominal shaft power

Nominal single phase current

Pump weight

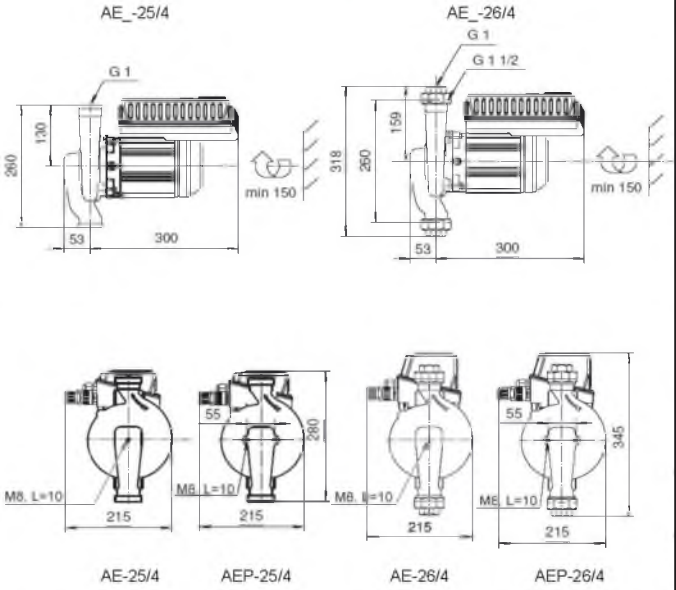
NOTE! Liquid density and viscosity affect the amount of power required. Please check that the motor power is sufficient for liquids with a higher density and viscosity than water. Please contact Kolmeks for further information.

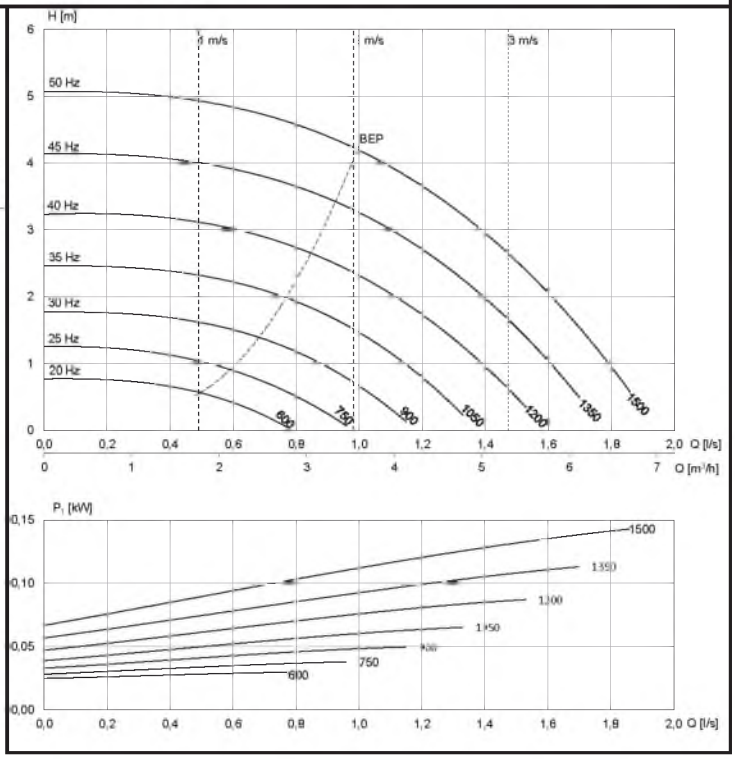
An example of selecting a pump:
Duty point 5.5 l/s, 50kPa (5m)

1. Find a pump size with a BEP (best efficiency point) which is as close as possible to the required duty point.
2. Ensure that the output 5.5 l/s and head 5m intersect at the best efficiency point.
3. The best energy efficiency and lowest energy consumption are obtained by following the above steps.
4. If needed, it is possible to read the input power of the device on the P1 curve. In this case, the input power is 0.52 kW at the desired duty point.

AEP-25/4 SC **AEP-26/4 SC**

G 1	600 - 1500 r/min	Ø 125 mm	1~ 230 V

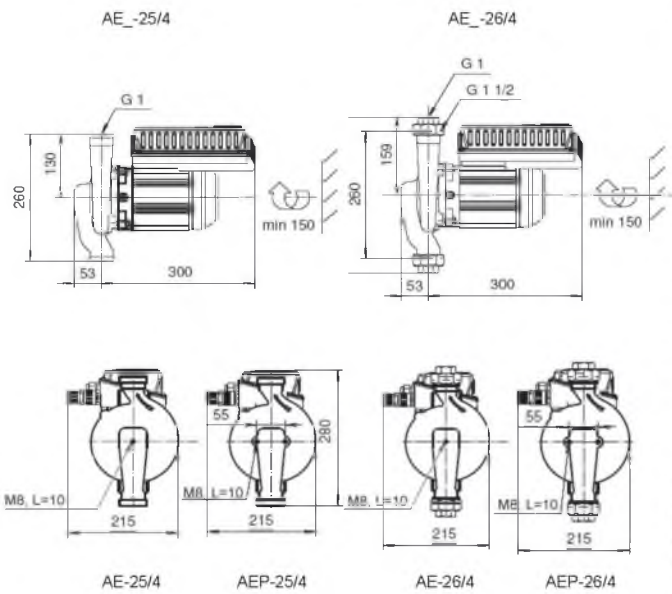


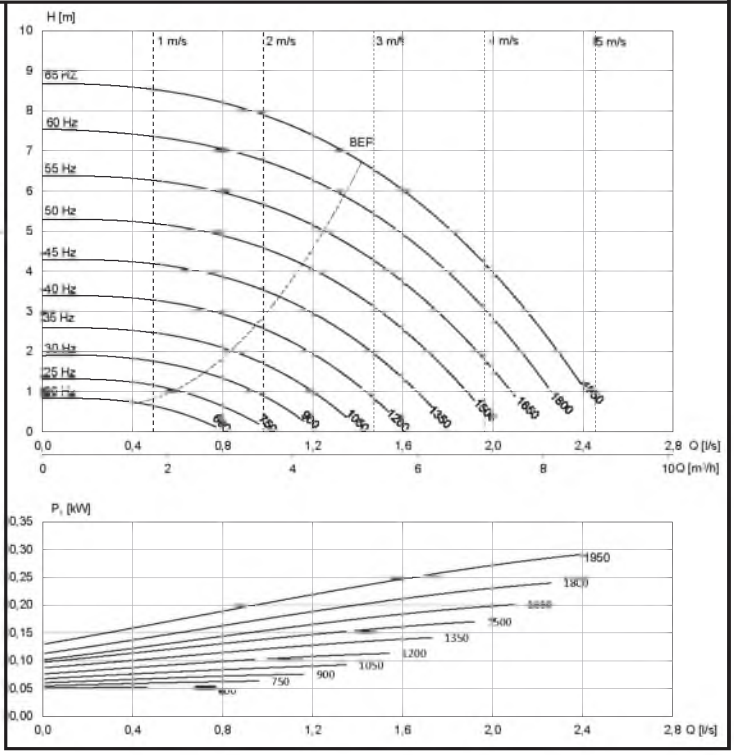


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
OPSC-742 N12	0,08	1,1	14

AEP-25/4 SC **AEP-26/4 SC**

G 1	600 - 1950 r/min	Ø 125 mm	1~ 230 V

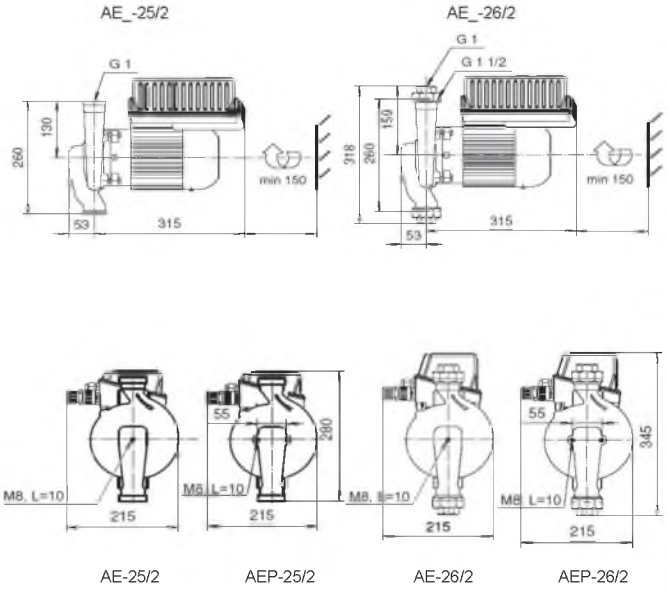


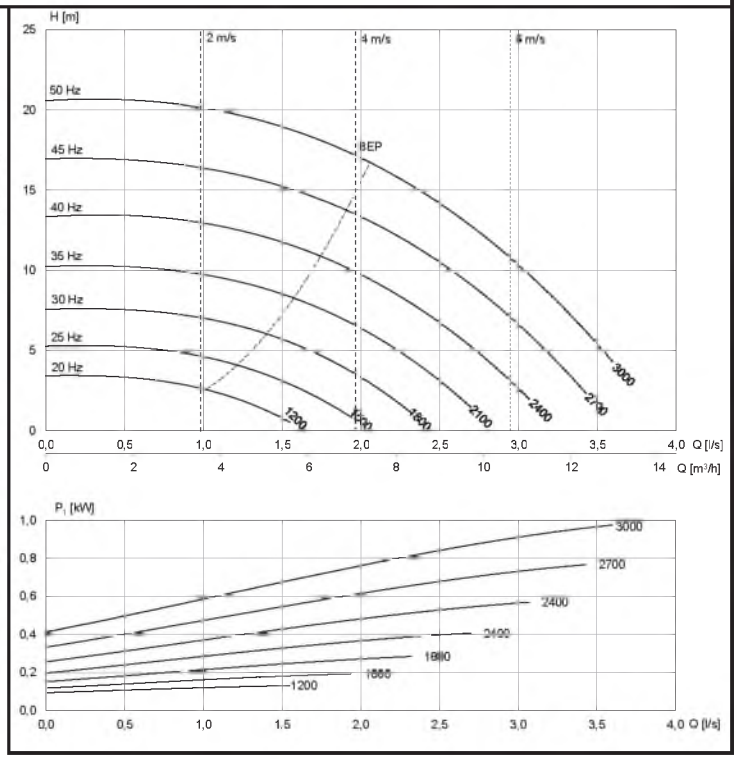


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
OPSC-752 N12	0,2	2,1	15

AEP-25/2 SC AEP-26/2 SC

G 1	1200 - 3000 r/min	Ø 125 mm	1~ 230 V

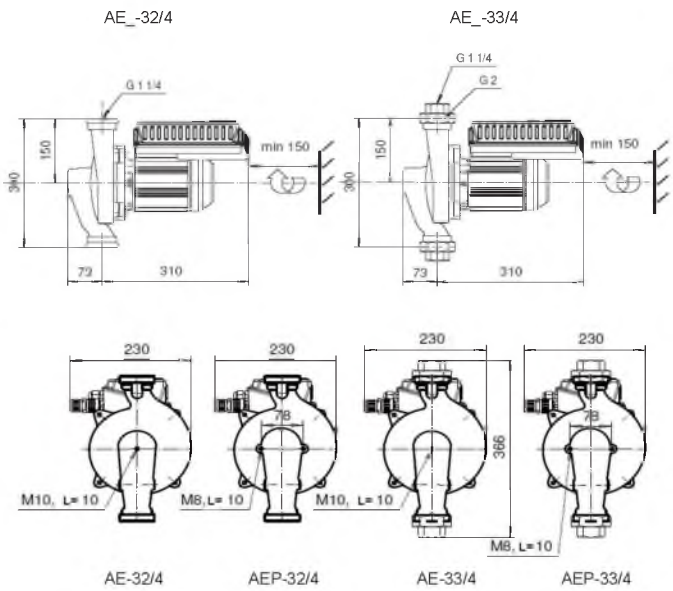


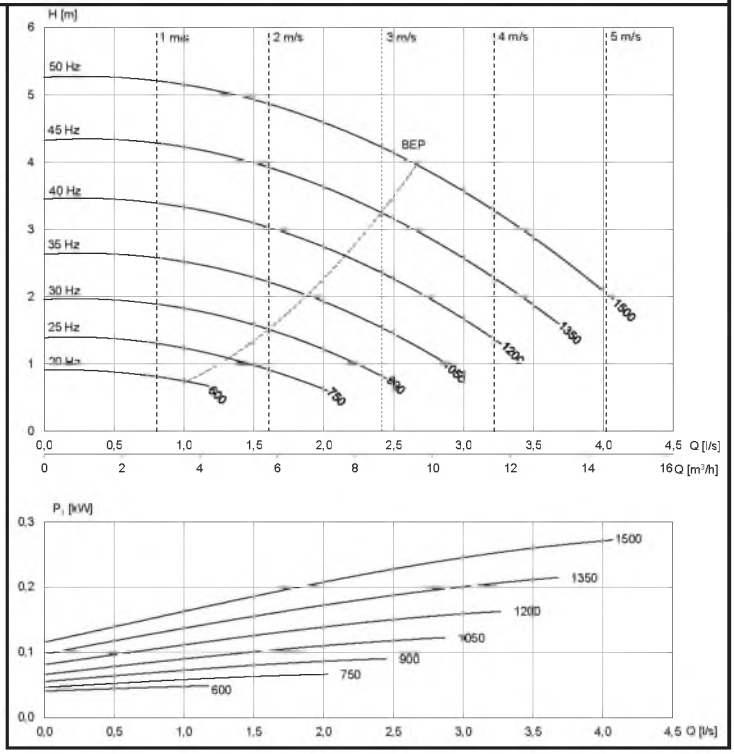


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
KHSC-841 N12	0,65	6,0	19

AEP-32/4 SC AEP-33/4 SC

G 1 1/4	600 - 1500 r/min	Ø 130 mm	1~ 230 V

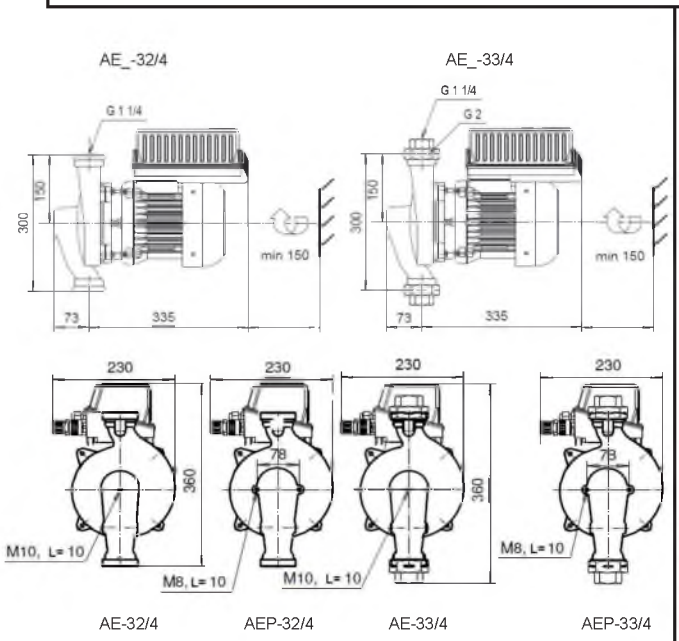


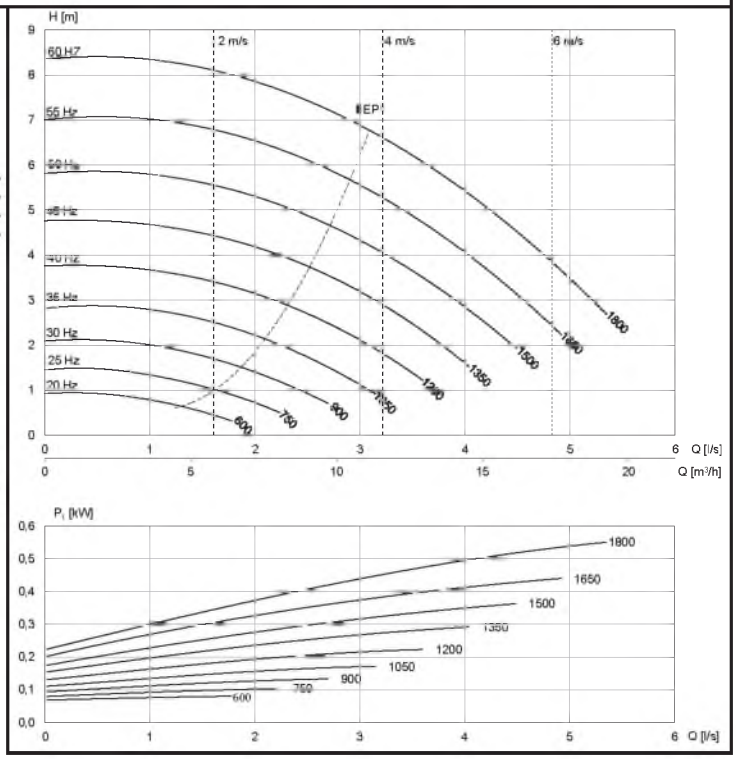


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
OPSC-752 N13	0,2	2,1	20

AEP-32/4 SC AEP-33/4 SC

G 1 1/4 | 600 - 1800 r/min | Ø 135 mm | 1~ 230 V

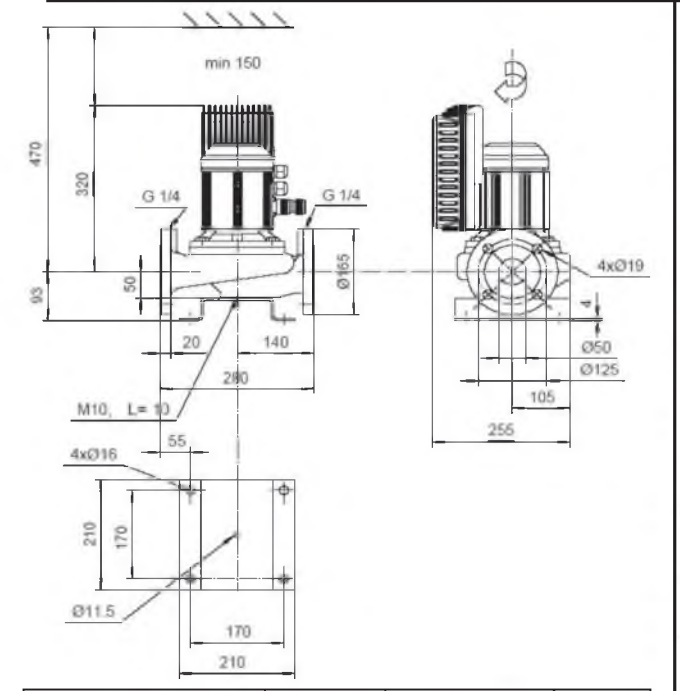


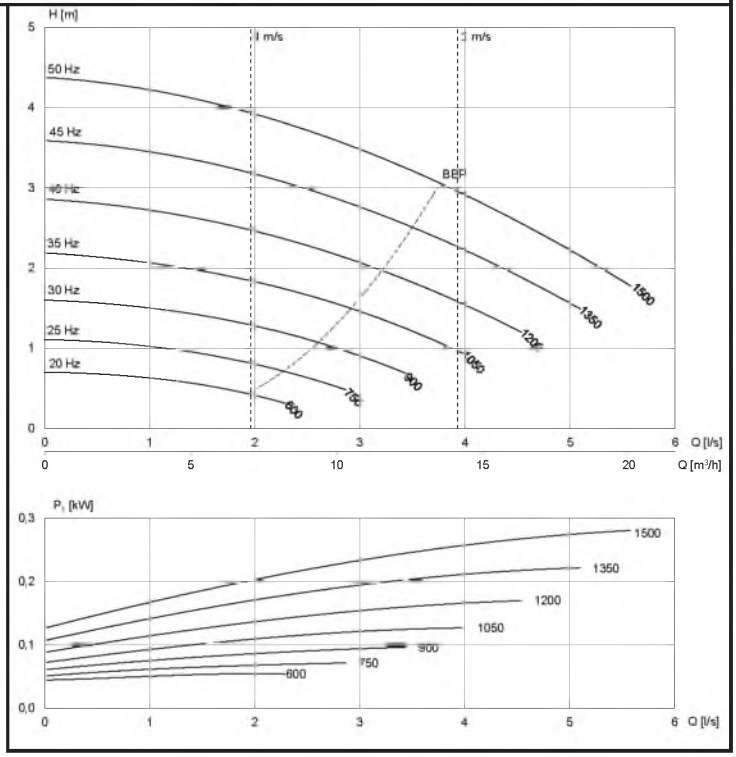


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
KHSC-100 A2 N13	0,37	3,6	35

LP-50A/4 SC

DN 50 | 600 - 1500 r/min | Ø 120 mm | 1~ 230 V

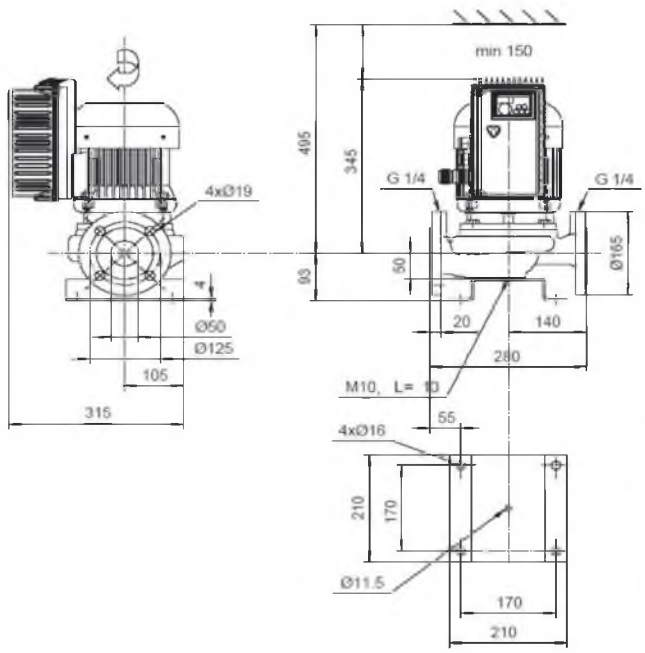


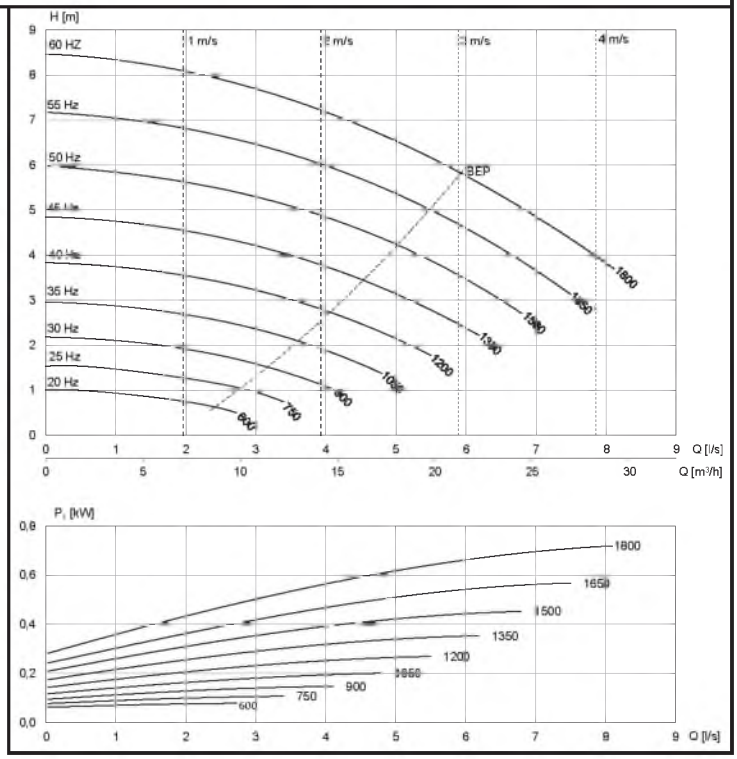


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
OPSC-752 F15	0,2	2,1	26

LP-50A/4 SC

DN 50	600 - 1800 r/min	Ø 135 mm	1~ 230 V

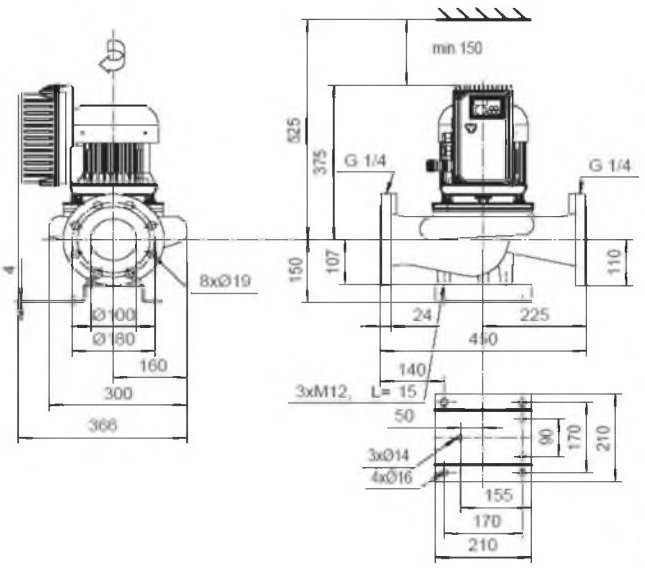


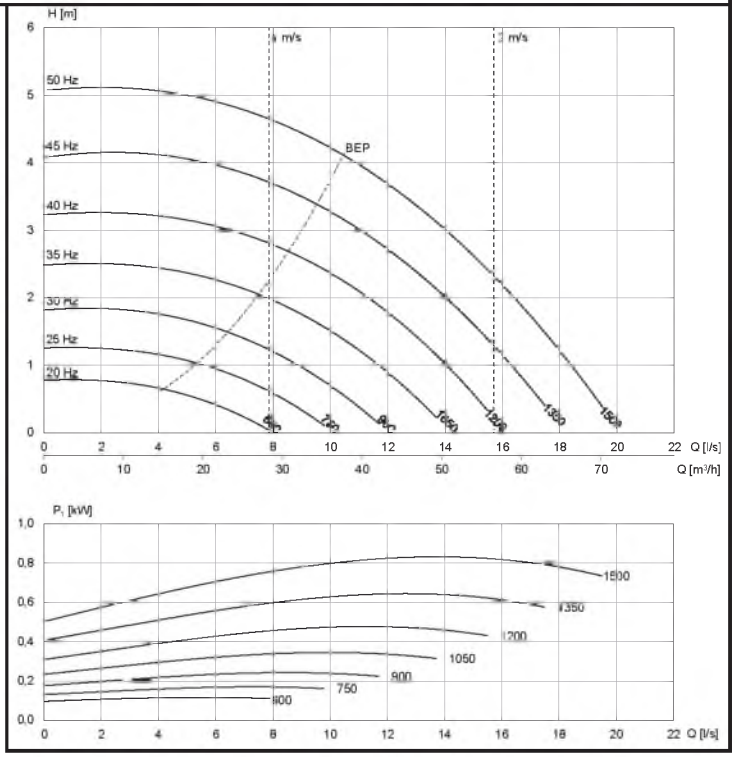


Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
KHSC-100 A2 F15	0,55	4,6	42

ALP-1102/4 SC

DN 100	600 - 1500 r/min	Ø 142 mm	1~ 230 V





Motor	P_{2N} [kW]	I_N [A] (1x230V)	[kg]
KHSC-100 B2 F19	0,75	6,1	59

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