



**KOLMEKS**  
EFFICIENT RELIABILITY



INLINE PUMPS WITH FIXED-SPEED MOTOR, 3x400V  
AE-series, threaded G3/4 - G1<sup>1</sup>/<sub>4</sub>  
L<sub>-</sub>, AL<sub>-</sub> and AKN-series, flanged DN32 - DN300

## 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.

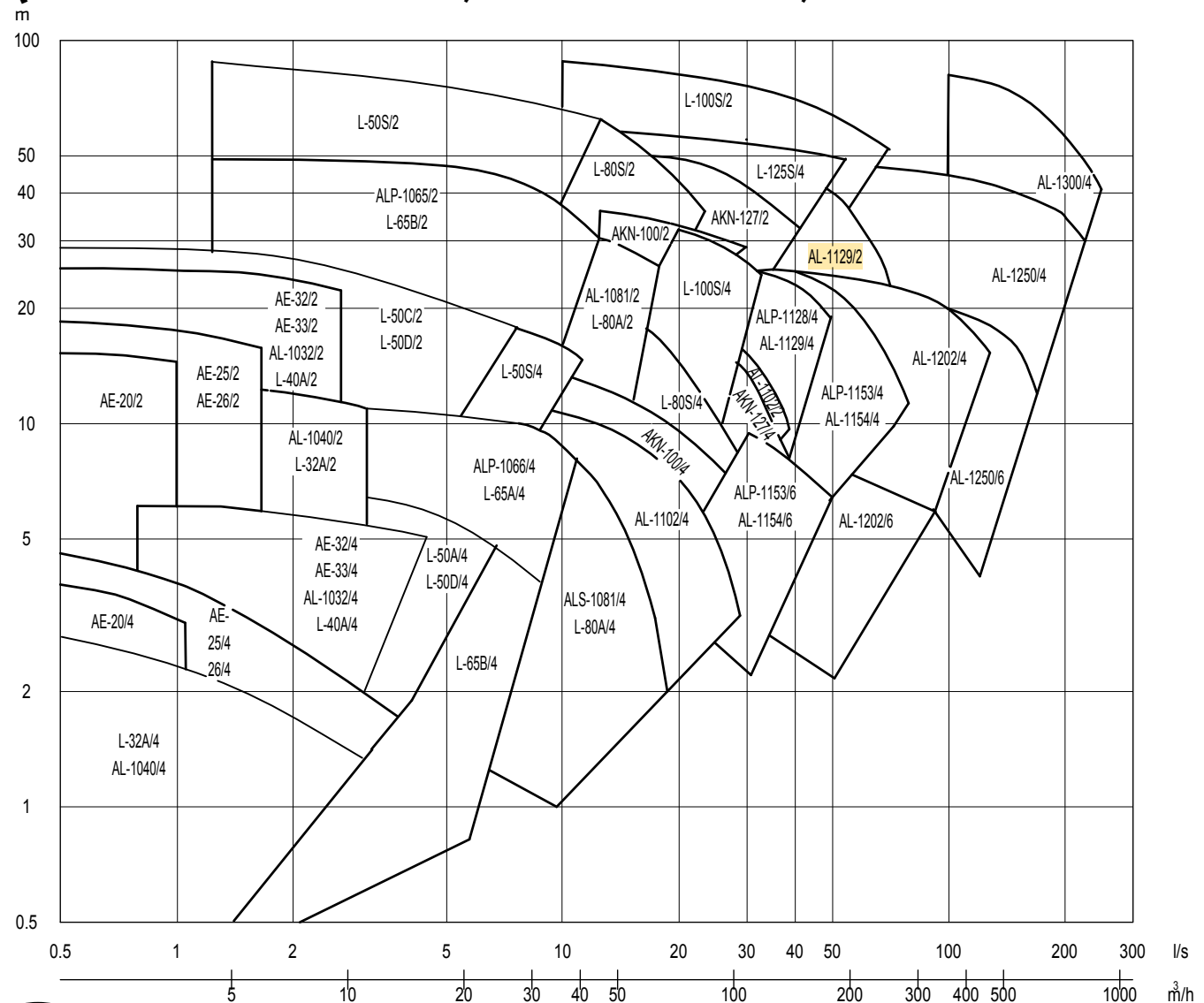
## Applications:

- 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 AISI316 (LS and ALS) pumps can be used as circulation, pressure boosting and transfer pumps for acid and alkaline liquids.

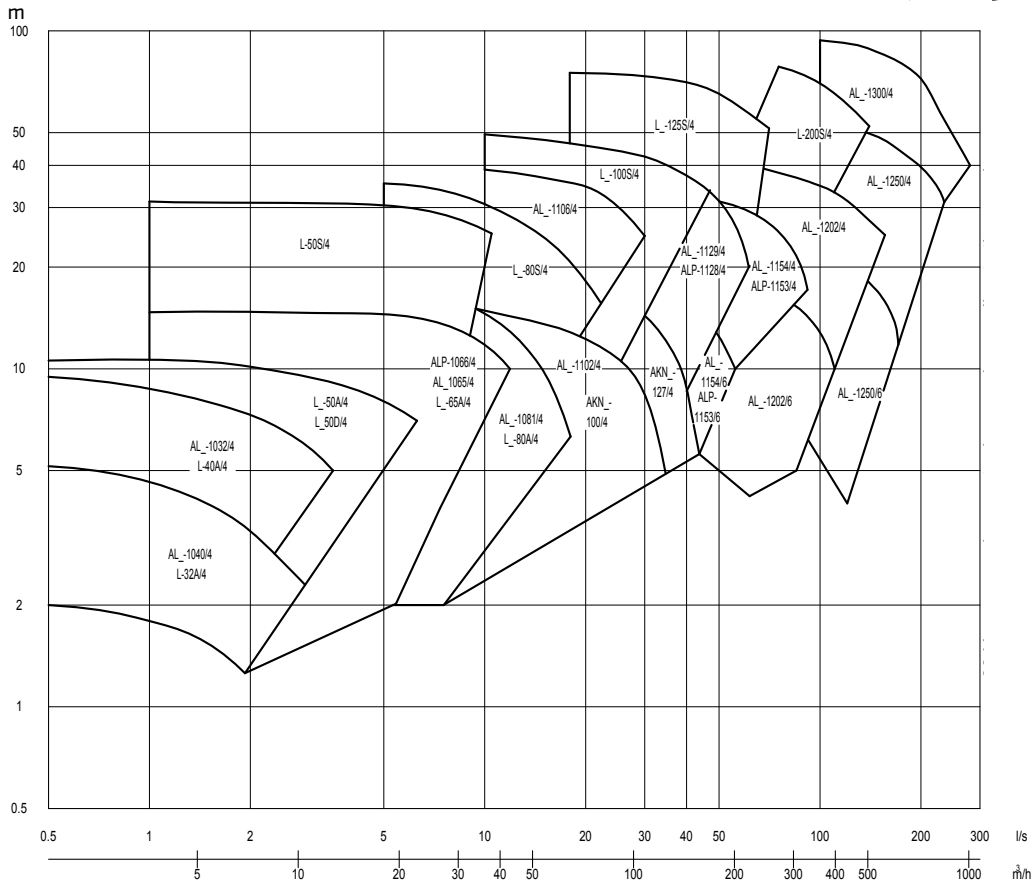
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**Note!** The suitability of materials and seals for the liquid to be pumped must always be confirmed when selecting a pump.

## Quick Selection Chart AE-, L- and AKN-series, 50Hz

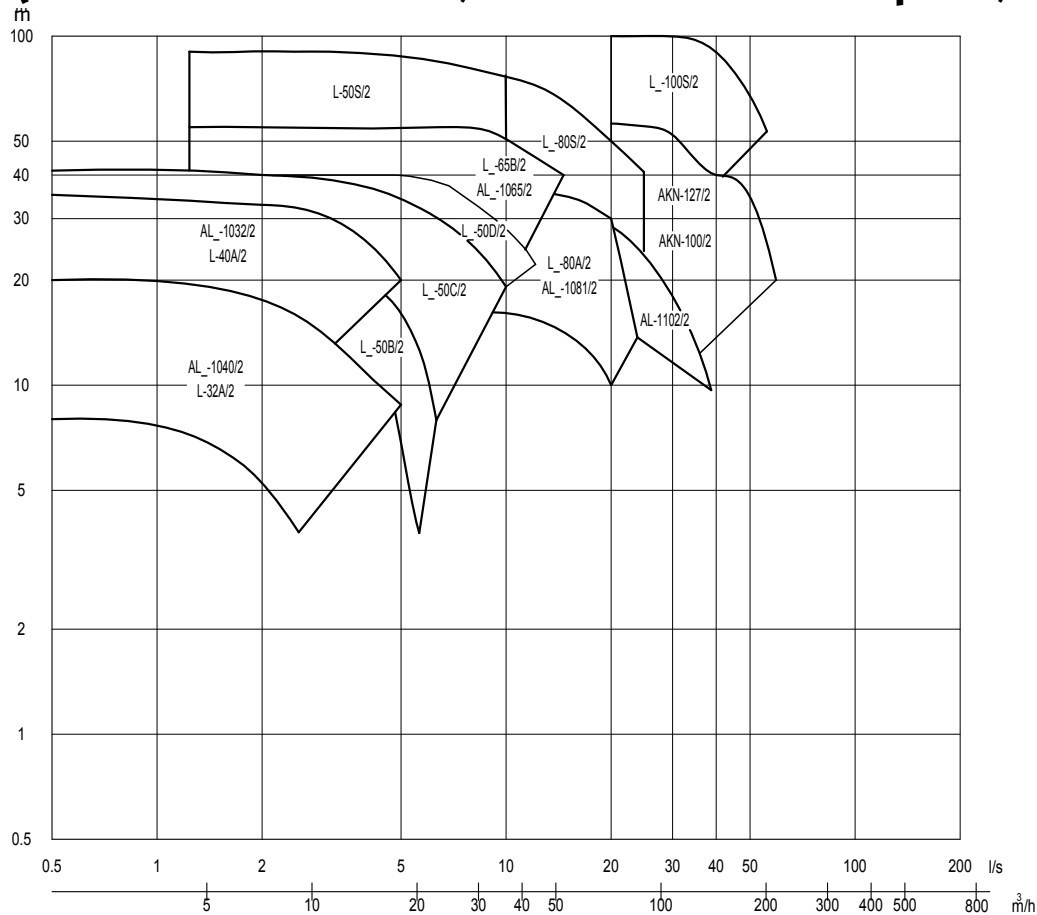


### Quick Selection Chart L-, AL- and AKN-series 4- ja 6-poles, 60Hz



4

### Quick Selection Chart L-, AL- and AKN-series 2-poles, 60Hz



Series	Pressure class / temperature [°C]	Housing material		Sealing flange	Impeller	Pump shaft	Difference in materials
		Name	Marking				
<b>AE / L / AL / AKN</b>	PN10 / -15...+120	grey cast iron	EN-GJL-200	EN-GJL-200	EN-GJL-200	AISI329	AE / L_-32 impeller Noryl GFN2 AL_-1300 impeller EN-GJS-400
<b>LH / ALH / AKNH</b>	PN16 / -15...+180 (depending on seal construction)	nodular cast iron	EN-GJS-400	EN-GJS-400	EN-GJL-200	AISI329	ALH-1300 impeller EN-GJS-400
<b>AEP / LP / ALP</b>	PN10 / -15...+120	bronze	CuSn10Zn2	CuSn10Zn2	CuSn10Zn2	AISI329	Bronze impeller available to all pumps
<b>LS / ALS</b>	PN16 / -15...+180 (depending on seal construction)	stainless steel	AISI316	AISI316	AISI316	AISI329	On special request also SS2324 (AISI 329) ja SS2378 "SMO" (LM / 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 designed 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 1000, 1500r/min  
0,25–4 kW 3000r/min  
IP55 4–160 kW 1000, 1500r/min  
5,5–55 kW 3000r/min

Insulation class: F  
Duty type: S1 (continuous duty)  
Ambient temperature: max. +45°C

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

### Connections

The AE series pump is 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 on 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 gasket.

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

### Standard surface treatment

The pumps are painted according to Standard SFS-EN ISO 12944-5, A100/1-FeSa2½. The colour is RAL3020. Epoxy surface treatment and colour alternatives are available by request.

## Rating plate

Material:

P = Bronze

H = Nodular Cast Iron

S = Stainless steel

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

Non-standard material of impeller:

PM = Bronze

SS = Stainless steel AISI316

Pump type	<b>Pump L-65A/4X</b>	<b>K671301</b>	Motor code
Serial number,	<b>No060198.10 2013 PN10 Ø 188 mm</b>		Pressure class and impeller diameter
Duty point and max. temperature of liquid	<b>5 l/s 11,5 m +120 °C P1</b>	<b>kW</b>	Electrical power at duty point (if required)
Minimum efficiency index (MEI)	<b>MEI ≥ 0,1 --</b>		
Motor type	<b>Motor KH-101D2F19</b>	<b>3~ 50 Hz S1</b>	Continuous duty
Nominal voltages and currents	<b>400 V 3,27 A P<sub>2N</sub> 1,5 kW 23,9 r/s</b>		Nominal power and rotation speed
Bearing types,	<b>230 V 5,68 A cosφ 0,80 Isol F IP54</b>		Enclosure and insulation class
	<b>D 6305-VVC3E N 6205-VVC3E IE2-82,8%</b>		Efficiency of electric motor
	<b>KOLMEKS Finland</b>	<b>CE</b>	Manufacturer, Country and CE marking

4

## Seal structure alternatives

### Standard structure

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

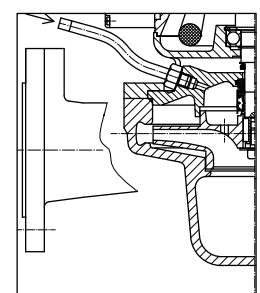
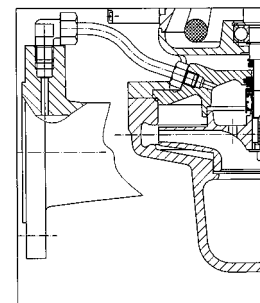
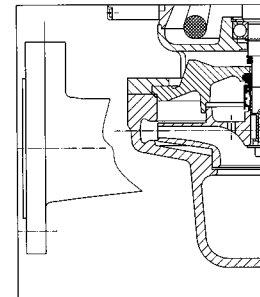
The standard-constructed shaft seal can also be used for water-glycol mixtures and most other indirect refrigeration systems. The recommended glycol is propylene glycol and the concentration can be up to 50%. Most often, a concentration of 30–40% is adequate.

### 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
- Plugged pipe to the seal chamber using which, it is possible to flush the seal with external pressure if required
- Available for flange sizes DN 50–300 pumps
- Crystallising and accumulative liquids

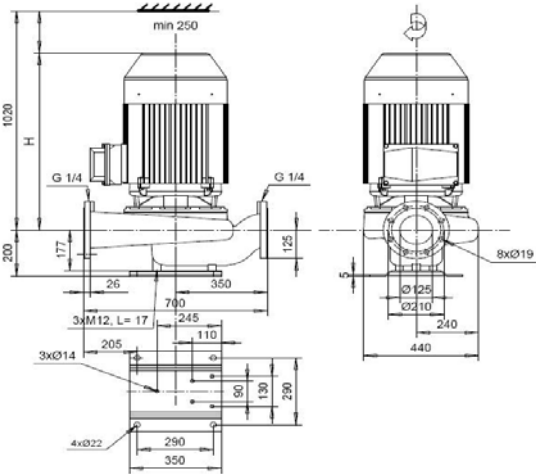


AL-1129/2

ALH-1129/2

ALS-1129/2

ALM-1129/2



50 Hz	Motor 400V	$P_{2N}$ [kW]	$I_N$ [A]	[kg]	H [mm]
	KZ-205 H1 F31	30	53,5	340	770
	KZ-205 J1 F31	37	65,6	365	770

4

