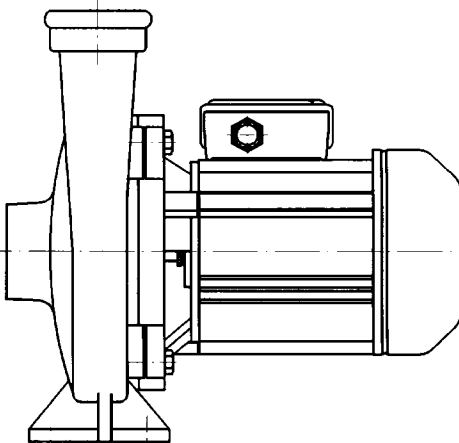
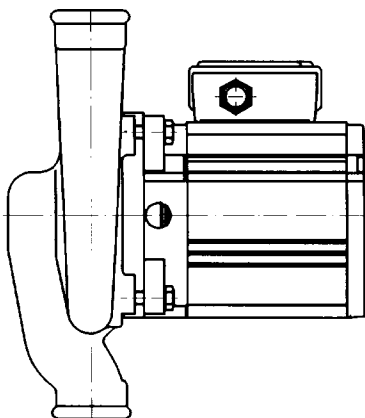


CIRCULATING PUMPS

SERIES

AMK
AHV
AH
ASH
AE

AKP
ASV
ASP
AP



INSTRUCTION MANUAL

TECHNICAL DATA

TYPE	R/MIN	KW	A (400V)	KG	TYPE	R/MIN	KW	A (400V)	KG
AMK-26/4	1500	0.03	0.16	7	AKP-20/4	1500	0.02	0.14	8
					/2	3000	0.06	0.21	8
AHV-25/4	1500	0.02	0.14	9	AKP-25/4	1500	0.05	0.2	10
/2	3000	0.06	0.21	10	ASV-27/2	3000	0.25	0.70	12
AH-25/4	1500	0.02	0.14	8		3000	0.65	1.80	15
/2	3000	0.06	0.21	9	AP-15/4	1500	0.03	0.18	8
AE-20/4	1500	0.03	0.18	10		1500	0.05	0.21	8
	1500	0.05	0.21	10	/2	3000	0.25	0.70	9
	1500	0.08	0.28	11	AP-20/4	1500	0.05	0.21	10
/2	3000	0.25	0.70	11	AP-25	1500	0.08	0.28	11
	3000	0.65	1.80	14	/2	3000	0.25	0.70	12
AE-25/4	1500	0.05	0.21	10		3000	0.65	1.80	15
AE-26	1500	0.08	0.28	11	AP-32, -33/4	1500	0.2	0.65	18
/2	3000	0.25	0.70	11	/2	3000	1.1	2.80	22
	3000	0.65	1.80	14		3000	1.5	3.30	34
AE-32, -33/4	1500	0.2	0.65	15					
/2	3000	1.1	2.80	20					
	3000	1.5	3.30	28					

The noise level of the pumps is 28-60 dB(A) depending on the type and power.

DESIGN AND FUNCTION

The pump and motor constitute a unit, where the rotating parts of both the pump and the motor are on the same shaft (mono-block construction). The motor is of a dry construction and its bearings work at the same time as bearings for the whole pump.

Motor: Fully-enclosed A.C. motor
Protection form IP 54
Insulating class F
Max. temperature of environment + 45 °C

SAFETY SYMBOLS



Sign of danger to persons



Sign of voltage danger

ATTN

Sign of danger to safe operation of the pump
and/or protection of the pump itself

FIELDS AND LIMITS OF APPLICATION AND USE

AMK	Clean, thin, non-aggressive liquids		
AHV	- circulating water for heating and cooling		
AH	- water-glycol mixtures, recommendation:		
ASH	propylenglycol max. 40 %		
AE	Nominal pressure	10 bar	
	Max. temperature	+ 100 °C	
		(+ 120 °C with bronze impeller)	

AKP
ASV
ASP
AP

Clean, thin, slightly aggressive liquids
- domestic water, oxygen-rich waters

Nominal pressure 10 bar
Max. temperature + 100 °C
(+ 120 °C with bronze impeller)

The nominal pressure and the max. temperature of pumped liquid are stamped on the pump data plate.



Never use the pump in any other application or conditions without manufacturer's acceptance.
The pump surface temperature may cause danger depending on the working conditions.

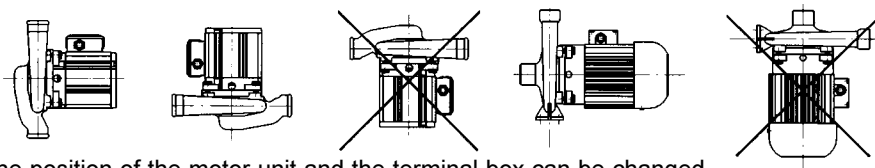
STORAGE

Pumps shall be stored in a dry and cool place protected from dust. When the pump serves as a stand-by or is stopped for longer time for some reason, it is necessary to start it for a while after two weeks stoppage.

INSTALLATION AND START-UP

When installing the pump pay attention to the following:

- space enough for service and inspection of the pump
- shut-off valves on the both sides of the pump



The position of the motor unit and the terminal box can be changed by removing the motor unit from the pump housing and setting it to the desired position.



All electrical work shall be carried out by an electrician approved by the power supplier.

Check that the voltage on the pump data plate corresponds to the mains voltage.



ATTN

A starter must always be used and should be an ordinary motor protection breaker. Make sure that the overload protection is set no higher than the rated current specified on the pump data plate.

Check the direction of rotation of the pump during start-up and always after re-connection. The direction is indicated by an arrow on the pump housing and motor. Before starting the pump fill and vent the system.

ATTN

Never start or let the pump run dry.

After starting make sure that there is no extra noise coming from the pump and that no leakages appear.

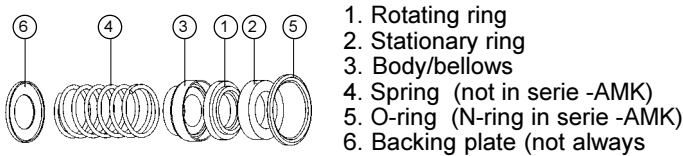
ATTN

An inverter can be used for regulating the speed of rotation of the pump. An inverter must be adjusted to prevent the overload of the motor. The current switch-off is to be adjusted according to rated current. **Note.** The use of over 50 Hz frequency may cause the overload of the motor.

MAINTENANCE AND REPAIR

The pump doesn't need any regular servicing. As a shaft seal is used an adjustment free mechanical seal. It is a wearing part which has to be replaced if it starts to leak. Note that few drops leakage per hour can be quite normal especially when coolants (f.ex. glycol) are pumped.

Shaft seal:



- 1. Rotating ring
- 2. Stationary ring
- 3. Body/bellows
- 4. Spring (not in serie -AMK)
- 5. O-ring (N-ring in serie -AMK)
- 6. Backing plate (not always)

The motor is equipped with ball bearings which are lubricated for life and therefore do not need any service. In the case of any malfunction it is recommended to replace the whole motor unit.

WHEN ORDERING SPARE PARTS, PLEASE SPECIFY THE TYPE IDENTIFICATION SERIAL NUMBER, THE SIZE OF THE IMPELLER, THE MOTOR TYPE AND POWER AND THE POSITION NUMBER OF THE SPARE PART.

POS.NO.	DESCRIPTION
1	ELECTRIC MOTOR
2	PUMP HOUSING
3	IMPELLER
5	SEALING FLANGE
24	NUT
25	WASHER(not always)
26	KEY (not always)
40	SHAFT SEAL
43	SPRAY RING
50	O-RING
60	SCREW
80	PIPE CONNECTOR 2 pcs
	AMK-25, AHV-25, AE-26

DECLARATION OF CONFORMITY

We, OY KOLMEKS AB P.O.Box 27 FIN-14201 Turenki
declare under our sole responsibility that the products

- AMK, AHV, AH, ASH, AE - SERIES
- AKP, ASV, ASP, AP - SERIES

to which this declaration relates, are in conformity with the

- Council Directive 89/392 on the approximation of the laws of the Member States relating to machinery
- EMC-directive 89/336/EEC article 10.2
- Low voltage directive 72/23/EEC
- Pumps and pump units for liquids. Common safety requirements. EN 809.

Turenki 01.10.2000


Esko Vuorinen
Managing Director