



The Premium Evaporator Pump

Alfa Laval LKH Evap Centrifugal Pump

Applications

The LKH Evap pump is a highly efficient and economical centrifugal pump, which meets the requirements of hygienic and gentle product treatment and chemical resistance. LKH Evap is specially designed for use in the evaporation industry covering applications as liquid concentration and powder processing solutions as well as dewatering plant and equipment for the international dairy, food and beverage, ethanol, starch, pharmaceutical, chemical, alcohol and brewery industries.

LKH Evap is available in ten sizes, LKH Evap-10,-15, -20, -25, -35, -40, -45, -50, -60 and -70.

Standard design

The LKH Evap pump is designed for CIP with emphasis on large internal radii and cleanable seals for use in the Evaporator industry and can be delivered with Clear Flow Impeller as an option. The Clear Flow Impeller is to be used in applications where there is a risk of building up a hard layer of product between impeller and backplate. The LKH Evap has a stainless steel shroud for protection of the motor, and the complete unit is supported on four adjustable stainless steel legs.

Shaft seals

The LKH Evap pump is equipped with either an external single or a flushed shaft seal. Both have stationary seal rings in stainless steel AISI 329 with sealing surface in silicon carbide and rotating seal rings in carbon. The secondary seal of the flushed seal is a long lasting lip seal. The pump may also be equipped with a double mechanical shaft seal.

TECHNICAL DATA

Materials

Product wetted steel parts: W. 1.4404 (316L).
Other steel parts: Stainless steel.
Finish: Standard blasted.
Product wetted seals: EPDM.

Connections for FSS and DMSS:

6mm tube/Rp 1/8".

Motor

Foot-flanged motor according to the IEC metric standard, 2 poles = 3000/3600 rpm at 50/60 Hz, IP 55 (with drain hole with labyrinth plug), insulation class F.

Motor sizes

50 Hz: 1.5 - 75 kW.
60 Hz: 1.75 - 86 kW.

Warranty

Extended 3-years warranty on LKH Evap pumps. The warranty covers all non wear parts on the condition that genuine Alfa Laval Spare Parts are used.



OPERATING DATA

Pressure

Max. inlet pressure:
LKH Evap-10/-70: 1000kPa (10 bar).
LKH Evap-70: 60Hz 500kPa (5 bar).

Temperature

Temperature range: -10°C to +140°C (EPDM).

Flushed shaft seal:

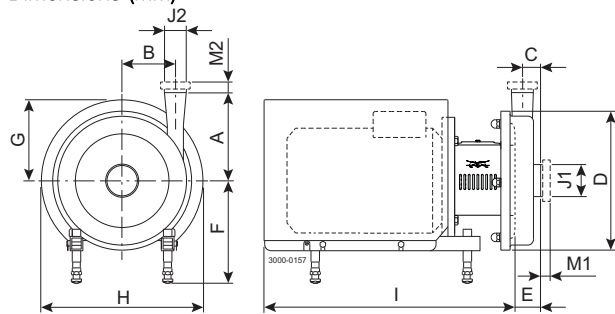
Water pressure inlet: Max. 1 bar.
Water consumption: 0.25 -0.5 l/min.

Double mechanical shaft seal:

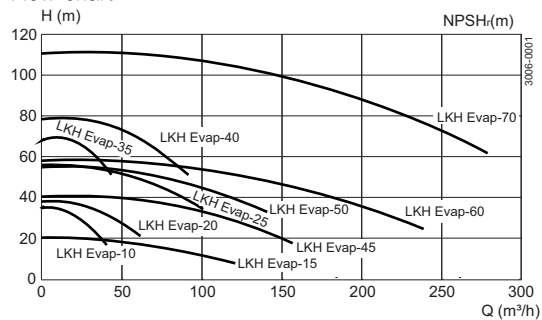
Water pressure inlet:
LKH Evap-10/-60: Max. 500 kPa (5 bar).
LKH Evap-70: Max. 300 kPa (3 bar).

Water consumption: 0.25 -0.5 l/min.

Dimensions (mm)



Flow chart



Note: If Clear Flow impeller is mounted the performance can be up to 10% lower than shown on the curves above

Pump specific measures

Pump Model	LKHevap-10	LKHevap-15	LKHevap-20	LKHevap-25	LKHevap-35	LKHevap-40	LKHevap-45	LKHevap-50	LKHevap-60	LKHevap-70
A	142	166	180	193	193	212	212	205	261	254
B	87	66	88	106	119	126	126	118	102	147
C	23	43	27	32	23	28	28	35	62	25
D	247	247	253	303	303	329	329	329	329	408
E	51	87	63	69	54	64	64	77	106	76

Moter specific measures

Motor IEC	IEC90	IEC100	IEC112	IEC132	IEC160	IEC180	IEC200	IEC250
Motor kW	1.5/2.2	3.0	4.0	5.5/7.5	11/15/18.5	22	30/37/45	55/75
F(max)*	262	282	285	304	332	352	372	446
G	157	185	198	196	262	286	399	394
H	288	325	359	383	485	533	670	738
I (LKHevap-10 to -60)	434	516	497	597	791	842	980	-
I (LKHevap-70)	-	-	-	-	804	855	993	1051

*Possible to reduce dimension F by min. 59 mm for all pump models. For smaller models it will be possible to reduce dimension F even further.

Moter overview

Pump Model	LKHevap-10	LKHevap-15	LKHevap-20	LKHevap-25	LKHevap-35	LKHevap-40	LKHevap-45	LKHevap-50	LKHevap-60	LKHevap-70
Motor range (IEC)	IEC90-	IEC100-	IEC90-	IEC132-	IEC112-	IEC132-	IEC112-	IEC132-	IEC132-	IEC132-
	IEC112	IEC132	IEC132	IEC160	IEC160	IEC180	IEC160	IEC180	IEC200	IEC250

Dimensional data are based on 2 pole, ABB motors.

Connections

Pump Model		LKHevap-10 LKHevap-20 LKHevap-35	LKHevap-15 LKHevap-45 LKHevap-50 LKHevap-70	LKHevap-15 LKHevap-45 LKHevap-50	LKHevap-25	LKHevap-40	LKHevap-60	LKHevap-60
Clamp ISO 2037	M1	21	21	102	21	21	21	102
	M2	21	21	21	21	12	21	21
Union ISO(IDF)	M1	21	21	102	21	21	21	102
	M2	21	21	21	21	21	21	21
Union DIN/ISO	M1	25	30	111	30	30	30	111
	M2	22	30	30	25	27	30	30
Union SMS	M1	24	35	105	24	24	35	105
	M2	20	24	24	24	24	35	35
Union (BS)RJT	M1	27	32	108	27	27	32	108
	M2	27	27	27	27	22	32	32
Union DS	M1	24	24	105	24	24	24	105
	M2	20	24	24	24	21	24	24
Union DIN/DIN	M1	25	30	111	30	30	30	111
	M2	22	30	30	25	27	30	30
J1*		63,5 / 2,5"	101,6 / 4"	76,1 / 3"	76,1 / 3"	76,1 / 3"	101,6 / 4"	76,1 / 3"
J2*		51 / 2"	76,1 / 3"	76,1 / 3"	63,5 / 2,5"	63,5 / 2,5"	101,6 / 4"	101,6 / 4"

* Other dimensions available on request.

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Options

- A. Impeller with reduced diameter.
- B. Motor for other voltage and/or frequency.
- C. Motor with increased safety/flame proof motor.
- D. Inducer (only LKH Evap 10 to -50).
- E. Flushed shaft seal.
- F. Double mechanical shaft seal.
- G. Clear Flow Impeller. Special designed impeller for applications where there is a risk of building up a hard layer of product between impeller and backplate.
- H. Surface roughness, product wetted parts: $R_a \leq 0.8 \mu m$.
- I. Product wetted seals of Nitrile (NBR), Fluorinated rubber (FPM) or FEP.
- J. Rotating seal ring of Silicon Carbide.

Ordering

Please state the following when ordering:

- Pump size.
- Connections.
- Impeller diameter.
- Motor size.
- Voltage and frequency.
- Flow, pressure and temperature.
- Density and viscosity of the product.
- Options.

Notel

For further details, see also instruction manual.