Alfa Laval LKH Prime Centrifugal Pump

The Premium Self-Priming Pump



Applications
The LKH Prime is a highly efficient self-priming pump, which meets the requirements of hygienic applications. The ability to evacuate air from the suction pipe combined with a low noise level and high pumping efficiency makes the LKH Prime ideal for tank emptying and CIP return applications. With verified effective CIP cleanability, LKH Prime can be used as a product pump as well.

Standard design
Based on the LKH, the LKH Prime is designed to be cleaned in place. The LKH Prime has a stainless steel shroud for protection of the motor, and the complete unit is supported on four adjustable stainless steel legs. Unlike conventional self-priming pumps the LKH Prime has an impeller which can be trimmed for any application.

Shaft seals
The LKH Prime is equipped with either an external single or a double mechanical shaft seal. Both have stationary seal rings made from stainless steel AISI 329 with sealing surface in silicon carbide and rotating seal rings in carbon as standard.

TECHNICAL DATA

Standard materials
Product wetted steel parts: . . . . . W. 1.4404 (316L).
Other steel parts: . . . . . Stainless steel.
Inside surface finish: . . . . . Standard blasted.
Product wetted elastomers: . . . . . EPDM.

Connections for double mechanical shaft seal
1/8" BSP.

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

Min/Max speed
Air evacuation: . . . . . 2800 - 3600 rpm.
Pumping product (no air): . . . . . 900 - 3600 rpm.

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

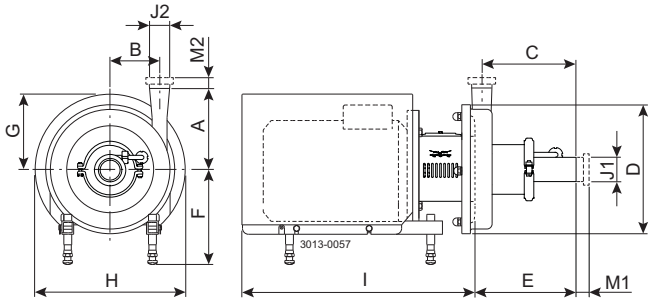
OPERATING DATA

Pressure
Max inlet pressure: . . . . . 500 kPa (5 bar).

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

Double mechanical shaft seal
Water pressure inlet: . . . . . Max. 500 kPa (5 bar).
Water consumption: . . . . . 0.25 - 0.5 l/min.

Dimensions



Pump specific measures

Pump Model	LKH Prime 20	LKH Prime 40
A	187	259
B	92	126
C	248	271
D	253	329
E	280	301

Motor specific measures

Motor IEC	IEC90	IEC100	IEC112	IEC132	IEC160	IEC180	IEC200
Motor kW	1.5/2.2	3.0	4.0	5.5/7.5	11-18.kw	22	30/37/45
F(max)*	262	282	285	304	332	352	372
G	157	185	198	196	262	286	399
H	288	325	359	383	485	533	670
I	434	516	497	597	791	842	980

*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.

Motor overview

Pump Model	LKH Prime 20	LKH Prime 40
Motor range (IEC)	IEC90-IEC160	IEC132-IEC200

Dimensional data are based on 2 pole, ABB motors.

Connections

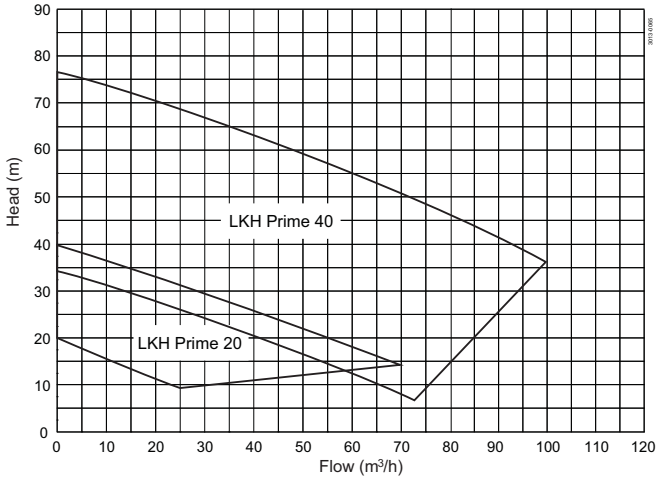
Pump Model		LKH Prime 20	LKH Prime 40
Clamp ISO 2037	M1	21	21
	M2	21	12
Union ISO(IDF)	M1	21	21
	M2	21	21
Union DIN/ISO	M1	25	30
	M2	22	27
Union SMS	M1	24	24
	M2	20	24
Union (BS)RJT	M1	27	27
	M2	27	22
Union DS	M1	24	24
	M2	20	21
Union DIN/DIN	M1	25	30
	M2	22	27
J1*		63.5 / 2.5"	76.1 / 3"
J2*		51 / 2"	63.5 / 2.5"

* Other dimensions available on request.

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Flow chart

Frequency: 50Hz - Speed (synchr): 3000 rpm



Options

A. Impeller with reduced diameter.
B. Motor with increased safety/flame proof motor.
C. Double mechanical shaft seal.
D. Product wetted surface finish Ra ≤ 0.8 µm.
E. Product wetted elastomers of Nitrile (NBR) or Fluorinated rubber (FPM).
F. Rotating seal ring of Silicon Carbide.
G. ½“ tri clamp drain connections (two connections)

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.

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