Alfa Laval LKHex

Centrifugal pumps

Introduction

The Alfa Laval LKHex Centrifugal Pump is a premium pump for use in hygienic applications which must meet the requirements of the ATEX directive 2014/34/EU group II, category 2G, temperature class T3 and T4. To increase process productivity, it is distinguished by high efficiency, gentle product treatment, chemical resistance, and a wide range of flow rates, pressures and options.

Precision-engineered, the LKHex pump delivers greater energy efficiency than similar pumps. Its optimized design, premium motor, tight tolerances and advanced impeller design minimize recirculation and reduce energy consumption.

Applications

The LKHex is engineered for use in potentially explosive environments and conforms to the provisions of the ATEX directive 2014/34/EU group II, category 2G, temperature class T3 and T4. With verified effective CIP cleanability, it is ideal for hygienic applications within the dairy, food, beverage and personal care industries that require gentle product treatment and reliable operation.

The Alfa Laval LKHex pump is available in 10 sizes to handle capacities up to 250 m3/h and differential pressures up to 11 bar at 50 Hz.

Benefits

- Energy efficient: superior efficiency resulting in reduced energy consumption and CO2 footprint.
- Hygienic: designed according to the most stringent hygienic design standards and with verified effective CIP cleanability.
- Maximized uptime and reduced maintenance costs: robust mechanical design and ease of maintenance with modular front-loading seals.
- Conforms to the provisions of ATEX directive: can be used in potentially explosive environments.

Standard design

All media contacting steel components like pump casing, impeller, impeller nut and backplate are in W. 1.4404 (AISI 316L). A stainless steel shroud protects the explosion proof motor and four adjustable stainless steel legs support the complete unit.

A compression coupling securely attaches the stub shaft to the motor shaft with precision alignment, and the semi-open impeller with a special vane design ensures efficient and gentle handling of the product as it moves through the pump.

As standard, the LKHex pump is equipped with a single mechanical shaft seal, but is also available with a double mechanical shaft seal. The front-loading shaft seal, with the spring and washers mounted on the atmospheric side, makes maintenance fast, easy and inexpensive. It takes just a few minutes to replace the shaft seal. In addition, the balanced design minimizes the risk of seal opening during unforeseen pressure shock.

Certificates

TECHNICAL DATA

Materials	
Product wetted steel parts:	W. 1.4404 (316L)
Other steel parts:	Stainless steel
Inside surface finish:	Standard blasted
Product wetted elastomers:	EPDM
Ratary seal face:	Carbon
Stationary seal face:	Silicon Carbide

Motor
Foot-flanged ATEX approved motor according to the IEC metric standard, 2 poles = 3000/3600 rpm. at 50/60 Hz.

Motor sizes	
50Hz:	1.5 - 75 kW
60Hz:	1.5 - 75 kW

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

OPERATING DATA

Max inlet pressure	
LKHex 10 - 70:	500kPa (5 bar)

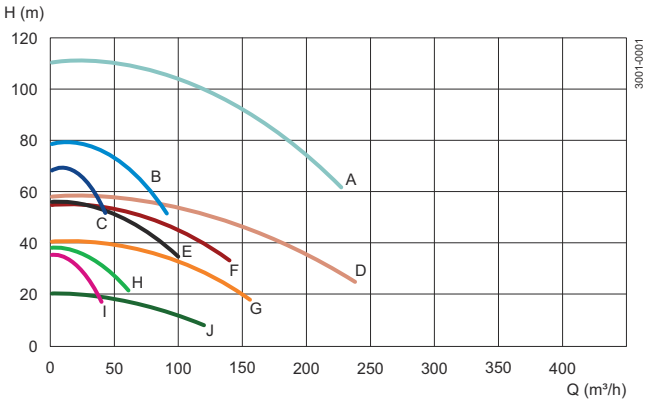
Temperature, Class T4	
Product temperature, NBR:	-10°C to +80°C
Product temperature, EPDM, FPM, FEP:	-10°C to +100°C
Ambient temperature, without shroud:	-20°C to +40°C
Ambient temperature, with shroud (<18.5kW):	-20°C to +35°C

Temperature, Class T3	
Product temperature, NBR:	-10°C to +80°C
Product temperature, EPDM:	-10°C to +130°C
Product temperature, FPM, FEP:	-10°C to +140°C
Ambient temperature:	-20°C to +40°C

Double mechanical shaft seal	
Water pressure inlet, LKHex 10 - 60:	Max. 500 kPa (5 bar)
Water pressure inlet, LKHex 70:	Max. 300 kPa (3 bar)
Water consumption:	0.5 l/min

Connections for double mechanical shaft seal	
LKHex 10 - 70:	1/8" G

Flow chart



A = LKHex-70 D = LKHex-60 G = LKHex-45 J = LKHex-15
B = LKHex-40 E = LKHex-25 H = LKHex-20
C = LKHex-35 F = LKHex-50 I = LKHex-10

Frequency 50 Hz, Speed (Synchr): 3000 rpm

Options

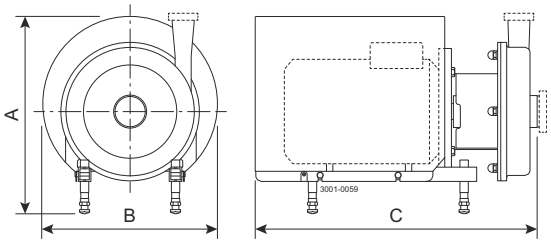
- Impeller with reduced diameter.
- Double mechanical shaft seal.
- Rotating seal ring of Silicon Carbide.
- No motor shroud.
- Adjustable pads.
- Product wetted surface finish mechanically polished to Ra ≤ 0.8 µm.
- Product wetted elastomers FPM, NBR or FEP.
- 1/2" drain connection.
- Hydrostatic testing with certificate.
- Surface finish measurement with certificate.

Ordering

Please state the following when ordering:

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

Dimensions (mm)



Note! Most of the dimensions depend on motor supplier and motor size. Non-dependent dimensions are equal to the dimensions for LKH.

	LKH10 Exe				LKH15 Exe		LKH20 Exe					LKH25 Exe		
	1.85kW	2.5kW	3.3kW	4.6kW	3.3kW	4.6-5.5kW	1.85kW	2.5kW	3.3kW	4.6-5.5kW	7.5kW	4.6-5.5kW	7.5-12.5kW	15kW
A min	413	418	392	432	392	432	413	418	392	432	532	432	532	581
A max	499	528	505	565	505	565	499	528	505	565	649	565	649	618
B	290	325	360	425	360	425	290	325	360	425	510	425	510	553
C	532	561	591	685	627	716	545	573	603	692	853	698	859	908

	LKH35 Exe			LKH40 Exe			LKH45 Exe			LKH50 Exe			
	4.6-5.5kW	7.5-12.5kW	15kW	7.5-12.5kW	15kW	20kW	4.6-5.5kW	7.5-12.5kW	15kW	5.5kW	7.5-12.5kW	15kW	20kW
A min	432	532	549	532	581	661	432	532	581	432	532	581	661
A max	565	649	666	649	686	786	565	649	686	565	649	686	786
B	425	510	553	510	553	673	425	510	553	425	510	553	673
C	683	844	888	854	899	989	712	873	917	706	867	911	1005

	LKH60 Exe				LKH70 Exe				
	5.5kW	7.5-12.5kW	15kW	20-24kW	12.5kW	15kW	20-24kW	36kW	47-58kW
A min	432	532	581	661	532	581	661	881	
A max	565	649	686	786	669	686	786	942	
B	425	510	553	673	510	425	673	800	
C NW 150	785	946	990	1084	969	1014	1108	1296	
C 4"	735	896	940	1034	879	924	1018	1206	
C 6"	775	936	980	1074	969	1014	1108	1296	

	LKH10 Exd , Exde			LKH15 Exd , Exde			LKH20 Exd , Exde				LKH25 Exd , Exde		
	1.5-2.2 kW	3kW	4kW	3kW	4kW	5.5kW	1.5-2.2 kW	3kW	4kW	5.5-7.5kW	4kW	5.5-7.5kW	11-15kW
A min	413	418	438	418	438	483	413	418	438	483	438	483	573
A max	499	528	551	528	551	616	499	528	551	616	551	616	690
B	290	325	360	325	360	425	290	325	360	425	360	425	510
C	532	561	591	546	627	716	545	573	603	692	608	698	537

	LKH35 Exd , Exde			LKH40 Exd , Exde			LKH45 Exd , Exde			LKH50 Exd , Exde		
	4kW	5.5-7.5kW	11-15kW	7.5kW	11-18.5kW	22kW	4kW	5.5-7.5kW	11-15kW	5.5-7.5kW	11-15kW	22kW
A min	438	483	573	483	573	625	438	483	573	483	573	625
A max	551	616	690	616	690	730	551	616	690	616	690	730
B	360	425	510	425	510	553	360	425	510	425	510	553
C	594	785	948	693	856	870	623	712	875	706	869	882

	LKH60 Exd , Exde				LKH70 Exd , Exde			
	5.5-7.5kW	11-18.5kW	22kW	30kW	11-18.5kW	22kW	30-37kW	55-75kW
A min	483	573	625	661	573	625	661	881
A max	616	690	730	786	710	730	786	942
B	425	510	553	673	510	553	673	800
C NW 150	785	948	991	1084	971	1015	1108	1296
C 4"	735	898	941	1034	881	925	1018	1206
C 6"	775	938	981	1074	971	1015	1108	1296

ESE00264/12

Authorized Distributor

This document and its contents are subject to copyrights and other intellectual property rights owned by Alfa Laval Corporate AB. No part of this document may be copied, re-produced or transmitted in any form or by any means, or for any purpose, without Alfa Laval Corporate AB's prior express written permission. Information and services provided in this document are made as a benefit and service to the user, and no representations or warranties are made about the accuracy or suitability of this information and these services for any purpose. All rights are reserved.

200006089-1-EN-GB

© Alfa Laval Corporate AB

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com