



## Alfa Laval LKH Prime UltraPure

### The Premium Self-Priming Pump for Higher Purity

#### Applications

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

#### Standard design

Based on the LKH UltraPure, the LKH Prime UltraPure is designed to be cleaned in place. The LKH Prime UltraPure 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 UltraPure has an impeller which can be trimmed for application.

#### Shaft seals

The LKH Prime UltraPure 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 silicon carbide as standard.



#### TECHNICAL DATA

##### Standard materials

Product wetted steel parts: . . . . . W. 1.4404 (316L) with material traceability 3.1 acc. to EN 10204.  
Other steel parts: . . . . . Stainless steel.  
Inside surface finish: . . . . . Ra ≤ 0.5 µm.  
Product wetted elastomers: . . . . . EPDM- USP Class VI, 121°C Chapter 88, and Chapter 87.

##### 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).

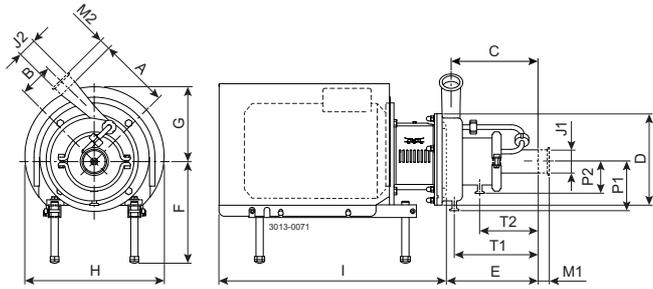
##### Temperature

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 (mm)



### Pump specific measures

Pump Model	LKH Prime UltraPure 10	LKH Prime UltraPure 20
A	174	187
B	85	88
C	222	248
D	247	253
E	245	280
P1	116	123
P2	82	83
T1	219	239
T2	161	170

### Motor specific measures

Motor IEC	IEC90	IEC100	IEC112	IEC132	IEC160
Motor kW	1.5/2.2	3.0	4.0	5.5/7.5	11/15/18.5
F(max)*	316	336	339	358	386
G	126	137	136	164	208
H	200	250	250	300	351
I	386	454	453	547	642

\*Possible to reduce dimension F by min. 59 mm for all pump models.

### Motor overview

Pump Model	LKH Prime UP 10	LKH Prime UP 20
Motor range (IEC)	IEC90-IEC132	IEC100-IEC160

Dimensional data are based on 2 pole, ABB motors.

**Connections**

<b>Pump Model</b>		<b>LKH Prime UltraPure 10</b>	<b>LKH Prime UltraPure 20</b>
Clamp ISO 1127	M1	36	36
	M2	36	36
Clamp ASME BPE	M1	29	29
	M2	29	29
Clamp ISO 2037	M1	21	21
	M2	21	21
Clamp DIN 32676	M1	21	64
	M2	21	21
Flange Asept. A for DIN	M1	47	56
	M2	47	47
Flange Asept. A for ASME	M1	47	56
	M2	47	47
Union Asept. A for DIN	M1	48	100
	M2	48	48
Union Asept. A for ASME	M1	48	60
	M2	48	48
J1*		51 / 2"	63,5 / 2,5"
J2*		51 / 2"	51 / 2"

\* Other dimensions available on request.

**Drain diameter**

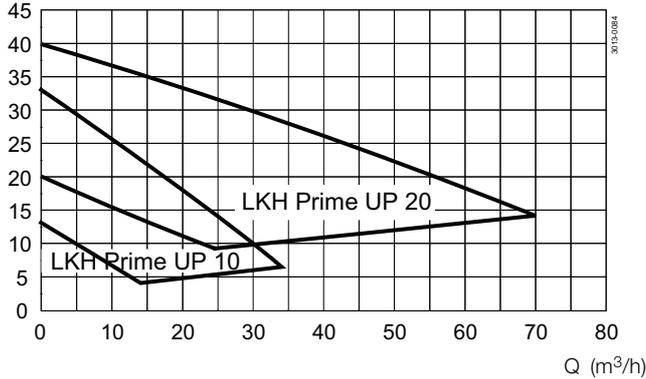
	<b>TC Clamp</b>
1/2"	12.7

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## Flow chart

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

H (m)



## Options

- A. Impeller with reduced diameter.
- B. Motor for other voltage and/or frequency.
- C. Motor with increased safety/flame proof motor.
- D. Double mechanical shaft seal.
- E. Adjustable pads.
- F. No drain.
- G. Product wetted surface finish mechanically polished to  $Ra \leq 0.8 \mu\text{m}$ .
- H. Product wetted surface finish electropolished to  $Ra \leq 0.4 \mu\text{m}$ .
- I. Passivated surface.
- J. Product wetted elastomers FPM or FEP to USP Class VI, 121°C Chapter 88, and Chapter 87.
- K. Hydrostatic testing with certificate.
- L. Surface finish measurement with certificate.
- M. 0° outlet.

## Q-doc

### Standard documentation package:

- Declaration of compliance with Regulation (EC) No.: 1935/2004
- Declaration of compliance to EN 10204 type 3.1 (MTR)
- Declaration of compliance to the U.S. Food & Drug Administration CFR 21 (non-metallic parts)
- Declaration of compliance to the U.S. Pharmacopeia (Elastomers and polymers)
- TSE (Transmissible Spongiform Encephalopathy) / ADI (Animal Derivative Ingredient) declaration
- Declaration of surface finish compliance
- Declaration of passivation and electro polishing (if specified)
- 3.1 certification in accordance to EN10204
- Pump performance test certificate

### Optional documentation:

- Hydrostatic test certificate
- Surface measurement report

## 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.

Alfa Laval reserves the right to change specifications without prior notification.

