



# When Higher Purity is the Issue

## LKH UltraPure Centrifugal Pump

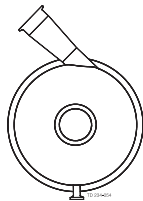
### Application

The LKH UltraPure pump is a highly efficient and economical centrifugal pump, which meets the requirements of the pharmaceutical industries. It provides gentle product treatment and is chemically resistant. LKH UltraPure is available in five sizes, LKH UltraPure-10, -20, -25, -35, and -40.

### Standard design

The LKH UltraPure pump consists of a standard motor, stub shaft, mechanical compression coupling, adaptor, back plate, impeller, shaft seal and 45° turned pump casing with standard vertical casing drain.

As standard the LKH UltraPure is delivered with a 45° outlet (counterclockwise).



45° outlet

The LKH UltraPure pump is designed for CIP and SIP with emphasis on large internal roundings and cleanable seals.

### Shaft seals

The LKH UltraPure pump is equipped with either an external single or a double mechanical shaft seal. Both have stationary seal rings in acid-resistant steel AISI 329 with sealing surface and rotating seal rings in silicon carbide.

### Materials

Product wetted steel parts: . . . . . Acid-resistant steel 1.4404 (316L) with material traceability 3.1 acc. to EN 10204

Other steel parts: . . . . . Stainless steel 1.4301 (304).

Product wetted seals: . . . . . EPDM - USP Class 6.

Finish, product wetted surface: . . . . . Bright (Ra 0.5 µm)

Finish, pump casing, external surface: . . Bright (Ra 0.8 µm)

### Technical data

Max. inlet pressure: . . . . . Static: 600 kPa (6 bar).

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

Noise level (at 1 m): . . . . . 60 - 80 dB (A).

### Double mechanical seal

Water pressure: . . . . . Max. 500 kPa (5 bar).

Water consumption: . . . . . 0.25 - 0.5 l/min.



LKH UltraPure centrifugal pump.

### Motor

Standard 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.

### Voltage and frequency

3 ~, 50 Hz, 220-240V Δ/380-420VY ≤ 4 kW

3 ~, 60 Hz, 250-280V Δ/440-480VY ≤ 4.6 kW

3 ~, 50 Hz, 380-420V Δ/660-690VY ≥ 5.5 kW

3 ~, 60 Hz, 440-480V Δ ≥ 6.3 kW

### Motor sizes

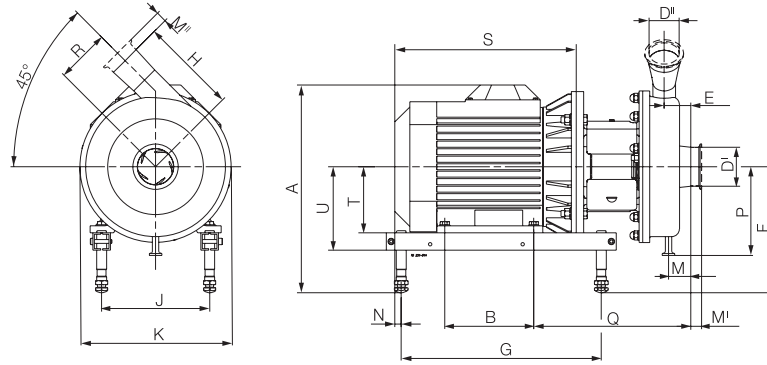
**50 Hz:** 1.5 - 2.2 - 3 - 4 - 5.5 - 7.5 - 11 - 15 - 18.5 - 22 kW.

**60 Hz:** 1.75 - 2.5 - 3.5 - 4.6 - 6.3 - 8.6 - 12.5 - 17 - 21 - 25 kW.

### Warranty

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

## Dimensions (mm)



### LKH UltraPure-10

	Motor kW			
	1.5	2.2	3	4
A min.	365	365	375	384
A max.	451	451	485	497
B	100	125	140	140
C	132	132	140	147
E	23	23	23	23
F min.	243	243	239	238
F max.	329	329	349	351
G	242	242	320	320
H	142	142	142	142
J	140	140	160	190
*K	247	247	250	250
N	43	43	0	6
P 1/2"	138	138	138	138
P 3/4"	148	148	148	148
P 1"	148	148	148	148
M	23	23	23	23
Q	215	215	235	242
R	87	87	87	87
S	232	257	289	301
T	90	90	100	112
U	125	125	145	147
Weight (kg)	29	32	39	48

### LKH UltraPure-20

	Motor kW			
	2.2	3	4	5.5/7.5
A min.	365	375	384	402
A max.	451	485	497	535
B	125	140	140	178
C	145	152	159	157
E	27	27	27	27
F min.	243	239	238	238
F max.	329	349	351	371
G	242	320	320	400
H	180	180	180	180
J	140	160	190	216
*K	256	256	256	300
N	43	0	6	13
P 1/2"	143	143	143	143
P 3/4"	153	153	153	153
P 1"	153	153	153	153
M	23	23	23	23
Q	227	247	254	292
R	88	88	88	88
S	257	285	301	402
T	100	100	112	132
U	125	145	147	167
Weight (kg)	34	41	50	65

### LKH UltraPure-25

	Motor kW	
	5.5/7.5	11/15
A min.	402	492
A max.	535	608
B	178	210
C	163	192
E	32	32
F min.	238	282
F max.	371	399
G	400	483
H	193	193
J	216	254
*K	303	303
N	13	55
P 1/2"	168	168
P 3/4"	178	178
P 1"	178	178
M	24	24
Q	298	345
R	106	106
S	402	493
T	132	160
U	167	195
Weight (kg)	69	109/118

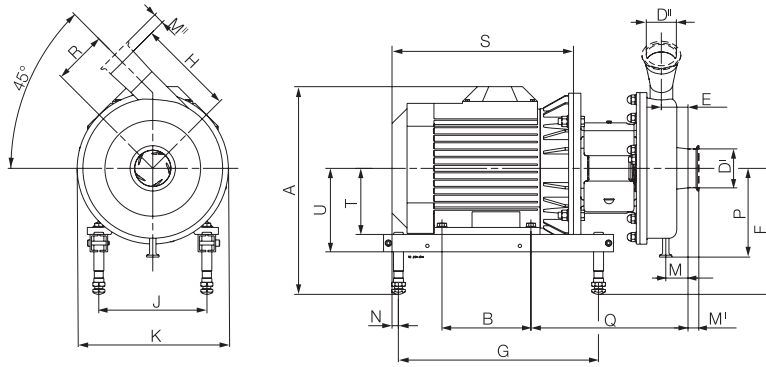
### LKH UltraPure-35

	Motor kW		
	4	5.5/7.5	11/15
A min.	384	402	492
A max.	497	535	608
B	140	178	210
C	150	148	177
E	23	23	23
F min.	238	238	282
F max.	351	371	399
G	320	400	483
H	193	193	193
J	190	216	254
*K	303	303	350
N	6	13	55
P 1/2"	168	168	168
P 3/4"	178	178	178
P 1"	178	178	178
M	26	26	26
Q	245	283	330
R	119	119	119
S	301	402	493
T	112	132	160
U	147	167	195
Weight (kg)	54	69	109/118

\*K widest dimension (motor flange or casing)

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## Dimensions (mm)



## LKH UltraPure-40

	Motor kW		
	7.5	11/15/18.5	22
A min.	402	492	538
A max.	535	608	643
B	178	210	241
C	158	187	201
E	28	28	28
F min.	238	282	314
F max.	371	399	419
G	400	483	508
H	212	212	212
J	216	254	279
*K	329	350	350
N	13	55	94
P 1/2"	181	181	181
P 3/4"	191	191	191
P 1"	191	191	191
M	24	24	24
Q	293	340	353
R	126	126	126
S	402	493	570
T	132	160	180
U	167	195	215
Weight (kg)	74	112/121/131	156

\*K widest dimension (motor flange or casing)

## Connections (mm)

### LKH UltraPure-10, -20, -35

DI: 63.5	ISO	TC
DI': 51	Clamp	Clamp
M <sup>I</sup>	21	29
M <sup>II</sup>	21	29

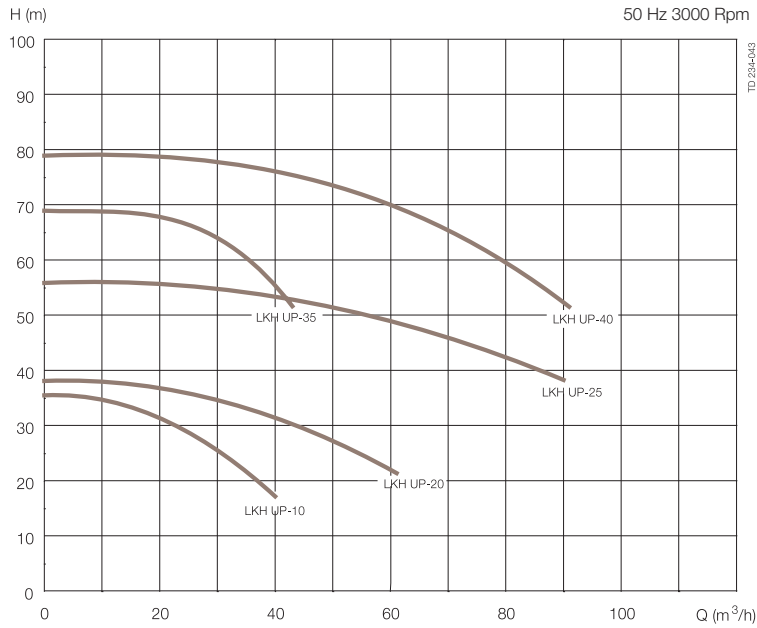
### LKH UltraPure-25

DI: 76.1	ISO	TC
DI': 63.5	Clamp	Clamp
M <sup>I</sup>	21	29
M <sup>II</sup>	21	29

### LKH UltraPure-40

DI: 76.1	ISO	TC
DI': 51	Clamp	Clamp
M <sup>I</sup>	21	29
M <sup>II</sup>	21	29

## Flow chart



## Options

- A. Impeller with reduced diameter.
- B. Motor for other voltage and/or frequency.
- C. 1500 rpm. motor.
- D. Motor with increased safety/explosion proof motor.
- E. ATEX approved - See LKH-EX for further information.
- F. Inducer.
- G. Double mechanical shaft seal.
- H. Pump with shroud.
- I. Pump without legs.
- J. No Drain
- K. Product wetted steel parts - ferrite max. 1% or 5%.
- L. Surface finish certificate.
- M. Finish product wetted surface Ra 0.8  $\mu\text{m}$
- N. Finish product wetted surface Ra 0.5  $\mu\text{m}$  + electropolished
  - The final surface value will change after electropolishing.
- O. Product wetted seals of FPM or FEP.
- P. Special flush arrangement with  $\frac{1}{2}$ " and  $\frac{3}{4}$ " diaphragm valve, middle valve and flow meter.
- Q. Hydrostatic testing with certificate
- R. Passivation
- S.  $0^\circ$  outlet, see drawing below.

## Standard documentation package:

- 3.1 certificate according to EN10204
- FDA certificate of conformity for product wetted elastomers.
- USP class 6 certificate of conformity - EPDM only
- Pump performance test certificate

## Ordering

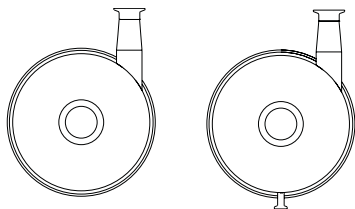
Please state the following when ordering:

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

## Note!

For further details, see also IM 70831.

This product has EHEDG certificate



No Drain

$0^\circ$  outlet