

## When 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. LKH UltraPure is available in five sizes, LKH-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, 45° product discharge, and a vertical casing drain.

The LKH UltraPure pump is designed for CIP and SIP.

#### Shaft 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 stainless steel AISI 329 with sealing surface and rotating seal rings in silicon carbide.

#### Materials

Product wetted steel parts:	Stainless steel AISI 316L.
Other steel parts:	Stainless steel AISI 304.
Product wetted seals:	FPM (Fluorelastomer)
Finish, product wetted surface:	Ra 20 µ-inch max
Finish, pump casing, external surface:	Ra 32 µ-inch max

#### Technical data

Max. inlet pressure:	145 psi (10 bar)
Temperature range	15°F to +285°F (FPM)
Noise level (at 3 ft.):	60 - 80 dB (A).

#### Double mechanical seal

Water pressure:	Max. 73 psi (5 bar)
Water consumption:	4 - 8 gal/hr



LKH UltraPure centrifugal pump.

#### Motor

Standard C-faced, foot-mounted motor according to NEMA standard. 3500 RPM or 1750 RPM. Premium efficiency, Class F.

#### Voltage and Frequency

3 phase, 60 HZ, 230/460V standard.

Other voltages and frequencies available upon request.

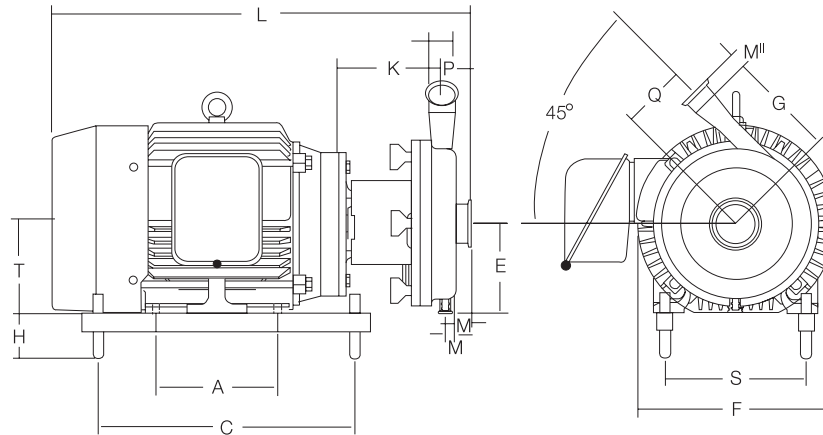
#### Hp

Horsepower requirements based on flow curves.

#### Motor sizes

60 Hz: 1 - 1.5 - 2 - 3 - 5 - 7.5 - 10 - 15 - 20 - 25 - 30 Hp.

Dimensions (in)



LKH UltraPure-10\*

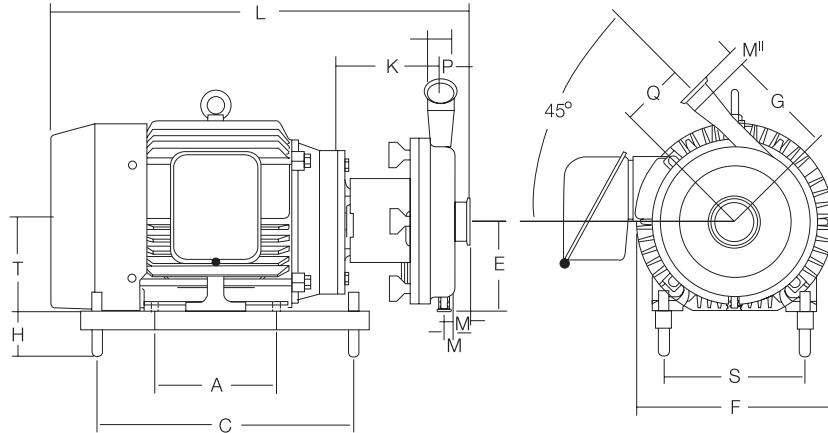
Size	Motor						
	1 Hp 143TC	1.5 Hp 143TC	2 Hp 145TC	3 Hp 182TC	5 Hp 184TC	7.5 Hp 213TC	10 Hp 215TC
A	4.00	4.00	5.00	4.50	5.50	5.50	7.00
C	9.53	9.53	9.53	12.60	12.60	14.17	14.17
E 1/2"	5.43	5.43	5.43	5.43	5.43	5.43	5.43
E 3/4"	5.83	5.83	5.83	5.83	5.83	5.83	5.83
F	9.72	9.72	9.72	9.72	9.72	9.72	9.72
G	5.59	5.59	5.59	5.59	5.59	5.59	5.59
H	3.50	3.50	3.50	3.50	3.50	3.50	3.50
K	5.35	5.35	5.35	5.87	5.87	6.61	6.61
L	16.91	16.91	18.22	19.41	19.96	23.20	24.74
M	0.91	0.91	0.91	0.91	0.91	0.91	0.91
P	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Q	3.43	3.43	3.43	3.43	3.43	3.43	3.43
S	5.51	5.51	5.51	7.48	7.48	8.50	8.50
T	3.50	3.50	3.50	4.50	4.50	5.25	5.25
Approximate weight (lbs.)	81.00	89.00	91.00	111.00	128.00	179.00	204.00

LKH UltraPure-20\*

Size	Motor							
	1 Hp 143TC	1.5 Hp 143TC	2 Hp 145TC	3 Hp 182TC	5 Hp 184TC	7.5 Hp 213TC	10 Hp 215TC	15 HP 254TC
A	4.00	4.00	5.00	4.50	5.50	5.50	7.00	8.25
C	9.53	9.53	9.53	12.60	12.60	14.17	14.17	19.02
E 1/2"	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63
E 3/4"	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02
G	5.59	5.59	5.59	5.59	5.59	5.59	5.59	7.09
H	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
K	5.35	5.35	5.35	5.87	5.87	6.61	6.61	7.95
L	16.91	16.91	18.22	19.41	19.96	23.20	24.74	28.82
M	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
P	0.91	0.91	0.91	0.91	0.91	0.91	0.91	1.06
Q	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.47
S	5.51	5.51	5.51	7.48	7.48	8.50	8.50	10.00
T	3.50	3.50	3.50	4.50	4.50	5.25	5.25	6.25
Weight (lbs.)	81.00	89.00	91.00	111.00	128.00	179.00	204.00	301.00

Note! \* = Data for pumps with Sterling brand motors.

Dimensions (in)



LKH UltraPure-25\*

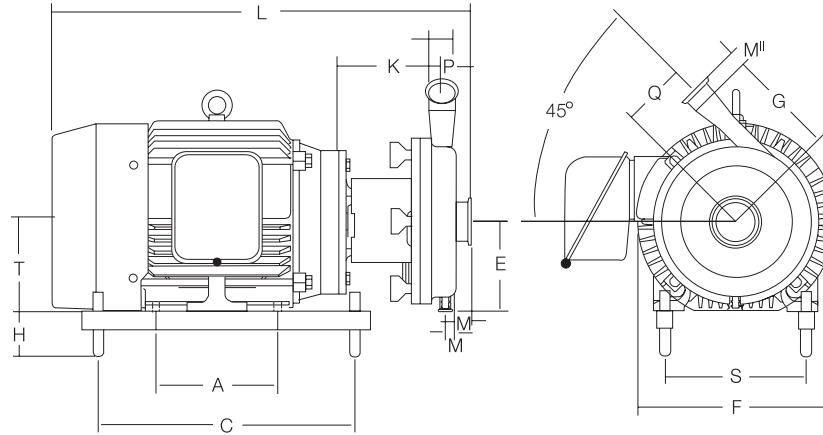
Size	Motor											
	1 Hp 143TC	1.5 Hp 143TC	2 Hp 145TC	3 Hp 182TC	5 Hp 184TC	7.5 Hp 213TC	10 Hp 215TC	15 HP 254TC	20 Hp 256TC	25 Hp 284TSC	30 Hp 286TSC	
A	4.00	5.00	5.00	4.50	5.50	5.50	7.00	8.25	10.00	9.50	11.00	
C	9.53	9.53	9.53	12.60	12.60	14.17	14.17	19.02	19.02	20.00	20.00	
E 1/2"	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	
E 3/4"	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
F	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	
G	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	
H	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	
K	5.98	5.98	5.98	6.50	6.50	7.24	7.24	8.07	8.07	8.07	8.07	
L	17.91	17.91	18.90	19.91	20.96	24.20	25.74	29.16	30.91	32.91	34.41	
M	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
P	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	
Q	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	
S	5.51	5.51	5.51	7.48	7.48	8.50	8.50	10.00	10.00	11.00	11.00	
T	3.50	3.50	3.50	4.50	4.50	5.25	5.25	6.25	6.25	7.00	7.00	
Approximate weight (lbs.)	95.00	103.00	105.00	125.00	142.00	193.00	218.00	311.00	361.00	442.00	473.00	

LKH UltraPure-35\*

Size	Motor									
	1 Hp 143TC	2 Hp 145TC	3 Hp 182TC	5 Hp 184TC	7.5 Hp 213TC	10 Hp 215TC	15 HP 254TC	20 Hp 256TC	25 Hp 284TSC	30 Hp 286TSC
A	4.00	5.00	4.50	5.50	5.50	7.00	8.27	10.00	9.49	11.00
C	9.53	9.53	12.60	12.60	14.17	14.17	19.02	19.02	20.00	20.00
E 1/2"	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61	6.61
E 3/4"	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
F	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93
G	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60
H	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
K	5.55	5.55	6.06	6.06	6.81	6.81	7.83	7.83	7.83	7.83
L	17.11	18.10	19.10	20.15	23.40	24.94	28.55	30.30	32.30	33.80
M	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
P	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Q	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68	4.68
S	5.51	5.51	7.48	7.48	8.50	8.50	10.00	10.00	11.00	11.00
T	3.50	3.50	4.50	4.50	5.25	5.25	6.25	6.25	7.00	7.00
Approximate weight (lbs.)	99.00	101.00	121.00	138.00	189.00	214.00	307.00	357.00	438.00	469.00

Note!\* = Data for pumps with Sterling brand motors.

Dimensions (in)

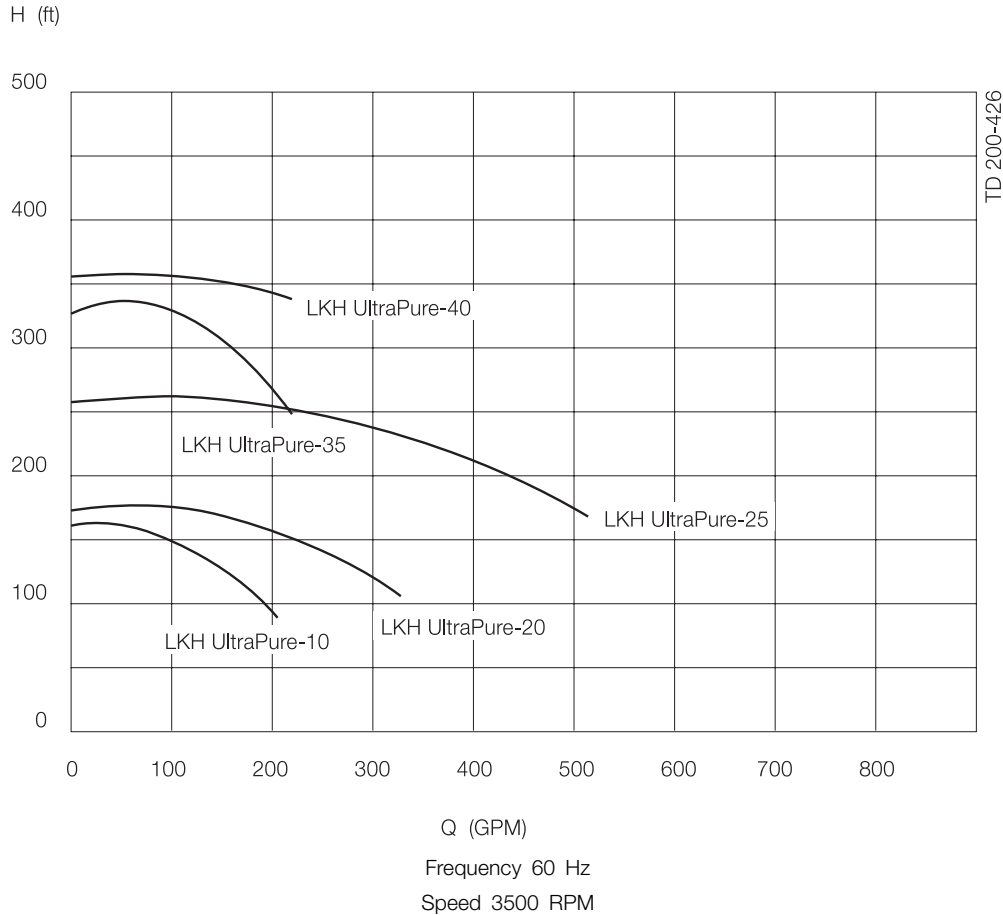


LKH UltraPure-40

Size	Motor									
	1.5 Hp 143TC	2 Hp 145TC	3 Hp 182TC	5 Hp 184TC	7.5 Hp 213TC	10 Hp 215TC	15 HP 254TC	20 Hp 256TC	25 Hp 284TSC	30 Hp 286TSC
A	4.00	5.00	4.50	5.50	5.50	7.00	8.25	10.00	9.50	11.00
C	9.53	9.53	12.60	12.60	14.17	14.17	19.02	19.02	20.00	20.00
E 1/2"	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13	7.13
E 3/4"	7.52	7.52	7.52	7.52	7.52	7.52	7.52	7.52	7.52	7.52
F	12.95	12.95	12.95	12.95	12.95	12.95	12.95	12.95	12.95	12.93
G	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35
H	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
K	5.75	5.75	6.26	6.26	7.01	7.01	8.03	8.03	8.03	8.03
L	17.50	18.49	19.49	22.54	23.79	25.33	28.94	30.69	32.69	34.19
M	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
P	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Q	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96	4.96
S	5.51	5.51	7.48	7.48	8.50	8.50	10.00	10.00	11.00	11.00
T	3.50	3.50	4.50	4.50	5.25	5.25	6.25	6.25	7.00	7.00
Approximate weight (lbs.)	108.00	110.00	130.00	147.00	198.00	223.00	316.00	366.00	447.00	478.00

Note! Data for pumps with Sterling brand motors.

Flow chart



**Options Equipment**

- Impeller with reduced diameter.
- Motor for other voltage and/or frequency
- 1800 rpm. motor
- Motor with increased safety/explosion proof motor
- Inducer
- Double mechanical shaft seal
- Pump without legs.
- Material traceability EN 10204.3.1.B. (Mill test reports)
- Product wetted steel parts - ferrite max. <1%
- Surface finish certificate

**Material grades**

- Finish, product wetted surface: R<sub>a</sub> max. 15m-inch electropolished
- Product wetted seals of EPDM or PTFE

**Specials**

- Special flush arrangement (for Double Mechanical)
- ½" diaphragm valve - air actuated (for Flush Seal Arrangement)
- Flow meter (for Flush Arrangement)

**Note!**

Because of the mechanical polishing on internal surfaces, the impeller diameter will be adjusted to meet the desired design point.

**Inlet/Outlet Connections - GC-Clamp (inches)**

**LKH UltraPure-10, -20, -35**

Inlet size	2.50
Outlet size	2.00
MI	1.13
MII	1.13

**LKH UltraPure-25, -40**

	LKH-UP 25	LKH-UP40
Inlet size	3.00	3.00
Outlet size	2.50	2.00
MI	1.13	1.13
MII	1.13	1.13

**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.