The Premium Evaporator Pump

LKH Evap Centrifugal Pump

Applications
The LKH Evap pump is a highly efficient and economical centrifugal pump,which meets the requirements of sanitary and gentle product treatment and chemical resistance. LKH Evap is special designed for use in the evaporation industry covering applications as liquid concentration and powder processing solutions as well as dewatering plant and equipment for the international dairy, food and beverage, ethanol, starch, pharmaceutical, chemical, alcohol and brewery industries.
LKH Evap is available in ten sizes, LKH Evap-10,-15, -20, -25, -35, -40, -45, -50, -60 and -70.

Standard design
The LKH Evap pump consists of a motor, stub shaft, mechanical compression coupling, adaptor, back plate, impeller with pump screw, pump casing and shaft seal. The LKH Evap pump is designed for CIP with emphasis on large internal radii and cleanable seals for use in the Evaporator industry and can be delivered with Clear Flow Impeller as an option. The Clear Flow Impeller is to be used in applications where there is a risk of building up a hard layer of product between impeller and backplate. The LKH Evap has a stainless steel shroud for protection of the motor, and the complete unit is supported on four adjustable stainless steel legs.

Shaft seals
The LKH Evap pump is equipped with either an external single or a flushed shaft seal. Both have stationary seal rings in acid resistant steel AISI 329 with sealing surface in silicon carbide and rotating seal rings in carbon. The secondary seal of the flushed seal is a long lasting lip seal. The pump may also be equipped with a double mechanical shaft seal.

Materials
Product wetted steel parts: . . . . . .Acid-resistant steel 1.4404 (316L).
Other steel parts: . . . . . .Stainless steel 1.4301 (304).
Finish: . . . . . .Semi bright.
Product wetted seals: . . . . . .EPDM rubber.

Technical data
Max. inlet pressure: LKH Evap-10/-70: .1000kPa (10 bar).
Temperature range: . . . . . .-10°C to +140°C (EPDM).

Flushed shaft seal:
Water pressure inlet: . . . . . .Max. 1 bar.
Water consumption: . . . . . .0.25 -0.5 l/min.

Double mechanical shaft seal:
Water pressure inlet, LKH Evap-10/-60: Max. 500 kPa (5 bar).
Water pressure inlet, LKH Evap-70: . . .Max. 300 kPa (3 bar).
Water consumption: . . . . . .0.25 -0.5 l/min.

LKH Evap 10 with shroud and legs.

Connections for FSS and DMSS:
6mm tube/Rp 1/8".

Motor
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	≥ 6.4 kW

Motor sizes
50 Hz: 1.5 - 2.2 - 3 - 4 - 5.5 - 7.5 - 11 - 15 -18.5 - 22 - 30 - 37 - 45 - 55 - 75 kW.

60 Hz: 1.75 - 2.5 - 3.5 - 4.6 - 6.4 - 8.6 - 12.5 -17 - 21 - 25 - 35 - 43 - 52 - 63 - 86 kW.

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

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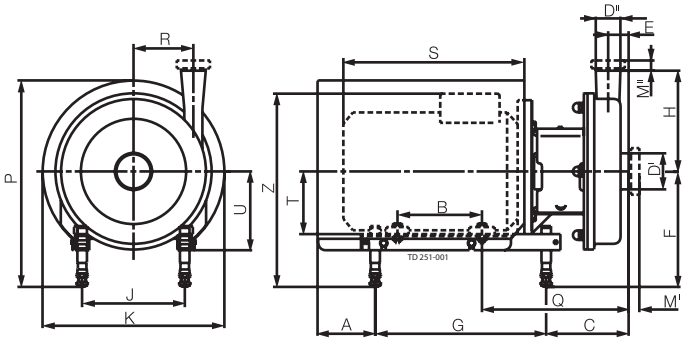
Dimensions (mm)



LKH Evap-10 (Sanitary)

		ABB-Motor kw			
		1.5	2.2	3	4
A		79	79	78	81
B		100	125	140	140
C		132	132	140	147
E		23	23	23	23
F	min.	189	189	185	184
F	max.	275	275	295	297
G		272	272	320	320
H		142	142	142	142
J		140	140	160	190
K		288	288	323	359
P	min.	346	346	357	383
P	max.	432	432	467	496
Q		215	215	235	242
R		87	87	87	87
S		245	270	299	301
T		90	90	100	112
U		125	125	145	147
Z	min.	316	316	321	330
Z	max.	402	402	431	443
Weight (kg)		36	39	47	57

LKH Evap-20 (Sanitary)

		ABB-Motor kw				
		1.5	2.2	3	4	5.5/7.5
A		79	79	78	81	81
B		100	125	140	140	178
C		145	145	152	159	157
E		27	27	27	27	27
F	min.	189	189	185	184	184
F	max.	275	275	295	297	317
G		272	272	320	320	400
H		180	180	180	180	180
J		140	140	160	190	216
K		288	288	323	359	383
P	min.	346	346	357	383	380
P	max.	432	432	467	496	513
Q		227	227	247	254	292
R		88	88	88	88	88
S		245	270	299	301	402
T		90	90	100	112	132
U		125	125	145	147	167
Z		316	316	321	330	348
Z		402	402	431	443	481
Weight (kg)		38	41	49	59	77

LKH Evap-15 (Sanitary)

		ABB-Motor kw		
		3	4	5.5
A		78	81	81
B		140	140	178
C		176	183	181
E		43	43	43
F	min.	185	184	184
F	max.	295	297	317
G		320	320	400
H		166	166	166
J		160	190	216
K		323	359	383
P	min.	357	383	380
P	max.	467	492	513
Q		271	278	316
R		66	66	66
S		299	301	402
T		100	112	132
U		145	147	167
Z	min.	321	330	348
Z	max.	431	443	481
Weight (kg)		51	61	79

LKH Evap-25 (Sanitary)

		ABB-Motor kw	
		5.5/7.5	11/15
A		81	170
B		178	210
C		163	192
E		32	32
F	min.	184	228
F	max.	317	345
G		400	483
H		193	193
J		216	254
K		383	485
P	min.	380	490
P	max.	513	607
Q		298	345
R		106	106
S		402	571
T		132	160
U		167	195
Z	min.	348	438
Z	max.	481	554
Weight (kg)		81	125/134

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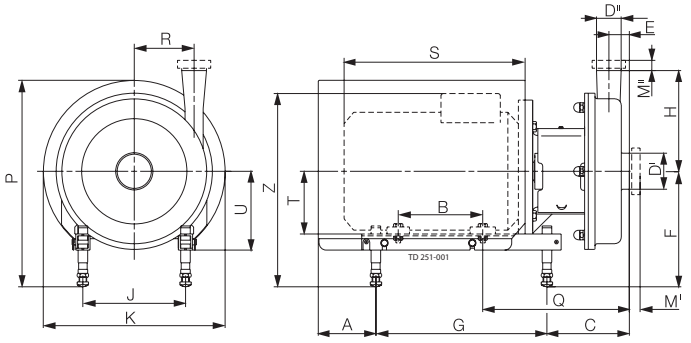

LKH Evap-35 (Sanitary)

		ABB-Motor kw		
		4	5.5/7.5	11/15
A		81	81	170
B		140	178	210
C		150	148	177
E		23	23	23
F	min.	184	184	228
F	max.	297	317	345
G		320	400	483
H		193	193	193
J		190	216	254
K		359	383	485
P	min.	383	380	490
P	max.	496	513	607
Q		245	283	330
R		119	119	119
S		301	402	571
T		112	132	160
U		147	167	195
Z	min.	330	348	438
Z	max.	443	481	554
Weight (kg)		63	81	125/134

LKHevap-45 (Sanitary)

		ABB-Motor kw		
		4	5.5/7.5	11/15
A		81	81	170
B		140	178	210
C		179	177	206
E		41	41	41
F	min.	184	184	228
F	max.	297	317	345
G		320	400	483
H		193	193	193
J		190	216	254
K		359	383	485
P	min.	383	380	490
P	max.	496	513	607
Q		274	312	359
R		97	97	97
S		301	402	571
T		112	132	160
U		147	167	195
Z	min.	330	347	438
Z	max.	443	480	555
Weight (kg)		65	83	127/136

LKH Evap-40 (Sanitary)

		ABB-motor kw		
		7.5	11/15/18.5	22
A		81	170	196
B		178	210	241
C		158	187	201
E		28	28	28
F	min.	184	228	260
F	max.	317	345	365
G		400	483	508
H		212	212	212
J		216	254	279
K		383	485	534
P	min.	380	490	546
P	max.	513	607	671
Q		293	340	353
R		126	126	126
S		402	571	616
T		132	160	180
U		167	195	215
Z	min.	348	438	484
Z	max.	481	554	589
Weight (kg)		84	128/137/147	174

LKH Evap-50 (Sanitary)

		ABB-Motor kw		
		5.5/7.5	11/15/18.5	22
A		81	170	196
B		178	210	241
C		171	200	213
E		35	35	35
F	min.	184	228	260
F	max.	317	345	365
G		400	483	508
H		205	205	205
J		216	254	279
K		383	485	534
P	min.	380	490	546
P	max.	513	607	671
Q		306	353	366
R		118	118	118
S		402	571	616
T		132	160	180
U		167	195	215
Z	min.	348	438	484
Z	max.	481	554	589
Weight (kg)		86	130/139/149	174

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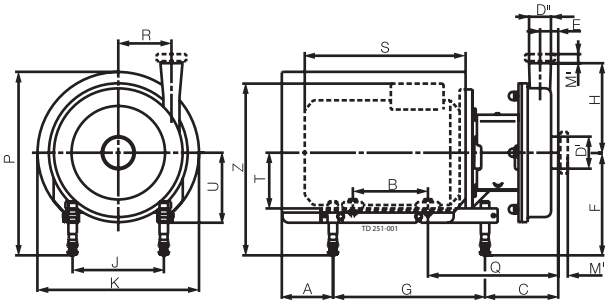

LKH Evap-60 (Sanitary)

		ABB-motor kw			
		5.5/7.5	11/15/18.5	22	30
A		81	170	196	246
B		178	210	241	305
C		200	229	242	254
E		62	62	62	62
F	min.	184	228	260	274
F	max.	317	345	365	385
G		400	483	508	534
H		262	262	262	262
J		216	254	279	318
K		383	485	534	673
P	min.	380	490	546	661
P	max.	513	607	671	786
Q		335	382	395	407
R		102	102	102	102
S		402	571	616	711
T		132	160	180	200
U		167	195	215	220
Z	min.	348	437	484	571
Z	max.	481	554	589	682
Weight (kg)		94	138/147/157	182	277

LKH Evap-70 (Sanitary)

		ABB-motor kw				
		5.5/7.5	11/15/18.5	22	30/37/45	55/75
A		81	170	196	246	389
B		178	210	241	305	310/349
C		190	212	226	238	277
E		25	25	25	25	25
F	min.	184	228	260	274	401
F	max.	317	345	365	385	462
G		400	483	508	534	640
H		254	254	254	254	254
J		216	254	279	318	406
K		383	485	534	673	753
P	min.	380	490	546	661	811
P	max.	513	607	671	786	872
Q		325	365	378	390	471
R		147	147	147	147	147
S		402	571	616	711	744
T		132	160	180	200	250
U		167	195	215	220	
Z	min.	348	437	484	571	776
Z	max.	481	554	589	682	837
Weight (kg)		114/125	166/174/182	213	303/316/330	421/506

Options

A. Impeller with reduced diameter.
B. Motor for other voltage and/or frequency.
C. Motor with increased safety/flame proof motor.
D. Inducer (only LKH Evap 10 to -50).
E. Flushed shaft seal.
F. Double mechanical shaft seal.
G. Clear Flow Impeller. Special designed impeller for applications where there is a risk of building up a hard layer of product between impeller and backplate.
H. Surface roughness, product wetted parts: $R_a \leq 0.8$ µm.
I. Product wetted seals of Nitrile (NBR), Fluorinated rubber (FPM) or FEP.
J. Rotating seal ring of Silicon Carbide.

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 instruction manual.

This product has EHEDG certification

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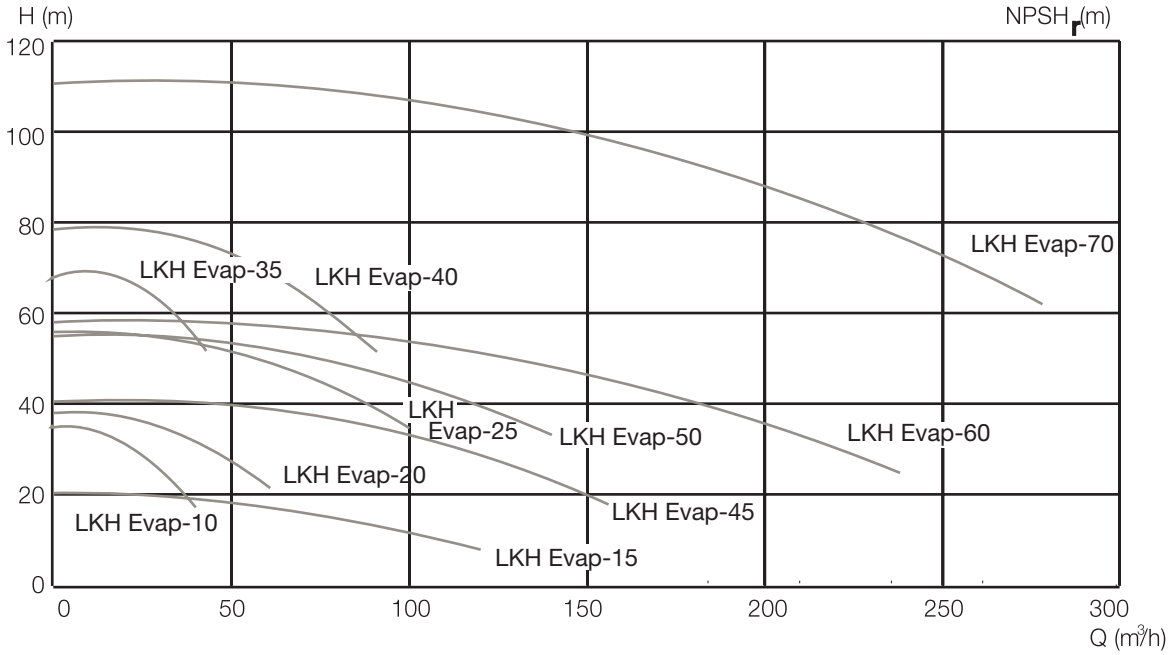
Flow chart

Frequency: 50 Hz Speed (synchr): 3000 rpm



Note: If Clear Flow impeller is mounted the performance can be up to 10% lower than shown on the curves above

Connections (mm) Sanitary version

LKH Evap-10, -20, -35

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	63.5	Ø60.3	Ø60.5	Ø60.3	Ø60.3	Ø60.3	Ø60.5	Ø66
DII	51	Ø48.6	Ø48.5	Ø48.6	Ø48.6	Ø47.6	Ø48.5	Ø50
MI		21	21	25	24	27	24	25
MII		21	21	22	20	27	20	22

LKH Evap-15, -45, -50, -70

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	101.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø100
DII	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
MI		21	21	30	35	32	24	30
MII		21	21	30	24	27	24	30

LKH Evap-15, -45, -50

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
DII	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
MI		102	102	111	105	108	105	111
MII		21	21	30	24	27	24	30

LKH Evap-25

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
DII	63.5	Ø60.3	Ø60.5	Ø60.3	Ø60.3	Ø60.3	Ø60.5	Ø66
MI		21	21	30	24	27	24	30
MII		21	21	25	24	27	24	25

LKH Evap-40

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
DII	63.5	Ø60.3	Ø60.5	Ø60.3	Ø60.3	Ø60.3	Ø60.5	Ø66
MI		21	21	30	24	27	24	30
MII		12	21	27	24	22	21	27

LKHevap-60

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	101.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø100
DII	101.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø100
MI		21	21	30	35	32	24	30
MII		21	21	30	35	32	24	30

LKH Evap-60

		ISO Clamp	IDF-type Male	DIN/ISO Male	SMS Male	BS Male	DS Male	DIN/DIN Male
DI	76.1	Ø72.9	Ø72	Ø72.9	Ø72.9	Ø73	Ø72	Ø81
DII	101.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø97.6	Ø100
MI		102	102	111	105	108	105	111
MII		21	21	30	35	32	24	30

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