Contents

Identification

Horizontal split case pumps

LHC

Type key

The example shows an LHC 100-400 with a 15.55 inch impeller diameter, ANSI flanges, with cast iron casing & impeller and with a carbon/ceramic/NBR/S.S 304 mechanical shaft seal.

Example	**LHC**	**100**	**-400**	**/15.55**	**M1**	**2A**	**A**	**1**

Type range

Nominal diameter of discharge port (DN)

Nominal impeller diameter (mm)

Actual impeller diameter (inch)

Code for sealing arrangement
- G = Gland packing*
- M1 = Rubber bellows type mechanical seal
- M2 = Cartridge type mechanical seal

Code for pipework connection
- 1 = ANSI-125 flange*
- 2A = PN-16 flange
- 2B = PN-25 flange
- 3 = ANSI-250 flange*

Code for materials
- A = Cast iron pump housing with cast iron impeller*
- B = Cast iron pump housing with bronze impeller
- C = Cast iron pump housing with CF-8 impeller
- D = Cast iron pump housing with CF-8M impeller

Code for shaft seal material
- 1 = Carbon/Ceramic/NBR/S.S 304
- 2 = Sic/Sic/Viton/S.S 316
- 3 = Carbon/Sic/Viton/S.S 316

* Standard construction.

Product data

Horizontal split case pumps

LHC

Introduction

Horizontal split case pumps have horizontal pump shaft and the volute casing can be dismantled in the horizontal plane along the drive shaft.

The Lubi horizontal split case pump, type LHC is available in two main designs:

- Single-stage
- Two-stage

Applications

- Water Supply.
- Pressure boosting for high rise buildings, hotels, industry etc.
- Industrial washing & cleaning systems.
- Fire Protection systems.
- Cooling & Air Conditioning systems.
- Boiler feed and condensate transfer system.
- Irrigation systems for fields including sprinkler & drip irrigation systems.

Features & benefits

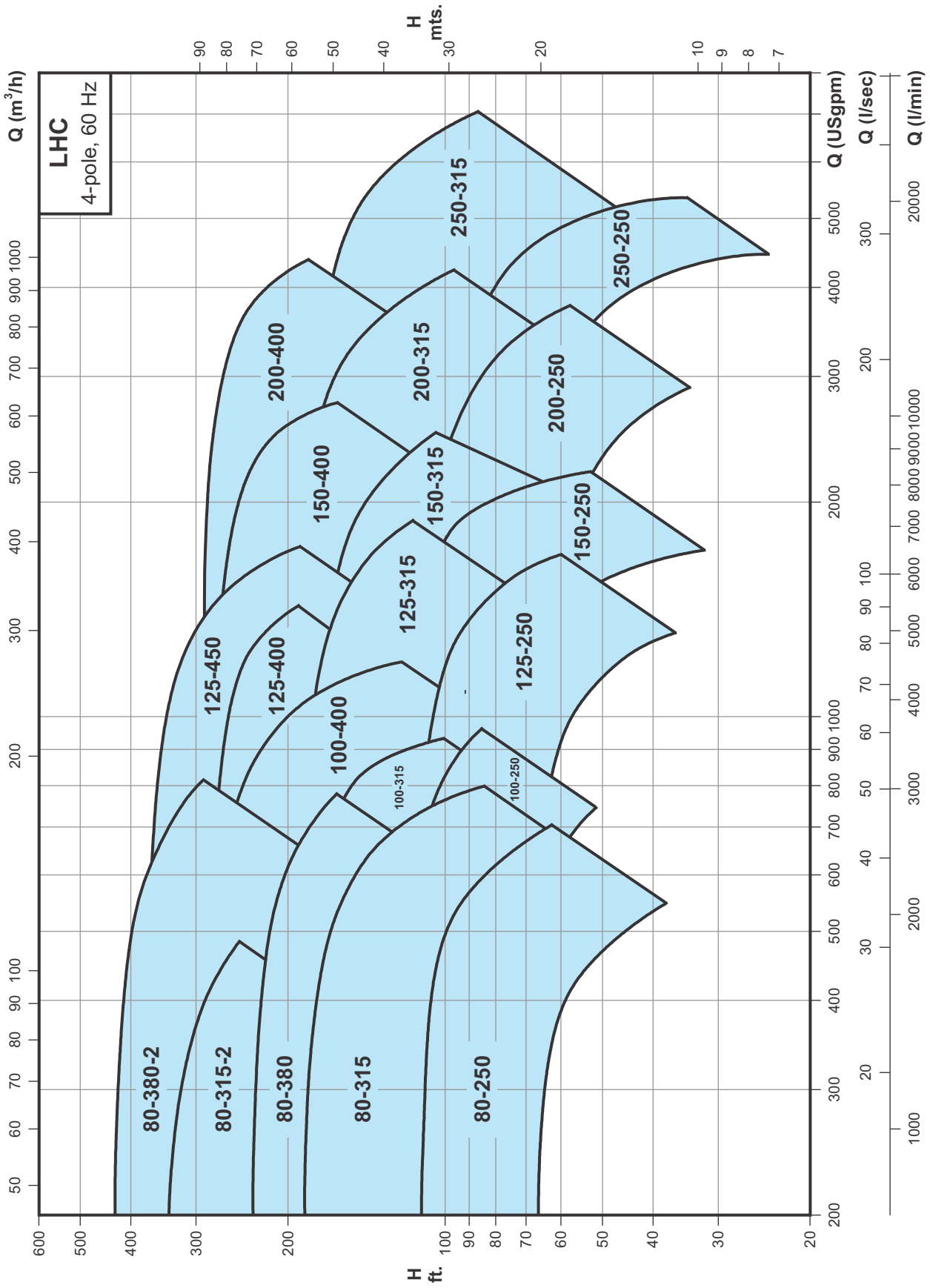
Following are the main features and benefits offered by the LHC pumps.

- The pumps are non self priming horizontal split case pumps with radial suction port and radial discharge port.
- Standard flanges for suction and discharge ports will be ANSI 125 and ANSI 250 as per ASME B16.1. PN 16 as per DIN standard EN 1092-2 and PN 25 as per DIN standard EN 1092-2 are available on request.
- These pumps are long coupled pumps with TEFC squirrel cage induction motors with main dimensions complying to NEMA standards MG 1-2006.
- These pumps are available with gland packing as well as mechanical shaft seal.
- These pumps have the discharge range from 200 to 7000 USgpm and head range from 20 to 420 feet. Motor ratings are from 7.5 to 200 HP.
- The pump impellers are dynamically balanced to grade 6.3 of ISO 1940.
- These pumps can be supplied as a complete unit with motor, coupling, coupling guard and fabricated steel base frame.
- These pumps are available with NEMA standard range of motors complying to meet or exceed the efficiency requirements of the US Energy Policy Act of 1992 (EPAct) and Natural Resources Canada Standards (NRCan).
- The efficiency will meet or exceed full load efficiency of TEFC motors as per Table 12-11 of NEMA standards MG 1-2006
- They can also be supplied with NEMA premium efficiency TEFC motors as per Table 12-12 NEMA standards MG 1-2006 on request.
- The split case construction enables removal and dismantling of the internal pump parts e.g. bearings, wear rings, shaft seal and impeller without disturbing the motor & pipe work.
- We can also supply pumps with IEC standard motors.

Performance range

Horizontal split case pumps

LHC 4-Pole

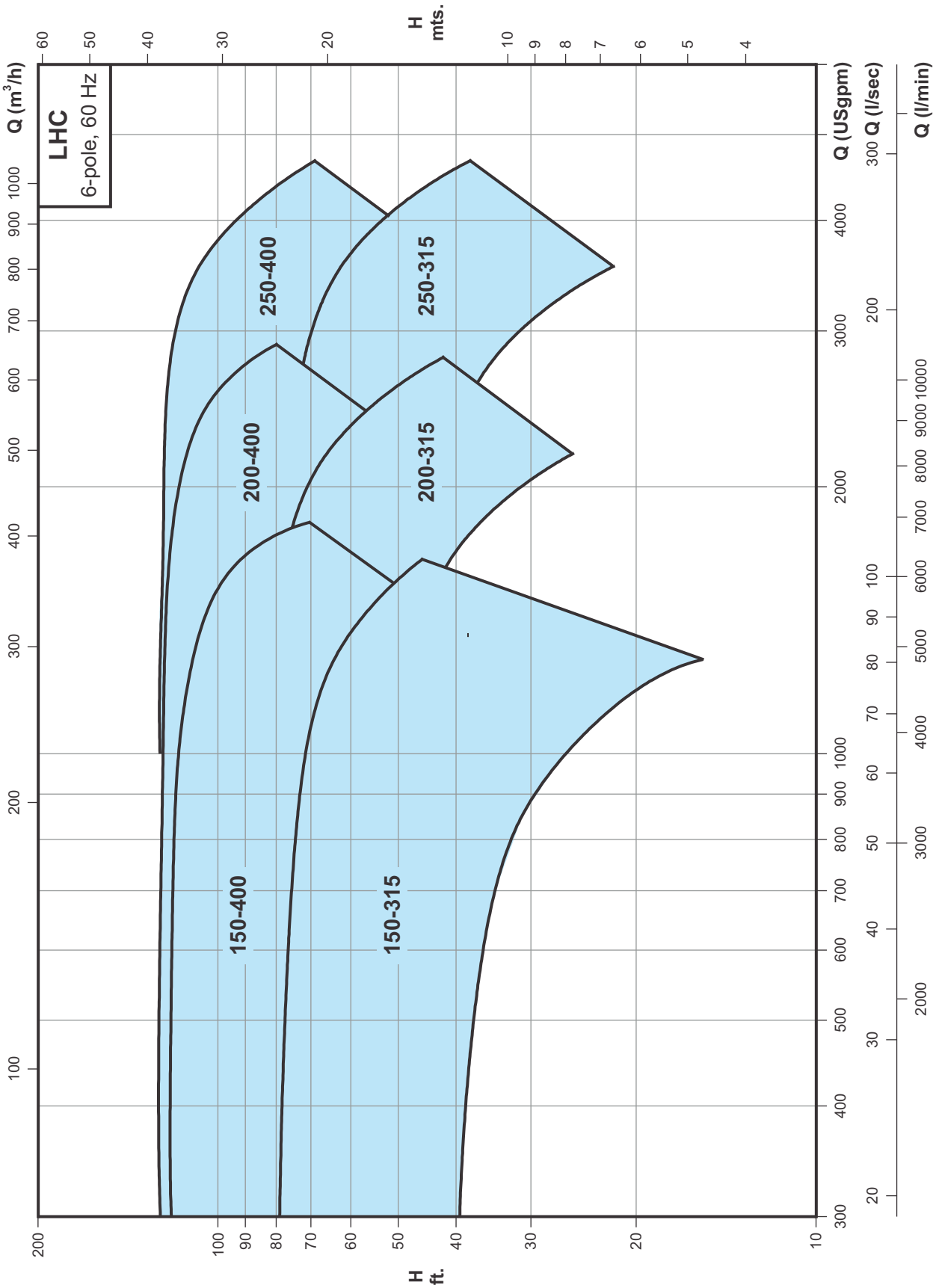


Note: 80-315-2 and 80-380-2 are two stage pumps.

Performance range

Horizontal split case pumps

LHC 6-Pole



Lubi

Construction

Horizontal split case pumps LHC

Sectional drawing

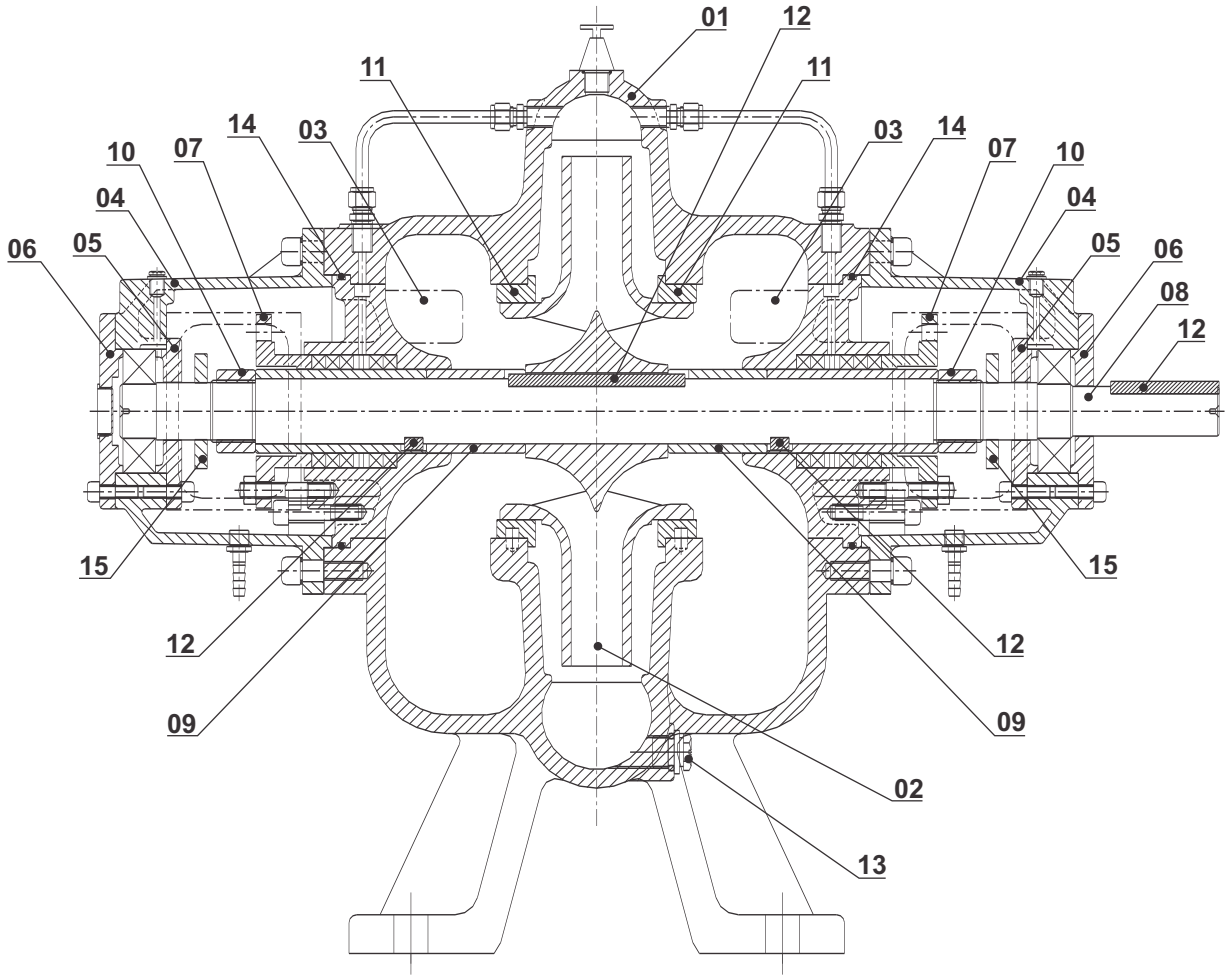


Fig. 1 Single stage LHC pump

Materials

Pos.	Component	A-version	B-version	C-version	D-version
1	Volute casing	Cast iron	Cast iron	Cast iron	Cast iron
2	Impeller	Cast iron	Bronze	CF-8	CF-8M
3	Back cover	Cast iron	Cast iron	Cast iron	Cast iron
4	Bearing housing	Cast iron	Cast iron	Cast iron	Cast iron
5	Internal bearing cover	Cast iron	Cast iron	Cast iron	Cast iron
6	External bearing cover	Cast iron	Cast iron	Cast iron	Cast iron
7	Gland follower	Cast iron	Cast iron	Cast iron	Cast iron
8	Shaft	Carbon Steel	AISI 410	AISI 304	AISI 316
9	Shaft sleeve	AISI 410	AISI 410	AISI 304	AISI 316
10	Lock nut	AISI 410	AISI 410	AISI 304	AISI 316
11	Wear ring	Bronze	Bronze	CF-8	CF-8M
12	Key	AISI 410	AISI 410	AISI 304	AISI 316
13	Plugs	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
14	O-ring	NBR	NBR	NBR	NBR
15	Water thrower	NBR	NBR	NBR	NBR

Construction

Horizontal split case pumps

LHC

Sectional drawing

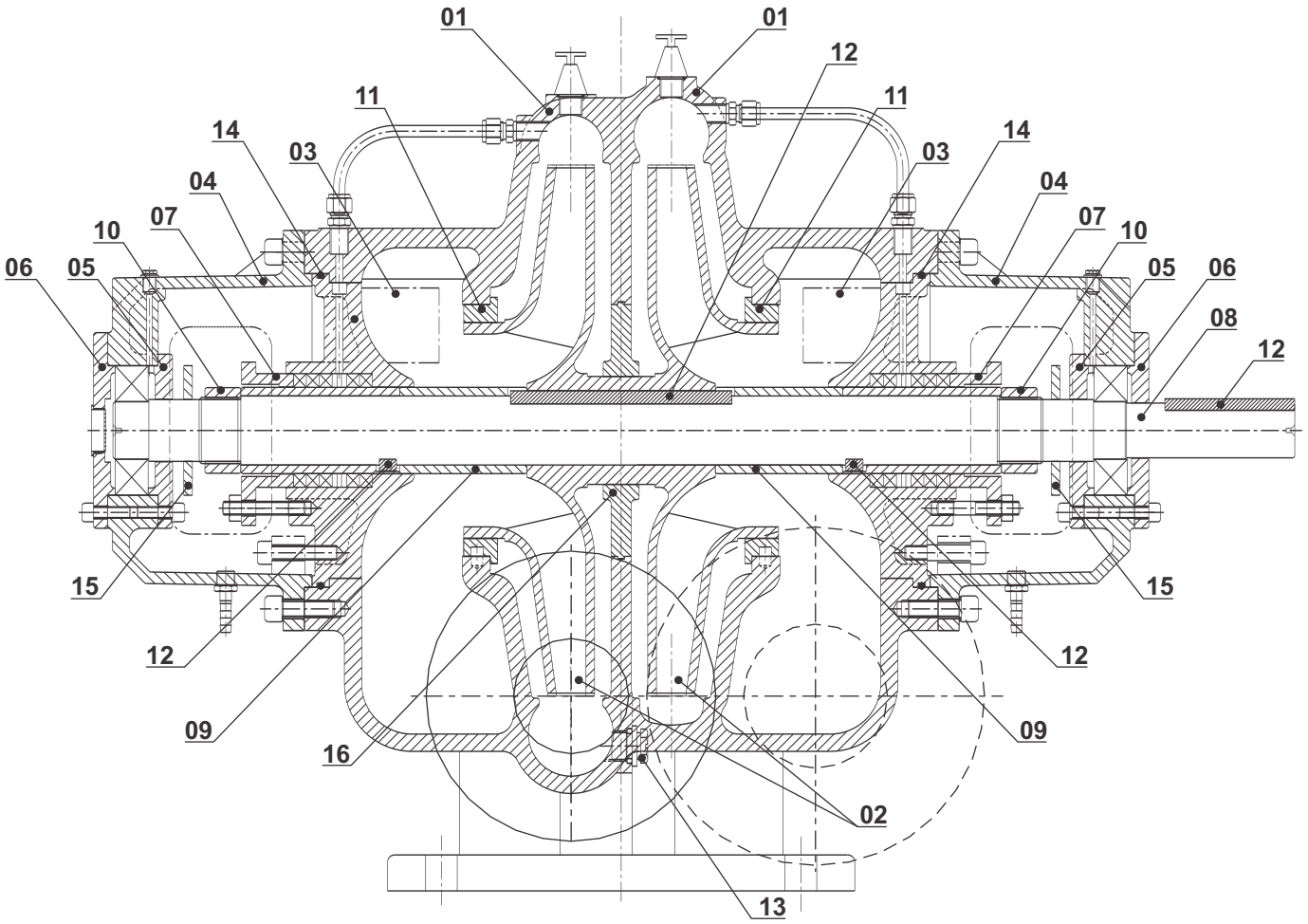


Fig. 2 Two stage LHC pump

Materials

Pos.	Component	A-version	B-version	C-version	D-version
1	Volute casing	Cast iron	Cast iron	Cast iron	Cast iron
2	Impeller	Cast iron	Bronze	CF-8	CF-8M
3	Back cover	Cast iron	Cast iron	Cast iron	Cast iron
4	Bearing housing	Cast iron	Cast iron	Cast iron	Cast iron
5	Internal bearing cover	Cast iron	Cast iron	Cast iron	Cast iron
6	External bearing cover	Cast iron	Cast iron	Cast iron	Cast iron
7	Gland follower	Cast iron	Cast iron	Cast iron	Cast iron
8	Shaft	Carbon Steel	AISI 410	AISI 304	AISI 316
9	Shaft sleeve	AISI 410	AISI 410	AISI 304	AISI 316
10	Lock nut	AISI 410	AISI 410	AISI 304	AISI 316
11	Wear ring	Bronze	Bronze	CF-8	CF-8M
12	Key	AISI 410	AISI 410	AISI 304	AISI 316
13	Plugs	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
14	O-ring	NBR	NBR	NBR	NBR
15	Water thrower	NBR	NBR	NBR	NBR
16	Centre ring	Cast iron	Cast iron	Cast iron	Cast iron

Construction features

Volute casing

The volute casing of the pumps are designed to be robust in construction to take the undue stresses offered by the pipe work. They have a radial suction port and radial discharge port. Standard flanges are ANSI 125 and ANSI 250 as per ASME B16.1.
PN 16 as per DIN standard EN 1092-2 and PN 25 as per DIN standard EN 1092-2 are available on request.

The volute casing are provided with a priming & drain hole closed by plugs.

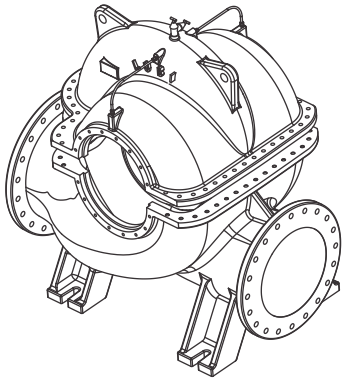


Fig. 3 Upper and lower volute casing

The single stage pumps are of the inline (symmetric) design, whereas the two stage pumps have asymmetric design

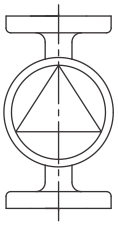


Fig. 4 SINGLE STAGE
(Inline symmetric design)

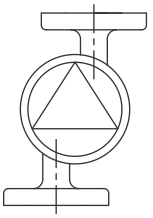


Fig. 5 TWO STAGE
(Asymmetric design)

Shaft

The shaft is available in carbon steel as well as stainless steel. A bronze or stainless steel shaft sleeve is provided in the stuffing box to protect the shaft from wear & corrosion. As shaft and bearings are strong and properly sized the pump can be driven by a belt drive or diesel engine without any problem.

A water thrower is provided on the shaft to prevent liquid from entering the bearing housing and damaging the bearing.

The shaft is supported by bearings at both drive end and non-drive end of the pump.

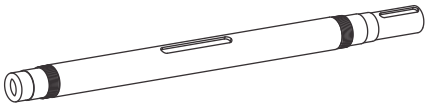


Fig. 6 Pump shaft

Bearings

The pumps are fitted with two standard single-row deep groove ball bearings, the bearings are of the open type permitting the bearings to be relubricated. The bearings are lubricated by Lubi prior to delivery.

Impeller

The impeller is a closed impeller with single or double curved blades and extra smooth surface finish and machined completely from outside to ensure high efficiency.

The impeller comes in two variants.

- Double-suction impeller with inflow of liquid from both sides. Double suction impellers are used in single-stage pumps only.
- Single-suction impeller with inflow of liquid from one side. Single suction impellers are used in two-stage pumps only.

Because of hydraulic balancing the axial thrust on bearings are compensated giving a longer bearing life.

Two stage pumps have two laterally reversed single-suction impellers mounted back-to-back.

The direction of rotation of impeller is clock-wise when viewed from the motor end.

They are dynamically balanced to grade 6.3 of ISO 1940.

All impeller can be trimmed to adopt them for the duty point requested by the customer.

Suggested trimmed impeller diameter as shown on the performance curves are theoretical. Performance may vary from what is shown on the performance curve.

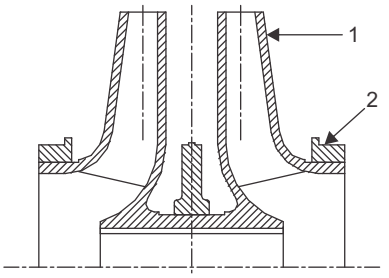


Fig. 7 Single-suction impeller

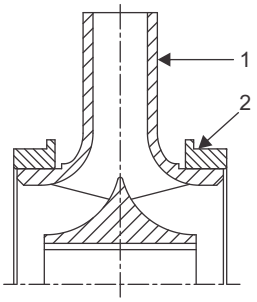


Fig. 8 Double-suction impeller

Construction

Wear rings
The pump have wear rings (pos.2) between impeller (pos.1) and volute casing.

The wear rings protect the volute casing against wear. Besides, the wear rings have a sealing function between impeller and volute casing.

When the wear rings worn out, the efficiency of the pump will be reduced, and wear rings should be replaced. The wear rings are made of same material as the impeller.

Coupling
LHC pumps are fitted with a tyre type flexible cushion coupling.

These couplings are highly flexible, resilient and absorbs large misalignment.

Due to the coupling design, the rotating assembly of LHC pumps can be removed and serviced without dismantling the motor from the base fame.

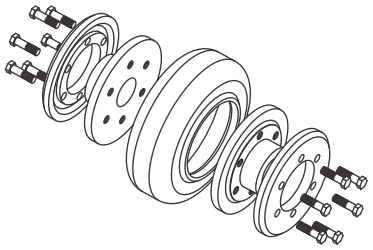


Fig. 9 Tyre type flexible cushion coupling

Base frame
Pump and motor are mounted on a common steel base frame in the form of welded, steel c-channel profile.

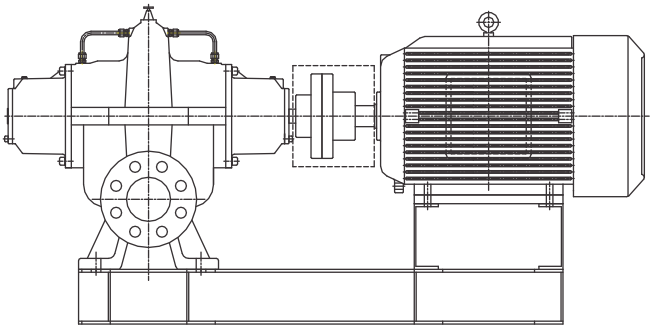


Fig. 10 LHC pump motor unit mounted on a base fame

Mechanical shaft seal
The shaft seal is an unbalanced, mechanical shaft seal.

Two types are available as standard,

- A rubber bellows type (M1) for single-stage and two-stage pumps.
- A cartridge type (M2) with O-ring for single-stage and two-stage pumps.

For other mechanical shaft seal variants, contact Lubi.

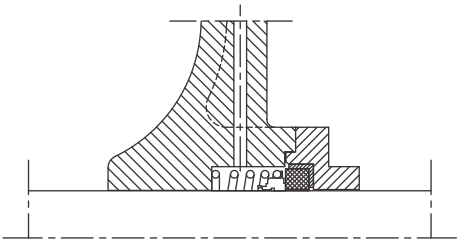


Fig. 11 Rubber bellows shaft seal type (M1)

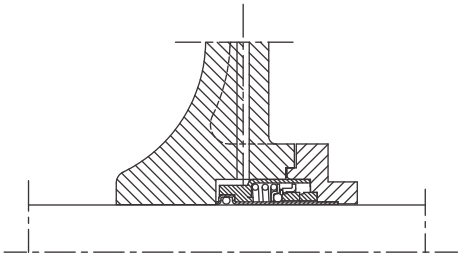


Fig. 12 Cartridge shaft seal type (M2)

Stuffing box
Stuffing boxes are available with lantern rings and graphite gland packing rings.

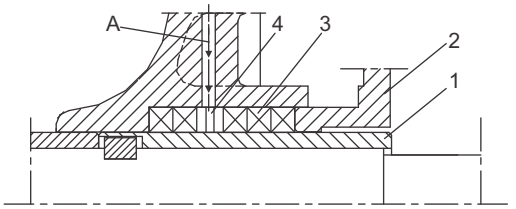


Fig. 13 Sectional view of an uncooled stuffing box

Pos.	Description	Pos.	Description
1	Shaft sleeve	A	Drilled hole for barrier fluid (pumped liquid)
2	Gland		
3	Graphite packing		
4	Lantern ring		

Test pressure
All pumps are hydrostatic tested for leakage as per the following test pressure using water containing corrosion inhibitor at room temperature.

Pressure rating	Operating pressure	Test pressure
ANSI 125	125 psi	188 psi
ANSI 250	250 psi	375 psi
PN 16	16 bar	24 bar
PN 25	25 bar	37.5 bar

Motors
The motors are squirrel cage induction motors, totally enclosed fan cooled with main dimension to NEMA standards MG 1-2006.
The standard motors supplied with the pumps are all as per high efficiency NEMA standards. Premium efficiency motors can be available on request.
All motors are available with cast iron construction.

Operating conditions

Sound/Noise levels

As shown in the table below the motor noise levels will not exceed the maximum sound pressure level [db(A)] as per following table.

Motor HP	Maximum sound pressure level [db(A)]	
	Three-phase level	
	4-pole	6-pole
7.50	58	-
10.0	58	57
15.0	69	59
20.0	69	59
25.0	68	62
30.0	68	62
40.0	71	65
50.0	71	65
60.0	75	65
75.0	75	65
100.0	75	70
125.0	79	70
150.0	79	73
200.0	82	73

Ambient temperature and altitude

The ambient temperature for proper motor operation must not exceed.

- + 104°F for high efficiency motors
- + 140°F for premium efficiency motors.

In case of ambient temperature exceeding 104°F (or 140°F for premium eff.) or if motor is to be installed more than 3280 feet above sea level then a higher output motor should be selected due to low cooling effect. Please refer the chart as shown in fig. 9 for selection of the motors at higher temperature or altitude.

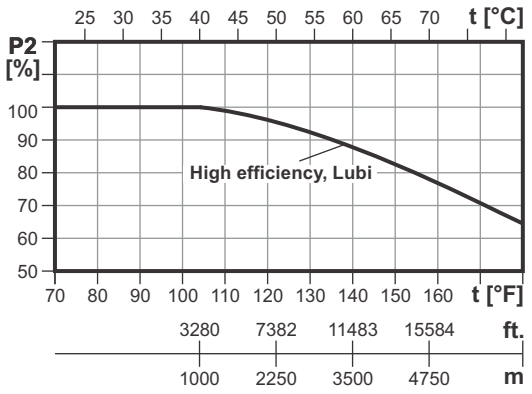


Fig. 9 Motor P2 depend on temperature/altitude

Example

A 20 HP motors has to be increased in output to 25 HP if ambient temperature is 140°F.

A 20 HP motors has to be increased in output to 25 HP if it has to operate at 11483 feets above mean sea level.

Pump location

The Pumps have been designed to operate in non aggressive and non explosive atmosphere.

The relative humidity should not exceed 95%.

Pumped liquids

LHC pumps are designed for non explosive liquids which are clean, and thin without any solid particles.

For aggressive liquid please ensure that material of construction is suitable for liquid to be pumped.

A viscous liquid affects the pump performance in the following ways.

- The power consumption of the pump will increase with increase in viscosity. This will require a larger motor for the pump.
- Head, discharge & pump efficiency will reduce.

A liquid with high density will also affect the performance as follows.

- The power consumption will increase at a ratio corresponding to increase in density. For example a liquid with a specific gravity of 1.30 will require 30% larger motor to drive the pump.
- The head discharge and pump efficiency will not change with change in density.

Liquid temperature

The LHC pump range covers the temperature range from 32°F to +284°F.

The permissible liquid temperature depends on the type of mechanical shaft seal furnished on the pump.

Please refer the table showing relationship between mechanical shaft seal & temperature.

The maximum liquid temperature is stamped on the nameplate of the pump.

Relationship between shaft seals and temperature

Seal type	Code	Temperature range
Carbon/Ceramic/NBR/S.S.304	1	32°F to +194°F
Sic/Sic/Viton/S.S.316	2	32°F to +194°F
Carbon/Sic/Viton/S.S.316	3	32°F to +284°F

Inlet pressure

- The inlet pressure + shut off pressure (pressure of pump against closed valve) should not exceed the maximum operating pressure of the pump.
- The minimum inlet pressure must be according to the NPSH curve + 2 feet safety margin + correction of vapour pressure.

Motor electrical data

Horizontal split case pumps

LHC

High efficiency, 4-pole

Rated output		Full load speed [rpm]	Frame size	Full load current in [A] at			Locked rotor current		Full load torque Tn [lb.ft]	Locked rotor torque [Tl/Tn]	Break down torque (Tb/Tn)	Efficiency			Power factor cost	Service factor SF	Approx. weight [lbs]
												% of full load					
P2 [HP]	P2 [kW]			230 V	460 V	575 V	[KVA code]	[Il/In]				50	75	100	100		
7.50	5.50	1765	213T	19.1	9.53	7.62	H	6.4	22.0	2.0	2.6	87.5	89.5	89.5	0.81	1.15	152
10.0	7.50	1760	215T	25.5	12.8	10.2	H	6.5	29.4	2.0	2.6	88.5	90.2	90.2	0.82	1.15	177
12.5	9.30	1760	254T	31.43	15.71	12.57	G	6.5	37.1	2.3	2.6	89.5	90.5	90.5	0.83	1.15	226
15.0	11.0	1760	254T	35.8	17.9	14.3	G	6.4	44.2	2.5	2.5	89.5	91.0	91.0	0.85	1.15	248
20.0	15.0	1755	256T	48.8	24.4	19.5	G	5.9	59.0	2.4	2.4	89.5	91.0	91.0	0.85	1.15	294
25.0	18.5	1760	284T	59.3	29.6	23.7	G	6.1	73.6	2.2	2.5	91.7	92.4	92.4	0.85	1.15	461
30.0	22.0	1755	286T	68.8	34.4	27.5	G	6.3	88.6	2.4	2.6	92.4	93.0	92.4	0.87	1.15	496
40.0	30.0	1770	324T	95.3	47.6	38.1	G	6.0	117	2.3	2.3	91.7	93.0	93.0	0.85	1.15	611
50.0	37.0	1770	326T	116	57.8	46.2	G	6.1	146	2.3	2.3	92.4	93.6	93.6	0.86	1.15	659
60.0	45.0	1775	364T	134	67.0	53.6	G	6.4	175	2.0	2.3	93.0	93.6	93.6	0.90	1.15	756
75.0	55.0	1775	365T	165	82.4	65.9	G	6.5	219	2.2	2.4	93.6	94.1	94.1	0.89	1.15	860
100.0	75.0	1775	405T	229	115	91.6	G	6.3	298	2.1	2.2	93.6	94.5	94.5	0.87	1.15	1237
125.0	90.0	1780	444T	275	138	110	G	6.4	356	2.0	2.2	93.6	94.5	94.5	0.87	1.15	1583
150.0	110.0	1780	445T	335	168	134	G	6.4	436	2.2	2.3	94.1	95.0	95.0	0.87	1.15	1967
200.0	150.0	1780	505T	460	230	184	G	6.4	594	2.3	2.4	94.1	95.0	95.0	0.86	1.15	2112

High efficiency, 6-pole

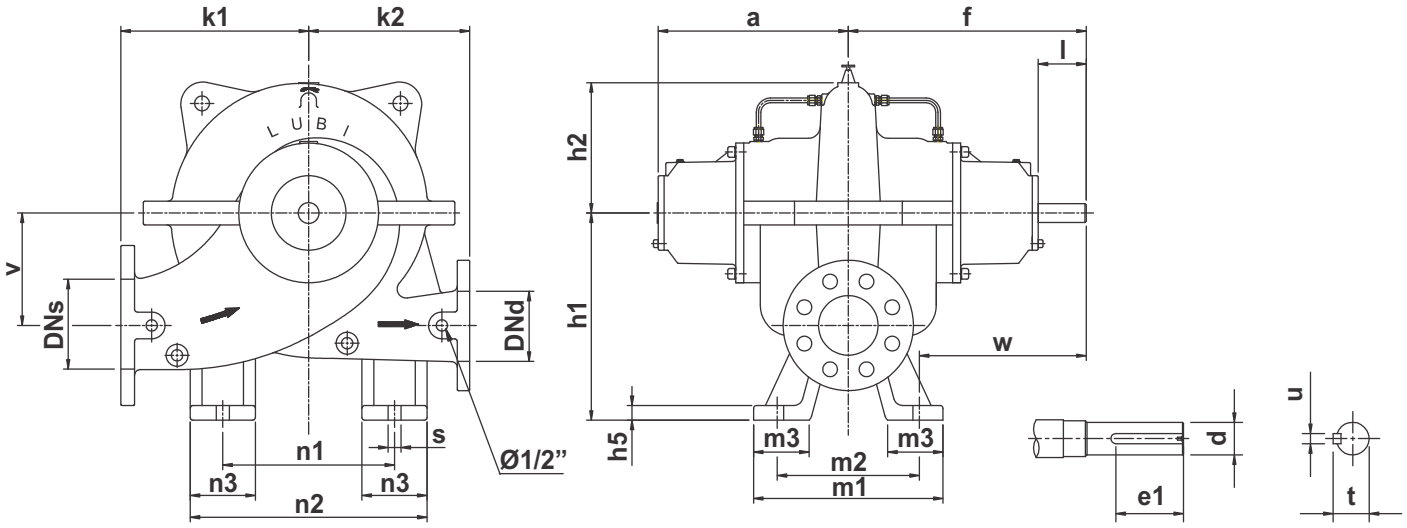
Rated output		Full load speed [rpm]	Frame size	Full load current in [A] at			Locked rotor current		Full load torque Tn [lb.ft]	Locked rotor torque [Tl/Tn]	Break down torque [Tb/Tn]	Efficiency			Power factor cost	Service factor SF	Approx. weight [lbs]
												% of full load					
P2 [HP]	P2 [kW]			230 V	460 V	575 V	[KVA code]	[Il/In]				50	75	100	100		
10.0	7.50	1175	256T	26.8	13.4	10.7	J	6.9	45.0	2.3	2.9	88.5	89.5	89.5	0.79	1.15	249
12.5	9.30	1175	256T	32.1	16.05	12.84	G	6.9	55.7	2.3	2.8	88.8	89.8	89.8	0.81	1.15	261
15.0	11.0	1180	284T	34.5	17.3	13.8	G	6.7	65.7	2.3	2.5	89.5	90.2	91.0	0.88	1.15	419
20.0	15.0	1175	286T	47.0	23.5	18.8	G	6.3	90	2.3	2.5	90.2	91.0	91.0	0.88	1.15	477
25.0	18.5	1175	324T	59.5	29.8	23.8	F	5.9	111	2.2	2.4	89.5	91.7	91.7	0.85	1.15	592
30.0	22.0	1175	326T	70.8	35.4	28.3	G	6.1	132	2.3	2.5	90.2	91.7	91.7	0.85	1.15	617
40.0	30.0	1175	364T	94.3	47.1	37.7	G	6.3	180	2.3	2.3	92.4	93.0	93.0	0.86	1.15	756
50.0	37.0	1180	365T	116	58.1	46.5	G	6.3	221	2.5	2.7	92.4	93.0	93.0	0.86	1.15	842
60.0	45.0	1180	404T	140	70.1	56.1	G	6.3	269	2.5	2.7	93.0	93.6	93.6	0.86	1.15	1096
75.0	55.0	1175	405T	174	86.8	69.4	G	6.3	330	2.5	2.6	93.0	93.6	93.6	0.85	1.15	1138
100.0	75.0	1185	444T	241	121	96.4	G	6.0	446	2.2	2.6	93.0	94.1	94.1	0.83	1.15	1545
125.0	90.0	1185	445T	283	141	113	G	6.3	535	2.1	2.3	93.6	94.1	94.1	0.85	1.15	1876

Dimensions

Horizontal split case pumps

LHC

Bare shaft pumps



Single stage LHC pump

Type	DNs	DNd	k1	k2	v	n1	n2	n3	a	f	h1	h2	h5	s	w	m1	m2	m3	d	l	e1	u	t	Net weight [lbs.]	Gross weight [lbs.]	Volume [ft³]
LHC 80-250	4	3	11.2	9.4	5.7	9.8	13.8	3.9	12.2	15.3	11.0	7.3	1.0	0.86	11.0	11.8	8.7	3.7	1.3	3.2	2.6	0.4	1.4	319	464	17.4
LHC 80-315	4	3	12.8	12.4	7.7	13.4	18.3	4.9	12.5	15.6	13.0	9.2	1.0	0.86	10.3	13.8	10.6	3.7	1.3	3.2	2.6	0.4	1.4	431	605	23.2
LHC 80-380	4	3	12.8	12.4	7.7	13.4	18.3	4.9	12.5	15.6	13.0	9.2	1.0	0.86	10.3	13.8	10.6	3.7	1.3	3.2	2.6	0.4	1.4	431	605	23.2
LHC 100-250	5	4	12.2	9.8	6.7	9.8	13.8	3.9	12.7	15.8	12.6	7.8	1.0	0.86	11.1	12.6	9.4	3.7	1.3	3.2	2.6	0.4	1.4	396	552	20.1
LHC 100-315	5	4	12.6	10.8	7.5	11.4	15.7	4.3	12.7	15.8	13.8	8.7	1.0	0.86	11.1	12.6	9.4	3.7	1.3	3.2	2.6	0.4	1.4	440	607	22.4
LHC 100-400	5	4	14.8	12.8	8.3	14.6	19.3	4.7	13.1	17.1	14.4	10.2	1.0	0.86	12.4	12.6	9.4	3.4	1.5	4.0	3.3	0.4	1.6	528	726	28.2
LHC 125-250	6	5	13.2	10.8	7.1	10.2	15.7	5.5	13.1	16.2	14.2	8.4	1.0	0.86	11.3	13.8	9.8	3.9	1.3	3.2	2.6	0.4	1.4	440	614	23.4
LHC 125-315	6	5	13.8	11.8	7.7	11.8	17.3	5.5	13.1	17.1	14.8	9.6	1.0	0.86	12.2	13.8	9.8	3.9	1.5	4.0	3.3	0.4	1.6	506	697	26.4
LHC 125-400	6	5	15.7	13.8	8.3	15.4	20.9	5.5	13.1	17.1	15.4	10.7	1.0	0.86	11.8	14.6	10.6	3.7	1.5	4.0	3.3	0.4	1.6	660	869	31.0
LHC 125-450	6	5	15.7	14.8	9.1	15.7	21.3	5.5	13.7	18.0	16.1	11.2	1.1	0.86	12.6	14.6	10.6	3.8	1.9	4.3	3.7	0.6	2.0	711	935	34.1
LHC 150-250	8	6	15.2	12.8	7.5	13.8	19.3	5.5	13.8	17.8	15.4	9.2	1.0	0.94	11.7	14.6	12.0	3.1	1.5	4.0	3.3	0.4	1.6	572	774	29.5
LHC 150-315	8	6	15.7	12.2	7.1	13.8	18.7	4.9	13.9	17.8	14.8	10.2	1.0	0.94	11.5	15.2	12.6	3.1	1.5	4.0	3.3	0.4	1.6	682	889	29.9
LHC 150-400	8	6	16.7	13.8	8.3	15.0	20.5	5.5	14.7	19.0	16.1	11.5	1.1	0.86	13.3	15.4	11.4	3.8	1.9	4.3	3.7	0.6	2.0	682	911	36.2
LHC 200-250	10	8	17.7	12.8	11.0	14.2	19.5	5.3	15.7	19.6	20.7	11.1	1.1	0.94	11.8	19.7	15.7	3.8	1.5	4.0	3.3	0.4	1.6	889	1137	41.5
LHC 200-315	10	8	17.7	14.8	9.3	16.9	22.4	5.5	15.9	20.2	18.3	11.3	1.1	0.94	13.1	18.1	14.2	4.1	1.9	4.3	3.7	0.6	2.0	889	1142	42.3
LHC 200-400	10	8	19.1	16.5	9.1	18.1	23.8	5.7	16.0	20.3	18.3	12.3	1.1	0.94	14.4	15.7	11.8	3.8	2.2	4.4	3.7	0.6	2.3	990	1265	46.9
LHC 250-250	12	10	19.7	15.7	12.4	18.1	23.8	5.7	17.2	21.5	23.6	11.9	1.1	0.94	13.6	19.7	15.7	3.8	1.9	4.3	3.7	0.6	2.0	1104	1406	54.9
LHC 250-315	12	10	20.7	17.7	10.4	20.1	26.0	5.9	17.4	21.7	21.3	12.8	1.1	0.94	13.4	20.5	16.5	4.1	2.2	4.4	3.7	0.6	2.3	1177	1489	57.4
LHC 250-400	12	10	21.7	18.7	10.8	22.0	28.7	6.7	17.3	21.6	21.7	13.5	1.1	0.94	13.3	20.5	16.5	4.7	2.2	4.4	3.7	0.6	2.3	1254	1580	61.0

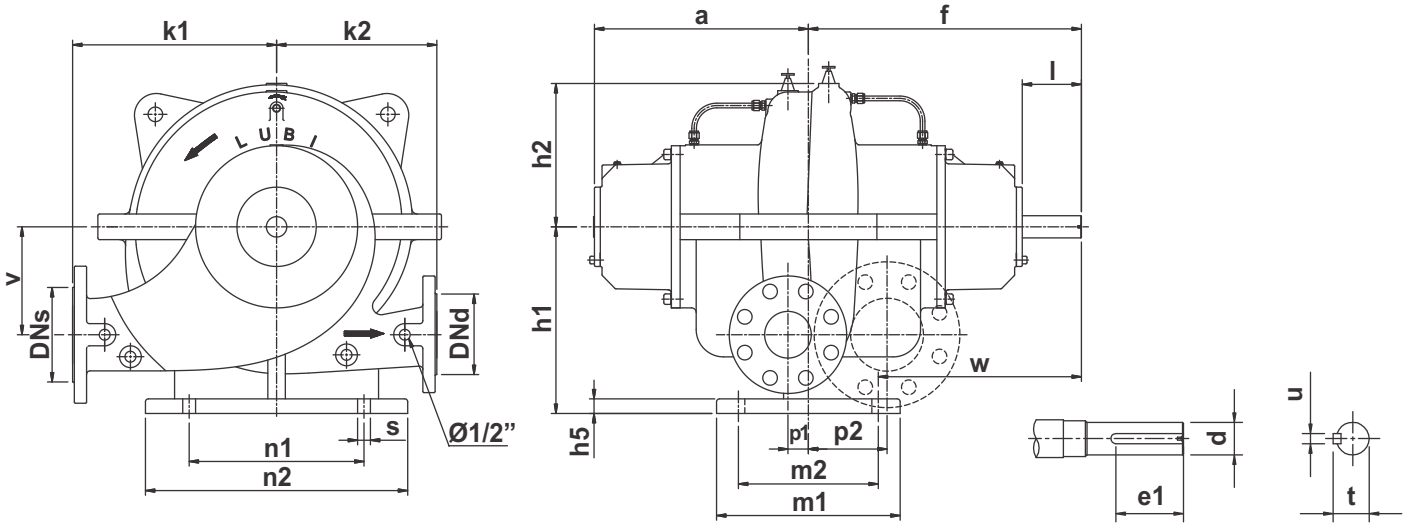
All dimensions in inches unless otherwise noted.

Dimensions

Horizontal split case pumps

LHC

Bare shaft pumps



Two stage LHC pump

Type	DNs	DNd	k1	k2	v	n1	n2	p1	a	f	h1	h2	h5	s	w	m1	m2	p2	d	l	e1	u	t	Net weight [lbs.]	Gross weight [lbs.]	Volume [ft³]
LHC 80-315-2	4	3	12.4	9.8	6.3	9.8	15.7	1.3	15.0	15.6	11.6	8.7	1.0	0.9	11.9	12.8	9.8	5.0	1.3	3.2	2.6	0.4	1.4	535	697	21.4
LHC 80-380-2	4	3	13.8	10.8	7.3	11.8	17.7	1.4	15.9	17.1	12.6	9.7	1.0	0.9	13.5	12.8	9.8	5.3	1.5	4.0	3.3	0.4	1.6	561	748	26.0

All dimensions in inches unless otherwise noted.

Lubi