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LBS

Single-stage bare shaft end-suction pumps

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Type key

The example shows an LBS 32-125 with a 120 mm impeller diameter, PN-16 flanges, with cast iron casing & impeller and with a carbon/ceramic/NBR/S.S 304 mechanical shaft seal.

LBS

Example LBS 32 -125 /120 M 2A A 1

Type range

Nominal diameter of discharge port (DN)

Nominal impeller diameter (mm)

Actual impeller diameter (mm)

G = With gland packing*

M = With 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

E = Bronze pump housing with bronze impeller

F = CF-8 pump housing with CF-8 impeller

G = CF-8M 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

Single-stage bare shaft end-suction pumps

LBS

Introduction

LBS are single stage bare shaft end suction pumps according to ISO 2858. Our range also includes several model of pumps which have been developed with duty condition which are not covered in ISO 2858.

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 LBS pumps.

- The pumps are non self priming horizontal end suction pumps with axial suction port and radial discharge ports.
- Standard flanges for suction and discharge ports will be PN 16 as per DIN standard EN 1092-2, PN 25 as per DIN standard EN 1092-2, ANSI 125 and ANSI 250 as per ASME B16.1 are available on request.
- Performance and dimensions comply to ISO 2858.
- These pumps are long coupled pumps with TEFC squirrel cage induction motor with main dimensions complying to IEC standards and mounting designation B₃ (IM 1001).
- These pumps are available with gland packing as well as mechanical shaft seal.
- These pumps have the discharge range from 3 to 660 m³/hr and head range from 4 to 158 metres. Motor ratings are from 0.37 to 132 kW.
- The pump impellers are dynamically balanced to grade 6.3 of ISO 1940.
- These pumps and motors are available with fabricated steel base frame according to EN 23661.
- These pumps are available with our standard range of motors complying to EFF2 motors. They can also be supplied with EFF1 motors on request.
- These pumps feature the back pull-out design. As shown in fig. 1 the user can remove the motor, bearing bracket and impeller for servicing without disturbing the volute casing and the suction & delivery pipes.

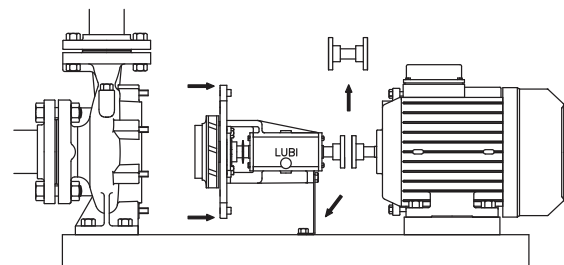
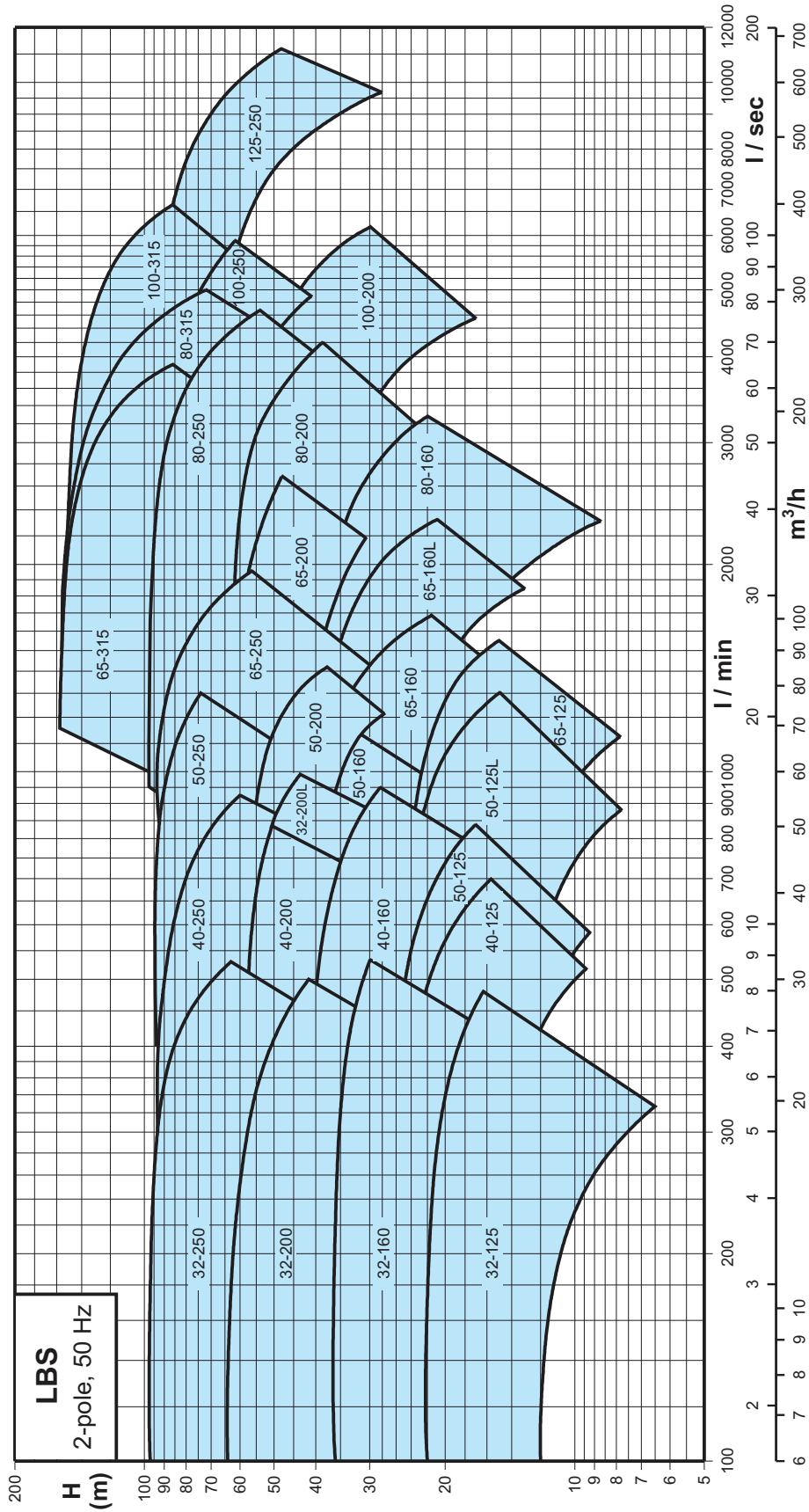


Fig. 1 Back pull-out design

Performance range

Single-stage bare shaft end-suction pumps

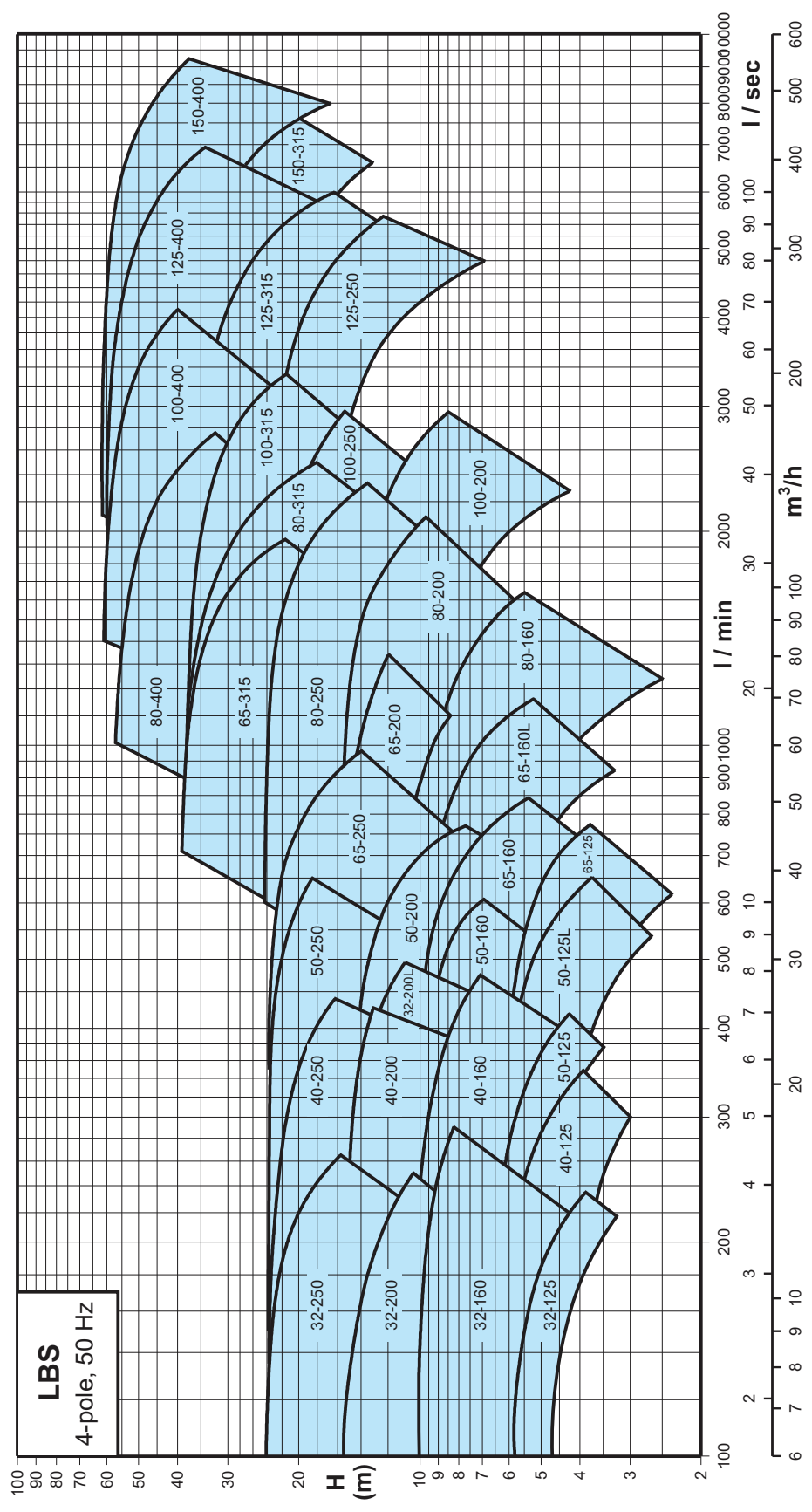
LBS 2-Pole



Performance range

Single-stage bare shaft end-suction pumps

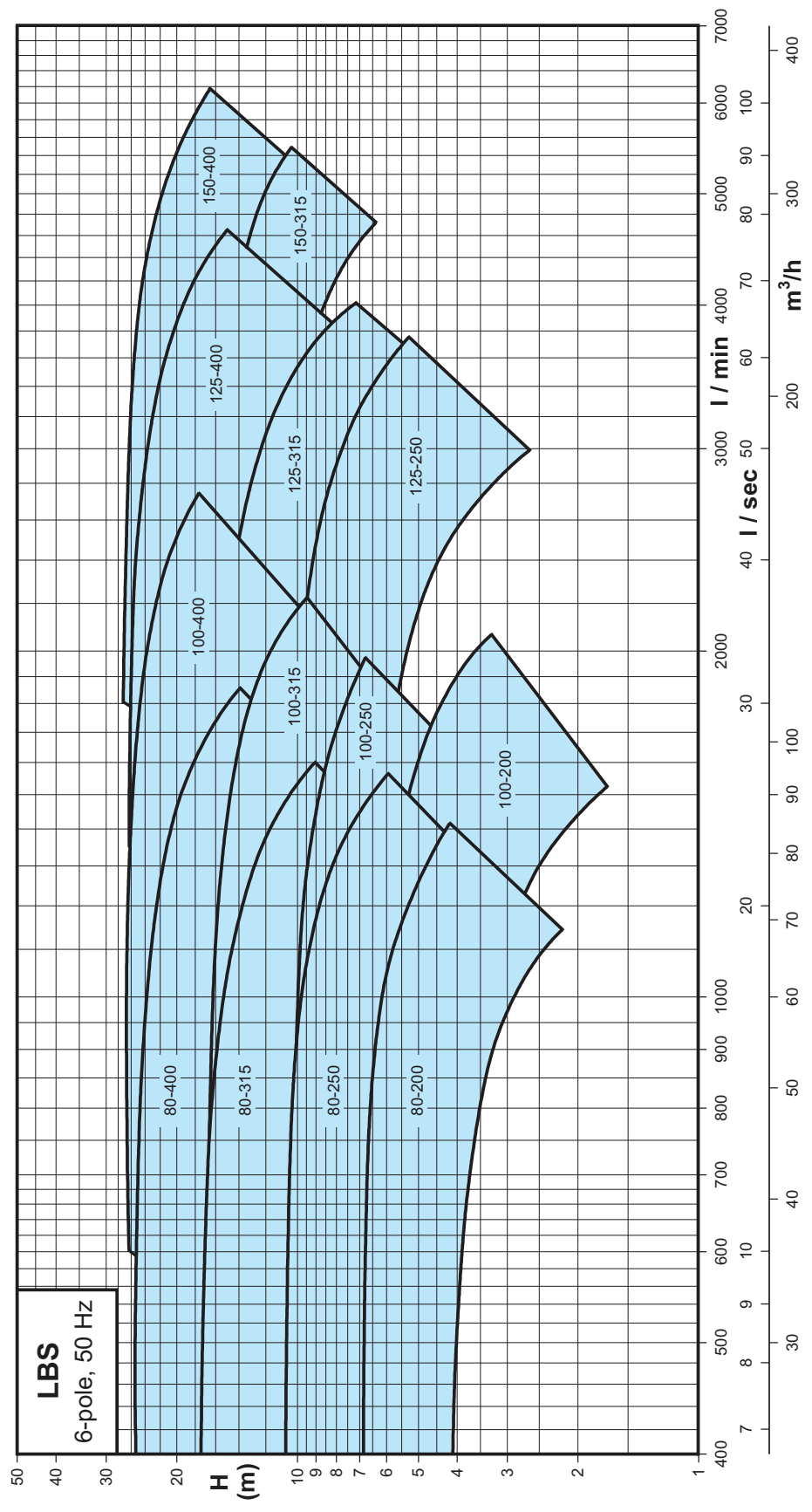
LBS 4-Pole



Performance range

Single-stage bare shaft end-suction pumps

LBS 6-Pole



Construction

Single-stage bare shaft end-suction pumps

LBS

Sectional drawing

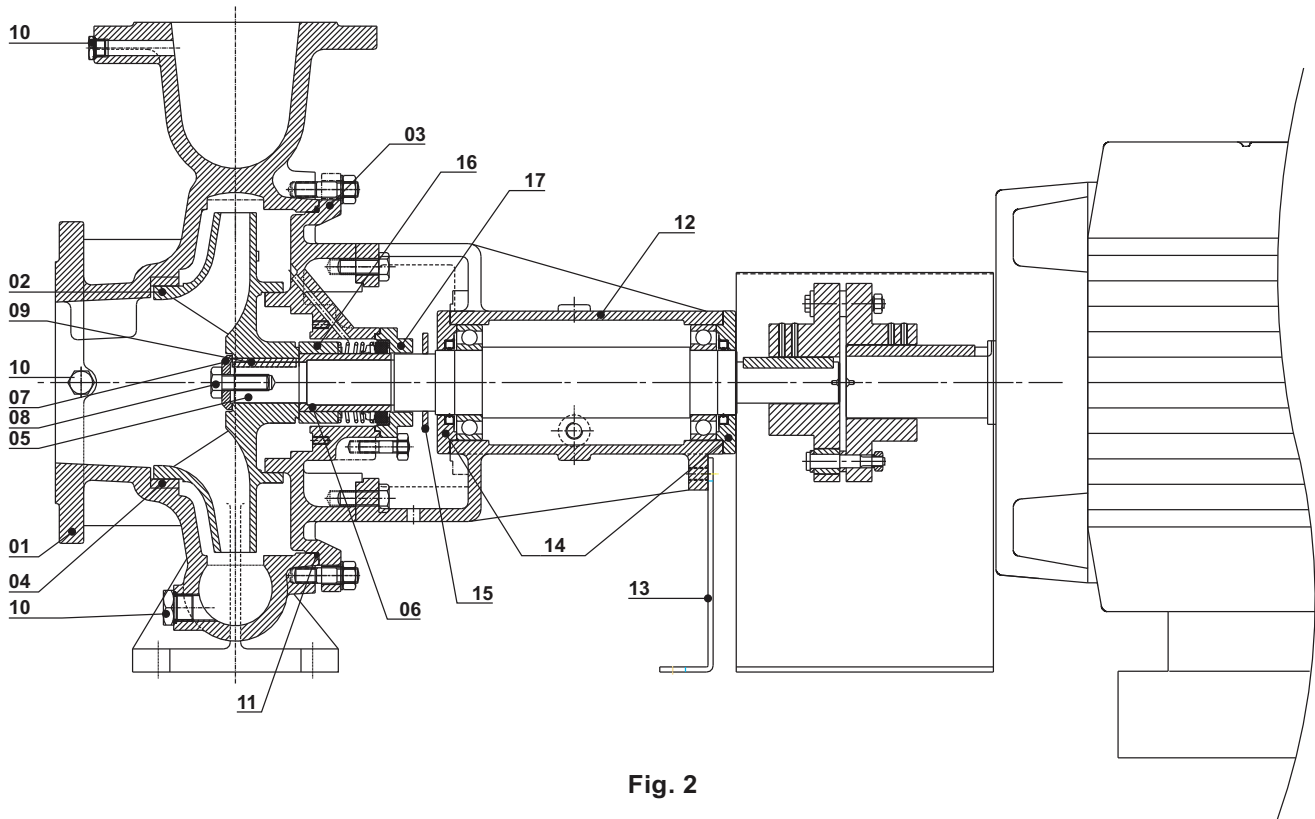


Fig. 2

Materials

Pos.	Component	A-version	B-version	C-version	D-version	E-version	F-version	G-version
1	Volute casing	Cast iron	Cast iron	Cast iron	Cast iron	Bronze	CF-8	CF-8M
2	Impeller	Cast iron	Bronze	CF-8	CF-8M	Bronze	CF-8	CF-8M
3	Back cover	Cast iron	Cast iron	Cast iron	Cast iron	Bronze	CF-8	CF-8M
5	Shaft	Carbon Steel	AISI 410	AISI 304	AISI 316	AISI 304	AISI 304	AISI 316
6	Shaft sleeve	AISI 410	AISI 410	AISI 304	AISI 316	Bronze	AISI 304	AISI 316
7	Impeller washer	AISI 410	AISI 410	AISI 304	AISI 316	Bronze	AISI 304	AISI 316
8	Impeller lock pin	AISI 410	AISI 410	AISI 304	AISI 316	AISI 410	AISI 304	AISI 316
9	Impeller key	AISI 410	AISI 410	AISI 304	AISI 316	AISI 410	AISI 304	AISI 316
10	Plugs	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel	Bronze	AISI 304	AISI 316
11	O-ring	NBR	NBR	NBR	NBR	Viton	Viton	Viton
12	Bearing bracket	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
13	Foot	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
14	Bearing cover	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
15	Water thrower	NBR	NBR	NBR	NBR	NBR	NBR	NBR
16	Spacer	AISI 410	AISI 410	AISI 304	AISI 316	AISI 304	AISI 304	AISI 316
17	Gland follower	Cast iron	Cast iron	Cast iron	Cast iron	Bronze	CF-8	CF-8M
4	Wear ring*	Cast iron	Bronze	AISI 304	AISI 316	Bronze	CF-8	CF-8M

* Wear ring is available on request only.

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 an axial suction port and radial discharge port. Standard flanges are PN 16 as per EN 1092-2, PN 25 as per EN 1092-2, ANSI 125 and ANSI 250 as per ASME B16.1 are available on request.

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

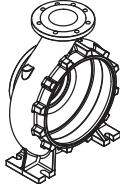


Fig. 3 Volute casing

Motor Adaptor & Back cover

Motor adaptors are robust in construction and are provided with an air vent screw in the shaft seal chamber.

Shaft & bearing bracket

The bearing bracket is provided with 2 properly sized antifriction ball bearings which are permanently lubricated for life. The bearing bracket is made of cast iron of high tensile strength. The shaft are available in carbon steel as well as stainless steel. A shaft sleeve of stainless steel is provided in the stuffing box to protect the shaft from wear and corrosion.

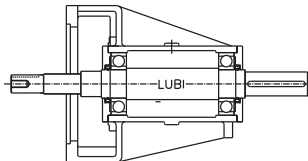


Fig. 4 Shaft & bearing bracket

All pumps are provided with one of four shaft, shaft seal and bearing brackets. As bearings and shaft 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 bracket and damaging the bearing.

Coupling

All pumps can be provided with two types of couplings.

- Standard coupling
- Spacer coupling

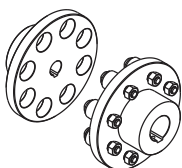


Fig. 5 Standard coupling

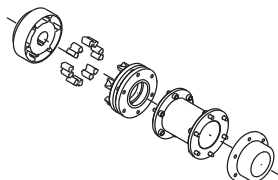


Fig. 6 Spacer coupling

The use of spacer coupling is helpful since pumps fitted with them can be serviced without dismantling the motor from the base frame and also without removing the pipe work or volute casing. Realignment of pump and motor is also not necessary after servicing.

Impeller

The impellers are closed impellers with extra smooth surface finish and machined completely from outside to ensure high efficiency.

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



Fig. 7 Impeller

Base frame

Pump and motor are mounted on a common steel base frame in accordance with EN 23661.

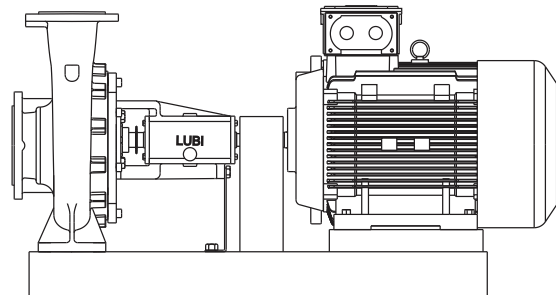


Fig. 8 LBS pump motor unit mounted on a base frame

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
PN 16	16 bar	24 bar
PN 25	25 bar	37.5 bar
ANSI 125	125 psi	188 psi
ANSI 250	250 psi	375 psi

Motors

The motors are squirrel cage induction motors, totally enclosed fan cooled with main dimension to IEC standards. The standard motors with the pumps are all as per EFF2 efficiency. EFF1 efficiency motors can be available on request.

Operating conditions

Single-stage bare shaft end-suction pumps

LBS

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 ISO 3743.

Motor kW	Maximum sound pressure level [db(A)]-ISO 3743		
	Three-phase level		
	2-pole	4-pole	6-pole
0.37	56	45	-
0.55	57	42	40
0.75	56	42	43
1.10	59	50	43
1.50	58	50	47
2.20	60	52	52
3.00	59	52	63
4.00	63	54	63
5.50	63	62	63
7.50	68	62	66
11.0	70	66	66
15.0	70	66	66
18.5	70	63	66
22.0	70	63	66
30.0	71	65	59
37.0	71	66	60
45.0	71	66	58
55.0	71	67	58
75.0	73	70	61
90.0	73	70	61
110.0	76	70	61
132.0	76	70	61

Ambient temperature and altitude

The ambient temperature for proper motor operation must not exceed.

- + 45°C for EFF2 motors
- + 60°C for EFF1 motors.

In case of ambient temperature exceeding 45°C (or 60°C for EFF1) or if motor is to be installed more than 1000 metres 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.

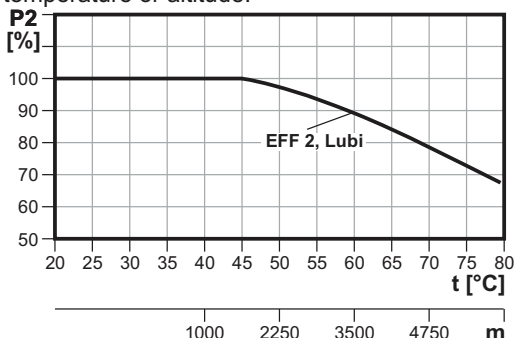


Fig. 9 Motor P2 depend on temperature/altitude

Example

A 15 kw EFF2 motor has to be increased in output to 18.5 kw if ambient temperature is 60°C.

A 15 kw EFF2 motor has to be increased in output to 18.5 kw if it has to operate at 3500 meters 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

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

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 this require 30% larger motor to drive the pump.
- The head discharge and pump efficiency will not change with change in density.

Liquid temperature

The LBS pump range covers the temperature range from 0°C to +140°C.

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	0°C to +90°C
Sic/Sic/Viton/S.S.316	2	0°C to +90°C
Carbon/Sic/Viton/S.S.316	3	0°C to +140°C

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 + 0.5 meters safety margin + correction of vapour pressure.

Motor electrical data

Single-stage bare shaft end-suction pumps

LBS

Eff 2/standard efficiency, 2-pole

P2 [kW]	P2 [H.P]	Frame size	Voltage	I _{1/1} [A] at				η [%]	Cos Ø ^{1/1}	n [min ⁻¹]	I _{start} I _{1/1}
				415 V	380 V	240 V	220 V				
0.75	1.00	80L	3x220-240Δ/380-415Y	1.65	1.80	2.90	3.20	77.0	0.820	2820	6.0
1.10	1.50	80L	3x220-240Δ/380-415Y	2.30	2.50	4.00	4.50	82.5	0.810	2820	6.0
1.50	2.00	90S	3x220-240Δ/380-415Y	3.00	3.30	5.20	5.70	84.0	0.827	2830	6.0
2.20	3.00	90L	3x220-240Δ/380-415Y	4.40	4.80	7.60	8.20	85.5	0.820	2830	6.5
3.00	4.00	100L	3x220-240Δ/380-415Y	5.90	6.40	10.15	11.00	86.0	0.830	2840	6.5
4.00	5.50	100L	3x380-415Δ	7.70	8.40	-	-	87.5	0.826	2845	6.5
5.50	7.50	132S	3x380-415Δ	9.70	10.61	-	-	88.5	0.890	2865	6.0
7.50	10.0	132M	3x380-415Δ	13.70	15.00	-	-	89.5	0.851	2880	6.5
9.30	12.5	160M	3x380-415Δ	16.00	17.60	-	-	90.0	0.890	2920	6.5
11.0	15.0	160M	3x380-415Δ	19.00	20.80	-	-	90.5	0.890	2920	6.5
15.0	20.0	160M	3x380-415Δ	26.00	28.50	-	-	91.0	0.880	2920	6.5
18.5	25.0	160L	3x380-415Δ	32.00	35.00	-	-	92.0	0.880	2920	6.5
22.0	30.0	180M	3x380-415Δ	40.00	44.00	-	-	92.0	0.830	2930	6.5
30.0	40.0	200L	3x380-415Δ	50.00	54.50	-	-	93.0	0.900	2950	6.5
37.0	50.0	200L	3x380-415Δ	61.00	67.00	-	-	93.0	0.904	2950	6.5
45.0	60.0	225M	3x380-415Δ	71.00	78.00	-	-	93.5	0.941	2955	6.5
55.0	75.0	250M	3x380-415Δ	87.00	94.50	-	-	94.0	0.940	2960	6.5
75.0	100.0	280S	3x380-415Δ	123.00	134.00	-	-	94.5	0.900	2965	6.5
90.0	120.0	280M	3x380-415Δ	146.00	160.00	-	-	95.0	0.903	2965	6.5
110.0	150.0	315S	3x380-415Δ	171.00	187.00	-	-	95.0	0.942	2965	6.5
132.0	180.0	315M	3x380-415Δ	205.00	224.00	-	-	95.0	0.940	2965	6.5

Eff 2/standard efficiency, 4-pole

P2 [kW]	P2 [H.P]	Frame size	Voltage	I _{1/1} [A] at				η [%]	Cos Ø ^{1/1}	n [min ⁻¹]	I _{start} I _{1/1}
				415 V	380 V	240 V	220 V				
0.37	0.50	71L	3x220-240Δ/380-415Y	1.00	1.10	1.75	1.90	73.0	0.705	1400	6.0
0.55	0.75	80L	3x220-240Δ/380-415Y	1.30	1.40	2.20	2.40	78.0	0.785	1410	5.5
0.75	1.00	80L	3x220-240Δ/380-415Y	1.70	1.80	2.80	3.10	82.5	0.780	1410	5.5
1.10	1.50	90S	3x220-240Δ/380-415Y	2.40	2.60	4.10	4.50	83.5	0.780	1415	5.5
1.50	2.00	90L	3x220-240Δ/380-415Y	3.00	3.30	5.20	5.70	85.0	0.818	1415	6.0
2.20	3.00	100L	3x220-240Δ/380-415Y	4.50	4.80	7.50	8.20	86.0	0.824	1440	6.0
3.00	4.00	112M	3x220-240Δ/380-415Y	5.80	6.40	10.20	11.00	86.0	0.825	1445	6.0
4.00	5.50	112M	3x380-415Δ	7.80	8.50	-	-	86.5	0.830	1445	6.0
5.50	7.50	132S	3x380-415Δ	10.60	11.60	-	-	89.0	0.810	1450	6.0
7.50	10.0	132M	3x380-415Δ	13.80	15.0	-	-	90.0	0.840	1455	6.5
9.30	12.5	160M	3x380-415Δ	17.00	18.60	-	-	90.5	0.840	1460	6.5
11.0	15.0	160M	3x380-415Δ	21.00	22.50	-	-	91.0	0.820	1460	6.5
15.0	20.0	160L	3x380-415Δ	27.00	29.50	-	-	91.5	0.850	1460	6.5
18.5	25.0	180M	3x380-415Δ	33.00	36.00	-	-	92.0	0.846	1475	6.5
22.0	30.0	180L	3x380-415Δ	39.00	43.00	-	-	92.5	0.848	1475	6.5
30.0	40.0	200L	3x380-415Δ	50.00	55.00	-	-	93.0	0.896	1475	6.5
37.0	50.0	225S	3x380-415Δ	62.00	68.00	-	-	93.5	0.890	1475	6.5
45.0	60.0	225M	3x380-415Δ	75.00	82.00	-	-	94.0	0.890	1480	7.0
55.0	75.0	250M	3x380-415Δ	91.00	100.00	-	-	94.0	0.893	1475	7.0
75.0	100.0	280S	3x380-415Δ	122.00	133.00	-	-	94.5	0.903	1480	7.0
90.0	120.0	280M	3x380-415Δ	146.00	160.00	-	-	95.0	0.903	1480	7.0

Eff 2/standard efficiency, 6-pole

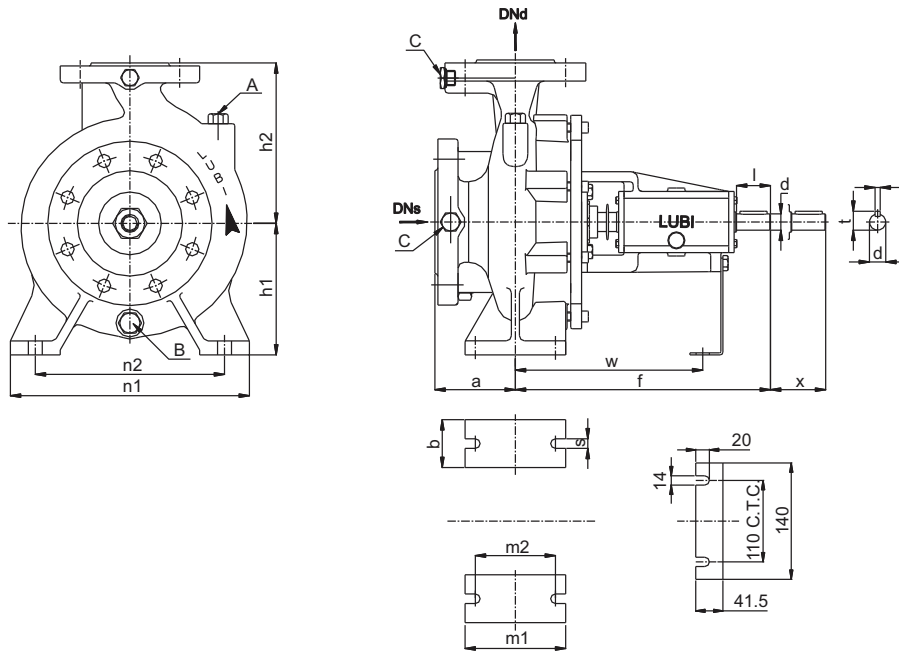
P2 [kW]	P2 [H.P]	Frame size	Voltage	I _{1/1} [A] at				η [%]	Cos Ø ^{1/1}	n [min ⁻¹]	I _{start} I _{1/1}
				415 V	380 V	240 V	220 V				
0.75	1.00	90S	3x220-240Δ/380-415Y	1.94	2.12	3.36	3.66	74.6	0.720	900	6.0
1.10	1.50	90L	3x220-240Δ/380-415Y	2.54	2.77	4.39	4.79	77.3	0.780	910	6.0
1.50	2.00	100L	3x220-240Δ/380-415Y	3.32	3.62	5.74	6.26	79.6	0.790	910	6.0
2.20	3.00	112M	3x220-240Δ/380-415Y	4.65	5.08	8.05	8.78	82.2	0.800	915	7.0
3.00	4.00	132S	3x220-240Δ/380-415Y	6.10	6.66	10.54	11.50	84	0.815	915	7.0
4.00	5.50	132S	3x380-415Δ	7.97	8.71	-	-	85.1	0.820	920	7.0
5.50	7.50	132M	3x380-415Δ	10.75	11.74	-	-	86.8	0.820	925	7.0
7.50	10.0	160M	3x380-415Δ	14.36	15.68	-	-	88.1	0.825	935	7.0
9.30	12.5	160M	3x380-415Δ	17.46	19.06	-	-	89.3	0.830	940	7.0
11.0	15.0	160L	3x380-415Δ	20.31	22.18	-	-	89.7	0.840	940	7.0
15.0	20.0	180L	3x380-415Δ	27.45	29.98	-	-	90.5	0.840	945	7.0
18.5	25.0	200L	3x380-415Δ	33.32	36.39	-	-	91.3	0.846	945	7.0
22.0	30.0	200L	3x380-415Δ	38.77	42.34	-	-	91.8	0.860	950	7.0
30.0	40.0	225M	3x380-415Δ	51.22	55.94	-	-	92.6	0.880	950	7.0

Bare shaft pumps

Single-stage bare shaft end-suction pumps

LBS

Dimensions



TYPE	DNs	DNd	a	b	d.k6	f	h1	h2	l	m1	m2	n1	n2	s	t	u	w	x	A	B	C	Net weight kg.	Gross weight kg.	Volume m ³
LBS 32-125	50	32	80	50	24	360	112	140	50	100	70	190	140	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	28	38	0.084
LBS 32-160	50	32	80	50	24	360	132	160	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	37	47	0.084
LBS 32-200	50	32	80	50	24	360	160	180	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	42	52	0.084
LBS 32-200L	50	32	80	50	24	360	160	180	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	40	50	0.084
LBS 32-250	50	32	100	65	24	360	180	225	50	125	95	320	250	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	47	57	0.142
LBS 40-125	65	40	80	50	24	360	112	140	50	100	70	210	160	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	30	40	0.084
LBS 40-125L	65	40	80	50	24	360	112	140	50	100	70	210	160	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	30	40	0.084
LBS 40-160	65	40	80	50	24	360	132	160	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	33	43	0.084
LBS 40-200	65	40	100	50	24	360	160	180	50	100	70	265	212	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	38	48	0.084
LBS 40-250	65	40	100	65	24	360	180	225	50	125	95	320	250	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	51	61	0.142
LBS 50-125	65	50	100	50	24	360	132	160	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	32	42	0.084
LBS 50-125L	65	50	100	50	24	360	132	160	50	100	70	240	190	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	32	42	0.084
LBS 50-160	65	50	100	50	24	360	160	180	50	100	70	265	212	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	37	47	0.084
LBS 50-200	65	50	100	50	24	360	160	200	50	100	70	265	212	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	41	51	0.142
LBS 50-250	65	50	100	65	24	360	180	225	50	125	95	320	250	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	53	63	0.142
LBS 65-125	80	65	100	65	24	360	160	180	50	125	95	280	212	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	39	49	0.084
LBS 65-160	80	65	100	65	24	360	160	200	50	125	95	280	212	14	27	8	260	100	Ø3/8"	Ø1/2"	Ø1/4"	45	55	0.142
LBS 65-200	80	65	100	65	24	360	180	225	50	125	95	320	250	14	27	8	260	140	Ø3/8"	Ø1/2"	Ø1/4"	46	56	0.142
LBS 65-250	80	65	100	80	32	470	200	250	80	160	120	360	280	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	76	86	0.225
LBS 65-315	80	65	125	80	32	470	225	280	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	94	104	0.225
LBS 80-160	100	80	125	65	24	360	180	225	50	125	95	320	250	14	27	8	260	140	Ø3/8"	Ø1/2"	Ø1/4"	52	62	0.142
LBS 80-200	100	80	125	65	32	470	180	250	80	125	95	345	280	14	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	68	78	0.225
LBS 80-250	100	80	125	80	32	470	200	280	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	82	92	0.225
LBS 65-250L	100	65	100	80	32	470	200	250	80	160	120	360	280	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	76	86	0.225
LBS 80-315	100	80	125	80	32	470	250	315	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	95	161	0.438
LBS 80-400	100	80	140	80	42	530	280	355	110	160	120	435	355	18	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	145	211	0.438
LBS 100-200	125	100	125	80	32	470	200	280	80	160	120	360	280	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	79	89	0.225
LBS 100-250	125	100	140	80	32	470	225	280	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	90	100	0.225
LBS 100-315	125	100	140	80	32	470	250	315	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	104	170	0.438
LBS 100-400	125	100	140	100	42	530	280	355	110	200	150	500	400	22	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	145	211	0.438
LBS 125-250	150	125	140	80	32	470	250	355	80	160	120	400	315	18	35	10	340	140	Ø3/8"	Ø1/2"	Ø1/4"	117	183	0.438
LBS 125-315	150	125	140	100	42	530	280	355	110	200	150	500	400	22	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	142	208	0.438
LBS 125-400	150	125	140	100	42	530	315	400	110	200	150	500	400	22	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	178	258	0.576
LBS 150-315	200	150	160	100	42	530	280	400	110	200	150	550	450	22	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	167	247	0.576
LBS 150-400	200	150	160	100	42	530	315	450	110	200	150	550	450	22	45	12	370	140	Ø3/8"	Ø1/2"	Ø1/4"	200	280	0.576