

Self Priming Mud Pumps
50 Hz



Pumps • Motors
ISO 9001 Company



Pumping Solution

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Self-priming mud pumps

LBM

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Introduction

The Lubi **LBM** series are self-priming, horizontal, single-stage, centrifugal, end-suction pumps.

Pumps are available from 0.75 to 2.2 kW in single-phase and from 0.75 to 7.5 kW in three-phase power supply.

Motor and pump are close coupled in a convenient and compact design for quick installation in limited space. They are also available as bare pump unit which are suitable for coupling with motor / engine.

The pump is fitted with a gland packing and single piece pump-motor shaft (in close coupled version). Mechanical shaft seal is available in 0.75 kW models.

The pumps have suction port above pump axis and radial discharge port.

The pumps have non-clogging open type impeller which can handle liquids with solids up to 20 mm grain size.

The pumps are engineered to draw from liquid sources below ground level or from sources which have no positive pressure to naturally prime the pump.

These pumps are inherently designed to allow the pump to re-prime itself typically under lift conditions. Only first time priming is required to remove the air from system.

The pump will re-prime itself even if partially filled with liquid and with completely empty suction pipe.

These pumps are very effective to eliminate the need for foot valves, vacuum and ejector pumps which can become clogged or be impractical to use for prolonged or remote operation.

Applications

- **Industries:** Petrochemical, fertilizers, pharmaceutical, dyes & intermediate industries, effluent treatment plants, food processing plants, sewage plants, starch, paper, sugar plants, thermic fluid circulations, fatty acid distillation plants.
- **Public utilities:** For pumping muddy water, sewage and polluted liquids, dewatering of swimming pools.
- **Civil engineering:** Flood drainage, sewage pumping, fire fighting, dewatering of canals and ponds.
- **Construction industries:** Dewatering of excavation, small pits, basements, trenches, construction sites.
- **Marine:** Loading and unloading, dewatering of docks & vessels, bilge pumping.
- **Waste treatment:** Pumping polluted, hot or corrosive waste water containing sand, mud or solids, in suspension, dosing neutralizing liquid, pumping out settled sludge.
- **Agriculture:** Surface irrigation, liquid manure oxygenation, distribution of liquid animal feed, washing.
- Any other applications where priming is to be avoided.

Features and benefits

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

- Excellent quick automatic pumping action without foot valve up to 8 metres at mean sea level
- Compact design
- Easy and simple installation
- User-friendly operation
- Low noise level
- Reliable and robust construction
- Reliable water supply
- Back pull-out design which simplifies inspection and maintenance
- Rotating parts are dynamically balanced which ensure vibration free performance and enhanced life
- Better efficiency due to good hydraulic design
- Automatic air release during priming
- Can withstand wide voltage fluctuations
- Class-F motor insulation which can handle higher motor temperature
- Thermally protected motors which prevents motor from burn out
- Non-clogging impeller flow design which can handle suspended solids up to 20 mm
- Construction: Bare pump/Motor coupled/Engine-coupled.

Product data

Self-priming mud pumps

LBM

Operating conditions

Flow range	: Up to 132 m ³ /h
Head range	: Up to 37 metres
Ambient temperature	: Max. +50°C
Liquid temperature range:	0°C to +90°C
Total suction lift	: Up to 8 metres

Pumped liquids

These pumps are designed for liquids which are non-aggressive and non-explosive, muddy water, with or without solids up to 20 mm grain size or fibres.

Pump location

The pumps have been designed to operate in a non-aggressive and non-explosive atmosphere.

The relative humidity should not exceed 95%.

Curve conditions

The conditions below apply to the curves shown the following pages.

- Tolerances in accordance with ISO 9906, Annex A.
- The motors used for the measurement are standard motors.
- Test results with clean cold water, without gas content. Measurements have been made with airless water at a temperature of 20°C.
- Head and power values valid for liquids with density = 1.0 kg/dm³ & kinematic viscosity = max 1 mm²/s (1 cSt).
- The QH curves apply to a rated motor speed of 2900 min⁻¹ or 1450 min⁻¹ as mentioned on the performance curves.
- A safety margin of + 0.5 m is recommended for the NPSH value.

Motor

The pump is fitted with a Totally Enclosed Fan Cooled, 2-pole or 4-pole induction motors which performance comply with IS:325.

Ratings	: 1 phase - 0.75 to 2.2 kW 3 phase - 0.75 to 7.5 kW
Rated speed	: 2900, 1450 rpm
Enclosure class	: IP 55
Insulation class	: F
Standard voltages	: 1 phase, 230 V (Tolerance +5% / -15%) 3 phase, 400 V
Supply frequency	: 50 Hz
Duty / Rating	: S1 / Continuous
Direction of rotation	: Clockwise as seen from the motor rear end.

Single-phase motors have built-in thermal overload protection.

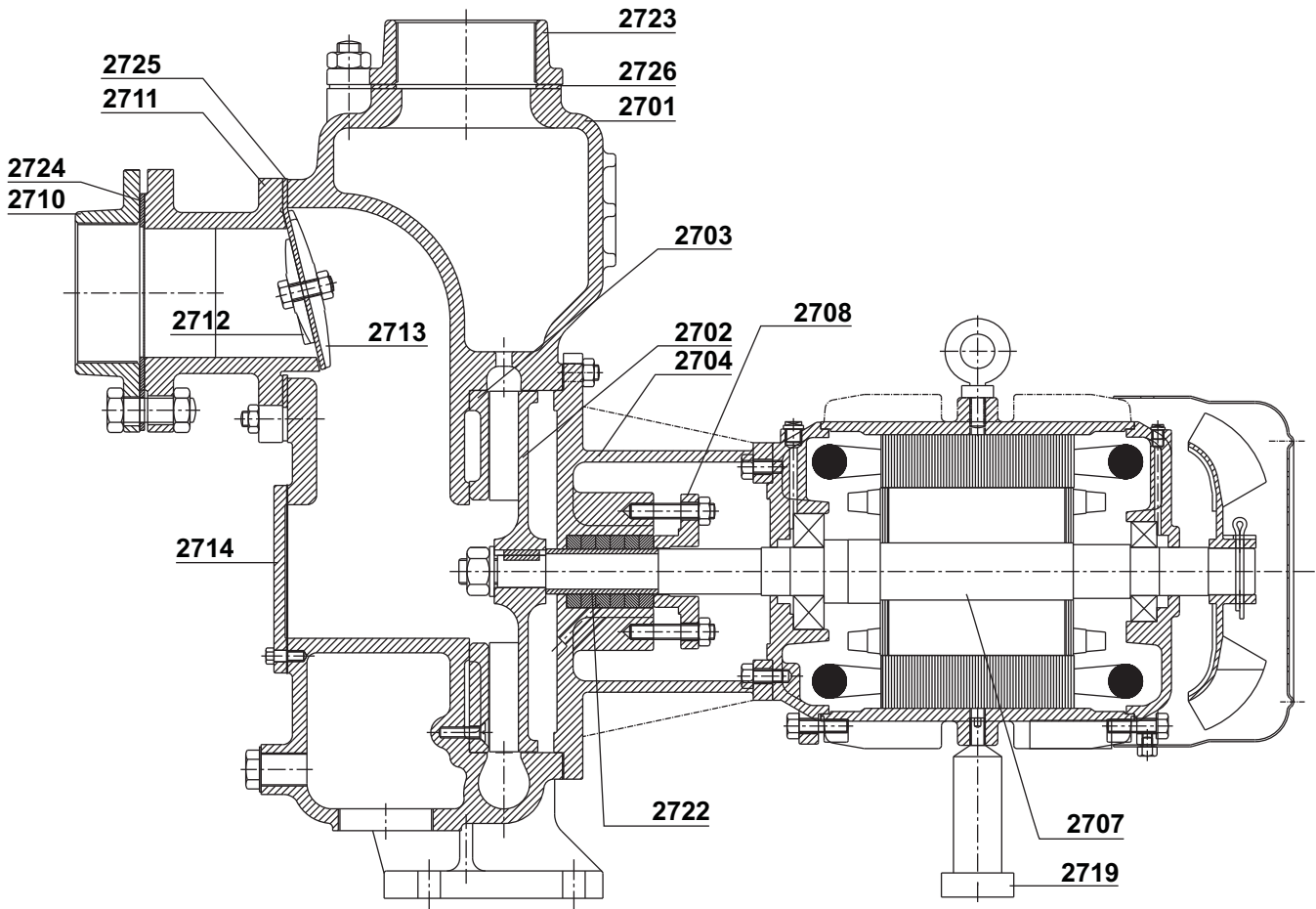
Three-phase motors must be connected to a motor starter according to local regulations.

Construction

Self-priming mud pumps

LBM

Sectional drawing (Close coupled with motor)



Materials

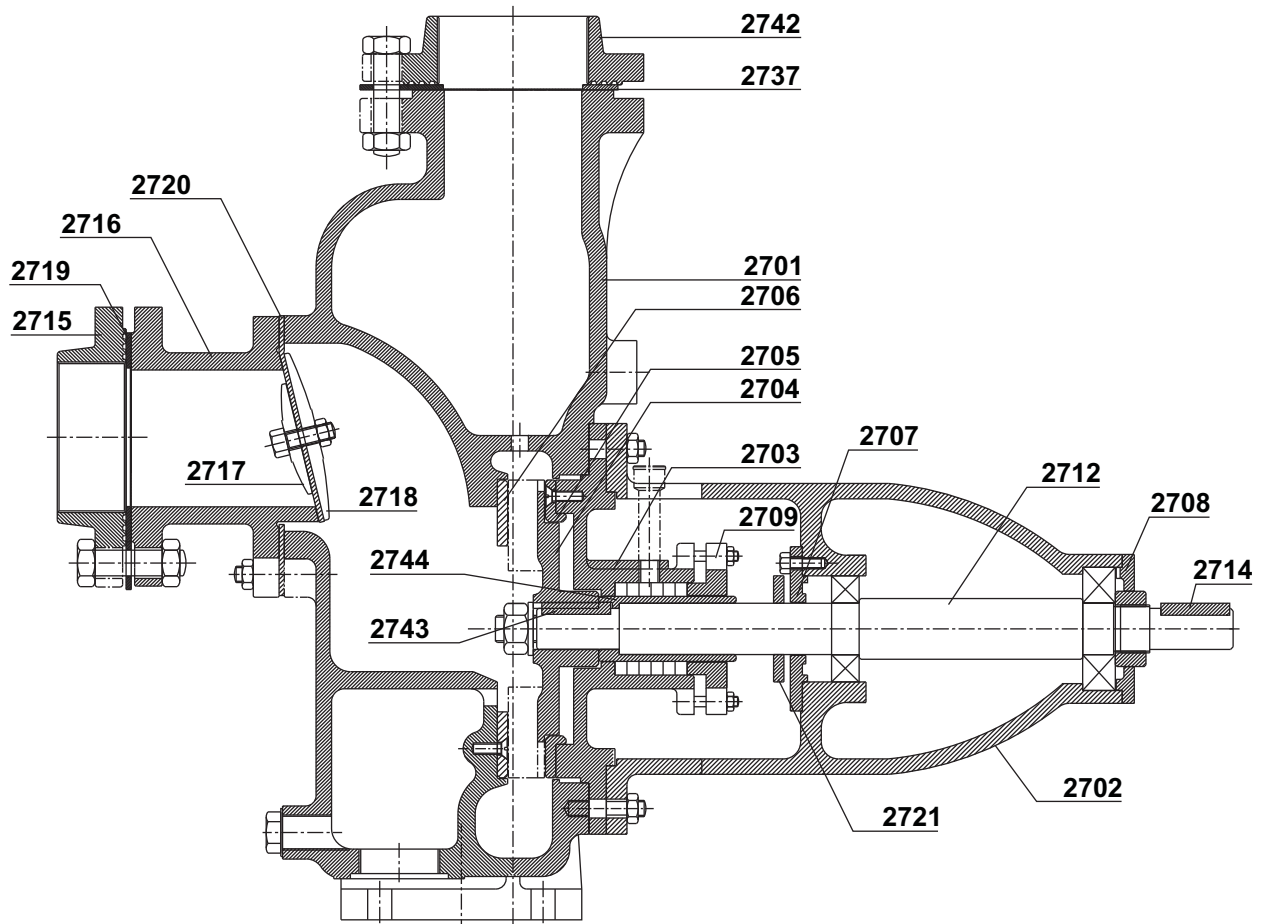
Pos.	Component	Material	Pos.	Component	Material
2701	Volute	Cast iron	2713	Front support pad	Cast iron
2702	Impeller	Cast iron	2714	Cover	Cast iron
2703	Volute ring	Cast iron	2719	Support pad	Carbon steel
2704	Adaptor	Cast iron	2722	Sleeve	S.S AISI 410/Bronze
2707	Shaft	Carbon steel	2723	Flange	Cast iron
2708	Gland	Cast iron	2724	Rubber packing	Rubber
2710	Square flange	Cast iron	2725	Rubber packing	Rubber
2711	Suction flange	Cast iron	2726	Rubber packing	Rubber
2712	Back support pad	Cast iron	2737	Key	Carbon steel

Construction

Self-priming mud pumps

LBM

Sectional drawing (Bare pump)



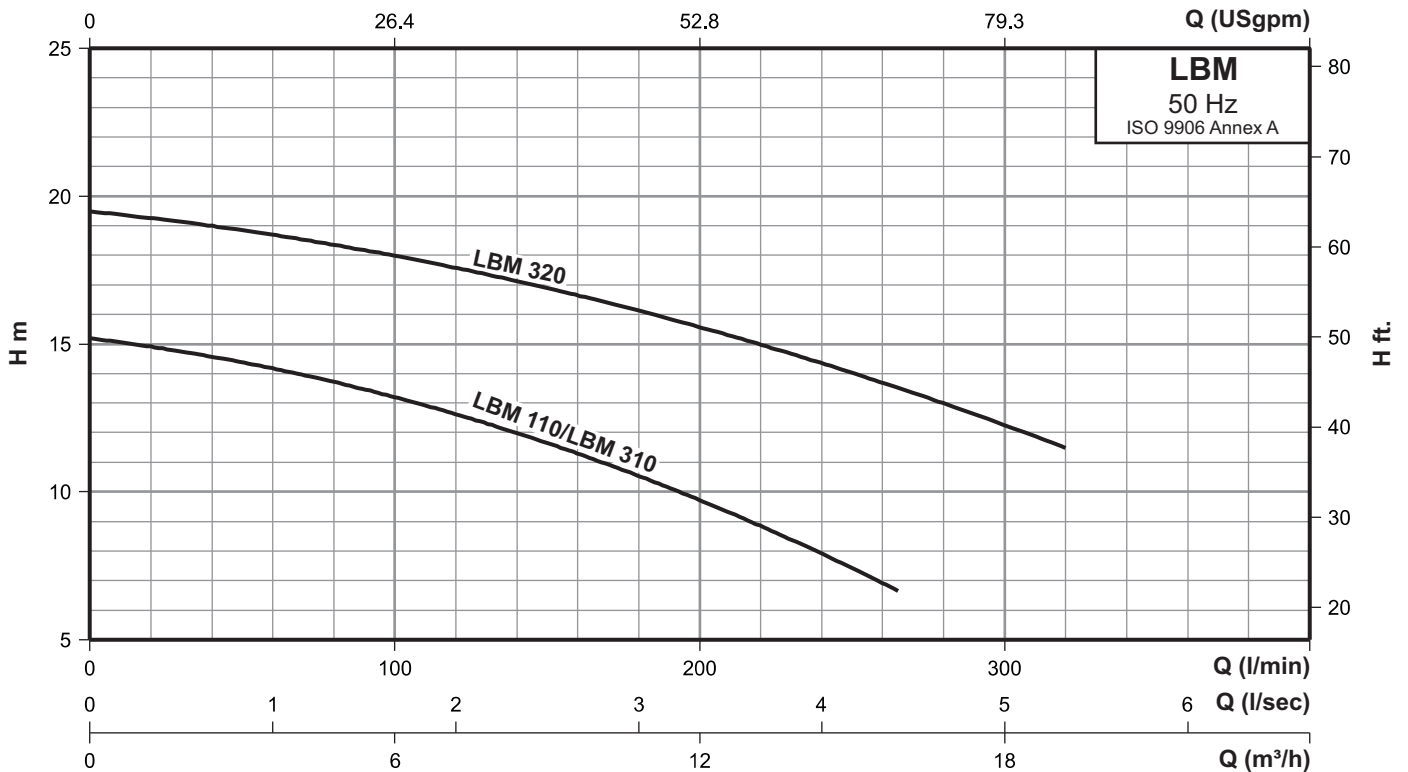
Materials

Pos.	Component	Material	Pos.	Component	Material
2701	Volute	Cast iron	2715	Square flange	Cast iron
2702	Adaptor	Cast iron	2716	Suction flange	Cast iron
2703	Back plate	Cast iron	2717	Back support pad	Cast iron
2704	Impeller	Cast iron	2718	Front support pad	Cast iron
2705	Back plate ring	Cast iron	2719	Rubber packing	Rubber
2706	Volute ring	Cast iron	2720	Rubber packing	Rubber
2707	Bearing cover	Cast iron	2721	Water thrower	Rubber
2708	Bearing cover	Cast iron	2737	Rubber packing	Rubber
2709	Gland	Cast iron	2742	Square flange	Cast iron
2712	Shaft	Carbon steel	2743	Key	Carbon steel
2714	Key	Carbon steel	2744	Sleeve	S.S AISI 410/Bronze

Performance curves/Technical data

Self-priming mud pumps

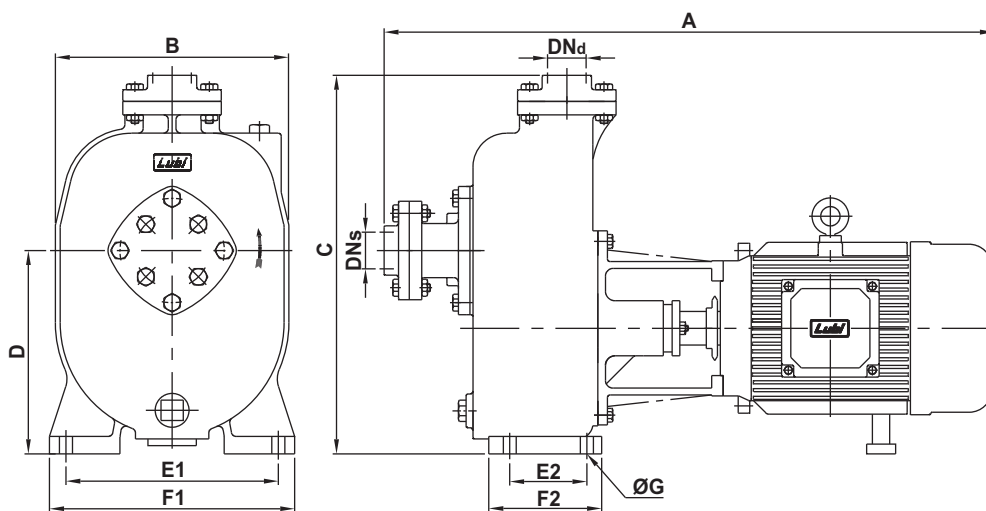
LBM 110, 310, 320



Performance data at n = 2900 rpm

Model		Power		Q m³/h	6	9	12	15	18
Single-phase	Three-phase	[kW]	[HP]	Q l/min	100	150	200	250	300
LBM 110	LBM 310	0.75	1.00	H	13	11.5	9.7	7.5	-
-	LBM 320	1.50	2.00	mts.	18	17	15.5	14	12.3

Dimensional sketches



Dimensions & weights

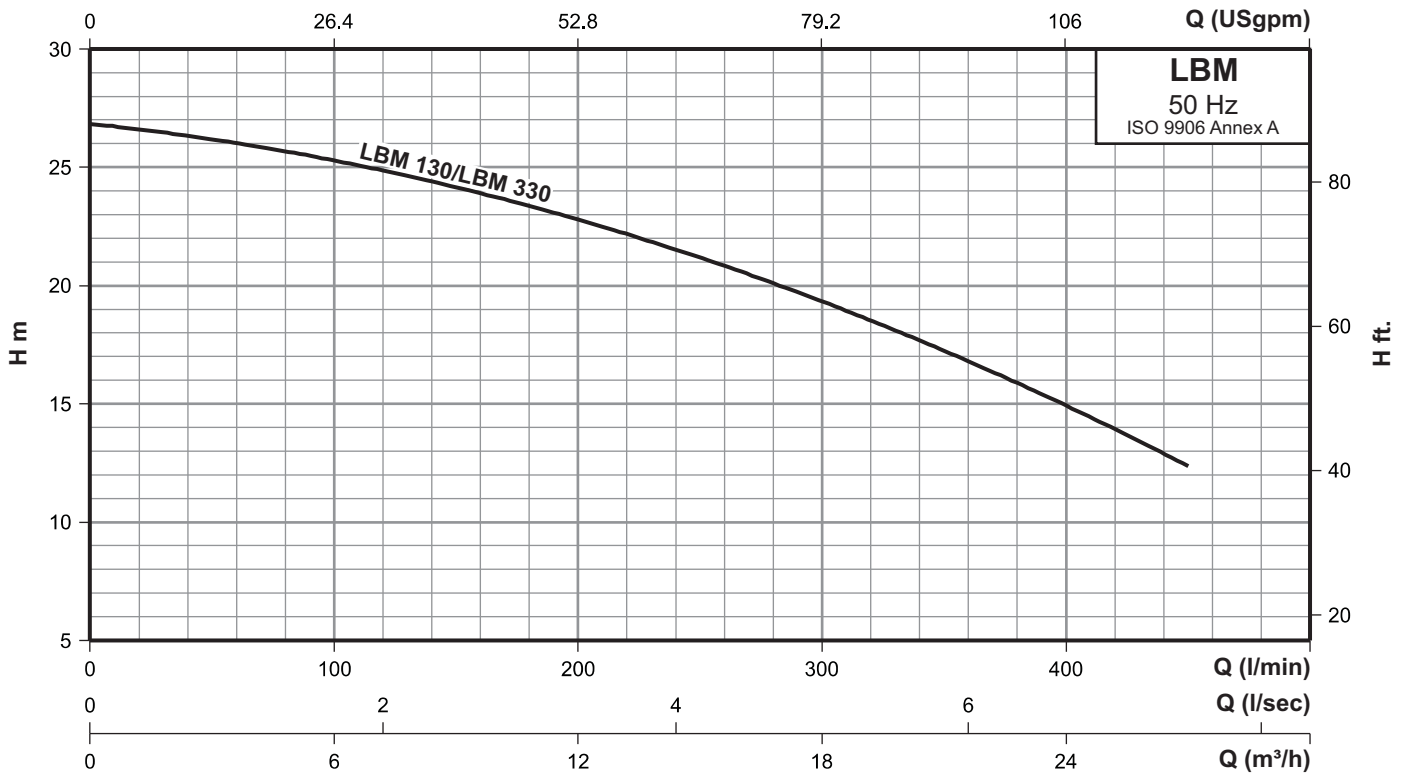
Model		Power		DNs	DNd	Dimensions [mm]									Gross weight [kg]	Gross volume [m³]
Single-phase	Three-phase	[kW]	[HP]			A	B	C	D	E1	E2	F1	F2	ØG		
LBM 110	LBM 310	0.75	1.00	1½"	1½"	466	189	353	202	110	-	142	90	11	67.0	0.165
-	LBM 320	1.50	2.00	1½"	1½"	630	242	395	212	220	80	254	118	14	91.5	0.205

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

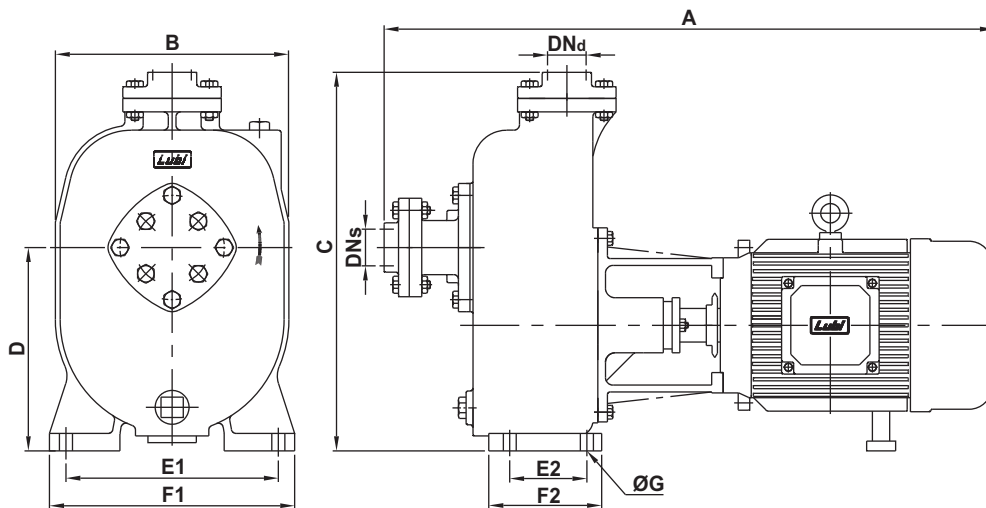
LBM 130, 330



Performance data at n = 2900 rpm

Model		Power		Q m³/h	6	12	18	24	27
Single-phase	Three-phase	[kW]	[HP]	Q l/min	100	200	300	400	450
LBM 130	LBM 330	2.20	3.00	H mts.	25.3	22.9	19.4	15	12.5

Dimensional sketches



Dimensions & weights

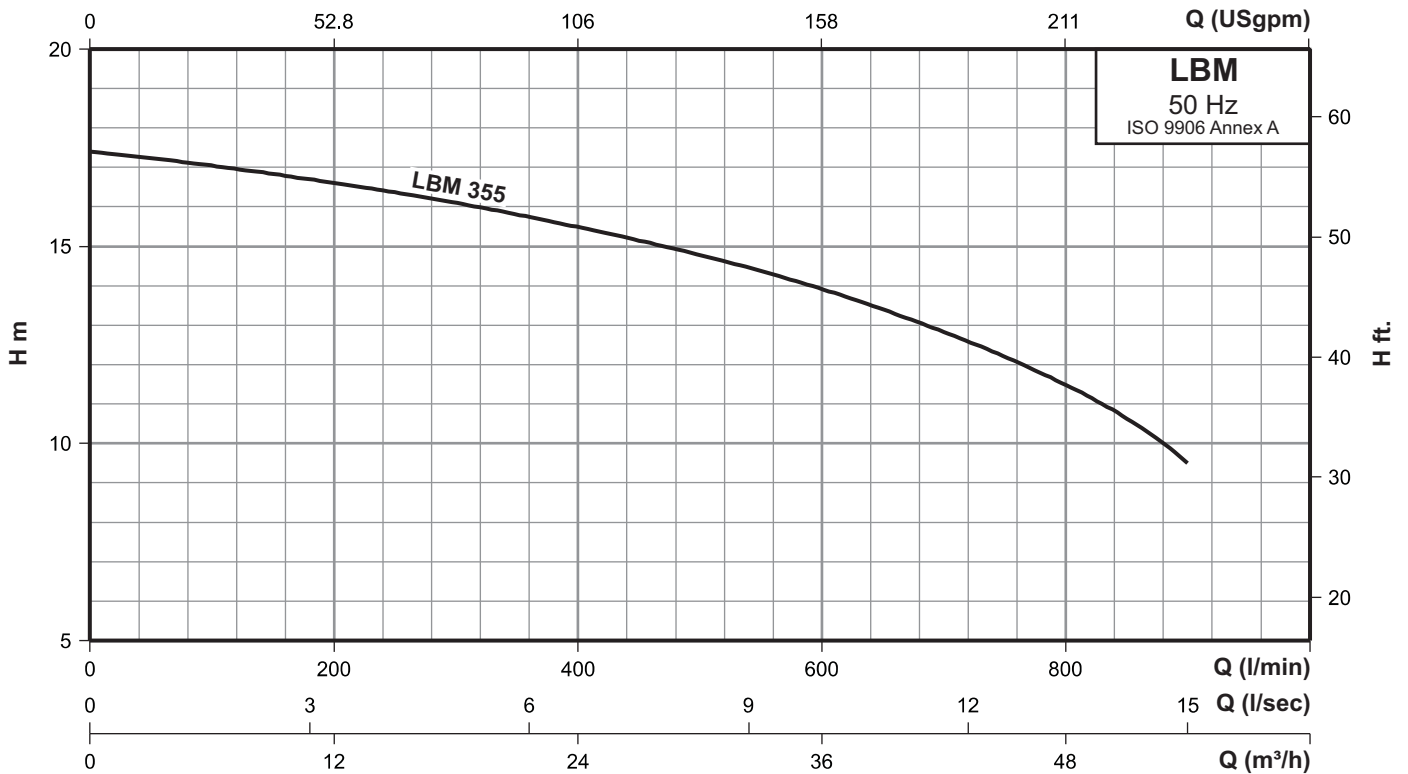
Model		Power		DNs	DNd	Dimensions [mm]									Gross weight [kg]	Gross volume [m³]
Single-phase	Three-phase	[kW]	[HP]			A	B	C	D	E1	E2	F1	F2	ØG		
LBM 130	LBM 330	2.20	3.00	2"	2"	680	250	428	210	220	80	258	118	14	115.5	0.234

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

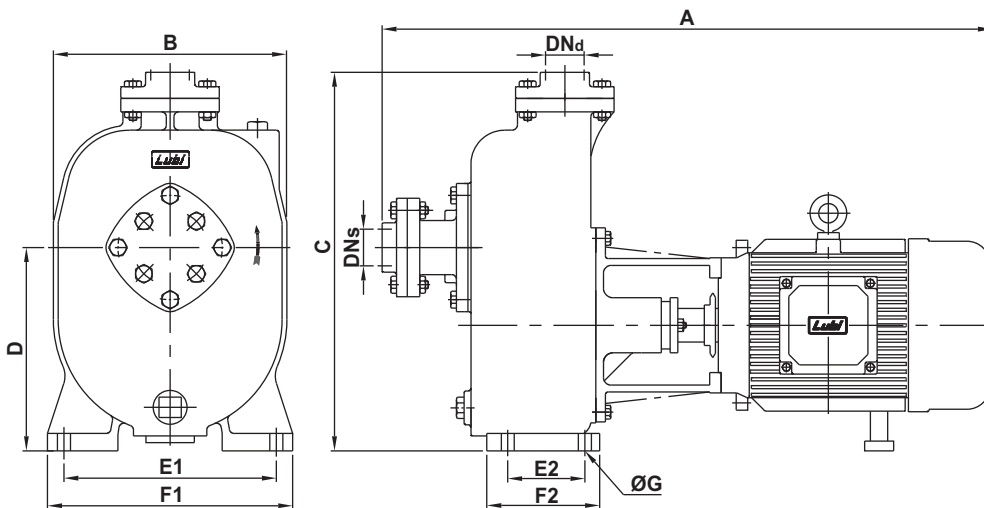
LBM 355



Performance data at n = 1450 rpm

Model	Power		Q m³/h	12	24	36	48	54
	[kW]	[HP]						
Three-phase			Q l/min	200	400	600	800	900
LBM 355	3.70	5.00	H mts.	16.5	15.5	14	11.5	9.5

Dimensional sketches



Dimensions & weights

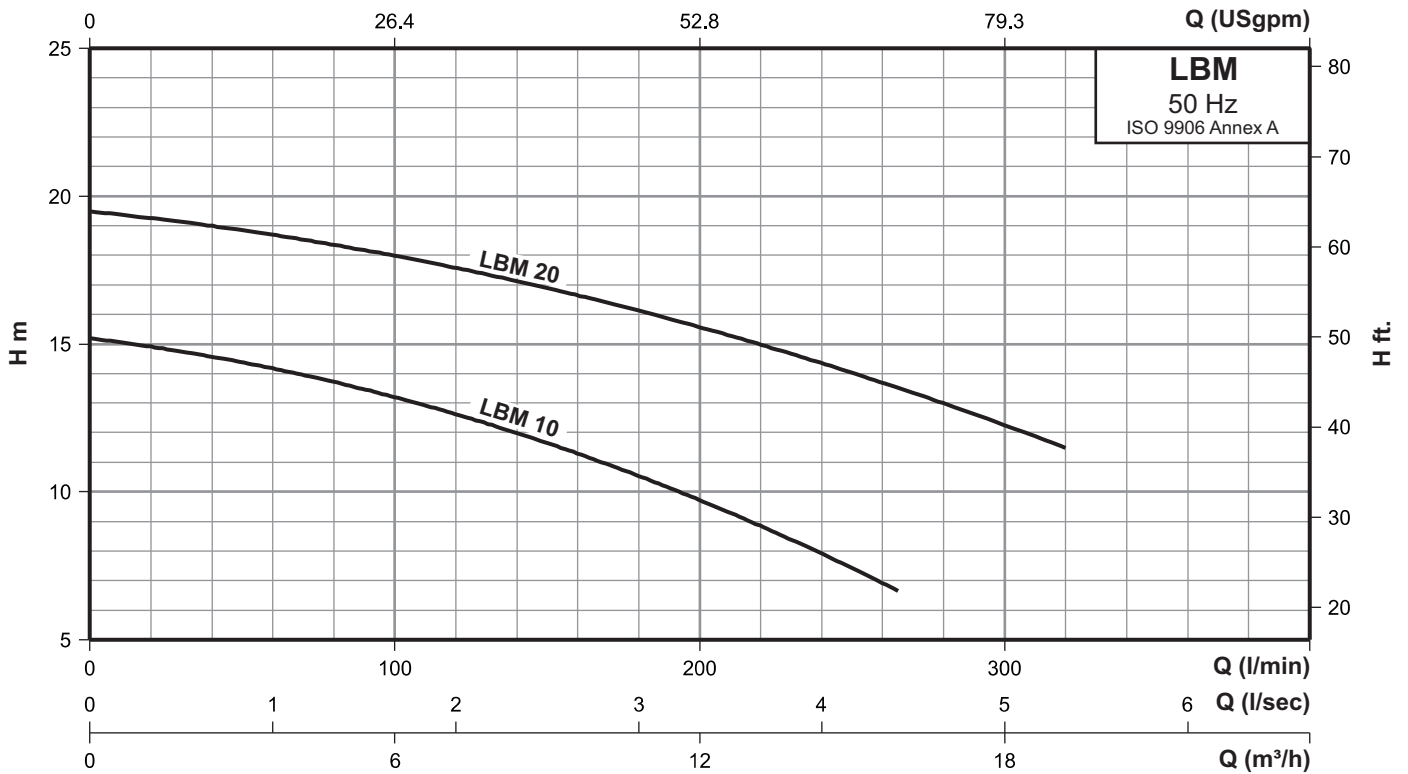
Model	Power		DNs	DNd	Dimensions [mm]									Gross weight [kg]	Gross volume [m³]
	[kW]	[HP]			A	B	C	D	E1	E2	F1	F2	ØG		
LBM 355	3.70	5.00	3"	3"	679	328	546	376	290	90	325	136	14	160.0	0.372

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

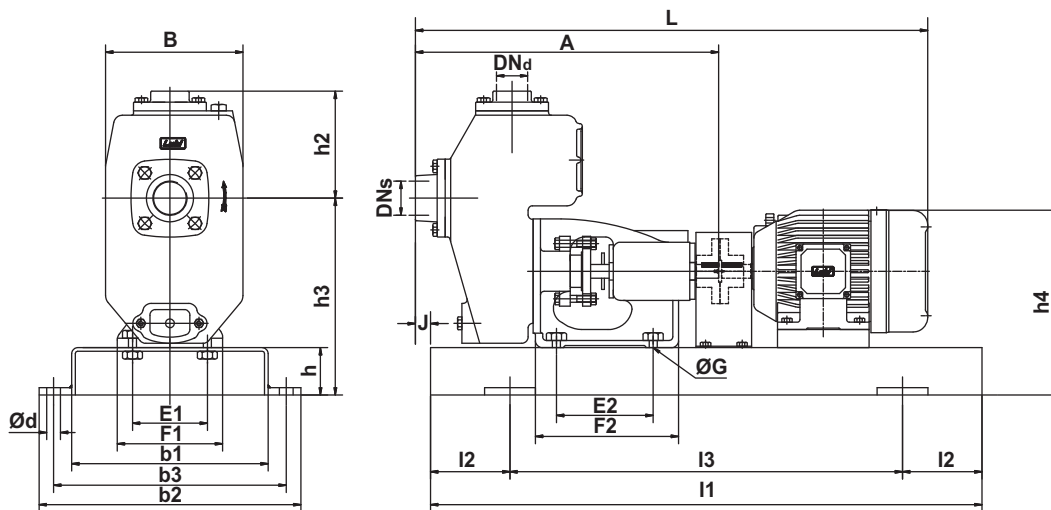
LBM 10, 20



Performance data at n = 2900 rpm

Model	Power		Q m³/h Q l/min H mts.	6	9	12	15	18
	[kW]	[HP]		100	150	200	250	300
LBM 10	0.75	1.00		13.2	11.6	9.7	7.4	-
LBM 20	1.50	2.00		18	16.9	15.5	14	12.2

Dimensional sketches



Dimensions & weights

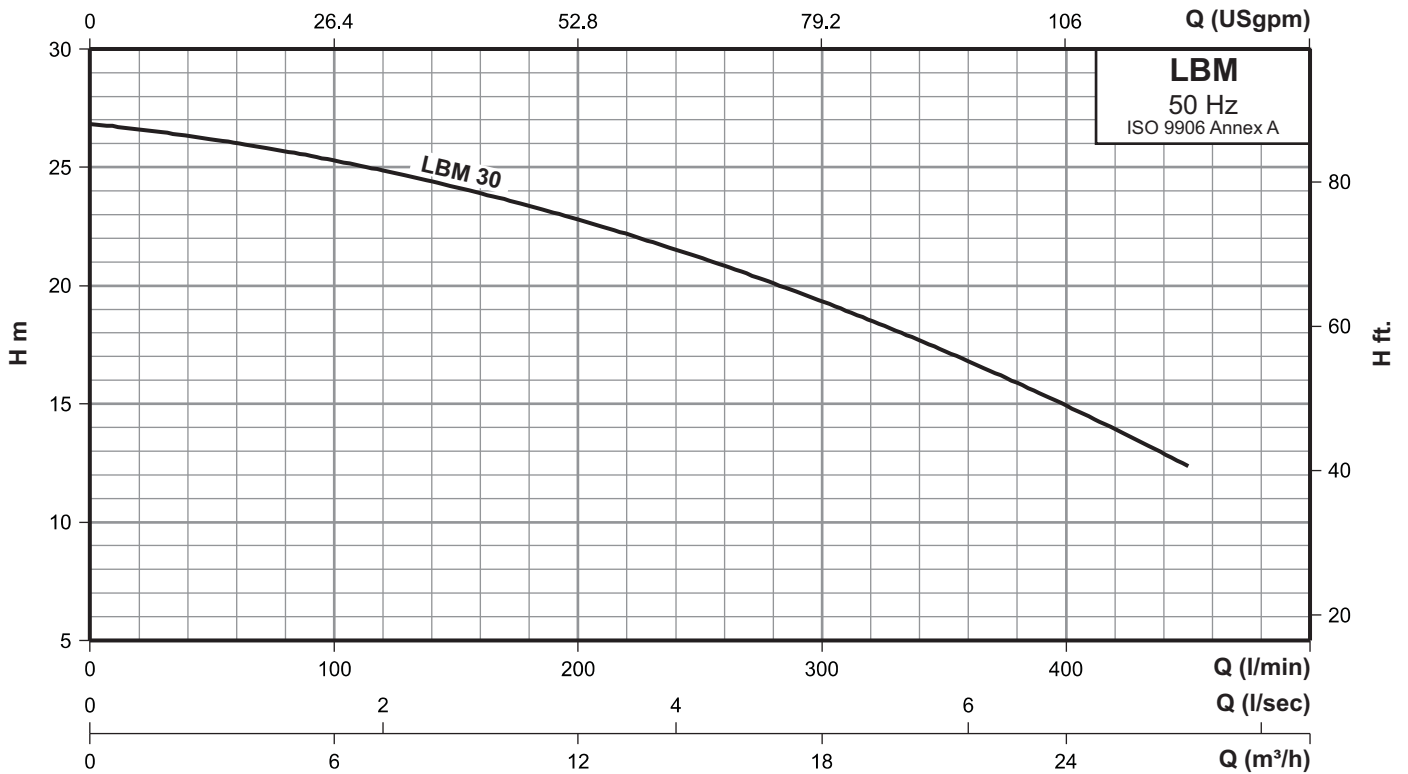
Model	Power		DNs	DNd	Base frame no.	Dimensions [mm]																Gross weight [kg]	Gross volume [m³]				
	[kW]	[HP]				A	B	E1	E2	F1	F2	ØG	J	h2	L	I1	I2	I3	b1	b2	b3			Ød	h	h3	h4
LBM 10	0.75	1.00	1½"	1½"	2	420	189	103	133	145	197	11	0	147	705	800	130	540	270	360	320	19	65	271	254	106.0	0.320
LBM 20	1.50	2.00	1½"	1½"	2	556	242	220	80	254	118	14	101	179	874	800	130	540	270	360	320	19	65	276	287	126.0	0.373

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

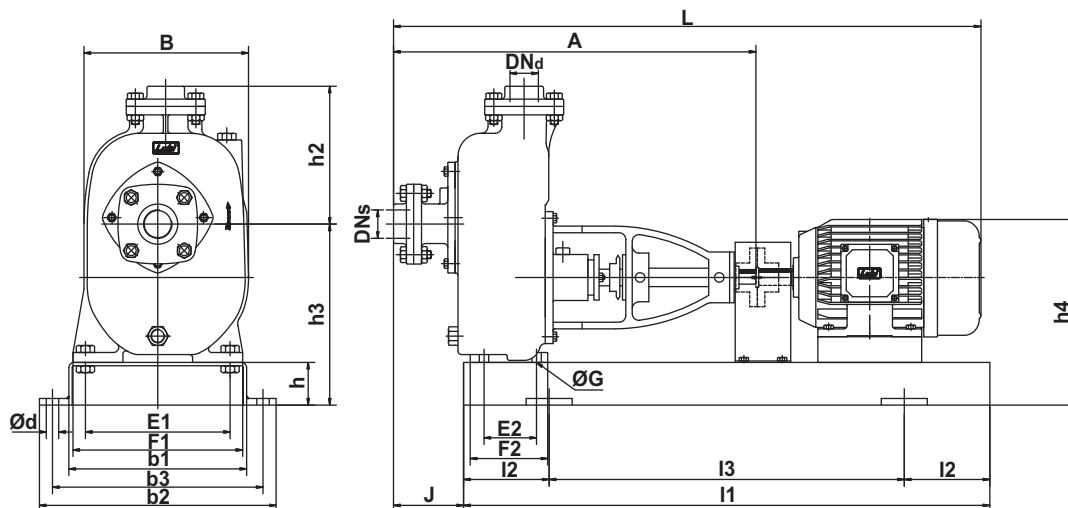
LBM 30



Performance data at n = 2900 rpm

Model	Power		Q m³/h	6	12	18	24	27
	[kW]	[HP]						
LBM 30	2.20	3.00	Q l/min	100	200	300	400	450
			H mts.	25.3	22.9	19.4	15	12.5

Dimensional sketches



Dimensions & weights

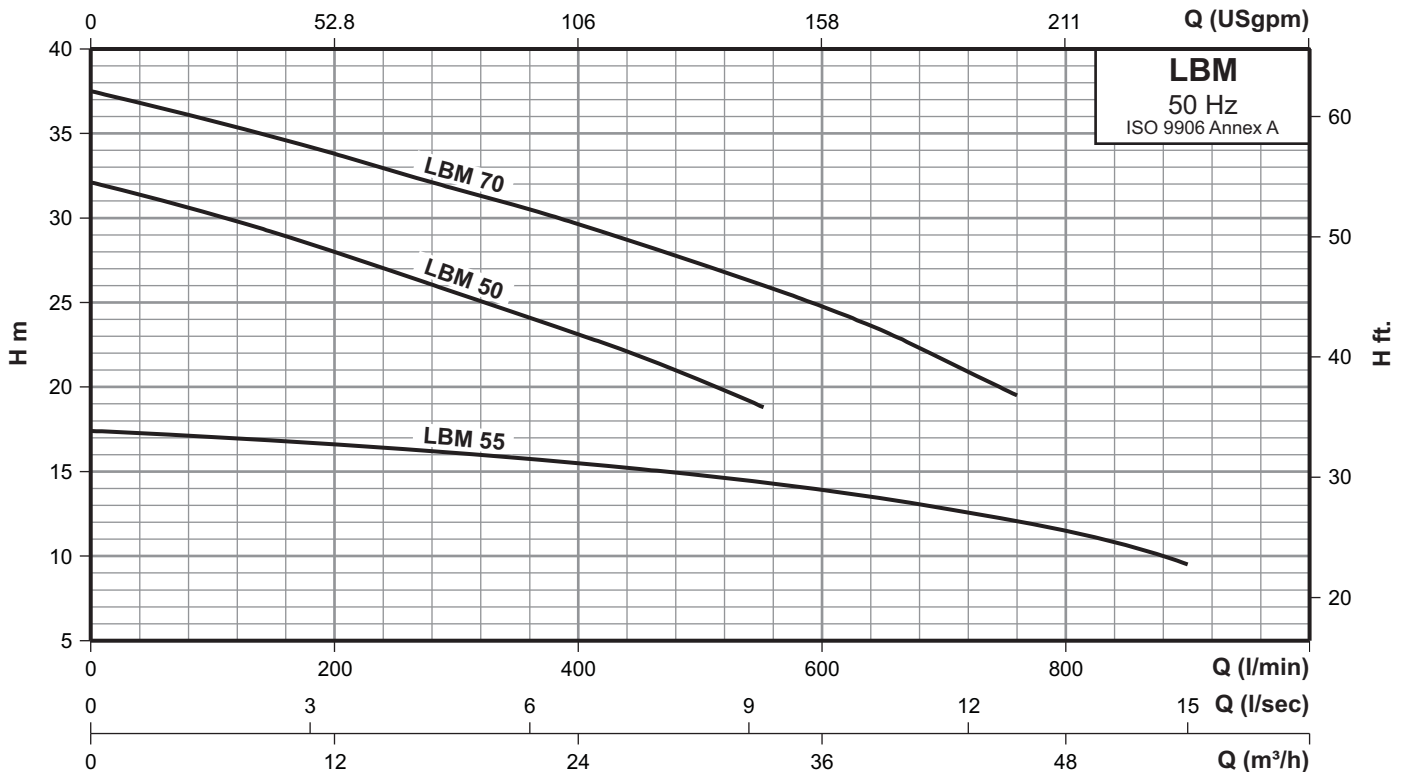
Model	Power		DNs	DNd	Base frame no.	Dimensions [mm]																	Gross weight [kg]	Gross volume [m³]			
	[kW]	[HP]				A	B	E1	E2	F1	F2	ØG	J	h2	L	I1	I2	I3	b1	b2	b3	Ød			h	h3	h4
LBM 30	2.20	3.00	2"	2"	2	568	250	220	80	258	118	14	107	210	893	800	130	540	270	360	320	19	65	275	284	144.0	0.393

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

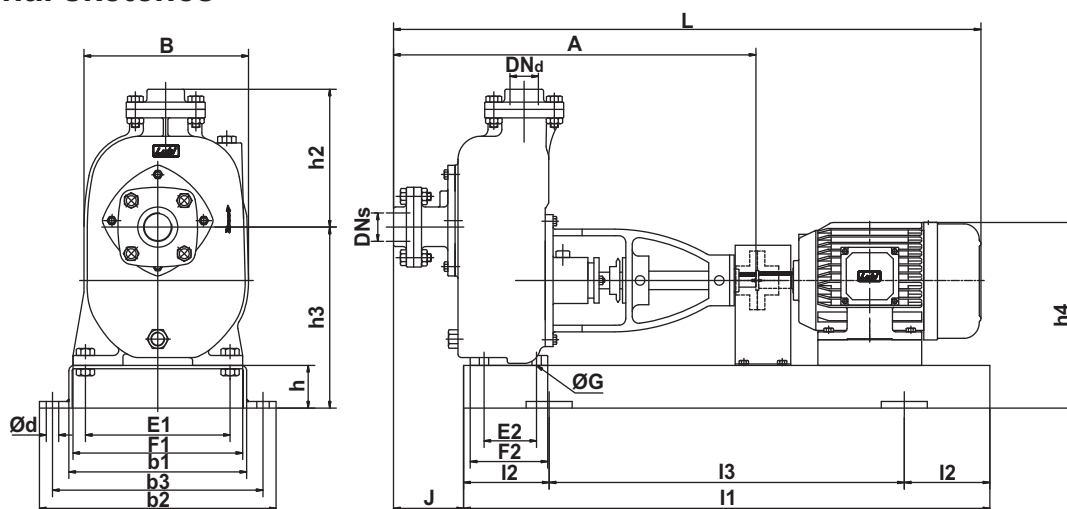
LBM 55, 50, 70



Performance data at n = 2900 rpm for LBM 50, LBM 70 and n = 1450 rpm for LBM 55

Model	Power		Q m³/h	12	24	36	48	54
	[kW]	[HP]						
LBM 55	3.70	5.00	H mts.	200	400	600	800	900
LBM 50	3.70	5.00		16.5	15.5	14	11.5	9.5
LBM 70	5.50	7.50		28	23	-	-	-
				33.8	29.7	24.8	-	-

Dimensional sketches



Dimensions & weights

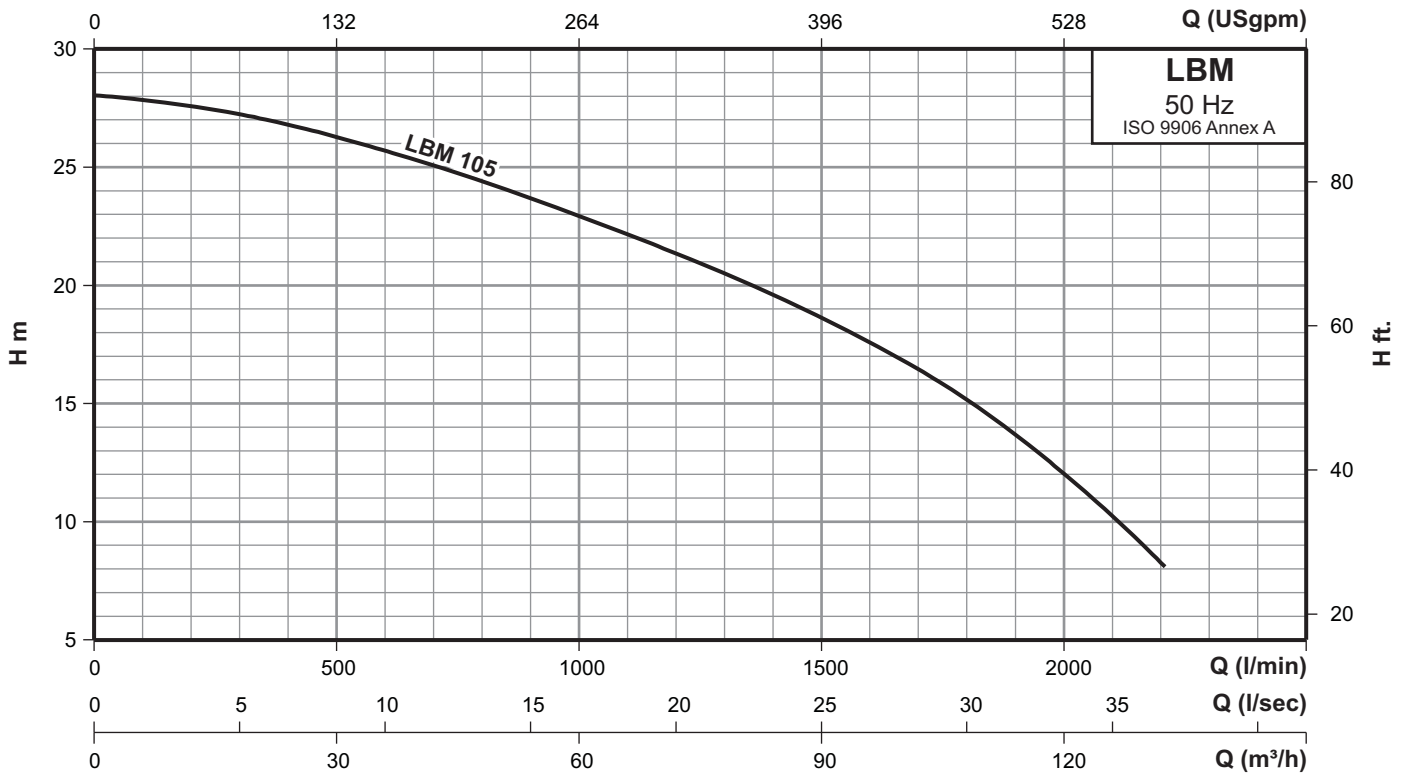
Model	Power		DNs	DNd	Base frame no.	Dimensions [mm]																Gross weight [kg]	Gross volume [m³]				
	[kW]	[HP]				A	B	E1	E2	F1	F2	ØG	J	h2	L	I1	I2	I3	b1	b2	b3			Ød	h	h3	h4
LBM 55	3.70	5.00	3"	3"	4	576	328	290	90	325	136	14	100	170	978	1000	170	660	340	450	400	24	80	456	447	233.5	0.665
LBM 50	3.70	5.00	3"	3"	4	684	285	260	95	300	140	14	155	246	1056	1000	170	660	340	450	400	24	80	362	402	225.5	0.665
LBM 70	5.50	7.50	3"	3"	4	684	285	260	95	300	140	14	155	246	1147	1000	170	660	340	450	400	24	80	362	454	253.5	0.665

Note: All dimensions in mm unless otherwise noted.

Performance curves/Technical data

Self-priming mud pumps

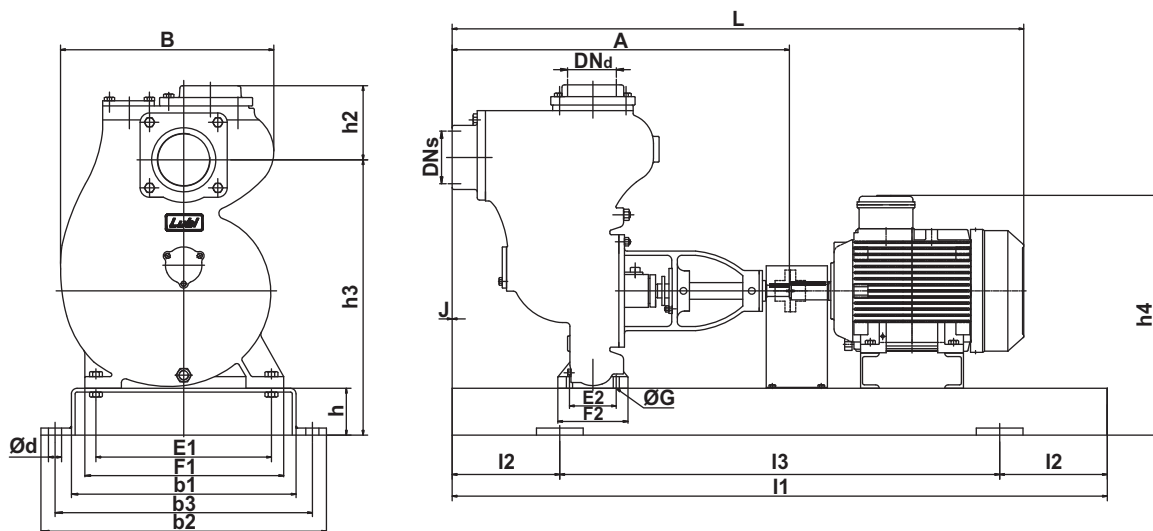
LBM 105



Performance data at n = 1450 rpm

Model	Power		Q m³/h	30	60	72	90	108	120	132
	[kW]	[HP]	Q l/min	500	1000	1200	1500	1800	2000	2200
LBM 105	7.50	10.0	H mts.	26.3	22.9	21.4	18.6	15.2	12	8.2

Dimensional sketches



Dimensions & weights

Model	Power		DNs	DNd	Base frame no.	Dimensions [mm]																Gross weight [kg]	Gross volume [m³]				
	[kW]	[HP]				A	B	E1	E2	F1	F2	ØG	J	h2	L	I1	I2	I3	b1	b2	b3			Ød	h	h3	h4
LBM 105	7.50	10.0	4"	4"	7	720	455	375	100	425	150	14	0	156	1222	1400	230	940	480	610	550	28	100	588	507	465	1.160

Note: All dimensions in mm unless otherwise noted.

Base frames

Self-priming mud pumps

LBM

Base frames

The dimensional sketches below show the dimensions of the base frames fitted to LBS pumps.

The type number of the base frame is stated for each LBS pump mentioned in the Technical data.

Base frame type No.	Base frame
2	
3	
4	
5	

Base frames

Self-priming mud pumps

LBM

Base frame type No.	Base frame
6	
7	
8	
9	
10	