



Product Description

- This series of products are vertical single-stage pipeline centrifugal pumps
- Standard configuration: mechanical seal, standard motor
- The pump is a top pull-out design. During routine maintenance, the pump head (motor base and impeller) can be removed. Maintenance and overhaul without dismantling the pump body and piping on both sides
- The impeller optimizes the hydraulic design through the CFD fluid simulation analysis technology, and the hydraulic efficiency is higher
- The impeller adopts a double-port ring balance structure, which has less axial force and longer bearing life
- The shape is designed by the Italian professional shape team, the most advanced modular design concept
- The surface of the whole machine adopts the electrophoretic coating process, and the anti-corrosion effect is better

Scope of Application

- Max. Liquid temperature: +90°C(Standard), +120°C(Optional)
- Max. ambient temperature: + 40°C
- Highest altitude: 1000 m
- Max. working pressure: 10bar / 16bar

Motor

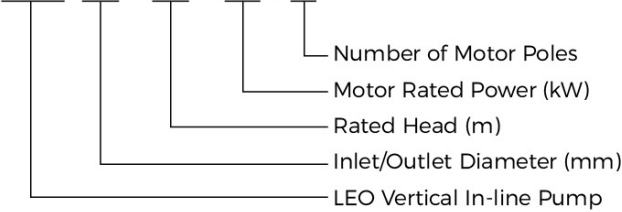
- Fully enclosed air-cooled standard motor
- Class F insulation, Enclosures class IP55, safer operation and less noise. Equipped with a variety of power motors from 0.37kW to 200kW, users can choose the corresponding water pump according to different technical requirements to meet different system requirements

Flange

- All flanges can be used with methods in accordance with GB/T17241.6, EN1092-2 and ISO7005-2 standards blue connection.

Identification Codes

LPP 80 - 35 - 15 / 2



Liquid Requirements

Clean, thin, non-aggressive, non-flammable, explosive, and gas-free liquid that does not contain solid particles (particle size ≤ 0.2mm) and fibers, and the liquid cannot react chemically to the pump material.

Example of pumped liquid:

- The water quality in the heating system should meet the recognized water quality standards for the system
- Cooling system
- Domestic hot water system
- Industrial liquid
- Softened water

If the density or kinematic viscosity of the liquid being pumped is higher than that of water, it will cause:

- Stress is significantly reduced
- Decreased hydraulic properties
- Increased energy consumption

In these cases, a larger motor should be used

If the water contains mineral oil or chemicals, or if conveying other liquids than water, select the appropriate O-ring.

LPP Pumps Can Be Used In The Following Systems

- Heating system: heating cycle, boiler mixed flow, temperature mixed flow, intermittent heating, waste gas heat recovery, hybrid loop, domestic hot water circulation
- Air conditioning system: chilled water circulation
- Water supply system: filtration and transportation, pipeline pressurization
- Industrial production: flushing and cleaning systems, boiler feed water, cooling water circulation, water treatment systems, equipment supporting systems
- Fire Fighting System

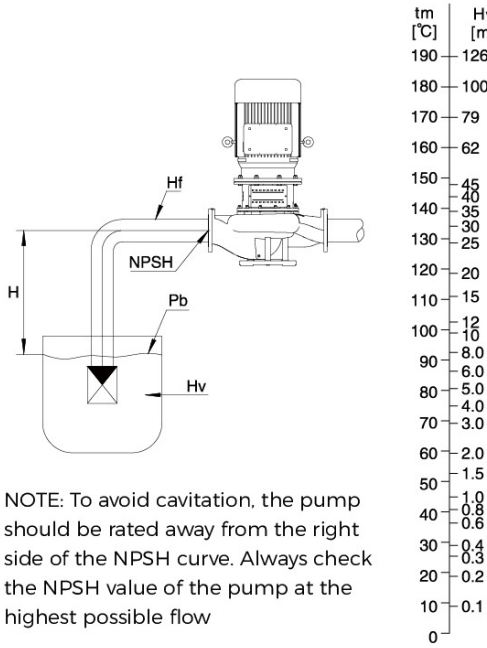
Minimum Inlet Pressure - NPSH

It is recommended to calculate the inlet pressure "H" when the following conditions exist:

- High liquid temperature
- The flow is significantly greater than the rated flow
- Pump water from low
- Pumping water from long pipes
- Poor import conditions

To avoid cavitation, it is necessary to ensure a minimum pressure on the inlet side of the pump. The maximum suction height "H" can be calculated as follows:

- $H = Pb \times 10.2 - NPSH - H_f - H_v - H_s$
 - Pb is atmospheric pressure in bar (Can be set to 1 bar, in closed system, Pb is system pressure)
 - NPSH is the net positive suction head of the pump in m; the corresponding value at maximum flow can be read in the graph
 - Hf is the suction line resistance loss in m (at the maximum flow of the pump)
 - Hv is the vaporization pressure in m (can be read from the vaporization pressure gauge. Its value depends on the liquid temperature "tm")
 - Hs is the minimum safety margin of 0.5m
- If the calculated "H" is positive, the pump can operate at a maximum suction height of "H"
- If the calculated "H" is negative, the pump requires a minimum "H" inlet pressure



Estimation of Loss of Piping and Piping Accessories

Pipe Diameter (mm)	Flow(m³/h)																												
	5	10	15	20	25	30																							
25	65.4																												
38	6.7	26.7	60.1				40	50																					
50	1.5	6.1	13.8	24.5					60	70																			
65		1.5	3.4	6.1	9.5	13.7					80	90																	
75		0.72	1.6	2.9	4.5	6.5	11.5						100	150															
100			0.36	0.64	1.0	1.4	2.6	4.0	5.7	7.8					200	250													
125				0.20	0.31	0.45	0.8	1.3	1.8	2.5	3.2					300	350												
150					0.12	0.18	0.31	0.49	0.71	0.96	1.3	1.6	2.0					400	450										
175						0.08	0.14	0.22	0.32	0.44	0.57	0.72	0.89	2.0	3.6	5.6					500	550							
200							0.07	0.11	0.16	0.22	0.29	0.36	0.45	1.0	1.8	2.8	4.0	5.5	7.2				600	700					
250								0.04	0.05	0.07	0.09	0.12	0.14	0.32	0.58	0.90	1.3	1.8	2.3	2.9	3.6	4.4	5.2						
300											0.03	0.04	0.05	0.06	0.13	0.23	0.36	0.51	0.70	0.91	1.2	1.4	1.7	2.1	2.8				

Brief table of friction loss of straight pipe (for estimation) Pipe 100m The number of meters of straight pipe loss is based on the new cast iron pipe, and the old pipe is doubled.

Maximum Flow Limit for A Certain Pipe Diameter

Pipe Dia. (mm)	Max. Flow (m³/h)	Max. Flow Rate (m/s)	Pipe Dia. (mm)	Max. Flow (m³/h)	Max. Flow Rate (m/s)
25	3.6	2.04	150	155	2.45
38	9	2.21	175	216	2.49
50	15	2.12	200	300	2.69
65	24	2.01	250	480	2.72
75	36	2.26	275	576	2.71
100	66	2.33	300	691	2.71
125	108	2.44	345	914	2.7

Note: Line losses increase significantly beyond this

The Straight Pipe Length of Each Valve And Elbow

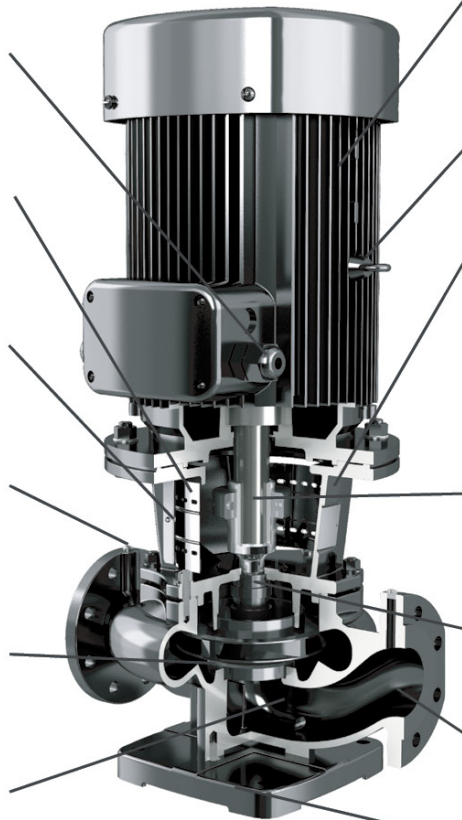
Type	Converted to Multiples of Pipe Diameter	Remark
Fully open gate valve	13	Doubles if not open
Standard elbow	25	
Check valve	100	
Foot valve	100	Partial blockage doubles

Note: For example, for a 100mm diameter pipe, the bottom valve equivalent to 100 times the diameter is equal to 100x100=10000mm=10m straight pipe length, assuming the flow rate is 8L/s, see the table above. If the straight pipe loses 1.3m per 100m, the loss of 10m is 0.13m, that is, when the flow rate of the bottom valve of 100m is 8L/s, the loss of lift is 0.13m.

Structural Features

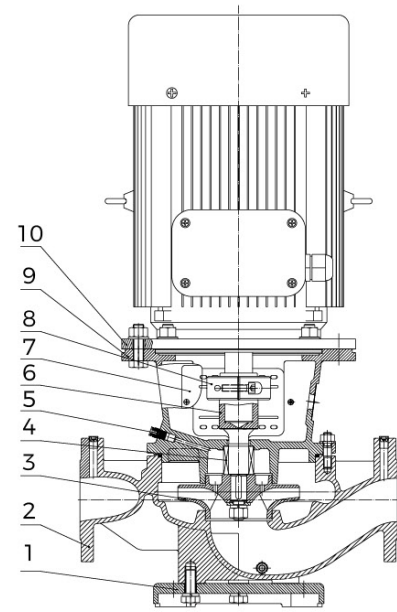
The surface of the whole machine adopts the electrophoretic coating process, and the anti-corrosion effect is better

- There are wiring caps on both sides of the electrical connection box; it is convenient for multi-directional wiring
- Stainless steel protective plates are installed on both sides of the motor base to protect the pump axis, making the operation safer;
- Equipped with a quick exhaust device to prevent the machine seal from running dry without water run;
- The inlet and outlet flanges of the pump body are provided with pressure measuring holes to facilitate detection and monitoring of inlet and outlet pressure;
- The impeller adopts a double-port ring balance structure, which has less axial force and longer bearing life;
- Optimize hydraulic design through CFD fluid simulation analysis technology, and the whole machine is highly efficient and energy-saving



- Equipped with high-efficiency motor, F-class insulation, Enclosures class IP55, run more safely. Less noise. (Standard 3 energy efficiency, user can choose 2 energy efficiency)
- The lifting lugs are distributed on both sides of the motor, which is convenient for lifting and transportation;
- The heightened motor base design has better heat dissipation effect, so that the pump can withstand higher water temperature
- Both ends are provided with jacking holes, which are convenient and quick to disassemble the pump body and motor.
- The top pull-out design of the whole machine can be repaired without dismantling the pipeline
- Patented special pump shaft structure, more stable operation and quick disassembly; Anti-corrosion stainless steel pump shaft;
- The lengthened mechanical seal is adopted, the operation is more stable, and the sealing effect is better;
- Low inlet and outlet pump body design, convenient for pipeline installation
- Removable bottom plate design, the whole machine bears better load and has wider installation applicability

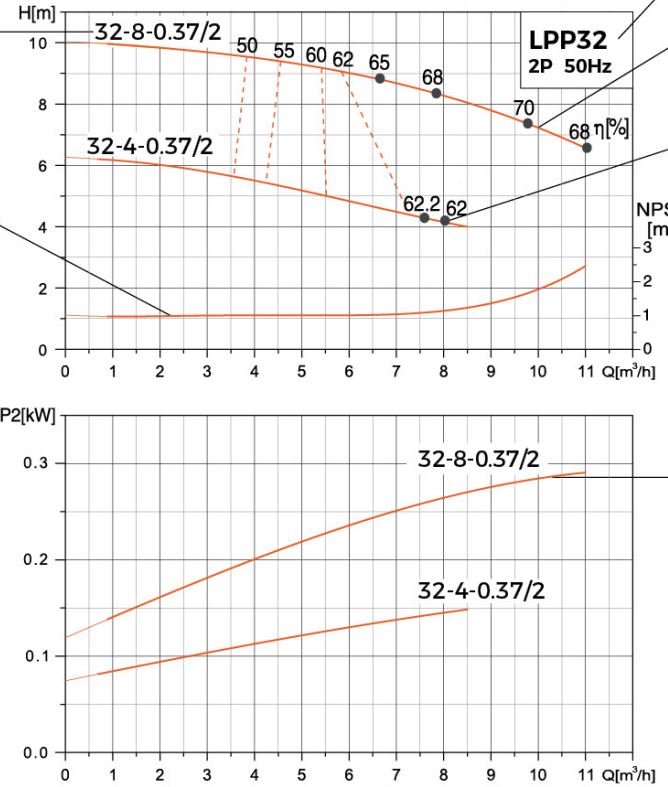
Material Table



No.	Part	Material
1	Base Plate	HT200
2	Pump Body	HT200/QT400
3	Impeller	HT200/AISI304
4	Mechanical Seal	
5	Vent Valve	HPb59-1
6	Pump Shaft	AISI304+45
7	Guard Plate	AISI304
8	Lock Ring	45 # steel
9	Motor Base	HT200/QT400
10	Motor	

How to Read The Curve Charts

- Pump Model
- NPSH



- Pump series, number of poles and frequency
- Pump Flow-Head Curve
Thick line indicates recommended operating range
- The pump efficiency of the corresponding model at this flow rate
- Flow-Power Curve
each model corresponds to the corresponding pump input power

Guidelines to Performance Curves

- Curve tolerances are in accordance with ISO9906:2012, Class 3B
- All curves are based on 3x380V, motor measurements at constant speed 2900rpm, 2950rpm or 1480rpm.
- The medium used for the test is clean water at a temperature of 20°C, without any solid impurities and air.
- The use of the pump refers to the performance range of the bold curve to prevent overheating caused by too small flow and overloading of the motor caused by too much flow.
- If the density or viscosity of the liquid conveyed is greater than that of water, Motors with higher performance must be used.



Technical Data

Model	Power P2 (kW)	Rated speed n (r/min)	Rated folw Q (m³/h)	Rated Head (m)	Max. flow Q (m³/h)	Max. head (m)	NPSHc (m)
LPP32-8-0.37/2*	0.37	2900	8.5	8	11	10	2
LPP32-4-0.37/2*	0.37	2900	7.5	4	8.5	6	2
LPP32-31-3/2	3	2900	20	31	24	37	2
LPP32-26-2.2/2	2.2	2900	18	26	21	32	2
LPP32-21-1.5/2	1.5	2900	14	21	18.5	26	2
LPP32-16-1.1/2	1.1	2900	12	16	16	20	2
LPP32-50-5.5/2	5.5	2900	12.5	50	20	53.5	2.5
LPP32-40-4/2	4	2900	12.5	40	20	46	2.5
LPP40-20.5-1.5/2	1.5	2900	12	20.5	20	25	2
LPP40-17.5-1.1/2	1.1	2900	12	17.5	18	21	2
LPP40-13-0.75/2	0.75	2900	10	13	15.5	16.5	2
LPP40-31-4/2	4	2900	26	31	38	35	2
LPP40-24.5-3/2	3	2900	24	24.5	36	28	2
LPP40-20.5-2.2/2	2.2	2900	23	20.5	35	25	2
LPP50-24-3/2	3	2900	30	24	36	29	2
LPP50-21-2.2/2	2.2	2900	24	21	35	25	2
LPP50-16-1.5/2	1.5	2900	22	16	32	19	2
LPP50-12-1.1/2	1.1	2900	20	12	26	15	2
LPP50-34-5.5/2	5.5	2900	35	34	50	42	2
LPP50-28-4/2	4	2900	30	28	43	33	2
※LPP50-50-5.5/2	5.5	2900	12.5	50	26	54	5
※LPP50-40-4/2	4	2900	12.5	40	26	42	5
※LPP50-35-3/2	3	2900	12.5	35	20	40	5
LPP50-80-11/2	11	2950	12.5	80	26	81.5	2.5
LPP50-70-7.5/2	7.5	2950	12.5	70	20	73	2.5
LPP50-60-7.5/2	7.5	2950	12.5	60	20	63	2.5
LPP50-81-22/2	22	2950	50	81	59	88	4.8
LPP50-70-18.5/2	18.5	2950	50	70	59	78	4.8
LPP50-60-15/2	15	2950	50	60	59	67	4.8
※LPP65-35-7.5/2	7.5	2900	55	35	70	39	2.5
※LPP65-28-5.5/2	5.5	2900	50	28	70	30	2.5
※LPP65-21-4/2	4	2900	45	21	60	24	2.5
※LPP65-17-3/2	3	2900	40	17	56	20	2.5
※LPP65-14-2.2/2	2.2	2900	35	14	50	17	2
※LPP65-56-18.5/2	18.5	2950	70	56	86	61	3
※LPP65-49-15/2	15	2950	65	49	80	53	3
※LPP65-40-11/2	11	2950	56	40	80	43	2.5
※LPP65-51-7.5/2	7.5	2950	25	51	40	54	2.5
※LPP65-40-5.5/2	5.5	2950	25	40	40	44	2.5

LPP32-8-0.37/2 & LPP32-4-0.37/2 can't be equipped with base plate

Technical Data

Model	Power P2 (kW)	Rated speed n (r/min)	Rated folw Q (m³/h)	Rated Head (m)	Max. flow Q (m³/h)	Max. head (m)	NPSHc (m)
※LPP80-20-5.5/2	5.5	2900	70	20	90	25	3.5
※LPP80-17-4/2	4	2900	64	17	79	21	3.2
※LPP80-14-3/2	3	2900	55	14	75	17	3
※LPP80-10.5-2.2/2	2.2	2900	52	10.5	70	14	3
※LPP80-8.5-1.5/2	1.5	2900	45	8.5	65	10.5	3
※LPP80-35-15/2	15	2950	110	35	130	42	4.5
※LPP80-28-11/2	11	2950	100	28	125	35	4.5
※LPP80-21.5-7.5/2	7.5	2950	90	21.5	119	28	4
※LPP80-80-22/2	22	2950	50	80	70	86	2.8
※LPP80-70-18.5/2	18.5	2950	45	70	65	75	2.8
※LPP80-60-15/2	15	2950	40	60	60	63	2.8
※LPP100-32-22/2	22	2950	170	32	190	43	6.5
※LPP100-30-18.5/2	18.5	2950	160	30	179	38	6.5
※LPP100-24-15/2	15	2950	150	24	180	31	6.5
※LPP100-20-11/2	11	2950	135	20	175	28	6.5
※LPP100-50-22/2	22	2950	100	50	140	56	3.5
※LPP100-44-18.5/2	18.5	2950	90	44	140	47	3.5
※LPP100-38-15/2	15	2950	85	38	130	43	3.5
※LPP100-80-37/2	37	2950	100	80	130	86	3.5
※LPP100-70-30/2	30	2950	90	70	120	76	3.5
※LPP100-60-22/2	22	2950	80	60	96	64	3.5
LPP100-35-15/2	15	2950	110	35	130	42	4
LPP100-28-11/2	11	2950	100	28	125	35	4
LPP100-21.5-7.5/2	7.5	2950	90	21.5	120	28	4
※LPP125-50-30/2	30	2950	160	50	190	58	5.5
※LPP125-44-30/2	30	2950	150	44	190	52	5.5
※LPP125-37.5-22/2	22	2950	135	37.5	180	45	5.5
※LPP80-28-11/4	11	1480	90	28	120	31	2
※LPP80-22-7.5/4	7.5	1480	80	22	100	24	2
※LPP80-19-5.5/4	5.5	1480	68	19	80	21.5	2
※LPP100-32-22/4	22	1480	170	32	213	36	2
※LPP100-30-18.5/4	18.5	1480	160	30	208	33	2
※LPP100-25-15/4	15	1480	155	25	186	28	2
※LPP100-21-11/4	11	1480	130	21	170	23	2
※LPP100-16-7.5/4	7.5	1480	115	16	150	19	2
※LPP125-35-30/4	30	1480	200	35	279	40	2.5
※LPP125-31-22/4	22	1480	170	31	260	34	2
※LPP125-28-18.5/4	18.5	1480	155	28	249	30	2
※LPP125-24-15/4	15	1480	140	24	230	27	2
※LPP125-19-11/4	11	1480	125	19	209	22	2
LPP125-8-4/4	4	1480	100	8	140	10	2.4
LPP125-12.5-5.5/4	5.5	1480	100	12.5	140	15	2
LPP125-10-7.5/4	7.5	1480	172	10	210	15.5	3

Technical Data

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※LPP150-33-37/4	37	1480	300	33	390	37	3.5
※LPP150-29-30/4	30	1480	280	29	360	32	3.5
※LPP150-33-30/4	30	1480	200	33	300	36	3.5
※LPP150-25-30/4	30	1480	300	25	360	31	4.1
※LPP150-25-22/4	22	1480	200	25	260	28	3.5
※LPP150-24.5-22/4	22	1480	250	24.5	324	28	3
※LPP150-21.5-18.5/4	18.5	1480	230	21.5	290	23	3
※LPP150-50-45/4	45	1480	200	50	260	52	2
※LPP150-40-37/4	37	1480	200	40	260	44	2
※LPP150-21-18.5/4	18.5	1480	200	21	260	24	3
※LPP150-17-15/4	15	1480	200	17	260	20	3
※LPP150-12.5-11/4	11	1480	200	12.5	260	16	3
※LPP200-36-75/4	75	1480	500	36	650	40	4.8
※LPP200-34-75/4	75	1480	600	34	659	41	5.5
※LPP200-28-55/4	55	1480	560	28	656	32	5.5
※LPP200-22.5-45/4	45	1480	521	22.5	662	27	5.25
※LPP200-18-37/4	37	1480	500	18	600	23	5.4
※LPP200-15-30/4	30	1480	500	15	600	20	5.4
※LPP200-55-75/4	75	1480	300	55	420	61	5.5
※LPP200-44-55/4	55	1480	280	44	360	50	5.5
※LPP200-38-45/4	45	1480	262	38	340	45	5.5
※LPP200-32-37/4	37	1480	245	32	320	38	5.5
※LPP200-18-18.5/4	18.5	1480	300	18	390	20	3.5
※LPP200-15-15/4	15	1480	300	15	390	18	3.5
※LPP200-10-11/4	11	1480	280	10	350	14.5	3.3
※LPP200-32-55/4	55	1480	400	32	480	27.7	4.6
※LPP200-12.5-22/4	22	1480	400	12.5	480	8	4.6
※LPP200-23-37/4	37	1480	400	23	480	18.2	4.6
LPP200-12.5-18.5/4	18.5	1480	400	12.5	500	20	3.9
LPP200-10-15/4	15	1480	358	10	450	16	3.8
※LPP250-50-132/4	132	1480	630	50	760	60	5.8
※LPP250-40-110/4	110	1480	630	40	760	53	5.8
※LPP250-50-110/4	110	1480	550	50	715	58	4.7
※LPP250-44-90/4	90	1480	500	44	650	50	4.7
※LPP250-37-75/4	75	1480	460	37	645	44	4.7
LPP300-55-200/4	200	1480	900	55	1200	58.2	5
LPP300-44-160/4	160	1480	900	44	1200	49.5	5
LPP300-35-132/4	132	1480	900	35	1200	38.1	5
LPP300-30-110/4	110	1480	900	30	1200	34	5
LPP300-25-90/4	90	1480	900	25	1200	30.4	5
LPP300-20-75/4	75	1480	900	20	1200	26	5
LPP300-15-55/4	55	1480	900	15	1200	22.3	5

Note: The mark "※" means AISI304 Impeller optional.

Hydraulic Performance Curves

