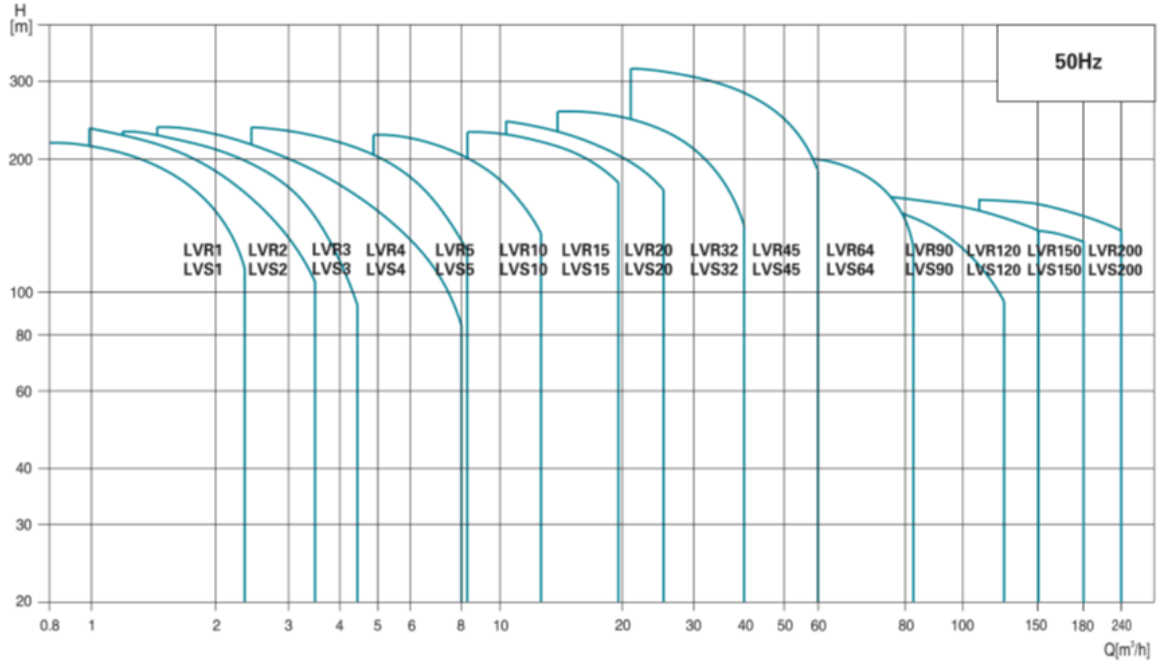
Scope of Performance LVS (R)

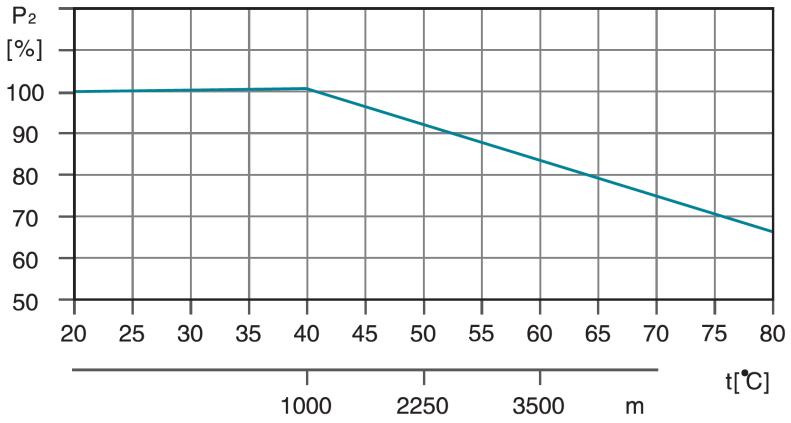


Product Range

MODEL / DESCRIPTION	LVR(S)1	LVR(S)2	LVR(S)3	LVR(S)4	LVR(S)5	LVR(S)10	LVR(S)15	LVR(S)20	LVR(S)32	LVR(S)45	LVR(S)64	LVR(S)90	LVR(S)120	LVR(S)150	LVR(S)200
Rated flow [m³/h]	1	2	3	4	5	10	15	20	32	45	64	90	120	150	200
Flow range [m³/h]	0.7–2.4	1.0–3.5	1.2–4.5	1.5–8	2.5–8.5	5–13	8–23	10.5–29	15–40	22–58	30–85	45–120	60–150	80–180	100–240
Max. pressure [bar]	22	23	24	21	24	22	23	25	28	33	22	20	16	16	16
Motor power [kW]	0.37–2.2	0.37–3	0.37–3	0.37–4	0.37–4	1.1–7.5	1.1–15	1.1–18.5	1.5–30	3–45	4–45	5.5–45	11–75	11–75	18,5–110
Temperature Range [°C]	–20°C~+120°C (Note: Both the Max. permissible pressure and liquid temperature range refer to the pump capacity.)														
Max. pump efficiency [%]	45	48	55	59	60	65	70	72	78	79	80	81	74	73	79
Pipe connection-LVR															
Oval flange	G1	G1	G1	G1 1/4	G1 1/4	-	-	-	-	-	-	-	-	-	-
DIN flange	DN25	DN25	DN25	DN32	DN32	DN40	DN50	DN50	DN65	DN80	DN100	DN100	DN125	DN125	DN150
Pipe connection-LVS															
Oval flange	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIN flange	DN32	DN32	DN32	DN32	DN32	DN40	DN50	DN50	DN65	DN80	DN100	DN100	DN125	DN125	DN150
Clamp connector	ϕ42	ϕ42	ϕ42	ϕ42	ϕ42	-	-	-	-	-	-	-	-	-	-
Threaded connector	R_2 1¼	R_2 1¼	R_2 1¼	R_2 1¼	R_2 1¼	-	-	-	-	-	-	-	-	-	-

Ambient Temperature

An ambient temperature of over 40 ° C or an installation at an altitude above 1000 meters above sea level requires an oversized motor. Due to low air density and poor cooling, the output power P2 decreases, as shown in the table below:



For example, when the pump is installed at an altitude of 3500 meters, P2 will decrease by 88%. And when the ambient temperature is 70 ° C, P2 will decrease by 78%.

Maximum Operation pressure (bar)

The table below shows the maximum discharge pressures of the various LVS (R) pumps. The suction pressure of the pump + the set pressure must always be lower than the maximum operating pressure of the pump. If the maximum working pressure is exceeded, it can damage the motor bearings and reduce the service life of the mechanical seal.

Model	LVR Max. Operation pressure [bar]		LVS Max. Operation pressure [bar]
	Oval Flange	DIN Flange	
LVR (S)1	16	25	25
LVR (S)2	16	25	25
LVR (S)3	16	25	25
LVR (S)4	16	25	25
LVR (S)5	16	25	25
LVR (S)10	25		25
LVR (S)15	25		25
LVR (S)20	25		25
LVR (S)32-1-1 - 32-7	16		16
LVR (S)32-8-2 - 32-14	30		30
LVR (S)45-1-1 - 45-5	16		16
LVR (S)45-6-2 - 45-11	30		30
LVR (S)45-12-2 - 45-13-2	33		33
LVR (S)64-1-1 - 64-5	16		16
LVR (S)64-6-2 - 64-8-1	30		30
LVR (S)90-1-1 - 90-4	16		16
LVR (S)90-5-2 - 90-6	30		30
LVR (S)120-1 - 120-7	20		20
LVR (S)150-1-1 - 150-6	20		20
LVR (S)200-1-D - 200-4	20		20

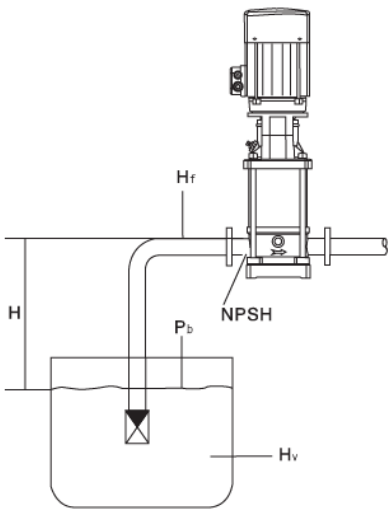
Minimum Inlet Pressure–Npsh

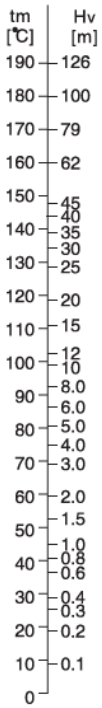
Calculation of the inlet pressure “H” is recommended in these situations:
The liquid temperature is high.
The flow is significantly higher than the rated flow.
Water is drawn from depths.
Water is drawn through long pipes.
Inlet conditions are poor.

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift “H” in meters head can be calculated as follows:

H	$= P_b \times 10.2 - NPSH - H_f - H_v - H_s$
P_b	= Barometric pressure in bar. (Barometric pressure can be set to 1 bar). In closed systems, P_b indicates the system pressure in bar.
NPSH	= Net Positive Suction Head in meters head. (To be read from the NPSH curve at the highest flow the pump will be delivering.)
H_f	= Friction loss in suction pipe in meters head. (At the highest flow the pump will be delivering.)
H_v	= Vapor pressure in meters head. (To be read from the vapor pressure scale. “H_v” depends on the liquid temperature “tm”)
H_s	= Safety margin=minimum 0.5 meters head.

If the “H” calculated is positive, the pump can operate at a suction lift of maximum “H” meters head.
If the “H” calculated is negative, an inlet pressure of minimum “H” meters head is required.





Note: To avoid cavitation, never select a pump with a duty point too far to the right on the NPSH curve.
Always check the NPSH value of the pump at the highest possible flow.

Application

- Transfer of liquids with low viscosity, non-flammable and non-explosive, not containing solid particles or fibers. These liquids must not chemically attack the materials of the pump.
- Water supply for tall buildings, pumping stations, overpressure in drinking water
- Washing stations, heating water circulation, air conditioning water circulation, water treatment systems
- Ultrafiltration, reverse osmosis, distillation systems, municipal swimming pools
- Irrigation: sprinkling, drip
- Food industry
- Fire fighting systems

Pompe

- Liquid temperature: from -20°C to +120°C
- Nominal flow: 4 m³/h
- maximum pressure: 21 bars
- pH between 4 and 10

Moteur

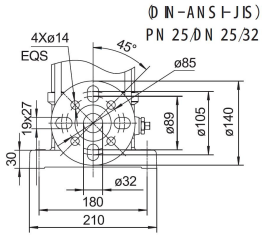
- IE3 motor
- Protection class: IP55
- Maximum ambient temperature: +40°

Identification codes

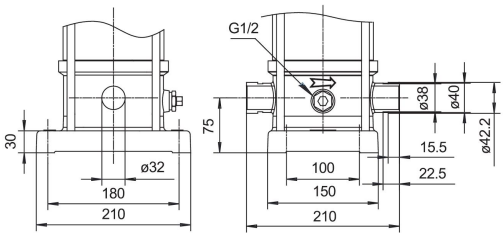
LVS m 4 -10 -B /F(K, G)

- /F(K, G) — DIN flange (clamp fitting, threaded fitting)
- -B — inox 316 (by default, inox 304)
- -10 — number of impellers
- 4 — Nominal flow (m³/h)
- m — Single-phase motor
- LVS — Vertical multistage stainless steel in line pump

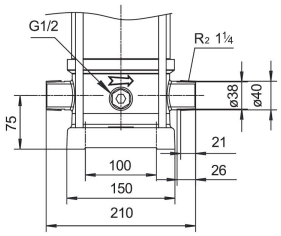
Options



DIN flange (/F)



Connection clamp (/K)

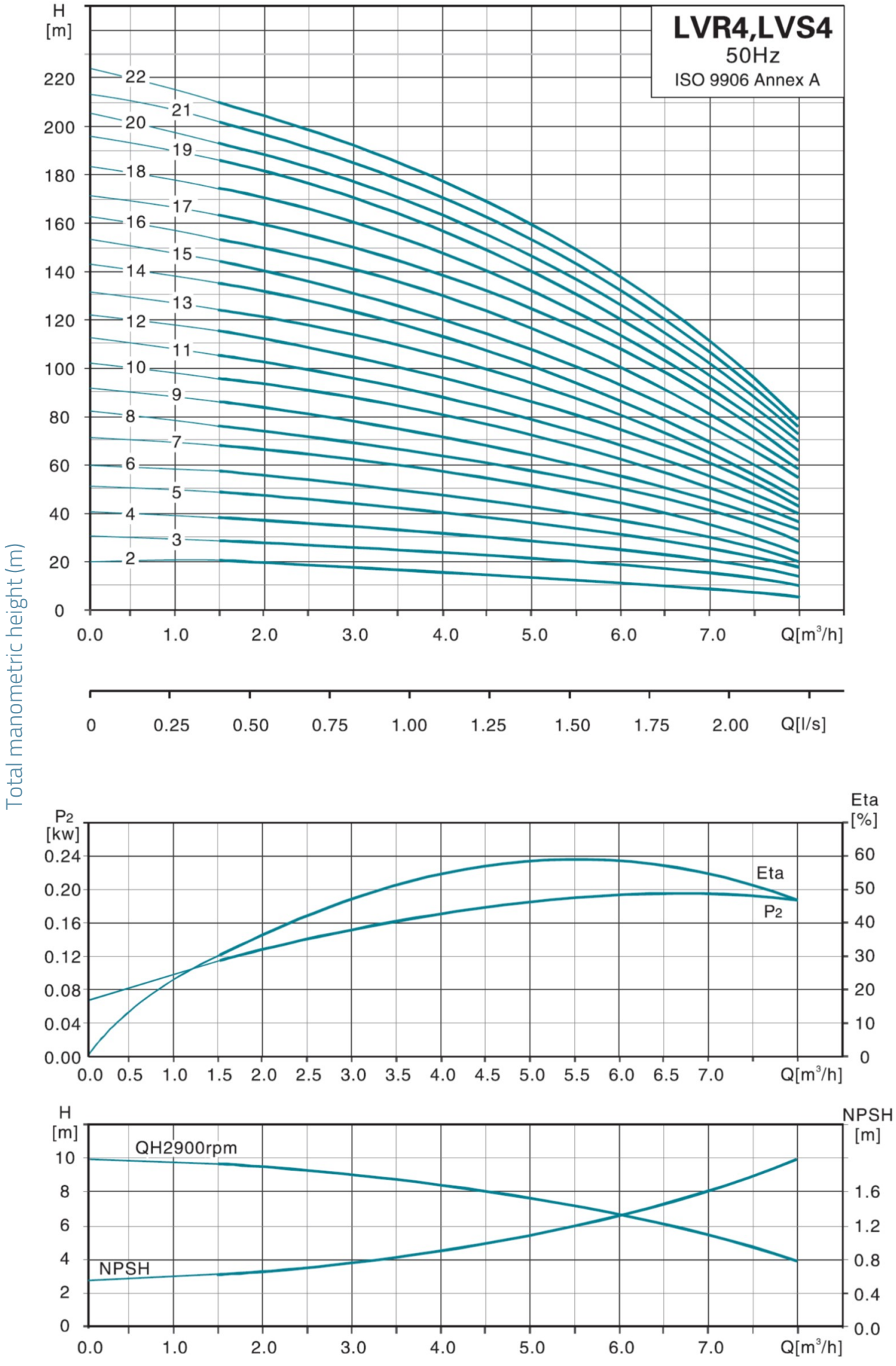


Threaded connection (/G)

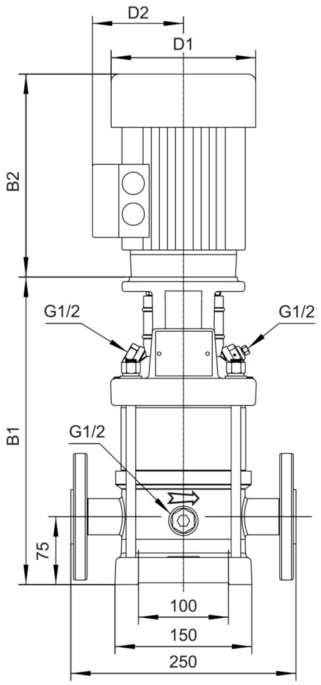
Technical data

MODEL	kW	Q (m³/h) / Q (l/min)	1.5 / 25	2 / 33	3 / 50	4 / 67	5 / 83	6 / 100	7 / 117	8 / 133
LVSm4-2	0.37		19	18	17	14.5	13	10.5	8	6
LVS4-2	0.37		19	18	17	14.5	13	10.5	8	6
LVSm4-3	0.55		28	27	26	23.5	20	18	14	10
LVS4-3	0.55		28	27	26	23.5	20	18	14	10
LVSm4-4	0.75		38	36	34	31.5	27	24.5	18	13
LVS4-4	0.75		38	36	34	31.5	27	24.5	18	13
LVSm4-5	1.1		47	45	43	40.5	34	31.5	23	17
LVS4-5	1.1		47	45	43	40.5	34	31.5	23	17
LVSm4-6	1.1		56	54	52	47.5	41	36	28	20
LVS4-6	1.1		56	54	52	47.5	41	36	28	20
LVSm4-7	1.5		66	63	61	57	48	44.5	34	24
LVS4-7	1.5		66	63	61	57	48	44.5	34	24
LVSm4-8	1.5		74	72	70	64	55	49.5	38	27
LVS4-8	1.5		74	72	70	64	55	49.5	38	27
LVSm4-9	2.2		86	81	78	72	63	56	44	32
LVS4-9	2.2		86	81	78	72	63	56	44	32
LVSm4-10	2.2		96	90	87	81	71	64	50	34
LVS4-10	2.2		96	90	87	81	71	64	50	34
LVSm4-11	2.2		105	99	95	88	78	69	53	39
LVS4-11	2.2		105	99	95	88	78	69	53	39
LVSm4-12	2.2		114	108	104	96	85	75	57	41
LVS4-12	2.2		114	108	104	96	85	75	57	41
LVSm4-13	3		123	117	113	103	93	83	63	45
LVS4-13	3		123	117	113	103	93	83	63	45
LVSm4-14	3		136	126	122	114	101	90	69	48
LVS4-14	3		136	126	122	114	101	90	69	48
LVSm4-15	3		142	135	131	120	108	96	73	52
LVS4-15	3		142	135	131	120	108	96	73	52
LVSm4-16	3		152	144	140	129	115	102	78	55
LVS4-16	3		152	144	140	129	115	102	78	55
LVS4-17	4		163	153	149	137	122	108	83	62
LVS4-18	4		175	162	158	145	129	115	89	65
LVS4-19	4		183	171	168	155	137	123	95	67
LVS4-20	4		192	180	176	161	144	128	99	72
LVS4-21	4		203	197	184	169	152	134	103	75
LVS4-22	4		211	200	192	177	160	139	108	79

Hydraulic performance



Dimensions



MODEL	B1/bride-DIN	B1+B2/bride-DIN	D1	D2	poids
LVSm4-2	282	496	130	105	22.4
LVS4-2	282	496	130	105	22.4
LVSm4-3	309	523	130	105	23
LVS4-3	309	523	130	105	23
LVSm4-4	340	608	150	125	25.2
LVS4-4	340	608	150	125	25.2
LVSm4-5	367	635	150	125	27.2
LVS4-5	367	635	150	125	27.2
LVSm4-6	394	662	150	125	27.4
LVS4-6	394	662	150	125	27.4
LVSm4-7	437	755	164	127	34.4
LVS4-7	437	755	164	127	34.4
LVSm4-8	646	782	164	127	35.6
LVS4-8	646	782	164	127	35.6
LVSm4-9	491	809	164	127	35.9
LVS4-9	491	809	164	127	35.9
LVSm4-10	518	836	164	127	36.9
LVS4-10	518	836	164	127	36.9
LVSm4-11	545	863	164	127	38.7
LVS4-11	545	863	164	127	38.7
LVSm4-12	572	890	164	127	39.8
LVS4-12	572	890	164	127	39.8
LVSm4-13	603	943	186	120	47.6
LVS4-13	603	943	186	120	47.6
LVSm4-14	630	970	186	120	48.2
LVS4-14	630	970	186	120	48.2
LVSm4-15	657	997	186	120	48.8
LVS4-15	657	997	186	120	48.8
LVSm4-16	684	1024	186	120	49.3
LVS4-16	684	1024	186	120	49.3
LVS4-17	711	1051	186	120	50.9
LVS4-18	738	1078	186	120	53.1
LVS4-19	765	1105	186	120	53.4
LVS4-20	792	1132	186	120	53.6
LVS4-21	819	1159	186	120	53.9
LVS4-22	846	1186	186	120	54.2

Exploded view

No.	Type	Materials
1	Base	cast iron HT200
2	Drain plug	AISI 304 stainless steel
3	Lower water box	ZG304
4	Diffuser	AISI 304 stainless steel
5	Diffuser with bearing	AISI 304 stainless steel
6	Intermediate diffuser	AISI 304 stainless steel
7	Impeller	AISI 304 stainless steel
8	Final scroll	AISI 304 stainless steel
9	Lantern	cast iron HT200
10	Filling plug	AISI 304 stainless steel
11	Coupling	
12	Engine	
13	Coupling protection housing	AISI 304 stainless steel
14	Cartridge mechanical seal	
15	Pump bottom	ZG304
16	Drain plug	AISI 304 stainless steel
17	Pump shaft	AISI 304 stainless steel
18	Jacket	AISI 304 stainless steel
19	Flange	ZG35 cast steel