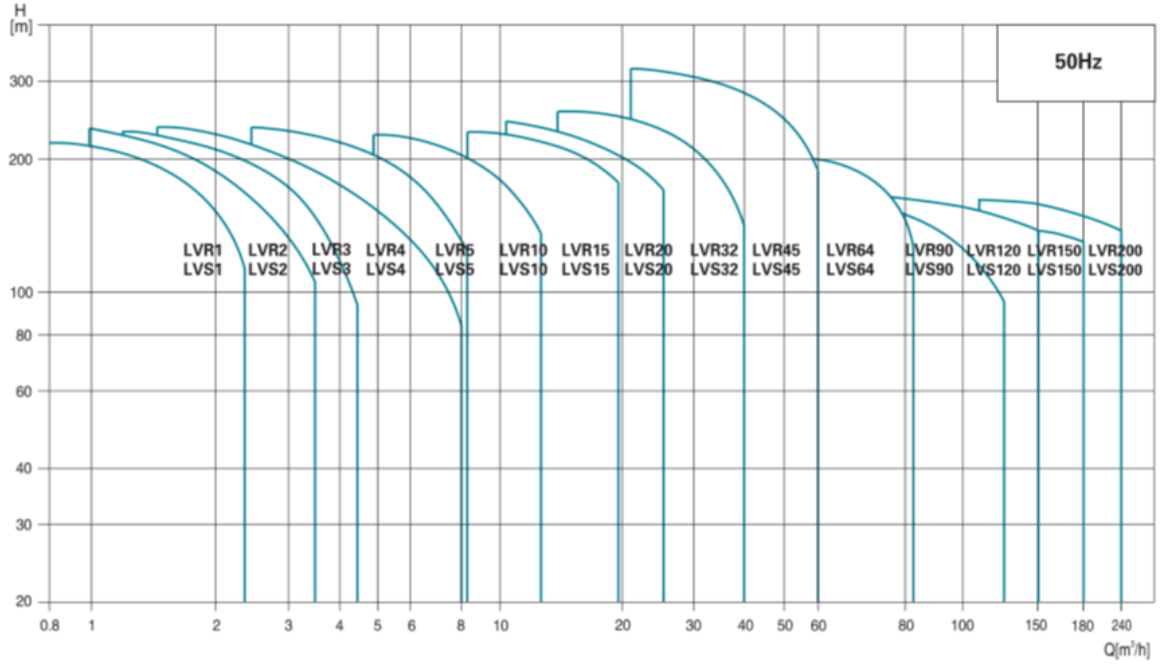
Scope of Performance LVS (R)

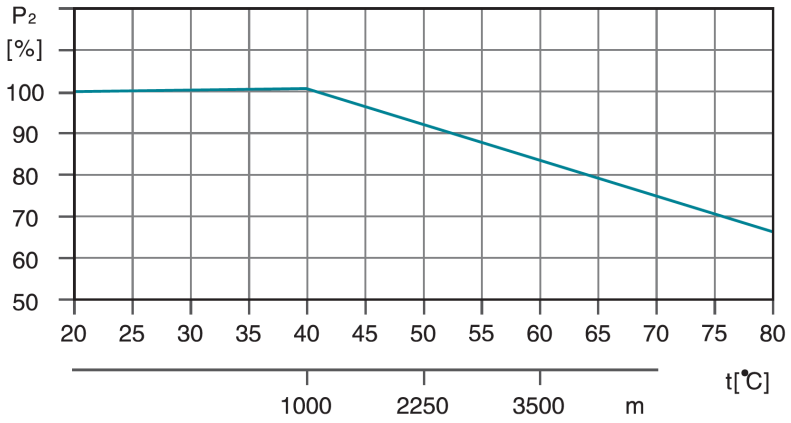


Product Range

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

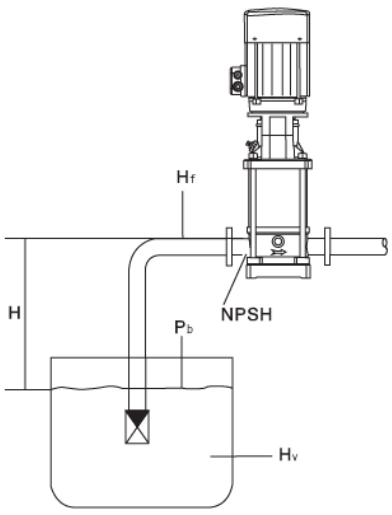
Minimum Inlet Pressure–Npsh

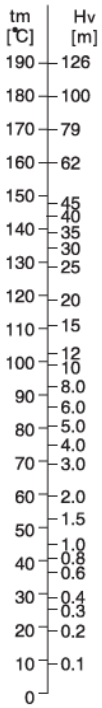
Calculation of the inlet pressure “H” is recommended in these situations:
The liquid temperature is high.
The flow is significantly higher than the rated flow.
Water is drawn from depths.
Water is drawn through long pipes.
Inlet conditions are poor.

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: 1 m³/h
- maximum pressure: 22 bars
- pH between 4 and 10

Moteur

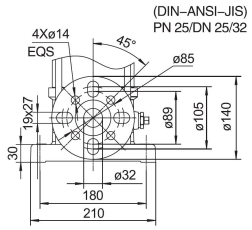
- IE3 motor
- Protection class: IP55
- Maximum ambient temperature: +40°

Identification codes

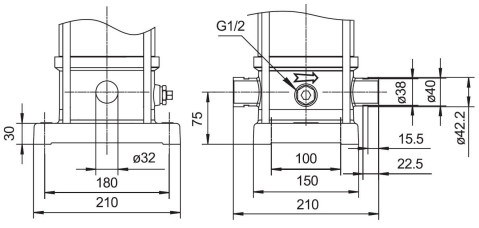
LVS m 1 -10 -B /F(K, G)

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

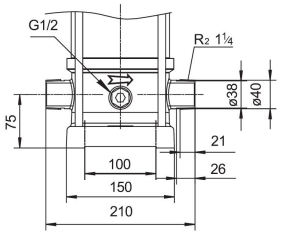
Options



DIN flange (/F)



Connection clamp (/K)

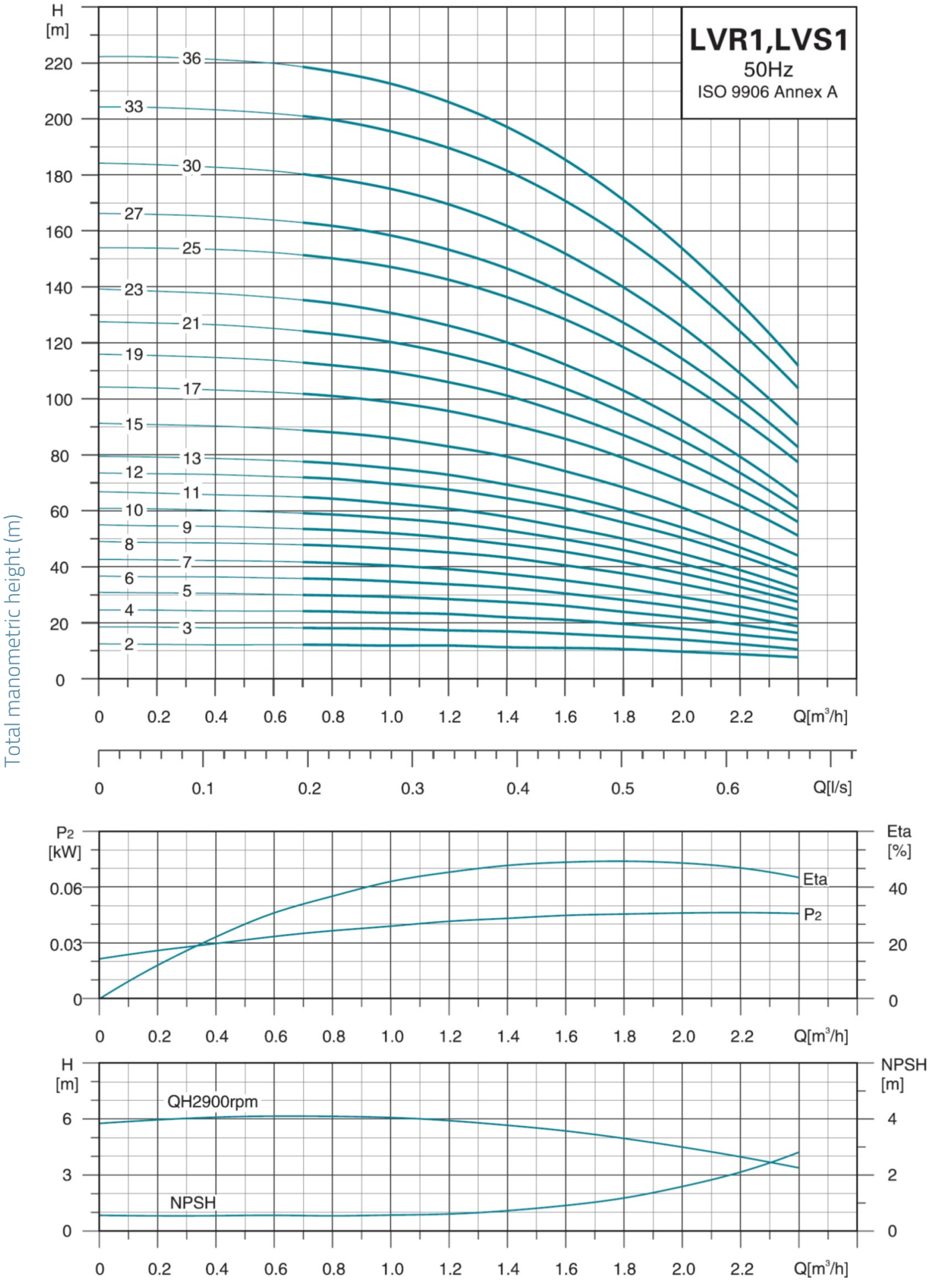


Threaded connection (/G)

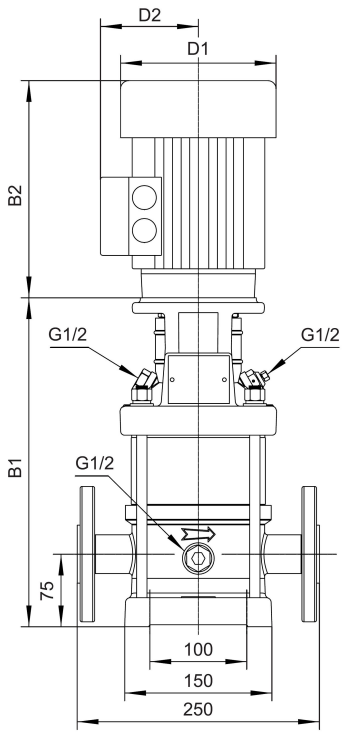
Technical data

MODEL	kW	Q (m³/h)	0.7	0.8	1	1.2	1.4	1.6	1.8	2	2.2	2.4
		Q (l/min)	12	13	17	20	23	27	30	33	37	40
LVSm1-2	0.37		12	12	12	12	11	11	10	10	9	8
LVS1-2	0.37		12	12	12	12	11	11	10	10	9	8
LVSm1-3	0.37		18	18	18	17	17	16	15	14	13	10.5
LVS1-3	0.37		18	18	18	17	17	16	15	14	13	10.5
LVSm1-4	0.37		24	24	24	22	22	21	19	18	15	14
LVS1-4	0.37		24	24	24	22	22	21	19	18	15	14
LVSm1-5	0.37		30	30	29.5	28	27	26	24	22	19	16
LVS1-5	0.37		30	30	29.5	28	27	26	24	22	19	16
LVSm1-6	0.37		36	35	35	34	32	30	28	25	22	19
LVS1-6	0.37		36	35	35	34	32	30	28	25	22	19
LVSm1-7	0.37		42	41	40.5	39	37	35	32	30	26	22
LVS1-7	0.37		42	41	40.5	39	37	35	32	30	26	22
LVSm1-8	0.55		48	47	46.5	45	43	40	38	34	30	26
LVS1-8	0.55		48	47	46.5	45	43	40	38	34	30	26
LVSm1-9	0.55		54	53	52	50	48	45	42	37	33	28
LVS1-9	0.55		54	53	52	50	48	45	42	37	33	28
LVSm1-10	0.55		59	58	57.5	55	53	50	46	41	35	30
LVS1-10	0.55		59	58	57.5	55	53	50	46	41	35	30
LVSm1-11	0.55		65	64	63	61	58	54	51	45	39	33
LVS1-11	0.55		65	64	63	61	58	54	51	45	39	33
LVSm1-12	0.75		72	71	70	67	64	61	56	50	44	37
LVS1-12	0.75		72	71	70	67	64	61	56	50	44	37
LVSm1-13	0.75		78	77	75	73	69	65	60	54	48	39.5
LVS1-13	0.75		78	77	75	73	69	65	60	54	48	39.5
LVSm1-15	0.75		90	88	86	83	79	74	68	61	54	45
LVS1-15	0.75		90	88	86	83	79	74	68	61	54	45
LVSm1-17	1.1		102	101	98	95	91	85	78	70	62	52
LVS1-17	1.1		102	101	98	95	91	85	78	70	62	52
LVSm1-19	1.1		114	112	110	106	101	94	87	78	68	57
LVS1-19	1.1		114	112	110	106	101	94	87	78	68	57
LVSm1-21	1.1		125	123	120	116	110	103	95	85	74	61
LVS1-21	1.1		125	123	120	116	110	103	95	85	74	61
LVSm1-23	1.1		136	134	130	126	120	112	103	92	80	65
LVS1-23	1.1		136	134	130	126	120	112	103	92	80	65
LVSm1-25	1.5		152	150	145	142	136	128	119	106	93	78
LVS1-25	1.5		152	150	145	142	136	128	119	106	93	78
LVSm1-27	1.5		164	162	157	153	146	137	128	114	100	84
LVS1-27	1.5		164	162	157	153	146	137	128	114	100	84
LVSm1-30	1.5		181	178	173	169	162	152	140	126	110	92
LVS1-30	1.5		181	178	173	169	162	152	140	126	110	92
LVSm1-33	2.2		202	199	194	189	181	170	158	142	124	106
LVS1-33	2.2		202	199	194	189	181	170	158	142	124	106
LVSm1-36	2.2		220	217	210	206	197	185	170	154	135	112
LVS1-36	2.2		220	217	210	206	197	185	170	154	135	112

Hydraulic performance



Dimensions



MODEL	B1	B1+B2	D1	D2	poids
LVSm1-2	282	496	130	105	20.4
LVS1-2	282	496	130	105	20.4
LVSm1-3	282	496	130	105	21.2
LVS1-3	282	496	130	105	21.2
LVSm1-4	300	514	130	105	21.8
LVS1-4	300	514	130	105	21.8
LVSm1-5	318	532	130	105	22.4
LVS1-5	318	532	130	105	22.4
LVSm1-6	336	550	130	105	22.4
LVS1-6	336	550	130	105	22.4
LVSm1-7	354	568	130	105	24.2
LVS1-7	354	568	130	105	24.2
LVSm1-8	372	586	130	105	24.5
LVS1-8	372	586	130	105	24.5
LVSm1-9	390	604	130	105	24.7
LVS1-9	390	604	130	105	24.7
LVSm1-10	408	522	130	105	25.1
LVS1-10	408	522	130	105	25.1
LVSm1-11	426	640	130	105	25.5
LVS1-11	426	640	130	105	25.5
LVSm1-12	448	716	150	124.5	27.8
LVS1-12	448	716	150	124.5	27.8
LVSm1-13	466	734	150	124.5	28.2
LVS1-13	466	734	150	124.5	28.2
LVSm1-15	502	770	150	124.5	29.1
LVS1-15	502	770	150	124.5	29.1
LVSm1-17	538	806	150	124.5	31.5
LVS1-17	538	806	150	124.5	31.5
LVSm1-19	574	842	150	124.5	33
LVS1-19	574	842	150	124.5	33
LVSm1-21	610	878	150	124.5	33
LVS1-21	610	878	150	124.5	33
LVSm1-23	646	914	150	124.5	34.9
LVS1-23	646	914	150	124.5	34.9
LVSm1-25	698	1016	163.6	127.4	41.5
LVS1-25	698	1016	163.6	127.4	41.5
LVSm1-27	734	1052	163.6	127.4	43.6
LVS1-27	734	1052	163.6	127.4	43.6
LVSm1-30	788	1106	163.6	127.4	43.9
LVS1-30	788	1106	163.6	127.4	43.9
LVSm1-33	842	1160	163.6	127.4	46.9
LVS1-33	842	1160	163.6	127.4	46.9
LVSm1-36	896	1214	163.6	127.4	47.9
LVS1-36	896	1214	163.6	127.4	47.9

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