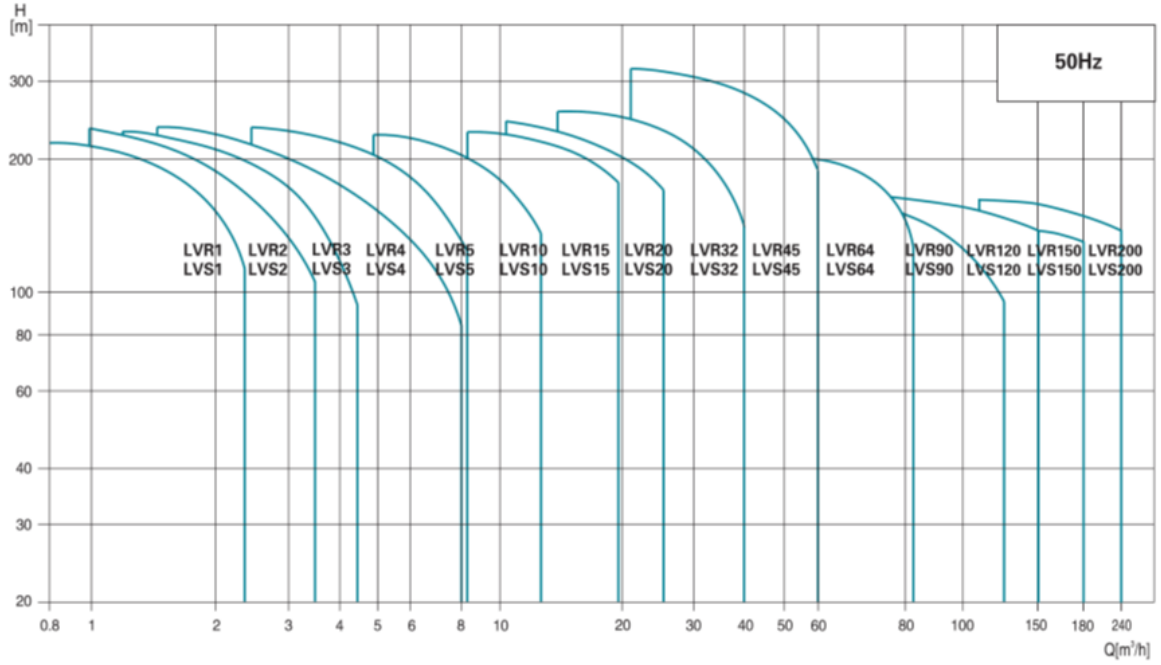
Scope of Performance LVS (R)

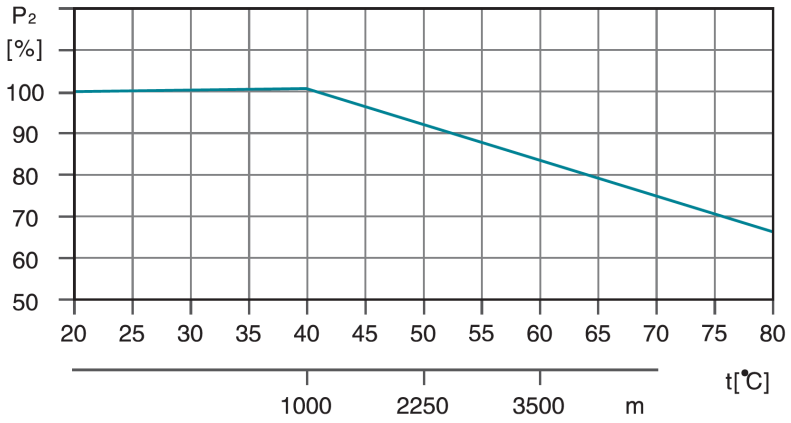


Product Range

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

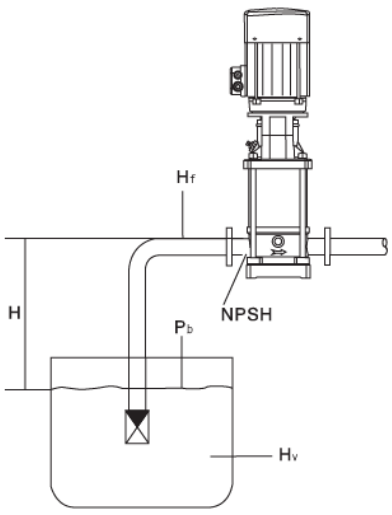
Minimum Inlet Pressure–Npsh

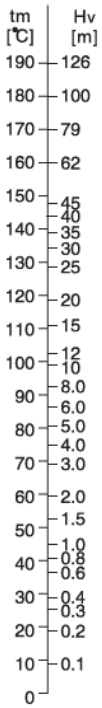
Calculation of the inlet pressure “H” is recommended in these situations:
The liquid temperature is high.
The flow is significantly higher than the rated flow.
Water is drawn from depths.
Water is drawn through long pipes.
Inlet conditions are poor.

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: 5 m³/h
- maximum pressure: 20 bars
- pH between 4 and 10

Moteur

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

Identification codes

LVS m 5 -10 -B /F(A, K, G)

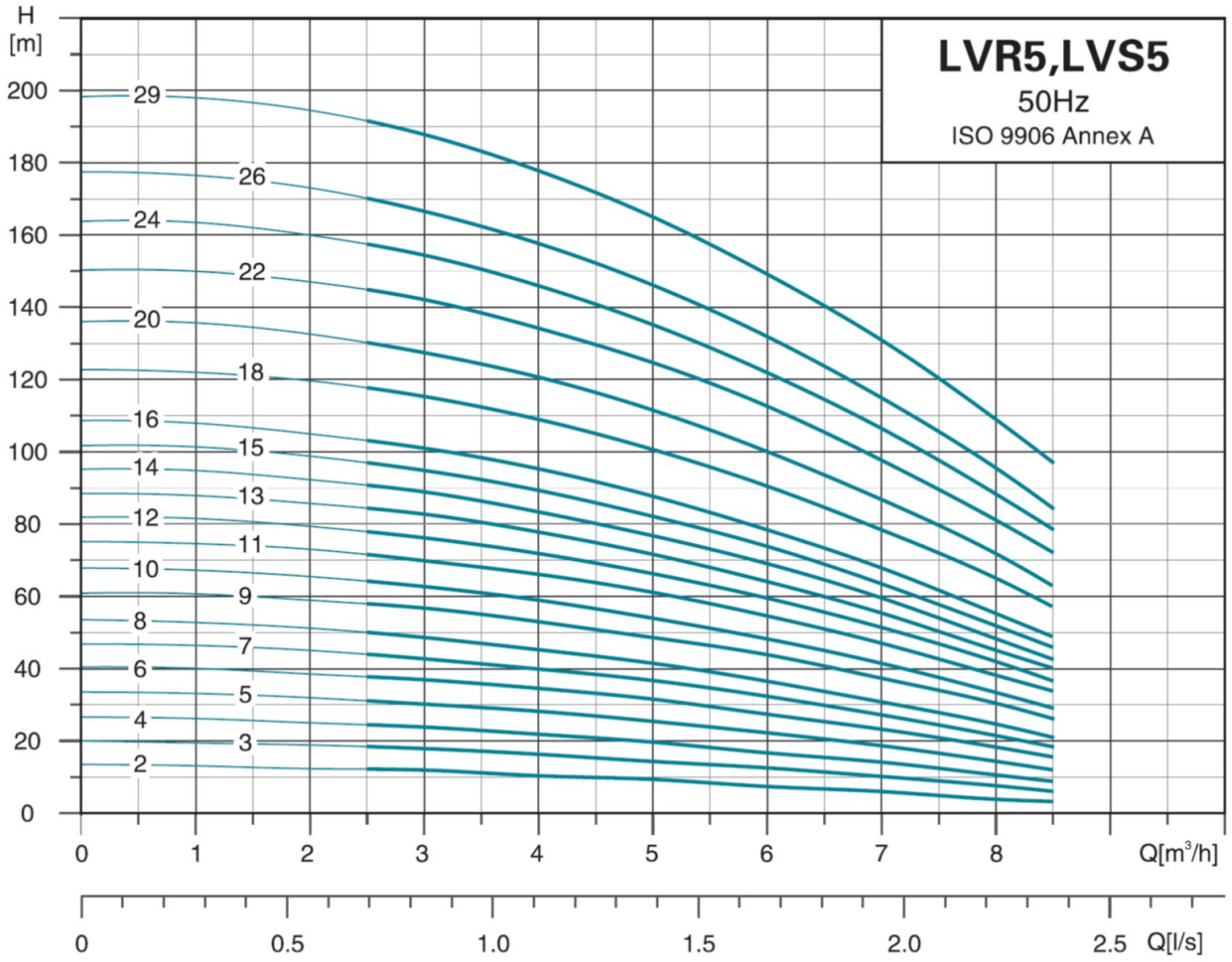
- /F(A, K, G) — DIN flange (oval, clamp fitting, threaded fitting)
- -B — inox 316 (by default, inox 304)
- -10 — number of impellers
- 5 — Nominal flow (m³/h)
- m — Single-phase motor
- LVS — Vertical multistage stainless steel in line pump

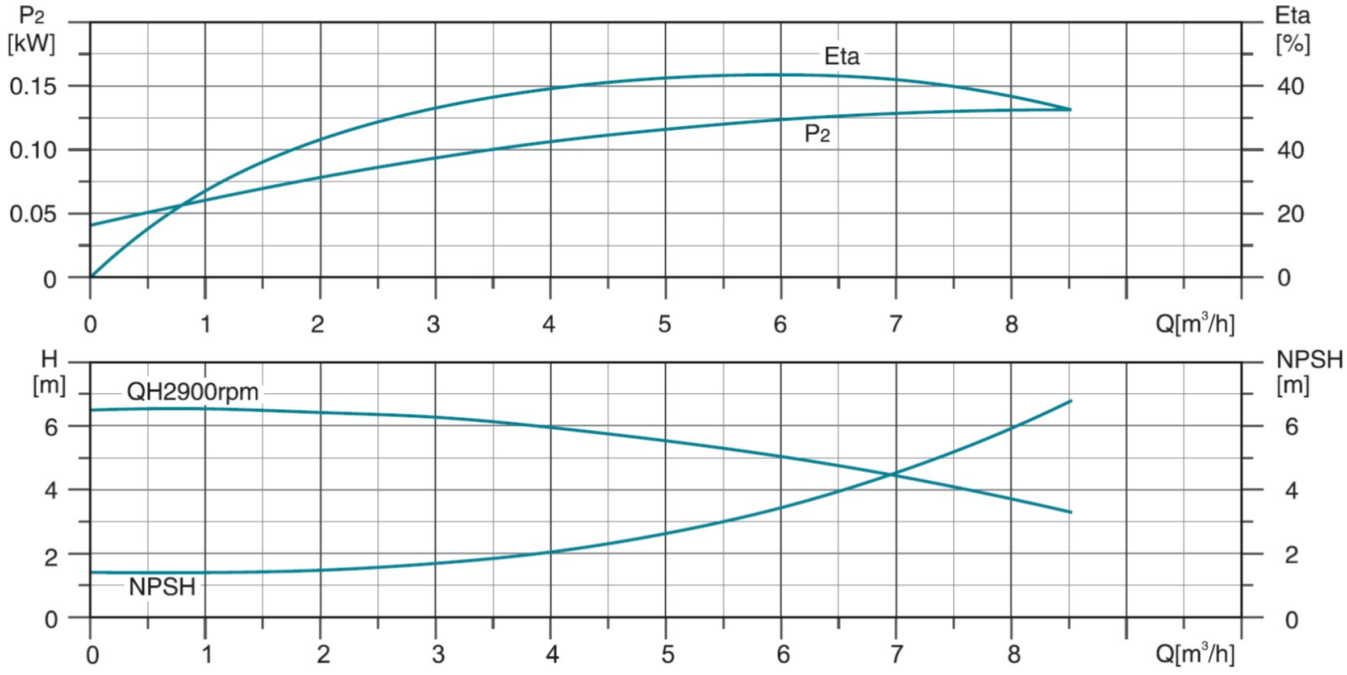
Technical data

MODEL	kW	Q (m³/h) / Q (l/min)	1 / 17	2 / 33	3 / 50	4 / 67	5 / 83	6 / 100	7 / 117	8 / 133	8.5 / 142
LVSm5-2	0.37		13	12	12	10	9	7	6		
LVSm5-3	0.55		19	19	18	16	15	12	10		
LVSm5-4	0.55		26	25	24	22	19	16	14		
LVSm5-5	0.75		33	32	30	28	24	22	18		
LVSm5-6	1.1		40	38	37	34	28	27	23		
LVSm5-7	1.1		46	45	42	40	32	32	27		
LVSm5-8	1.1		53	51	48	45	40	36	31		
LVSm5-9	1.5		60	59	56	53	47	44	37		
LVSm5-10	1.5		67	65	62	59	53	48	41		
LVSm5-11	2.2		74	73	70	66	59	54	47		
LVSm5-12	2.2		81	79	76	72	63	59	51		
LVSm5-13	2.2		88	85	82	78	68	64	55		
LVSm5-14	2.2		95	92	89	83	74	69	60		
LVSm5-15	2.2		101	99	95	89	79	74	63		
LVSm5-16	2.2		108	105	101	95	85	78	68		
LVSm5-18	3		122	119	115	109	98	90	78		
LVSm5-20	3		135	132	127	120	108	100	87		
LVS5-2	0.37		13	12	12	10	9	7	6		
LVS5-3	0.55		19	19	18	16	15	12	10		
LVS5-4	0.55		26	25	24	22	19	16	14		
LVS5-5	0.75		33	32	30	28	24	22	18		
LVS5-6	1.1		40	38	37	34	28	27	23		
LVS5-7	1.1		46	45	42	40	32	32	27		
LVS5-8	1.1		53	51	48	45	40	36	31		
LVS5-9	1.5		60	59	56	53	47	44	37		
LVS5-10	1.5		67	65	62	59	53	48	41		
LVS5-11	2.2		74	73	70	66	59	54	47		
LVS5-12	2.2		81	79	76	72	63	59	51		
LVS5-13	2.2		88	85	82	78	68	64	55		
LVS5-14	2.2		95	92	89	83	74	69	60		
LVS5-15	2.2		101	99	95	89	79	74	63		
LVS5-16	2.2		108	105	101	95	85	78	68		
LVS5-18	3		122	119	115	109	98	90	78		
LVS5-20	3		135	132	127	120	108	100	87		
LVS5-22	4		150	147	142	134	120	112	97		
LVS5-24	4		163	160	154	146	132	122	106		
LVS5-26	4		176	173	166	157	145	132	115		
LVS5-29	4		198	194	188	178	155	149	131		
LVS5-36	5.5		244	237	231	218	205	185	163	136	120

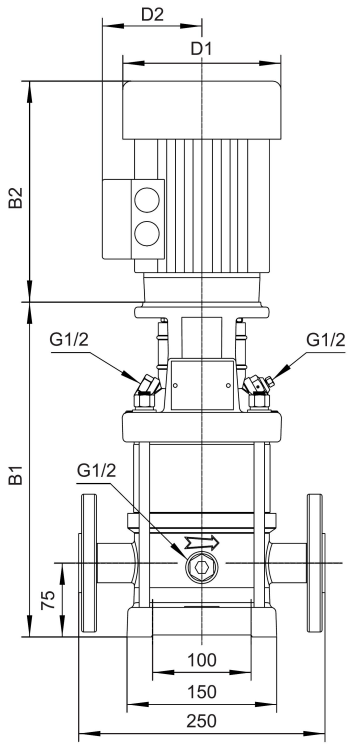
Hydraulic performance

Total manometric height (m)

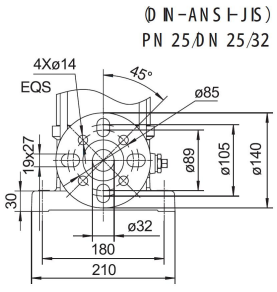




Dimensions

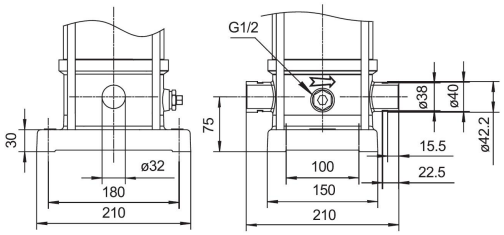


MODEL	B1	B1+B2	D1	D2	poids
LVSm5-2	282	512	130	105	20.9
LVSm5-3	309	539	130	105	21.8
LVSm5-4	336	566	130	105	22.7
LVSm5-5	367	617	150	125	25.5
LVSm5-6	394	644	150	125	27.6
LVSm5-7	421	671	150	125	28.5
LVSm5-8	448	698	150	125	29.1
LVSm5-9	491	801	164	127	37.3
LVSm5-10	518	828	164	127	37.9
LVSm5-11	545	855	164	127	39.4
LVSm5-12	572	882	164	127	39.9
LVSm5-13	599	909	164	127	40.5
LVSm5-14	626	936	164	127	40.9
LVSm5-15	653	963	164	127	41.5
LVSm5-16	680	990	164	127	42.4
LVSm5-18	738	1068	186	120	49.9
LVSm5-20	792	1122	186	120	51.3
LVS5-2	282	512	130	105	20.9
LVS5-3	309	539	130	105	21.8
LVS5-4	336	566	130	105	22.7
LVS5-5	367	617	150	125	25.5
LVS5-6	394	644	150	125	27.6
LVS5-7	421	671	150	125	28.5
LVS5-8	448	698	150	125	29.1
LVS5-9	491	801	164	127	37.3
LVS5-10	518	828	164	127	37.9
LVS5-11	545	855	164	127	39.4
LVS5-12	572	882	164	127	39.9
LVS5-13	599	909	164	127	40.5
LVS5-14	626	936	164	127	40.9
LVS5-15	653	963	164	127	41.5
LVS5-16	680	990	164	127	42.4
LVS5-18	738	1068	186	120	49.9
LVS5-20	792	1122	186	120	51.3
LVS5-22	846	1203	186	120	54.2
LVS5-24	900	1257	186	120	55.5
LVS5-26	954	1311	186	120	58.2
LVS5-29	1035	1392	186	120	59.9
LVS5-36			210	142	

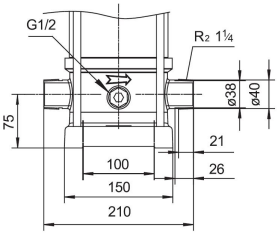


Brides LVS5

Options



Connection clamp (/K)



Threaded connection (/G)

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