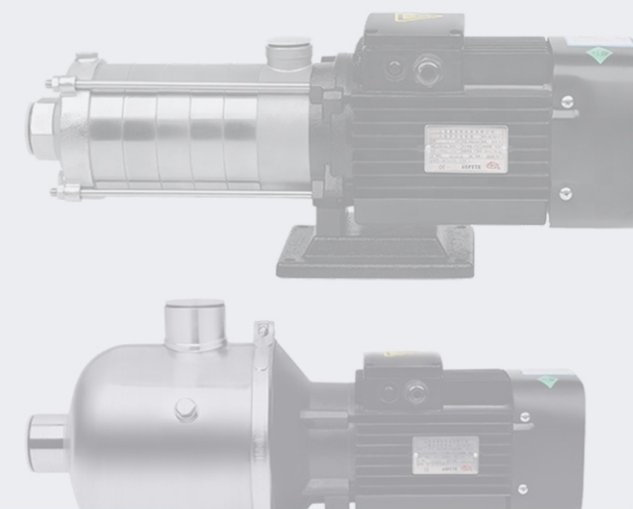
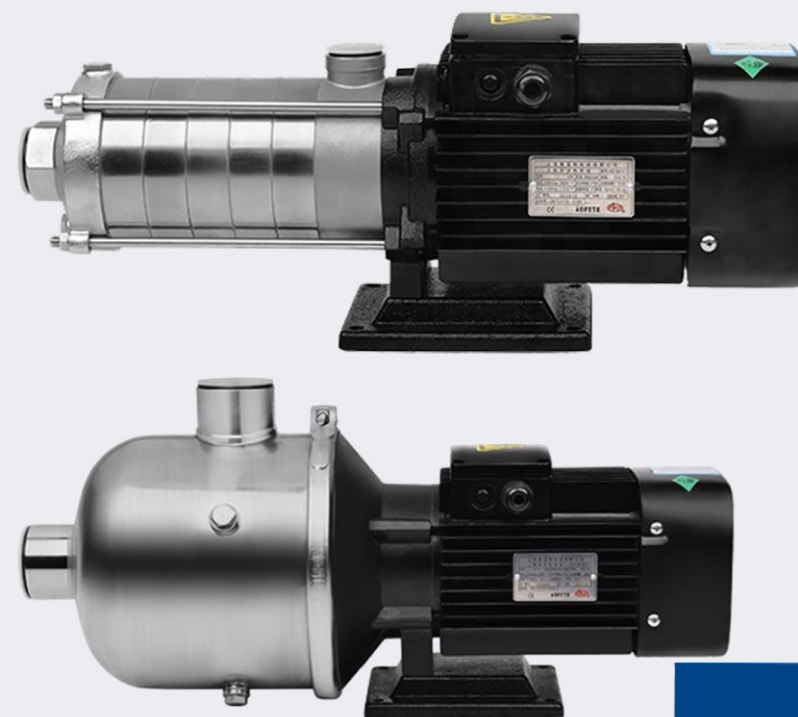




LQDWF/LQDWJ Light Stainless Steel Horizontal Multistage Centrifugal Pump

SHANGHAI LIANSHENG PUMP-MAKING CO.,LTD.

SHANGHAI LIANSHENG PUMP-MAKING CO., LTD

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2023.7



Contents

General data

Company profile.....	1
Product introduction.....	2
Performance ranges.....	2
Model meaning.....	2
Motors.....	3
Technical parameters.....	3
(Sectional views and materials)2,4,5,8,12,15,20.....	4
Maximum inlet pressure	5

(Technical data)LQDWF,LQDWJ(T)

LQDWF2.....	6
LQDWF4.....	7
LQDWF8.....	8
LQDWF12.....	9
LQDWF15.....	10
LQDWF20.....	11
LQDWJ(T)2.....	12
LQDWJ(T)4.....	13
LQDWJ(T)8.....	14
LQDWJ(T)12.....	15
LQDWJ(T)15.....	16
LQDWJ(T)20.....	17

Company Profile

Shanghai Liansheng Pump-Making Co., Ltd. was established in 1967 and is a technology-based private enterprise that integrates production, manufacturing, design, research and development. The product is widely used in areas such as building domestic water supply, fire water supply, boilers, air conditioning circulating cooling, and sewage discharge.

In 2018, Lyson carried out Digital transformation, created a smart water service platform, and realized remote monitoring of intelligent water supply equipment, such as water quality, pressure, flow, equipment operation status, motor life, energy consumption, etc; At the same time, we have combined AR technology to create a 5G smart factory, achieving real-time communication and visits in different places, and have over 200 sets of advanced automated and intelligent production equipment.

Lyson is headquartered at No. 918, Xinjin Road, Qingpu District, Shanghai, covering an area of 33 mu and a building area of 34000 m²

The production base is located at No. 51, Guohua Road, Guangde City, Xuancheng, Anhui Province, covering an area of 61 mu and a building area of 43000 m²

Product Introduction



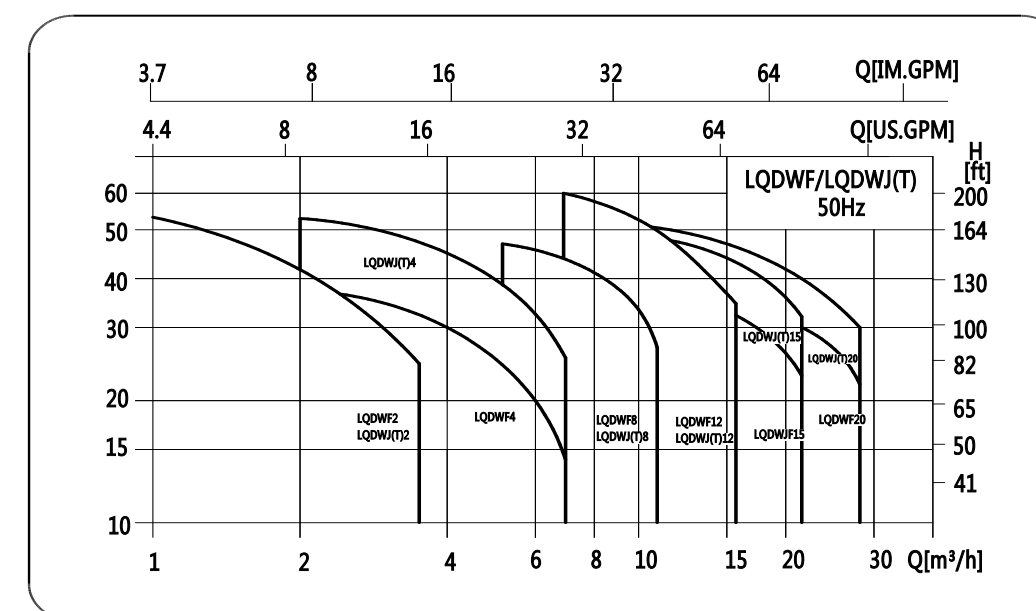
LQDWJ(T)



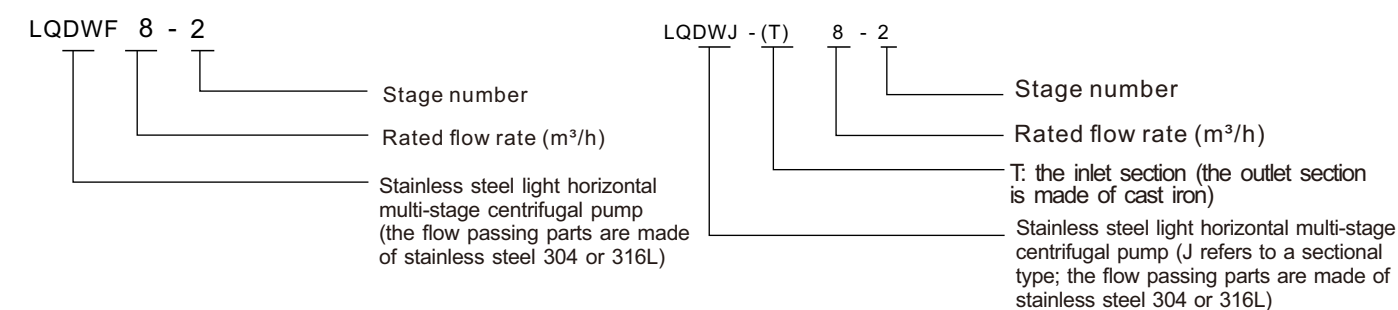
LQDWF

- LQDWF pumps and LQDWJ (T) pumps are stainless steel light horizontal multi-stage centrifugal pumps.
- The motor shafts are extended ones with a compact structure, so the pumps are very small.
 - Liquids flow into the pumps via the axial inlets and out the pumps via the radial outlets, ensuring stable running of the pumps.
- The LQDWF pumps and the LQDWJ (T) pumps are mainly used in:
- Air-conditioning systems;
 - Cooling systems;
 - Flushing and cleaning systems;
 - Water treatment systems;
 - Aquaculture

Performance ranges-LQDWF,LQDWJ(T)



Model meaning



General data

Motors

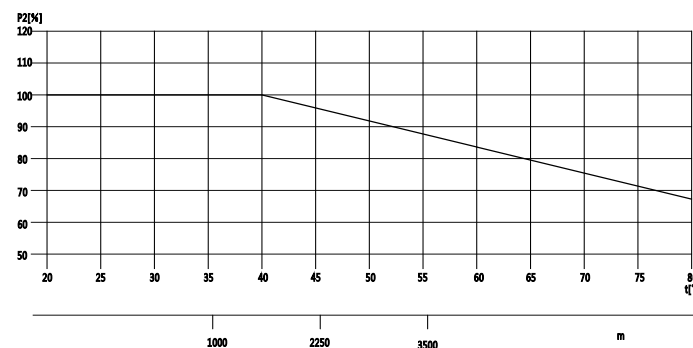
The pumps may be provided with standard air-cooled motors, or standard water-cooled low-noise motors.

- If the motors are totally sealed, air-cooled, two-stage standard motors (0.37KW to 45KW)
 - Installation method: B14 for power smaller than 11KW (including), B5 for power between 15KW to 18.5KW, or V1 for power larger than 22KW
 - Protection grade: IP55
 - Insulation class: F
 - Standard voltage: 50Hz
 - 1x220-230/240V (0.37KW-2.2KW)
 - 3x200-220/346-380V
 - 3x220-240/380-415V
 - 3x380-415V
- If the motors are totally sealed, water-cooled, low-noise, two-stage standard motors (5.5KW to 45KW)
 - Installation method: B14 for power smaller than 11KW (including), B5 for power between 15KW to 18.5KW, or V1 for power larger than 22KW
 - Protection grade: IP55
 - Insulation class: F
 - Standard voltage: 50Hz: 3x380-415V
- The motor configuration proposal available for special applications or operating conditions
 - Explosion-proof motors
 - Low-noise motors
 - Motors with thermal protection
- Motors of the exported stainless steel multi-stage pumps may be configured as required by customers.

Technical parameters

1、Operating environment

The highest operating temperature of the pumps is +40°C. If the pumps are used at a temperature above +40°C, or their motors are installed at an altitude higher than 1000m, the output power of the motors will drop. See the figure below, In this circumstance, motors with larger output power are needed.

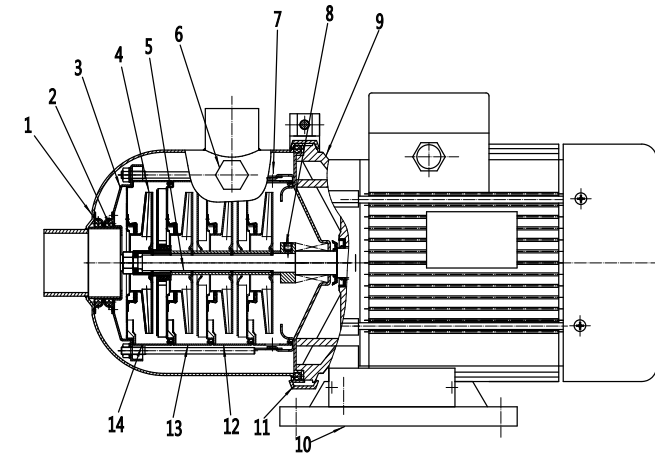


2、Viscosity

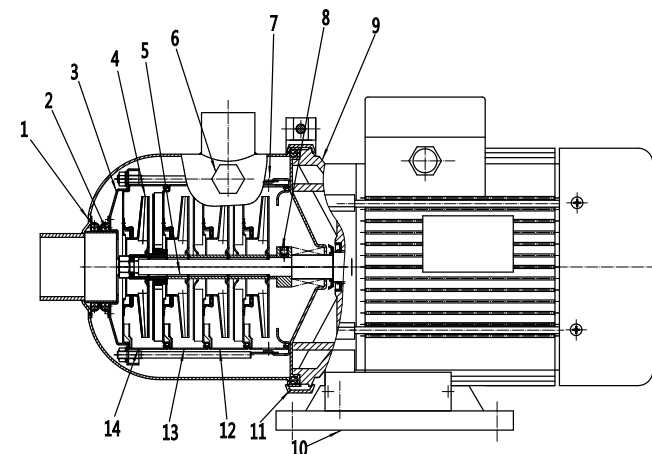
If the densities or kinematic viscosities of the output by the liquids are larger than that of water, pressure and hydraulic performance of the pumps will change greatly and the power consumptions of them will increase. In this circumstance, motors with larger power are needed.

General data

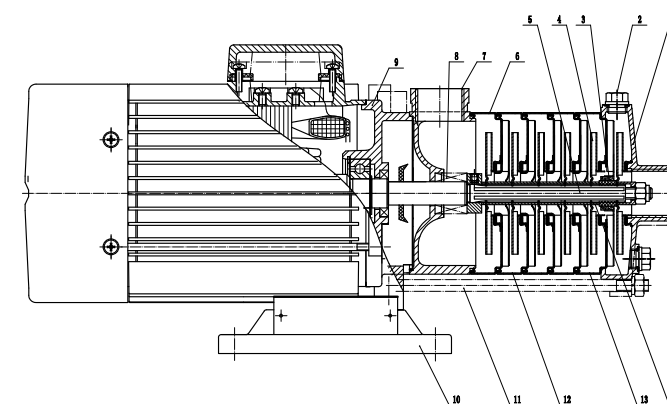
Sectional views LQDWF2,4,5



Sectional views LQDWF10,12,15,20



Sectional views LQDWF,LQDWJ(T)



Materials LQDWF

No	Name	Material	AISI/ASTM
1	Pressure tank	Stainless steel	AISI304
2	Connecting pipe	Stainless steel	AISI304
3	Gland subassembly	Stainless steel	AISI304
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
6	Screw plug	Stainless steel	AISI304
7	Outlet fluid director	Stainless steel	AISI304
8	Mechanical seal		
9	End cover of the motor	Aluminum alloy	
10	Base	Carbon steel	ASTM25B
11	Anchor ear	Stainless steel	AISI304
12	Fluid director	Stainless steel	AISI304
13	Bearing fluid director	Stainless steel	AISI304
14	Inlet fluid director	Stainless steel	AISI304

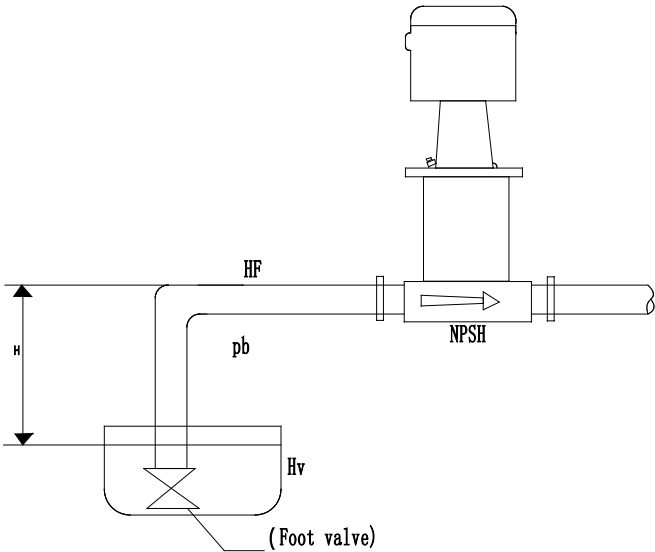
Materials LQDWJ(T)

No	Name	Material	AISI/ASTM
2	Screw plug	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
6	Outlet fluid director	Stainless steel	AISI304
8	Mechanical seal		
9	End cover of the motor	Aluminum alloy	
10	Base	Cast iron	ASTM25B
11	Pull rod	Stainless steel	AISI304
12	Fluid director	Stainless steel	AISI304
13	Bearing fluid director	Stainless steel	AISI304
14	Jacket	Stainless steel	AISI304
LQDWJ			
1	Water-in boby	Stainless steel	AISI304
7	Water-in boby	Stainless steel	AISI304
LQDWJ(T)			
1	Water-in boby	Cast iron	ASTM25B
7	Water-in boby	Cast iron	ASTM25B

General data

Calculation of the minimum inlet pressure (see Fig.2)

Calculation formula of the minimum inlet pressure H (unit; mH2O); $H=P_b \times 10.2 - NPSH - H_f - H_v - H_s$
 P_b : the local atmospheric pressure (bar) (the standard atmospheric pressure is 1bar) (in a sealed pressure, P_b refers to the system pressure) (unit; bar)
NPSH: net positive suction head (unit: m) (it may be obtained from the NPSH performance curve of the sample pump)
 H_f : wear loss in the pipe at the suction position (unit; m)
 H_v : gasification pressure of the liquid (unit: m) (see Table 3)
 H_s : safety margin (minimum; 0.5m)
If the obtained H value is positive, it means that the pump is capable of absorbing a liquid to a height of H; if it is negative it means that the pump will have cavitations and there must be a head with a minimum inlet pressure of H.

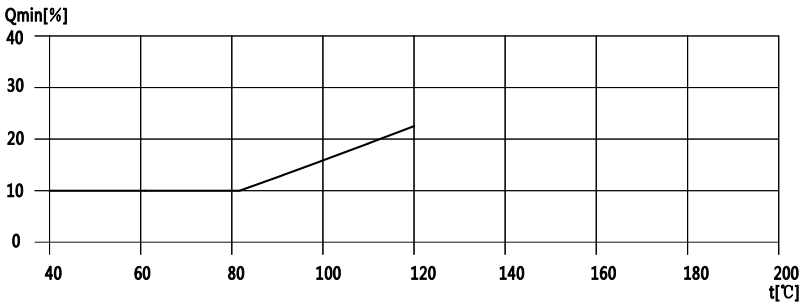


(Table 3 Temperature and Gasification Pressure)

water temperature (°C)	20	30	40	50	60	70	80	85	90	95	100	110	120	130	140
Gasification pressure	0.25	0.4	0.8	1.3	2.1	3.3	4.9	6.1	7.4	8.9	10.9	14.5	20.5	26.5	35

(Minimum flow rate)

There is an overheat risk, so the pump should not run with the minimum flow rate. The curve below shows the percentages of the minimum flow rate in the normal flow rate at the corresponding temperatures.



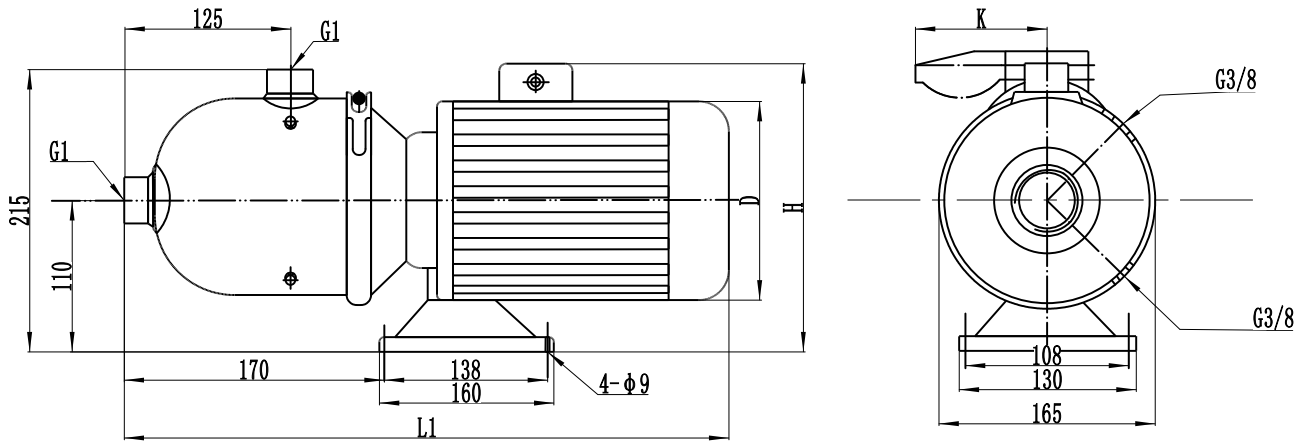
Note: the outlet valve must be opened when the pump is running.

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	0.5	1	1.5	2	2.5	3	3.5
LQDWF2-2	0.37	H(m)	19	18	16	14	13	11	9
LQDWF2-3	0.37		28	27	24	21	20	17	14
LQDWF2-4	0.55		36	34	32	28	26	23	17
LQDWF2-5	0.55		46	43	40	35	33	28	22
LQDWF2-6	0.75		54	50	48	42	38	33	25

(Installation drawing)



(Dimensions and weight)

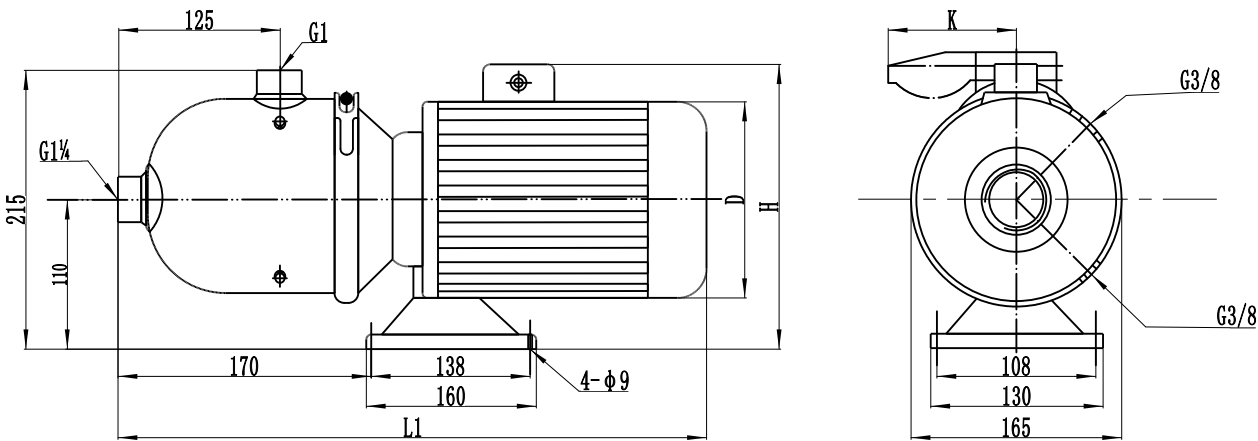
Motor	Model	Dimensions(mm)				Weight kg
		L1	D	H	K	
Three-phase /single-phase	LQDWF2-2	407	145	215/230	/96	13
	LQDWF2-3	407	145	215/230	/96	13
	LQDWF2-4	407	145	215/230	/96	13
	LQDWF2-5	407	145	215/230	/96	13
	LQDWF2-6	446	170	225/245	/100	15

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	1	2	3	4	5	6	7
LQDWF4-2	0.37	H(m)	19	18	16	15	13	10	7
LQDWF4-3	0.55		28	27	24	22	19	15	10
LQDWF4-4	0.75		38	36	32	30	26	20	14

(Installation drawing)



(Dimensions and weight)

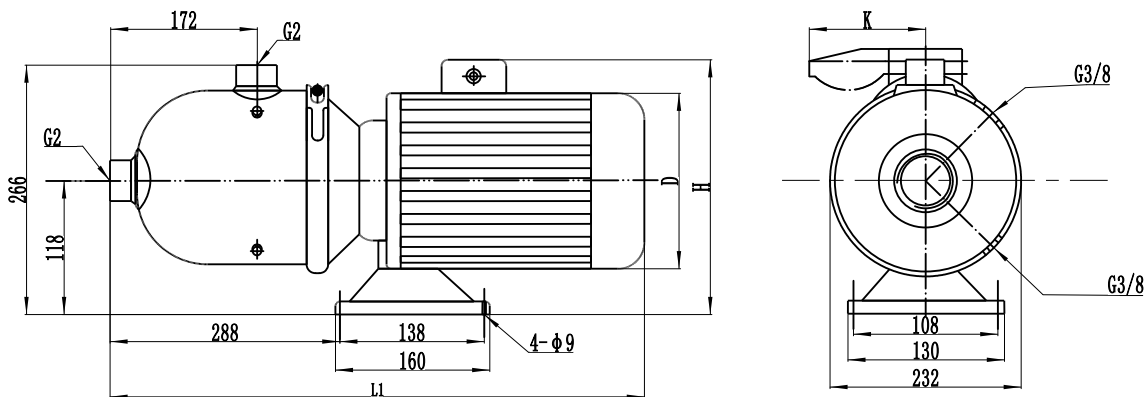
Motor	Model	Dimensions(mm)				Weight kg
		L1	D	H	K	
Three-phase /single-phase	LQDWF4-2	407	145	215/230	/96	12
	LQDWF4-3	446	170	225/245	/100	15
	LQDWF4-4	446	170	225/245	/100	15

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	5	6	7	8	9	10	11
LQDWF8-1	0.75	H(m)	9.5	9.3	9	8.5	7.5	6.5	5.5
LQDWF8-2	0.75		19	18.5	18	17	15	13	11
LQDWF8-3	1.1		29	28	27	25.5	22.5	20	17.5
LQDWF8-4	1.5		39	38	36	34	30	26.5	22.5
LQDWF8-5	2.2		49	47	45	42.5	38	33.5	28

(Installation drawing)



(Dimensions and weight)

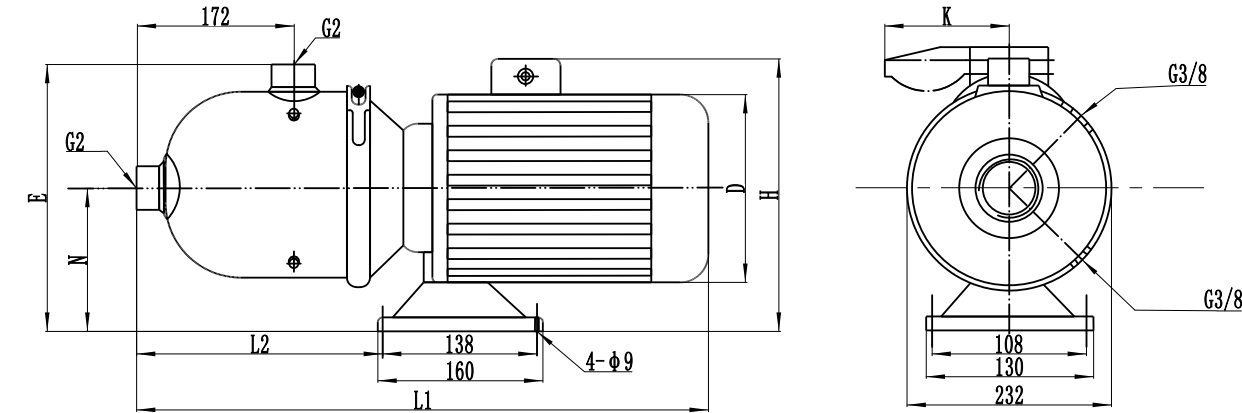
Motor	Model	Dimensions(mm)				Weight kg
		L1	D	H	K	
Three-phase /single-phase	LQDWF8-1	566	170	215/265	/100	20
	LQDWF8-2	566	170	230/265	/100	20
	LQDWF8-3	566	170	230/265	/100	25
	LQDWF8-4	618	180	240/270	/100	25
	LQDWF8-5	618	180	240/270	/100	30

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	7	8	9	10	11	12	13	14	15	16
LQDWF12-1	0.75	H(m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
LQDWF12-2	1.5		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
LQDWF12-3	2.2		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
LQDWF12-4	2.4		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
LQDWF12-5	3		60	58	56.5	55	52.5	50	47	44	40	35

(Installation drawing)



(Dimensions and weight)

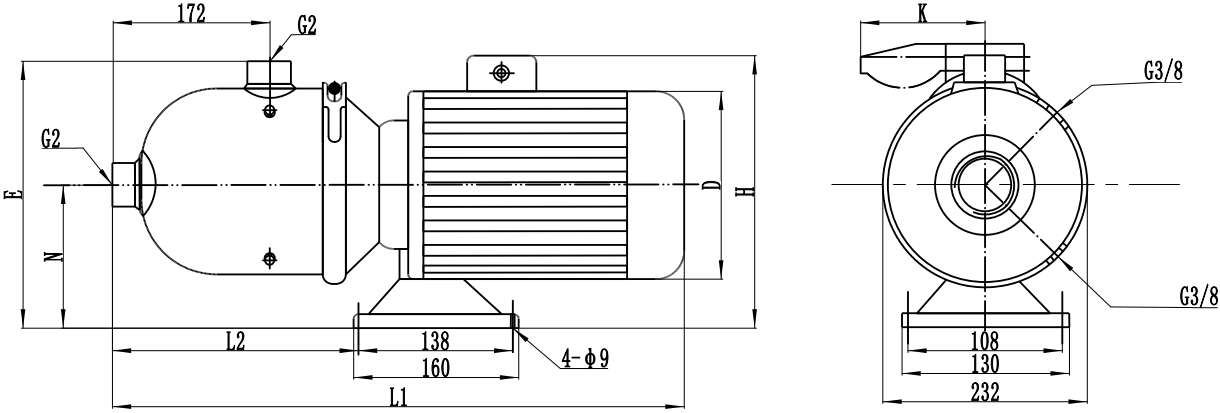
Motor	Model	Dimensions(mm)							Weight kg
		L1	L2	H	D	E	N	K	
Three-phase /single-phase	LQDWF12-1	566	288	230/265	170	268	118	/100	20
	LQDWF12-2	566	288	230/265	170	268	118	/100	21
	LQDWF12-3	618	288	240/270	180	268	118	/100	25
	LQDWF12-4	618	288	240/270	180	268	118	/100	29
	LQDWF12-5	656	278	270/	195	276	126		34

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	8	10	12	14	16	18	20	22
LQDWF15-1	1.1	H(m)	12.5	12	11.5	10.5	10	9	7.5	6.5
LQDWF15-2	2.2		25.5	24	23	22	21	19	17	14.5
LQDWF15-3	3		38.5	37	36	34	32	30	27	23

(Installation drawing)



(Dimensions and weight)

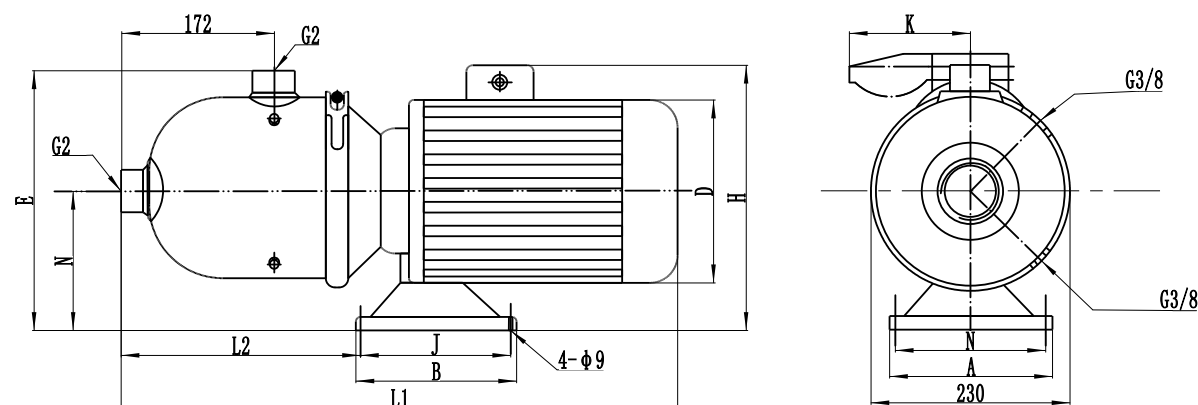
Motor	Model	Dimensions(mm)							Weight kg
		L1	L2	H	D	E	N	K	
Three-phase /single-phase	LQDWF15-1	566	288	268	118	170	230/265	/100	20
	LQDWF15-2	618	288	268	118	180	240/270	/100	27
	LQDWF15-3	626	278	276	126	195	270/		34

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	10	12	14	16	18	20	22	24	26	28
LQDWF20-1	1.1	H(m)	12.5	12	11.5	11	10.5	9.5	8.5	7.5	6.5	5.5
LQDWF20-2	2.2		25.5	24.5	24	23	22	21	20	18	16	13.5
LQDWF20-3	4		38	37.5	37	36	35	33	31	28	25	22

(Installation drawing)



(Dimensions and weight)

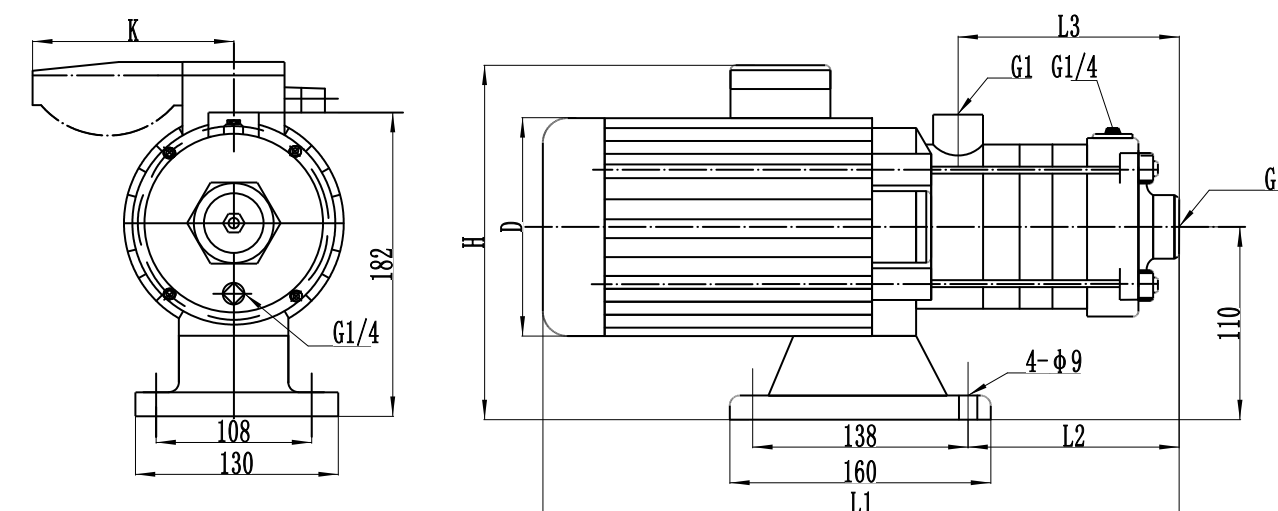
Motor	Model	Dimensions(mm)												Weight kg
		L1	L2	H	D	E	N	A	M	B	J	d	k	
Three-phase /single-phase	LQDWF20-1	560	280	230/265	170	268	118	130	108	160	138	9	/100	21
	LQDWF20-2	580	280	240/270	180	268	118	130	108	160	138	9	/100	28
	LQDWF20-3	650	360	270/	220	270	120	130	108	160	138	9		42

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	0.5	1	1.5	2	2.5	3	3.5
LQDWJ(T)2-2	0.37	H(m)	19	18	16	14	13	11	9
LQDWJ(T)2-3	0.37		28	27	24	21	20	17	14
LQDWJ(T)2-4	0.55		36	34	32	28	26	23	17
LQDWJ(T)2-5	0.55		46	43	40	35	33	28	22
LQDWJ(T)2-6	0.75		54	50	48	42	38	33	25

(Installation drawing)

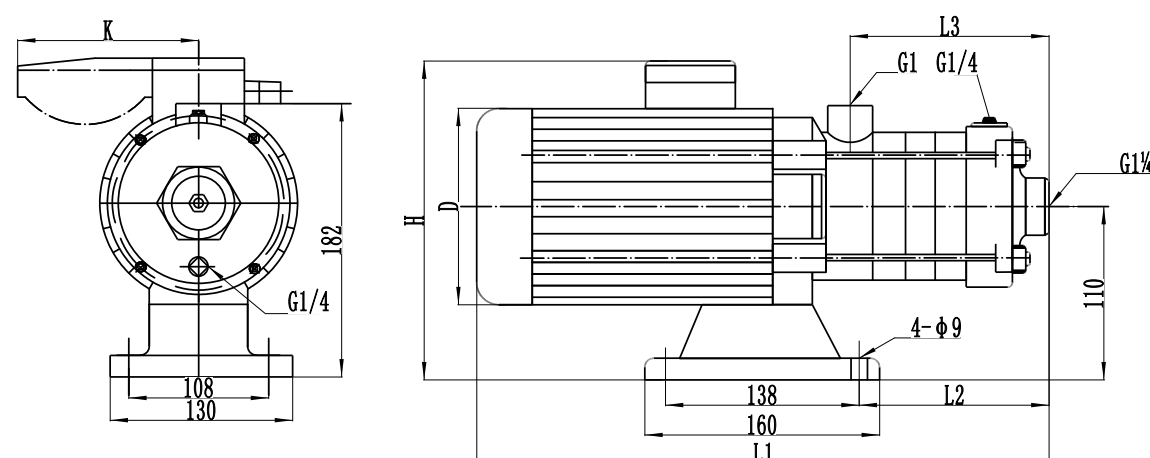


(Dimensions and weight)

Model	Dimensions(mm)						Weight kg
	L1	L2	L3	D	H	K	
LQDWJ(T) 2-2	305	87	84	145	215/230	/96	15
LQDWJ(T) 2-3	323	105	102	145	215/230	/96	15
LQDWJ(T) 2-4	341	123	120	145	215/230	/96	15
LQDWJ(T) 2-5	359	141	138	145	215/230	/96	15
LQDWJ(T) 2-6	422	159	156	170	225/245	/100	17

Technical data
(Performance table)

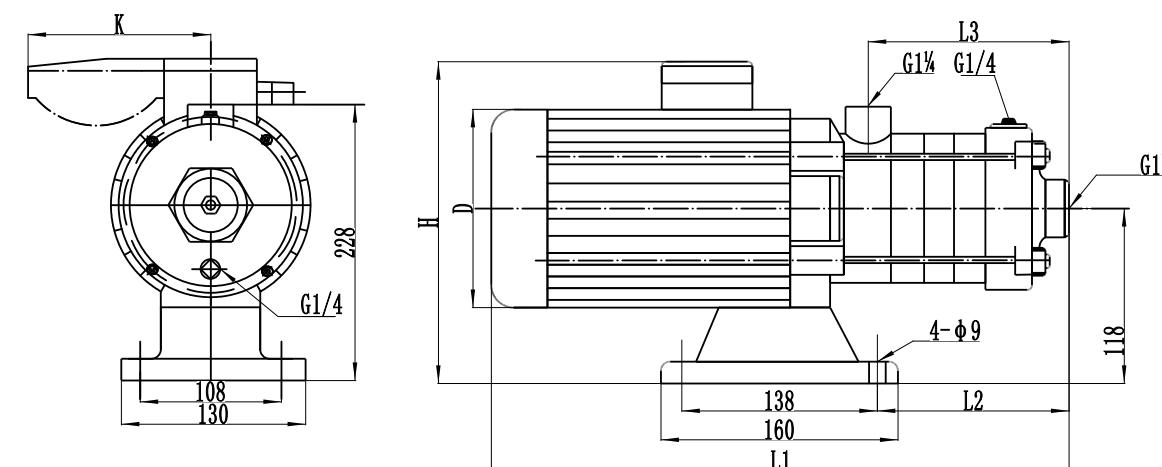
Model	Matching motor (KW)	Q (m³/h)	1	2	3	4	5	6	7
LQDWJ(T)4-2	0.37	H(m)	19	18	16	15	13	10	7
LQDWJ(T)4-3	0.55		28	27	24	22	19	15	10
LQDWJ(T)4-4	0.75		38	36	32	30	26	20	14
LQDWJ(T)4-5	1.1		46	44	41	38	32	26	20
LQDWJ(T)4-6	1.1		55	53	50	45	37	31	26

(Installation drawing)

(Dimensions and weight)

Model	Dimensions(mm)						Weight kg
	L1	L2	L3	D	H	K	
LQDWJ(T)4-2	329	105	102	145	215/230	/96	15
LQDWJ(T)4-3	356	132	126	145	215/230	/96	15
LQDWJ(T)4-4	416	162	156	170	225/245	/100	17
LQDWJ(T)4-5	455	188	183	170	225/245	/100	17
LQDWJ(T)4-6	482	213	210	170	225/245	/100	17

Technical data
(Performance table)

Model	Matching motor (KW)	Q (m³/h)	5	6	7	8	9	10	11
LQDWJ(T)8-1	0.75	H(m)	9.5	9.3	9	8.5	7.5	6.5	5
LQDWJ(T)8-2	0.75		19	18.5	18	17	15	13	11
LQDWJ(T)8-3	1.1		29	28	27	25.5	22.5	20	17.5
LQDWJ(T)8-4	1.5		39	38	36	34	30	26.5	22.5
LQDWJ(T)8-5	2.2		49	47	45	42.5	38	33.5	28

(Installation drawing)

(Dimensions and weight)

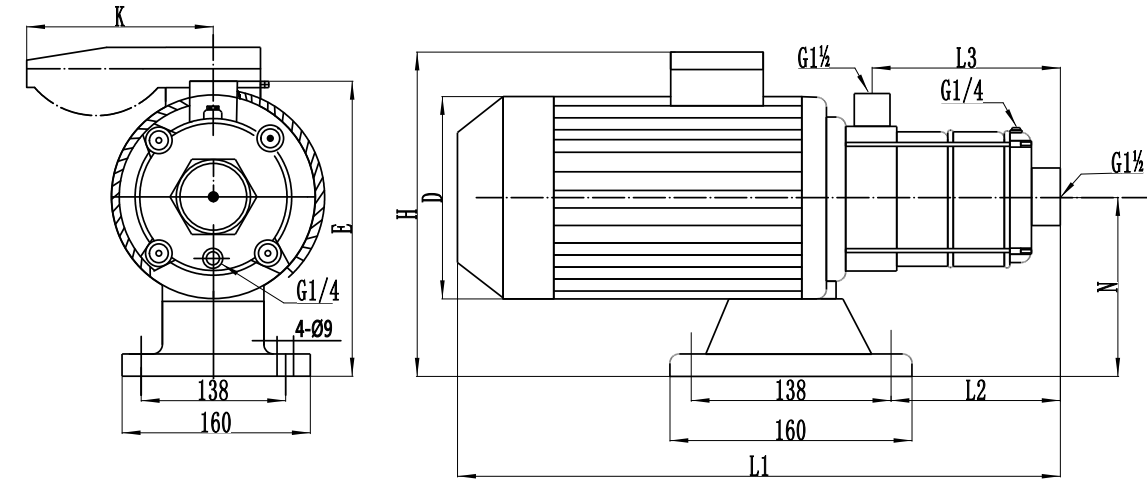
Model	Dimensions(mm)						Weight kg
	L1	L2	L3	D	H	K	
LQDWJ(T)8-1	395	126	108	170	230/265	/100	20
LQDWJ(T)8-2	395	126	108	170	230/265	/100	20
LQDWJ(T)8-3	425	156	138	170	230/265	/100	25
LQDWJ(T)8-4	490	186	168	180	240/270	/100	28
LQDWJ(T)8-5	520	216	198	180	240/270	/100	30

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	7	8	9	10	11	12	13	14	15	16
LQDWJ(T)12-1	0.75	H(m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
LQDWJ(T)12-2	1.5		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
LQDWJ(T)12-3	2.2		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
LQDWJ(T)12-4	2.4		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
LQDWJ(T)12-5	3		60	58	56.5	55	52.5	50	47	44	40	35

(Installation drawing)



(Dimensions and weight)

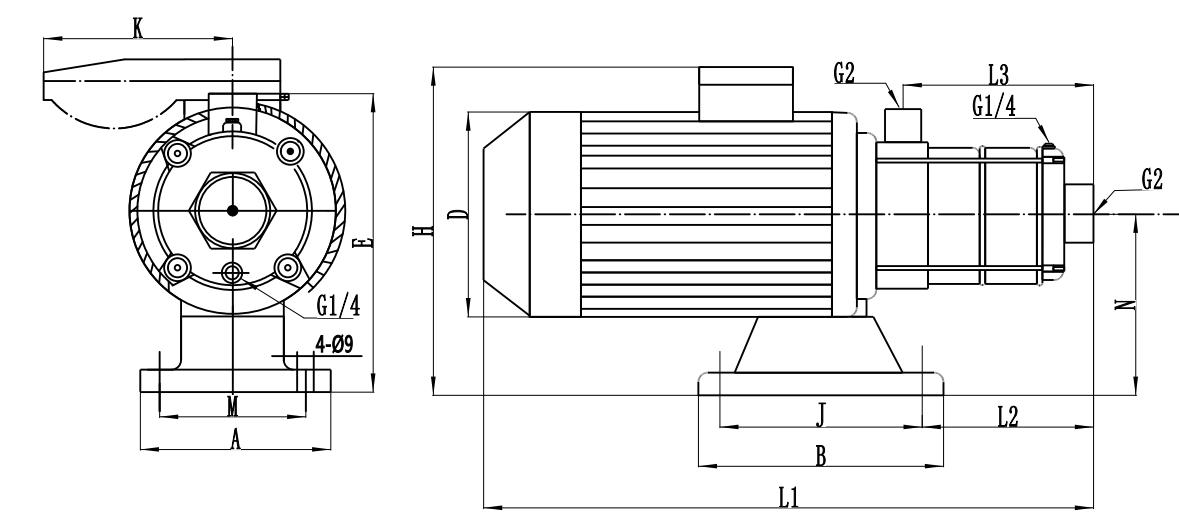
Motor	Model	Dimensions(mm)								Weight kg
		L1	L2	L3	H	D	E	N	K	
Three-phase /single-phase	LQDWJ (T)12-1	395	126	108	230/265	170	228	118	/100	20
	LQDWJ (T)12-2	395	126	108	230/265	170	228	118	/100	21
	LQDWJ (T)12-3	460	156	138	240/270	180	228	118	/100	25
	LQDWJ (T)12-4	490	186	168	240/270	180	228	118	/100	29
	LQDWJ (T)12-5	555	216	198	270/	195	240	126		34

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	8	10	12	14	16	18	20	22
LQDWJ(T)15-1	1.1	H(m)	12.5	12	11.5	10.5	10	9	7.5	6.5
LQDWJ(T)15-2	2.2		25.5	24	23	22	21	19	17	14.5
LQDWJ(T)15-3	3		38.5	37	36	34	32	30	27	23
LQDWJ(T)15-4	4		51.5	50.5	49	46	43	40.5	36	31.5

(Installation drawing)



(Dimensions and weight)

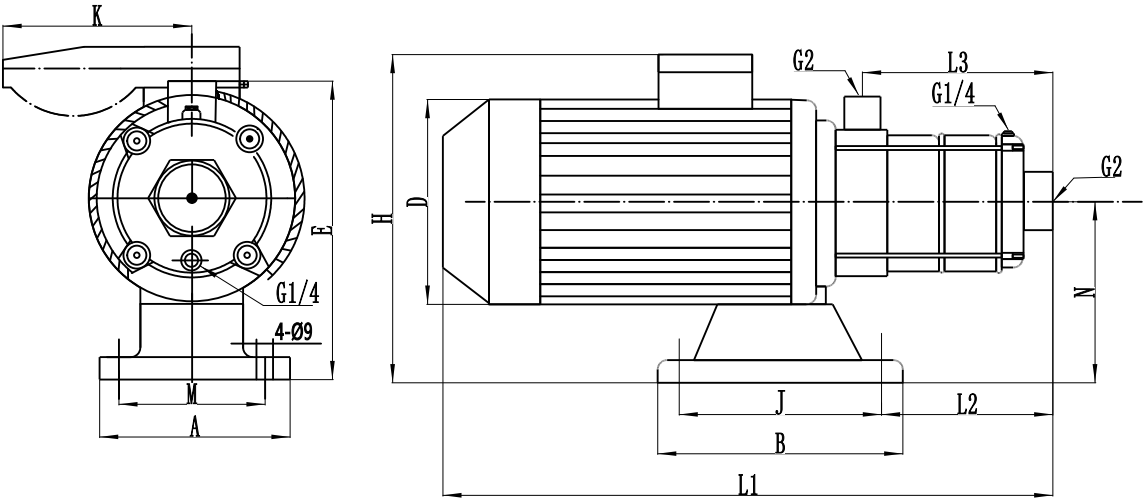
Motor	Model	Dimensions(mm)													Weight kg
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K	
Three-phase /single-phase	LQDWJ(T)15-1	423	151	126	230/265	180	227	117	130	108	160	138	9	/100	17.5
	LQDWJ(T)15-2	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	LQDWJ(T)15-3	561	196	171	270/	195	240	130	130	108	160	138	9		33
	LQDWJ(T)15-4	621	340	216	270/	220	230	120	130	108	160	138	9		41

Technical data

(Performance table)

Model	Matching motor (KW)	Q (m³/h)	10	12	14	16	18	20	22	24	26	28
LQDWJ(T)20-1	1.1	H(m)	12.5	12	11.5	11	10.5	9.5	8.5	7.5	6.5	5.5
LQDWJ(T)20-2	2.2		25.5	24.5	24	23	22	21	20	18	16	13.5
LQDWJ(T)20-3	4		38	37.5	37	36	35	33	31	28	25	22
LQDWJ(T)20-4	4.4		51	50	49	48	47	44.5	41.5	37.5	33.5	30

(Installation drawing)



(Dimensions and weight)

Motor	Model	Dimensions(mm)													Weight kg
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K	
Three-phase /single-phase	LQDWJ(T)20-1	423	151	126	230/265	180	227	117	130	108	160	138	9	/100	17.5
	LQDWJ(T)20-2	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	LQDWJ(T)20-3	576	294	171	270/	220	230	120	130	108	160	138	9		41
	LQDWJ(T)20-4	621	340	216	270/	220	230	120	130	108	160	138	9		44