Zhejiang Nanbeng Fluid Machinery Co.,Ltd.

MAIL: info@zjnbpump.com
WEB: www.zjnbpump.com
ADD: Nanshe Industrial Park, Huzhou City, Zhejiang Province

E230301

CDL/CDLF 50Hz

Light Vertical Multistage Centrifugal Pump

ZHEJIANG NANBENG FLUID MACHINERY CO.,LTD.

Company Profile

Zhejiang Nanbeng Fluid Machinery Co.,Ltd. is a leading pump manufacturer committed to the Chinese people's water safety to make our own contribution.The team who founded the company is the first generation research and development of stainless steel centrifugal pump in China, has accumulated more than 30 years of technology research and development experience,core members presided over and participated in the development of national standard of the "light, small multistage centrifugal pump", national science and technology support plans for the 11th, 12th and 13th five-years plan, "national torch project", "national key new product project" and other projects of research and development,design and production.R&D centre equipped with industry-leading CFD fluid 3D simulation design software, domestic top stamping equipment and automatic production line to ensure high performance and high stability of products,our comprehensive R & D and production strength achieve domestic advanced level.

The construction area of the company is 82,000 square meters,design output value is one billion per year.We can offer you a wide range of stainless steel stamping and welding centrifugal pump, pipeline circulation pump, end suction centrifugal pump, sewage submersible pump, high pressure pump, fire pump and water supply and drainage complete sets of products for many applications as highest performance in booster sets and pressurization, building services,water treatment, industry, irrigation and industrial process,fire-fighting sets, pumping of underground water, drainage and sewage, utilities and desalination.Now we are looking for more partners around the world,we sincerely looking forward to your joining at Huzhou China.Global water challenges as well as opportunities, require excellence in pumping technologies and close cooperation between pump designers and manufacturers. Let's cooperate and make our contribution to the water security for more people all over the world.

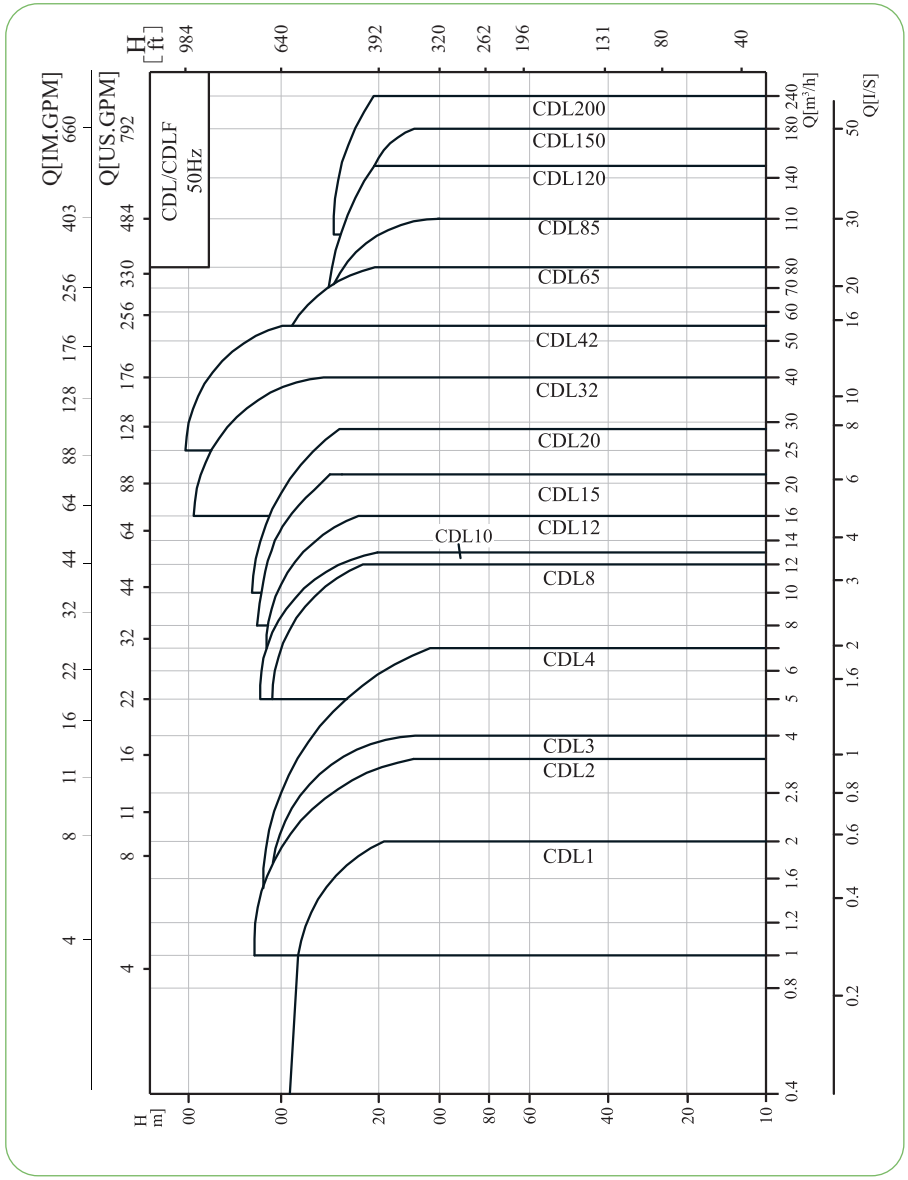
Content

General Data

Technical Data

General Data

Performance scope



Product range

Description	CDL 1	CDL 2	CDL 3	CDL 4	CDL 8	CDL 10	CDL 12	CDL 15	CDL 20	CDL 32	CDL 42	CDL 65	CDL 85	CDL 120	CDL 150	CDL 200
Rated flow[m³/h]	1	2	3	4	8	10	12	15	20	32	42	65	85	120	150	200
Rated flow[l/s]	0.28	0.56	0.83	1.1	2.2	2.78	3.3	4.17	5.6	8.9	11.7	18	24	33	41.6	55.6
Flow range[m³/h]	0.4-2	1-3.5	1.2-4	1.5-7	5-12	5-13	7-16	8-22	10-28	16-40	25-55	30-80	50-110	60-150	80-180	100-240
Flow range[l/s]	0.11-0.56	0.28-0.97	0.33-1.1	0.42-1.9	1.4-3.3	1.4-3.64	1.9-4.4	2.1-6.1	2.8-7.8	4.4-11.1	6.9-15.3	8.3-22.2	13.8-30.5	16.7-41.7	22-50	27.8-66.7
Max.pressure[bar]	21	23	22	21	21	22	22	22	23	29	30	22	17	16	16	16
Motor power[kW]	0.37-2.2	0.37-3	0.37-3	0.37-4	0.75-7.5	0.75-7.5	1.5-11	1.1-15	1.1-18.5	1.5-30	3.0-45	4.0-45	5.5-45	11-75	11-75	18.5-110
Temp.[°C]	-15-+120															
MAX.efficiency[%]	44	46	54	57	62	68	63	70	69	73	75	76	77	74	73	79
Type																
CDL	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CDLF	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CDL Pipelines																
DIN Flange	DN25	DN25	DN25	DN32	DN40	DN40	DN50	DN50	DN50	DN65	DN80	DN100	DN100	DN125	DN125	DN150
Oval Flange	G1	G1	G1	G1¼	G1½	G1½										
CDLF Pipelines																
DIN Flange	DN25	DN25	DN25	DN32	DN40	DN40	DN50	DN50	DN50	DN65	DN80	DN100	DN100	DN125	DN125	DN150
Cutting ferrule joint	DN32	DN32	DN32	DN32	DN50	DN50	DN50	DN50	DN50							
Pipe thread	R1¼	R1¼	R1¼	R1¼	R2	R2	R2	R2	R2							
Oval Flange	G1	G1	G1	G1¼	G1½	G1½										

General Data

Pump

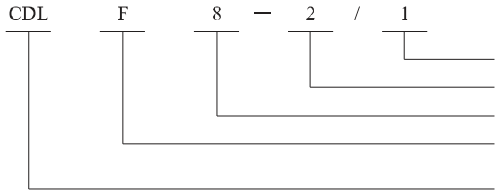
CDL / CDLF is a kind of vertical non-self priming multi-stage centrifugal pump, which is driven by a standard electric motor. The motor output shaft directly connects with the pump shaft through a coupling. The pressure-resistant cylinder and flow passage components are fixed between pump head and inlet & outlet section with stay bolts. The inlet and outlet are located at the pump bottom at the same plane. This kind of pump can be equipped with an intelligent protector to effectively prevent it from dry-running, out-of-phase and overload.

Motor

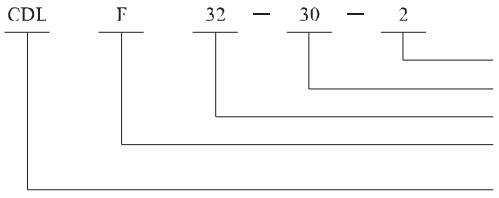
Full-enclosed air-blast two-pole standard motor
Protection class: IP55
Insulation class: F
Standard voltage:50Hz: 1×220-230/240V
3 × 200-220 / 346-380V
3 × 220-240 / 380-415V
3 × 380-415V

Definition of Model

CDL/CDLF1,2,3,4,8,10,12,15 and 20



CDL/CDLF32,42,65,85,120 and 150



Application

CDL / CDLF is a kind of multifunctional products.It can be used to convey various medium from tap water to industrial liquid at different temperature and with different flow rate and pressure. CDL type is applicable to conveying non-corrosive liquid, while CDLF is suitable for slightly corrosive liquid.

●Water supply: Water filter and transport in Waterworks, boosting of main pipeline, boosting in high-rise buildings.

●Industrial boosting: Process flow water system, cleaning system, high-pressure washing system, fire fighting system.

●Industrial liquid conveying: Cooling and air-conditioning system, boiler water supply and condensing system, machine-associated purpose, acids and alkali.

●Water treatment: ulitrafiltration system, reverse osmosis system, distillation system, separator, swimming pool.

●Irrigation: Farmland irrigation, spray irrigation, dripping irrigation.

Operation conditions

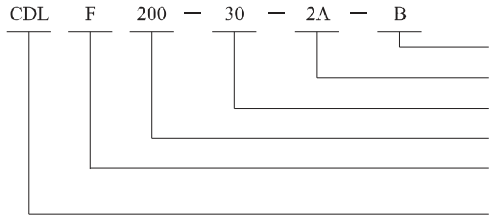
●Thin, clean, non-flammable and non-explosive liquid containing no solid granules and fibers.

●Liquid temperature:
Normal temperature type: -15℃~+70℃,
Hot water type: -15℃~+120℃

●Ambient temperature: up to +40℃

●Altitude:up to 1000m

CDL/CDLF 200



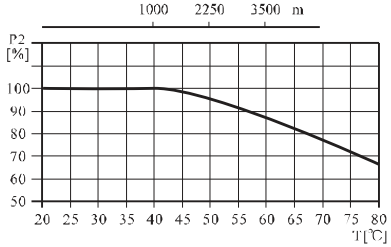
Max working pressure

Model	Max.pressure(bar)
CDL1,2,3,4,Flange	25
CDL(F)1,2,3,4,Over Flange	16
CDLF1,2,3,4 Flange. cutting ferrule joint, pipe thread	25
CDL8,10,12,15,20 Flange	25
CDL(F)8 Over Flange	16
CDLF8,10,12,15,20 Flange,cutting ferrule joint,pipe thread	25
CDL32	
32-10-1~32-80 32-90-2~32-160	16(30) 30
CDLF32	30
CDL42	
42-10-1~42-60-2 42-60~42-90 42-100-2～42-130-2	16(30) 25(30) 30
CDLF42	
42-10-1~42-90 42-100-2~42-130-2	25(30) 30
CDL 65	
65-10-1~65-50-2 65-50-1~65-80-1	16(25) 25
CDL85	
85-10-1~85-40-2 85-40~85-60	16(25) 25
CDLF65,85	25
CDL,CDLF 120,150,200	20

Pumps with pressure inside brackets need to specify especially.

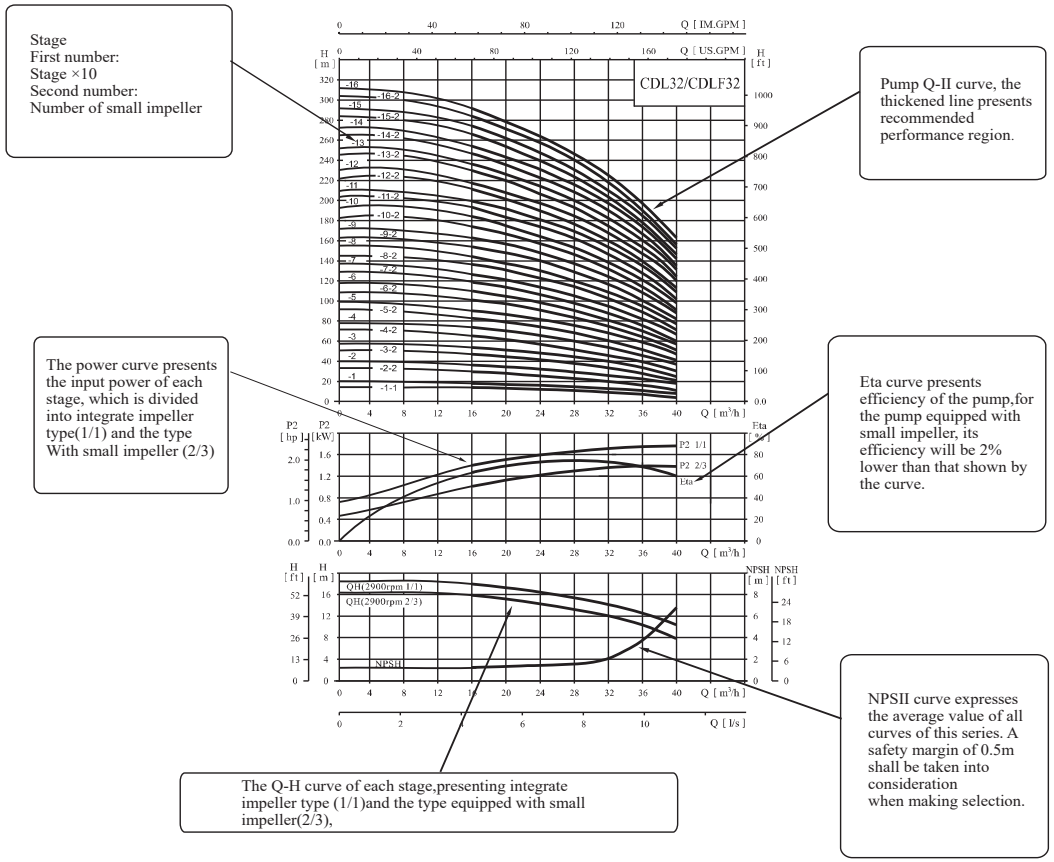
Max.Ambient temperature

When the pump operates under ambient temperature higher than 40℃ or under altitude higher than 1000m, because of low air density and poor cooling effects, the motor output power P2 will be decreased to certain extent. If the pump is operated under the above-said conditions, it should be equipped with motor of higher power



General Data

Curve illustration



Performance curve

Following conditions arc suitable for the performance curves shown bellow:

1、All curves arc based on the measured values of 50Hz:-constant motor speed 2900rpm or 2950rpm.

2、Curve tolerance in conformity to ISO9906:2012 Grade 3B.

3、Measurement is done with 20℃ air-free water, kinematic viscosity of 1mm²/s.

4、The operation of pump shall refer to the performance region indicated by the thickened curve to prevent over-heating due to too small flow rate or overload of motor due to too large flow rate

Minimum inlet pressure NPSH

In case that the pressure in pump is lower than the steam pressure used to convey liquid, the cavitation will occur. To avoid cavitation, a minimum pressure at the inlet side of the pump shall be guaranteed. The maximum suction stroke can be calculated with following formula:

H=Pb × 10.2-NPSH-Hf-Hv-Hs

Pb=atmosphere pressure [bar]

(can be set as 1bar)

In a closed system, Pb means system pressure [bar]

NPSH=Net positive suction head [m]

(It can be read out from the point of possible max. flow rate shown on NPSII curve)

Hf=Pipeline loss at the inlet [m]

Hv= Steam pressure [m]

Hs=Safety margin=Minimum 0.5m delivery head

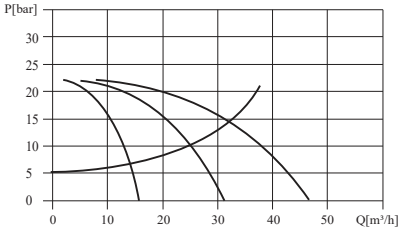
If the calculated result II is positive, the pump may run under the max, suction stroke H.

In case the calculated result H is negative, a delivery head of min. Inlet pressure is necessary.

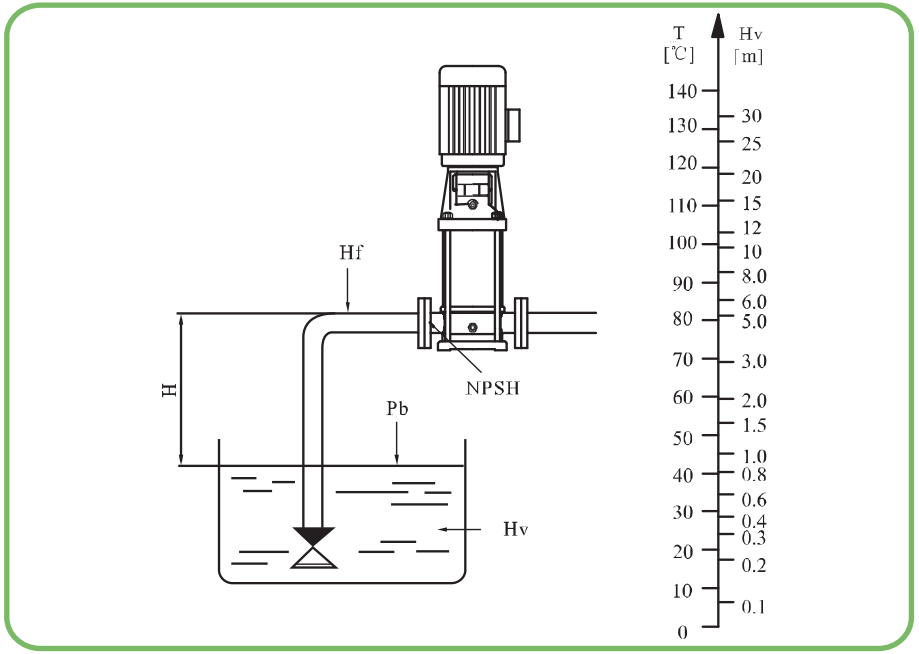
Operation in parallel

Connecting several pumps in parallel running will benefit much more than running a single large pump. Applicable to different working states necessary in a variable flow system.

Increasing the possibility of water supply when the pump is in failure. Because in case of pump failure, only part of the system flow is effected.

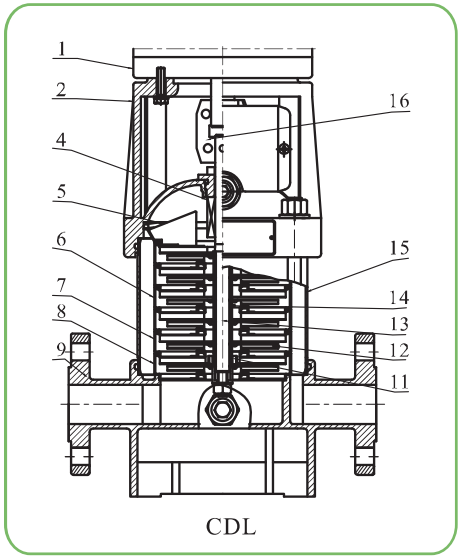


Two pumps or more can be connected in parallel running if necessary.

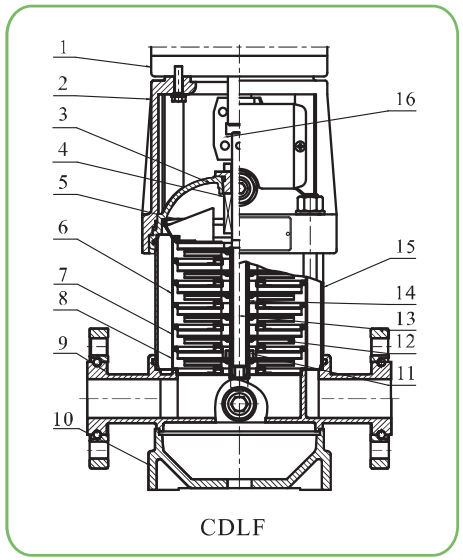


Cheek and ensure that the pump is not at cavitation state.

Section drawing CDL/CDLF1,2,3,4



CDL

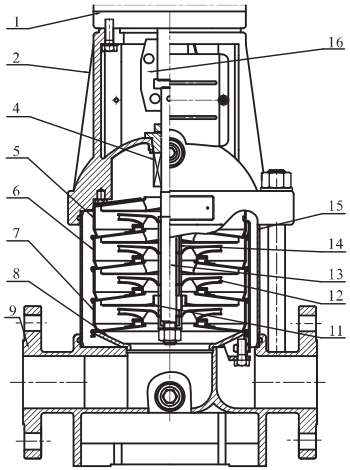


CDLF

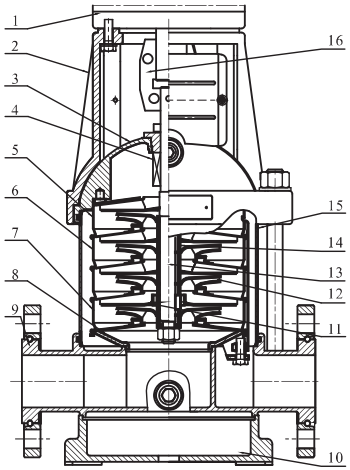
Material CDL/CDLF1,2,3,4

No.	Name	Material	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal		
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304 AISI316L
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel	
CDLF			
3	Seal base	Stainless steel	AISI304
9	Inlet and outlet chamber	Stainless steel	AISI304
10	Base plate	Cast iron	ASTM25B
CDL			
9	Inlet and outlet chamber	Cast iron	ASTM25B

Section drawing CDLF8,10,12,15,20



CDL

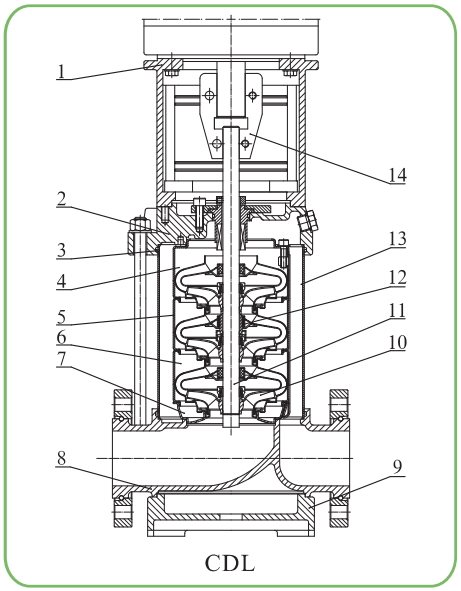


CDLF

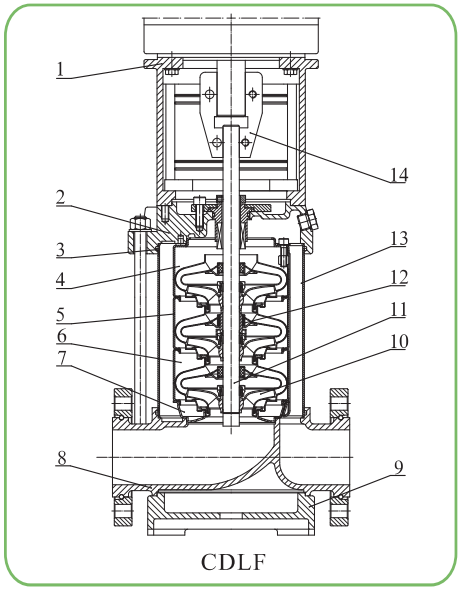
Material CDL/CDLF8,10,12,15,20

No.	Name	Material	AISI/ASTM
1	Motor		
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal		
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
11	Bearing	Tungsten carbide	
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304 AISI316L
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	Carbon steel	
CDLF			
3	Seal base	Stainless steel	AISI304
9	Inlet and outlet chamber	Stainless steel	AISI304
10	Base plate	Cast iron	ASTM25B
CDL			
9	Inlet and outlet chamber	Cast iron	ASTM25B

Section drawing CDL/CDLF32,42,65,85



CDL

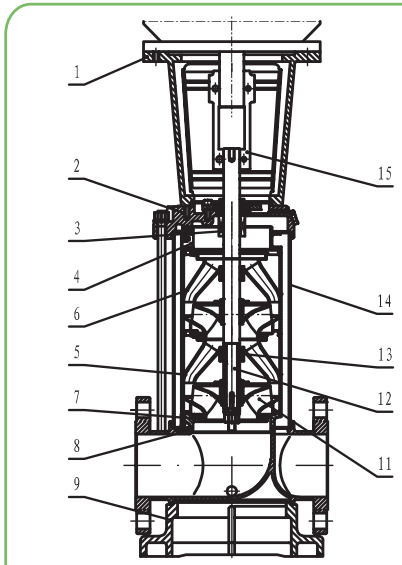


CDLF

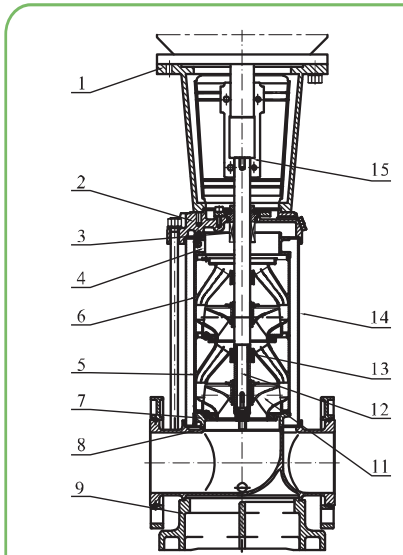
Material CDL/CDLF32,42,65,85

NO.	Name	Material	AISI/ASTM
1	Bracket	Cast iron	ASTM25B
3	Mechanical seal		
4	Top diffuser	Stainless steel	AISI304
5	Support diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base plate	Cast iron	ASTM25B
10	Bottom bearing	Tungsten carbide	
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI316L AISI304 AISI431
13	Intermediate bearing	Tungsten carbide	
14	Cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	
	Rubber parts	NBR	
CDL			
2	Pump head	Cast iron	ASTM25B
8	Inlet and outlet chamber	Cast iron	ASTM25B
CDLF			
2	Pump head	Stainless steel	AISI304
8	Inlet and outlet chamber	Stainless steel	AISI304

Section drawing CDL/CDLF120,150,200



CDL



CDLF

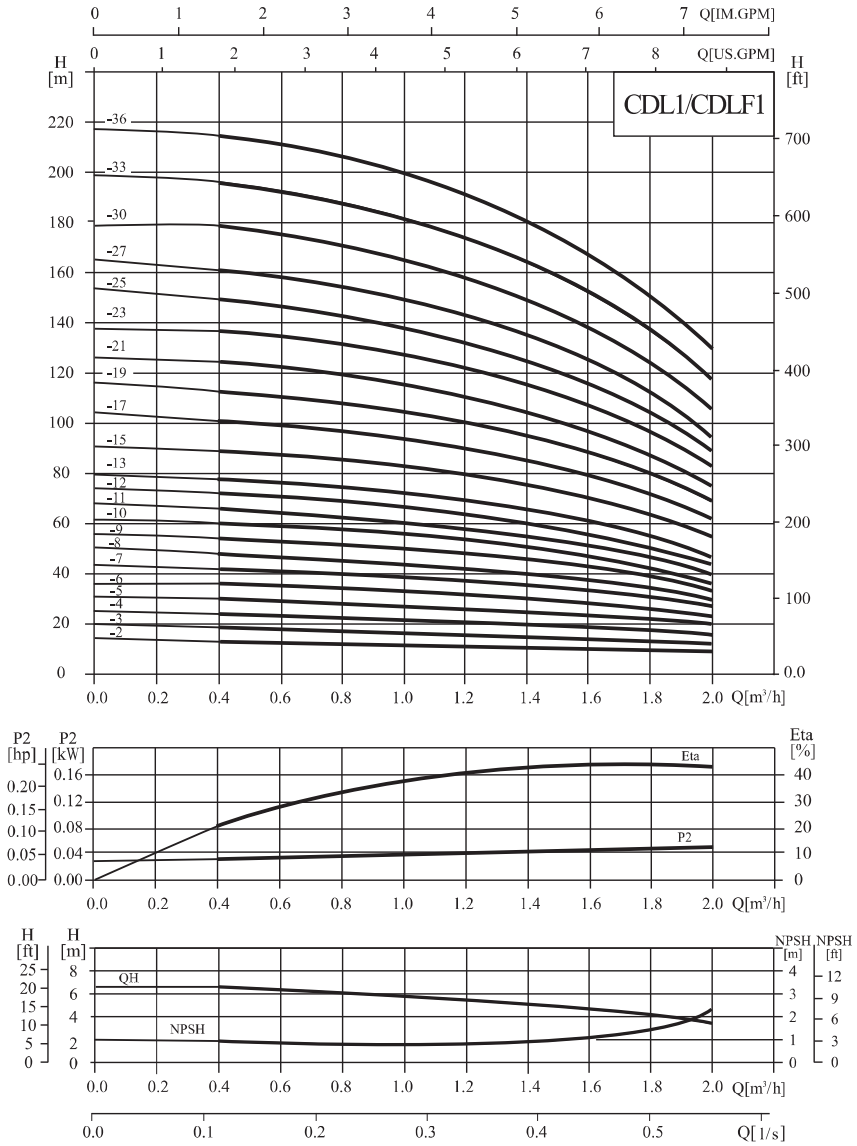
Material CDL/CDLF120,15,.200

NO.	Name	Material	AISI/ASTM
1	Bracket	Cast iron	ASTM25B
3	Mechanical seal		
4	Top diffuser	Stainless steel	AISI304
5	Support diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base plate	Cast iron	ASTM 80-55-06
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI304
13	Bearing	Tungsten carbide	
14	Cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	
	Rubber parts	NBR	
CDL			
2	Pump head	Cast iron	ASTM 80-55-06
8	Inlet and outlet chamber	Cast iron	ASTM 80-55-06
CDLF			
2	Pump head	Stainless steel	AISI304
8	Inlet and outlet chamber	Stainless steel	AISI304

Technical Data

Performance curve

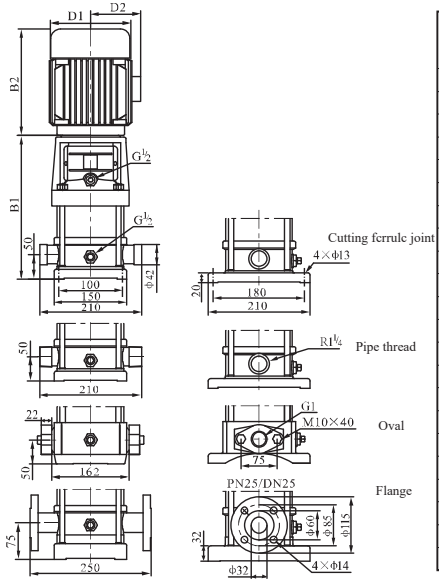
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
CDL1-2	0.37		13	12.5	12	11.5	11	10.5	10	9.5	9
CDL1-3	0.37		19	18	17.5	17	16.5	16	15	14	12
CDL1-4	0.37		24	23.5	23	22.5	21.5	21	19	18	16
CDL1-5	0.37		30	29.6	29	28	27	26	24	22	20
CDL1-6	0.37		36	35.5	35	33.5	33	31	28	26	23
CDL1-7	0.37		42	41	40.5	39	38	36	33	30	27
CDL1-8	0.55		48	47	46	45	43	41	38	34	30
CDL1-9	0.55		54	53	52	51	49	46	43	39	33
CDL1-10	0.55		60	59	58	57	54	51	48	43	36
CDL1-11	0.55		66	65	63	61	59	56	52	47	40
CDL1-12	0.75	H (m)	72	71	69	67	64	61	57	51	44
CDL1-13	0.75		78	77	75	73	69	66	62	55	47
CDL1-15	0.75		89	88	86	84	79	76	71	63	55
CDL1-17	1.1		101	99	97	95	89	86	80	71	62
CDL1-19	1.1		113	110	108	106	99	96	89	79	69
CDL1-21	1.1		124	122	120	117	110	106	98	87	75
CDL1-23	1.1		137	133	131	128	121	116	107	96	82
CDL1-25	1.5		149	145	143	139	131	126	116	104	89
CDL1-27	1.5		161	157	155	150	141	136	125	112	95
CDL1-30	1.5		178	175	171	166	157	150	139	124	106
CDL1-33	2.2		196	192	188	183	173	165	154	137	118
CDL1-36	2.2		214	210	205	200	190	181	169	151	130

Installation sketch



Size and weight

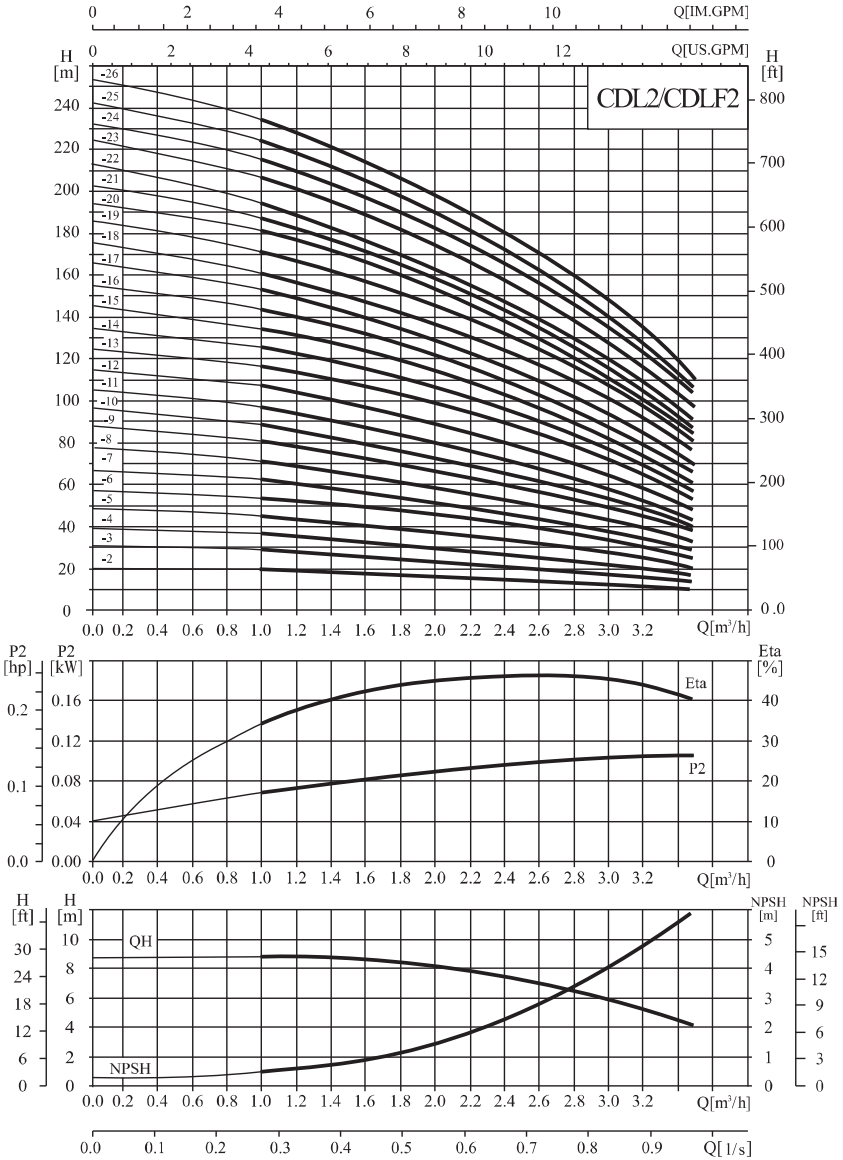
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL1-2	258	225	483	148	117	23
CDL1-3	276	225	501	148	117	23
CDL1-4	294	225	519	148	117	24
CDL1-5	312	225	537	148	117	24
CDL1-6	330	225	555	148	117	25
CDL1-7	348	225	573	148	117	25
CDL1-8	366	225	591	148	117	28
CDL1-9	384	225	609	148	117	28
CDL1-10	402	225	627	148	117	29
CDL1-11	420	225	645	148	117	30
CDL1-12	448	245	693	170	142	33
CDL1-13	466	245	711	170	142	34
CDL1-15	502	245	747	170	142	35
CDL1-17	538	245	783	170	142	36
CDL1-19	574	245	819	170	142	37
CDL1-21	610	245	855	170	142	38
CDL1-23	646	245	891	170	142	38
CDL1-25	692	290	982	190	155	44
CDL1-27	728	290	1018	190	155	45
CDL1-30	782	290	1072	190	155	46
CDL1-33	836	290	1126	190	155	48
CDL1-36	890	290	1180	190	155	49

CDL1-25 ~1-36 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

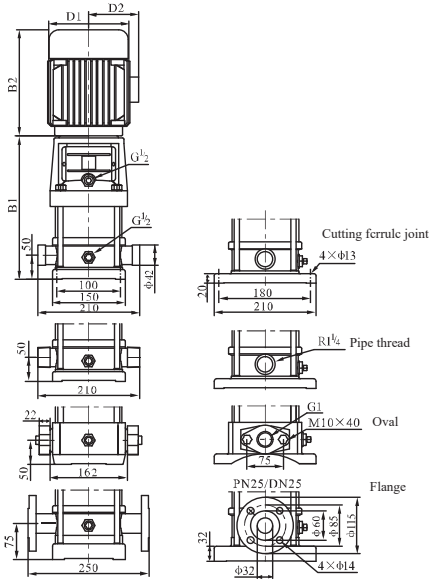
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	1	1.2	1.6	2.0	2.4	2.8	3.2	3.5
CDL2-2	0.37	H (m)	18	17	16	15	13	12	10	8
CDL2-3	0.37		27	26	24	22	20	18	15	12
CDL2-4	0.55		36	35	33	30	26	24	20	16
CDL2-5	0.55		45	43	40	37	33	30	24	20
CDL2-6	0.75		53	52	50	45	40	36	30	24
CDL2-7	0.75		63	61	57	52	47	41	35	28
CDL2-9	1.1		80	78	73	67	61	54	45	37
CDL2-11	1.1		98	95	89	82	73	64	54	44
CDL2-13	1.5		116	114	106	98	89	78	65	52
CDL2-15	1.5		134	130	123	112	100	90	73	60
CDL2-18	2.2		161	157	148	136	121	108	91	76
CDL2-22	2.2		197	192	180	165	148	130	110	90
CDL2-26	3.0		232	228	214	198	179	158	130	110

Installation sketch



Size and weight

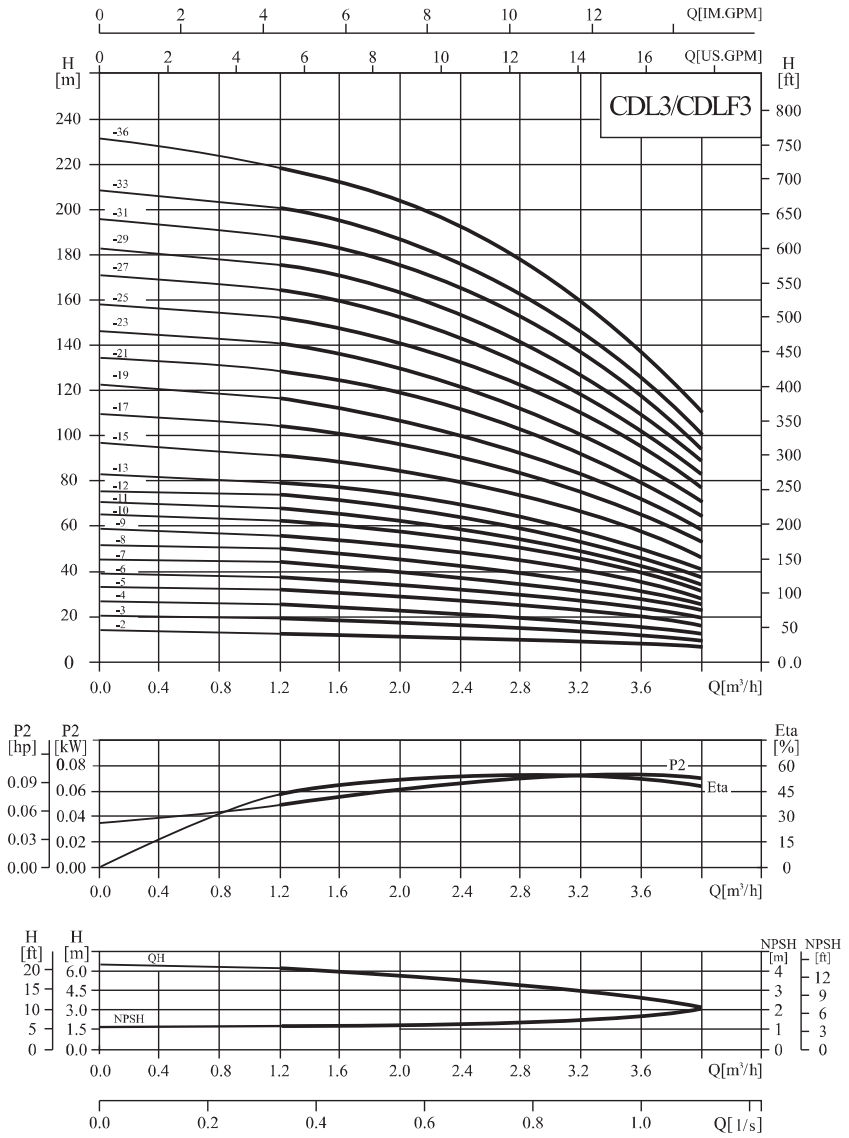
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL2-2	258	225	483	148	117	24
CDL2-3	276	225	501	148	117	24
CDL2-4	294	225	519	148	117	25
CDL2-5	312	225	537	148	117	26
CDL2-6	340	245	585	170	142	30
CDL2-7	358	245	603	170	142	30
CDL2-9	394	245	639	170	142	33
CDL2-11	430	245	675	170	142	34
CDL2-13	476	290	766	190	155	40
CDL2-15	512	290	802	190	155	42
CDL2-18	566	290	856	190	155	46
CDL2-22	638	290	928	190	155	47
CDL2-26	720	345	1065	197	165	53

CDL2-18 ~2-26 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

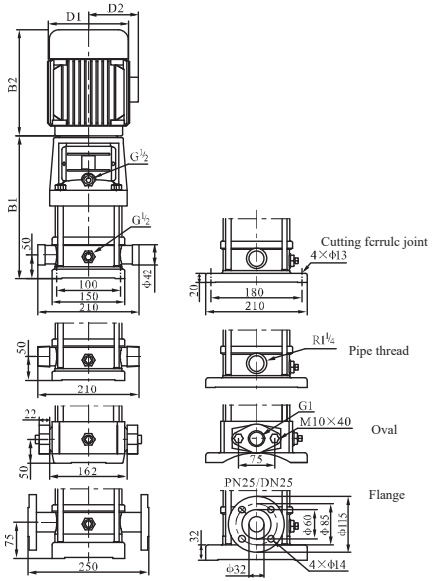
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	1.2	1.6	2.0	2.4	2.8	3.0	3.2	3.6	4.0
CDL3-2	0.37		12.5	11.5	11	10.5	10	9	8	7	6
CDL3-3	0.37		19	18.5	17.5	16.5	15	14	13	11	9
CDL3-4	0.37		25	24	23	21.5	20	19	18	15	12
CDL3-5	0.37		31	30	29	27	25	23	22	19	16
CDL3-6	0.55		36	35	34	32	30	28	27	23	19
CDL3-7	0.55		43	41	39	37	34	32	31	27	22
CDL3-8	0.75		49	47	45	43	39	37	35	31	25
CDL3-9	0.75		55	53	51	48	45	42	40	35	28
CDL3-10	0.75	H (m)	61	59	57	54	50	47	45	39	31
CDL3-11	1.1		67	64	61	58	54	51	49	42	34
CDL3-12	1.1		73	70	67	63	58	55	52	45	37
CDL3-13	1.1		78	76	73	69	64	60	57	49	40
CDL3-15	1.1		90	88	84	79	73	69	66	57	46
CDL3-17	1.5		103	100	96	90	83	79	75	64	52
CDL3-19	1.5		115	112	107	100	92	88	83	72	58
CDL3-21	2.2		128	124	119	112	102	98	91	79	64
CDL3-23	2.2		140	135	130	122	112	107	100	86	70
CDL3-25	2.2		151	147	141	131	122	116	109	94	76
CDL3-27	2.2		164	159	152	143	132	124	117	101	82
CDL3-29	2.2		175	170	163	153	142	133	126	109	88
CDL3-31	3.0		187	182	175	165	153	142	135	116	94
CDL3-33	3.0		199	194	187	176	163	151	145	125	100
CDL3-36	3.0		218	212	204	192	178	168	159	137	109

Installation sketch



Size and weight

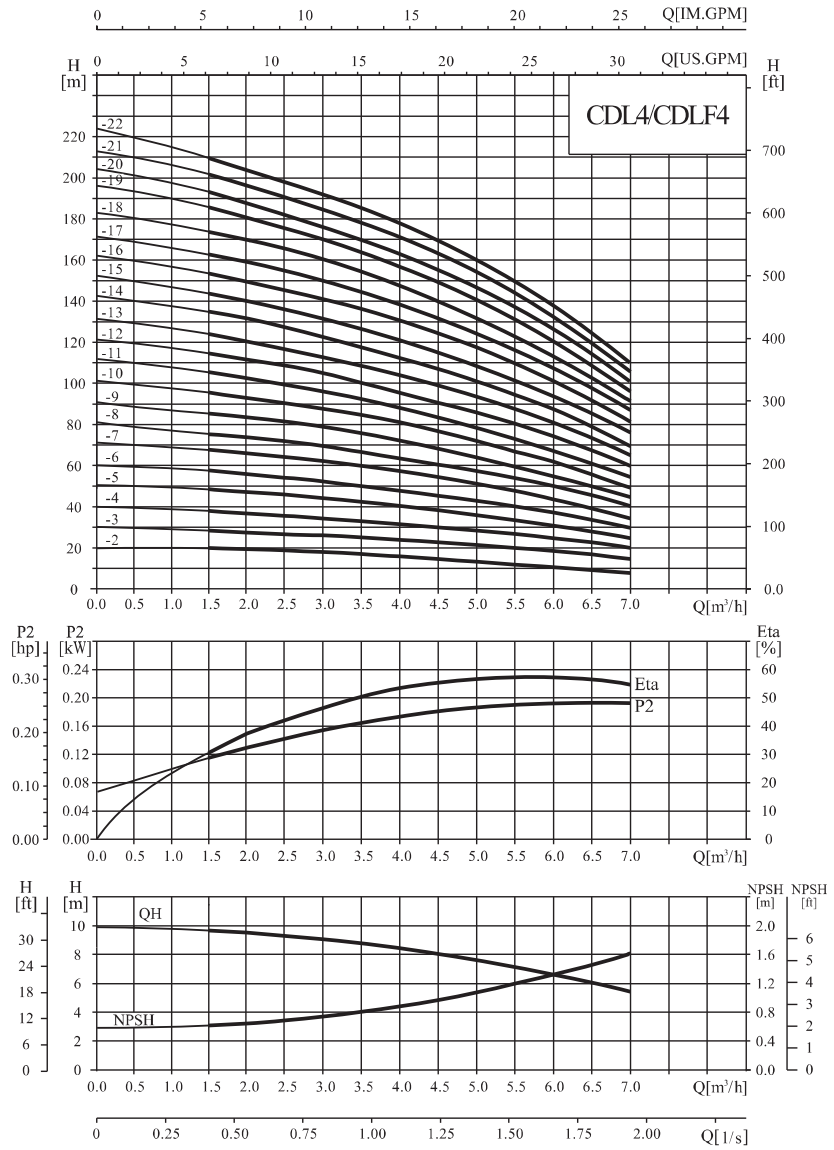
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL3-2	258	225	483	148	117	23
CDL3-3	276	225	501	148	117	23
CDL3-4	294	225	519	148	117	24
CDL3-5	312	225	537	148	117	24
CDL3-6	330	225	555	148	117	25
CDL3-7	348	225	573	148	117	26
CDL3-8	376	245	621	170	142	30
CDL3-9	394	245	639	170	142	31
CDL3-10	412	245	657	170	142	32
CDL3-11	430	245	675	170	142	32
CDL3-12	448	245	693	170	142	33
CDL3-13	466	245	711	170	142	34
CDL3-15	502	245	747	170	142	35
CDL3-17	548	290	838	190	155	41
CDL3-19	584	290	874	190	155	42
CDL3-21	620	290	910	190	155	45
CDL3-23	656	290	946	190	155	46
CDL3-25	692	290	982	190	155	47
CDL3-27	728	290	1018	190	155	48
CDL3-29	764	290	1054	190	155	49
CDL3-31	810	345	1155	197	165	57
CDL3-33	846	345	1191	197	165	58
CDL3-36	900	345	1245	197	165	60

CDL3-25 ~3-36 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

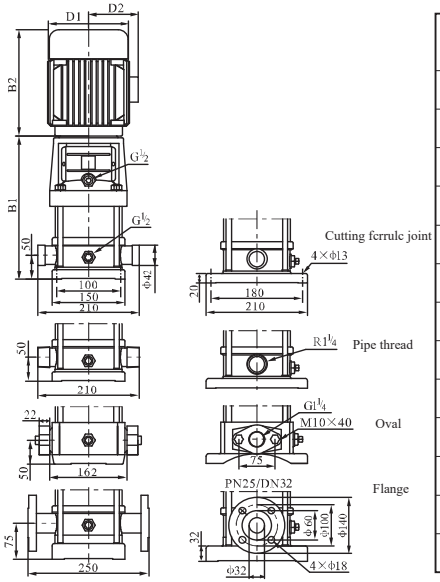
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	1.5	2.0	3.0	4.0	5.0	6.0	7.0
CDL4-2	0.37	H (m)	19	18	17	15	13	10	8
CDL4-3	0.55		28	27	26	24	20	18	13
CDL4-4	0.75		38	36	34	32	27	24	19
CDL4-5	1.1		47	45	43	40	34	31	23
CDL4-6	1.1		56	54	52	48	41	37	28
CDL4-7	1.5		66	63	61	56	48	43	33
CDL4-8	1.5		74	72	70	64	55	50	38
CDL4-10	2.2		96	90	87	81	71	62	48
CDL4-12	2.2		114	108	104	95	85	75	58
CDL4-14	3.0		136	126	122	112	101	89	68
CDL4-16	3.0		152	144	140	129	115	101	78
CDL4-19	4.0		183	171	168	153	137	122	93
CDL4-22	4.0		211	200	192	178	160	138	108

Installation sketch



Size and weight

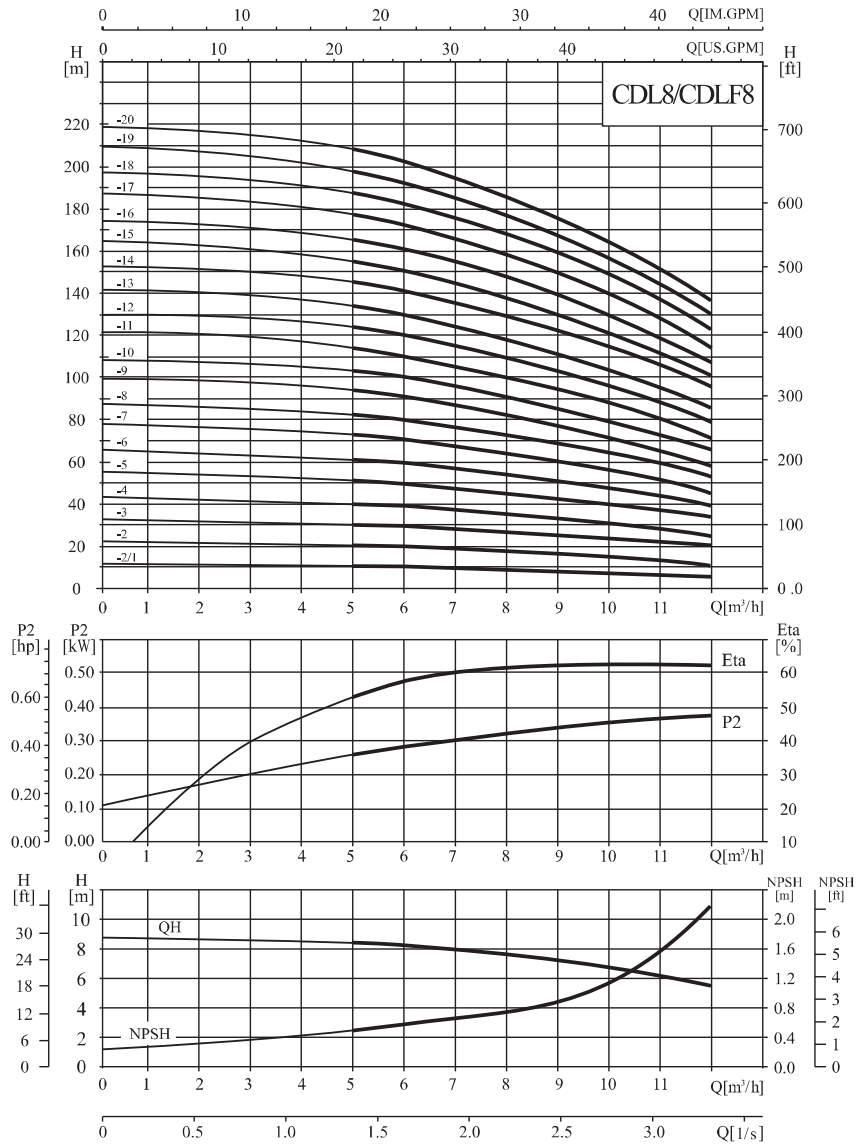
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL4-2	276	225	501	148	117	22
CDL4-3	303	225	528	148	117	24
CDL4-4	340	245	585	170	142	30
CDL4-5	367	245	612	170	142	32
CDL4-6	394	245	639	170	142	33
CDL4-7	431	290	721	190	155	39
CDL4-8	458	290	748	190	155	40
CDL4-10	512	290	802	190	155	43
CDL4-12	566	290	856	190	155	44
CDL4-14	630	345	975	197	165	52
CDL4-16	684	345	1029	197	165	54
CDL4-19	765	355	1120	230	188	56
CDL4-22	846	355	1201	230	188	59

CDL4-19 ~4-22 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

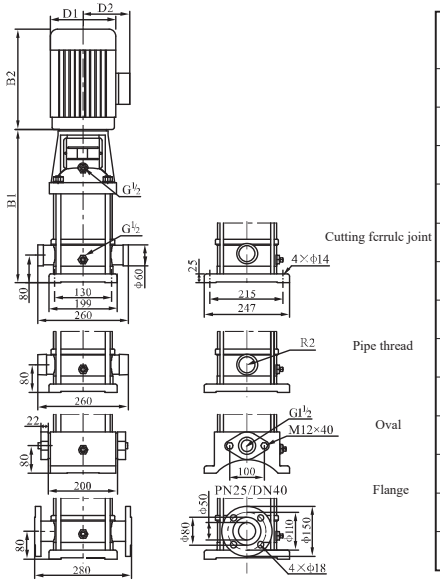
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	5	6	7	8	9	10	11	12
CDL8-2/1	0.75	H (m)	10	9.5	9.3	9	8.5	8	7	6
CDL8-2	0.75		20	19.5	19	18	17	16	14	13
CDL8-3	1.1		30	29.5	28.5	27	25	24	21	19
CDL8-4	1.5		41	39.5	38	36	34	32	28	26
CDL8-5	2.2		52	50	48	45	42	40	36	32
CDL8-6	2.2		62	60	57	54	51	48	43	39
CDL8-8	3.0		83	80	77	73	69	65	58	52
CDL8-10	4.0		104	100	97	92	87	81	73	65
CDL8-12	4.0		124	120	116	111	104	92	87	78
CDL8-14	5.5		145	141	136	130	122	113	102	92
CDL8-16	5.5		166	161	156	148	139	130	118	106
CDL8-18	7.5		187	182	175	167	157	146	134	120
CDL8-20	7.5		208	202	195	186	175	163	150	135

Installation sketch



Size and weight

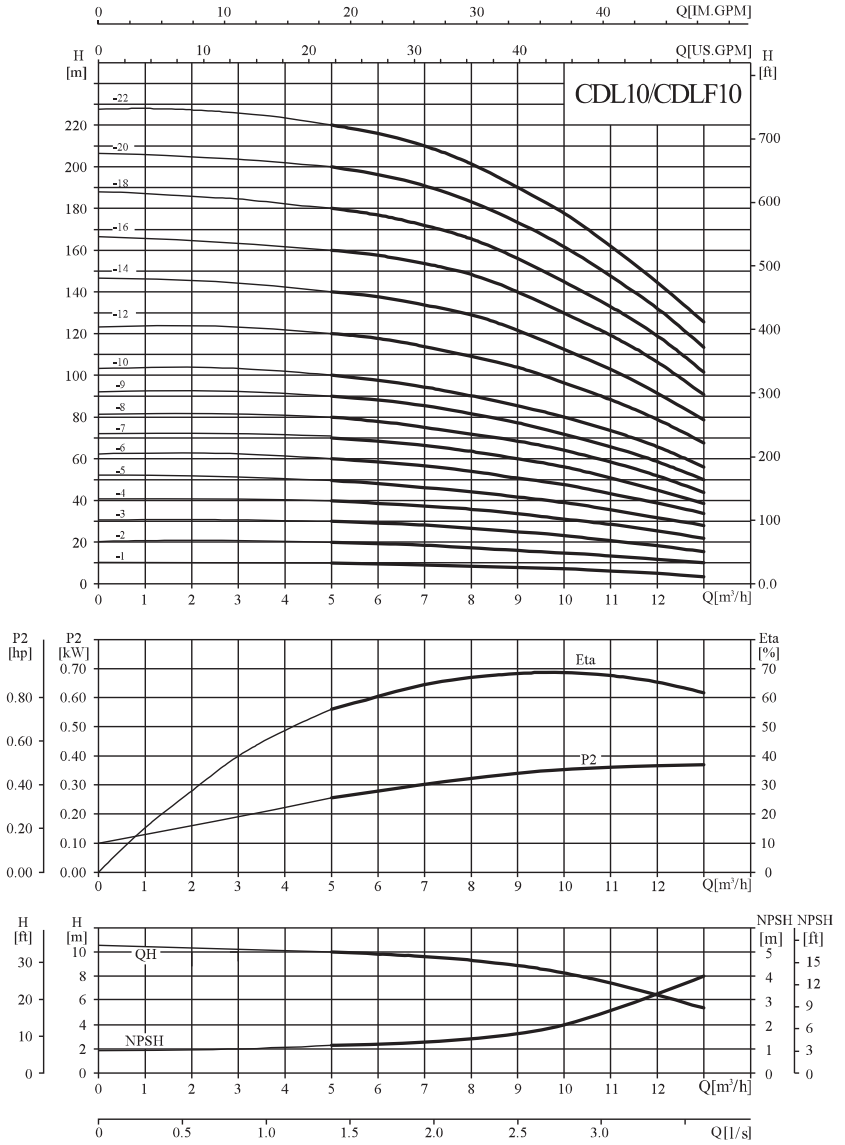
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL8-2/1	347	245	592	170	142	33
CDL8-2	347	245	592	170	142	33
CDL8-3	377	245	622	170	142	35
CDL8-4	417	290	707	190	155	42
CDL8-5	447	290	737	190	155	46
CDL8-6	477	290	767	190	155	47
CDL8-8	547	345	892	197	165	55
CDL8-10	607	355	962	230	188	67
CDL8-12	667	355	1022	230	188	70
CDL8-14	747	390	1137	260	208	85
CDL8-16	807	390	1197	260	208	88
CDL8-18	867	390	1257	260	208	98
CDL8-20	927	390	1317	260	208	99

CDL8-14 ~8-20 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

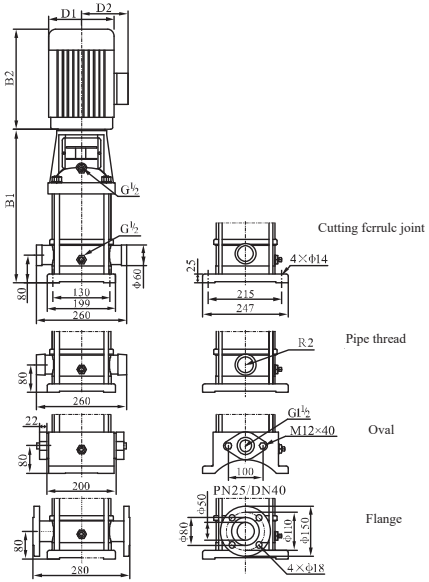
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	5	6	7	8	9	10	11	12	13
CDL10-1	0.75	H (m)	9.7	9.3	8.9	8.3	7.7	7	6	5	4
CDL10-2	0.75		19.5	19	18	17	16	15	13.5	11.5	10
CDL10-3	1.1		29.5	29	28	27	25	23	21	18	16
CDL10-4	1.5		39.5	38.5	37.5	36	34	31	28	25	22
CDL10-5	2.2		49.5	48.5	47	44	42	39	35	32	28
CDL10-6	2.2		60	58	56	54	51	48	43	39	34
CDL10-7	3		70	68	66	63	60	56	51	45	39
CDL10-8	3		80	78	75	73	69	64	58	52	44
CDL10-9	3		90	87	85	81	77	72	66	58	50
CDL10-10	4		100	97	95	90	85	80	74	66	56
CDL10-12	4		120	117	114	109	104	96	89	79	68
CDL10-14	5.5		140	137	134	129	122	113	103	92	79
CDL10-16	5.5		160	158	153	148	140	129	119	106	91
CDL10-18	7.5		180	177	172	166	156	145	133	119	102
CDL10-20	7.5		200	196	191	184	173	162	147	132	114
CDL10-22	7.5		220	216	210	202	190	178	162	145	126

Installation sketch



Size and weight

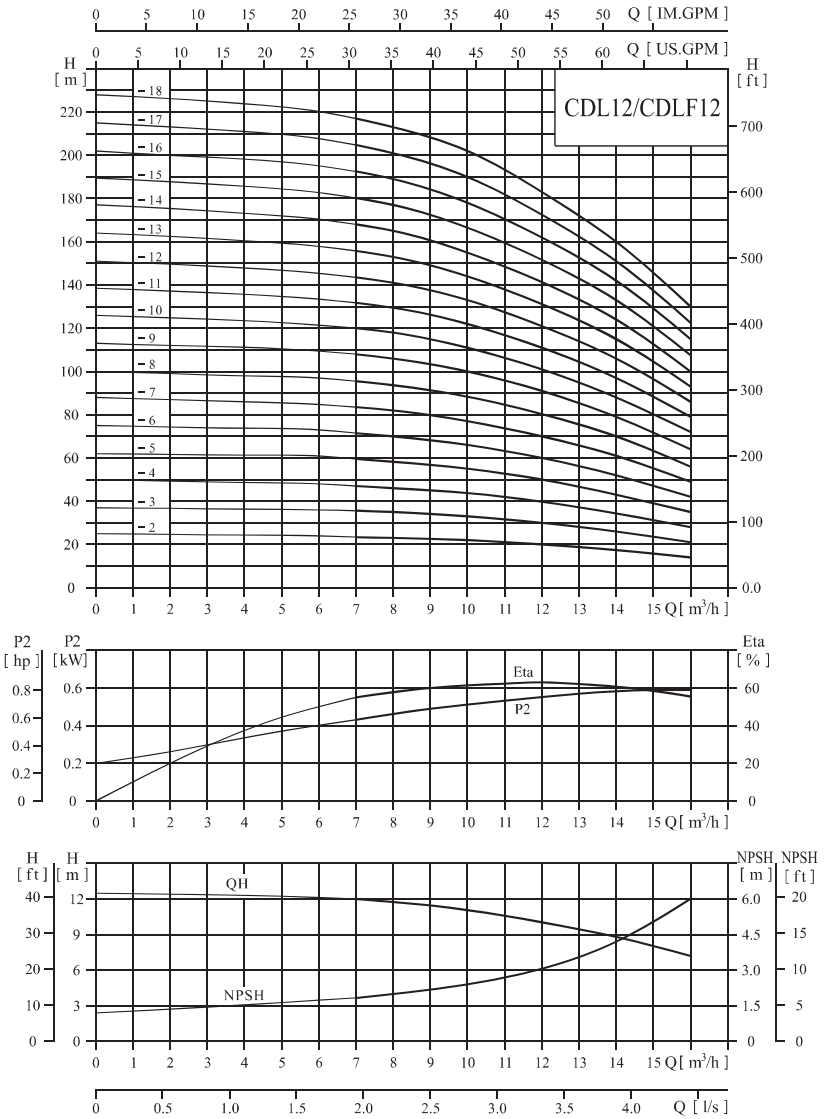
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL10-1	347	245	592	170	142	40
CDL10-2	347	245	592	170	142	41
CDL10-3	377	245	622	170	142	43
CDL10-4	417	290	707	190	155	49
CDL10-5	447	290	737	190	155	53
CDL10-6	477	290	767	190	155	54
CDL10-7	517	345	862	197	165	64
CDL10-8	547	345	892	197	165	65
CDL10-9	577	345	922	197	165	66
CDL10-10	607	355	962	230	188	74
CDL10-12	667	355	1022	230	188	76
CDL10-14	747	390	1137	260	208	100
CDL10-16	807	390	1197	260	208	102
CDL10-18	867	390	1257	260	208	107
CDL10-20	927	390	1317	260	208	109
CDL10-22	987	390	1377	260	208	111

CDL10-16 ~10-22 sub-connection of pipeline has no oval flange connection.
The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

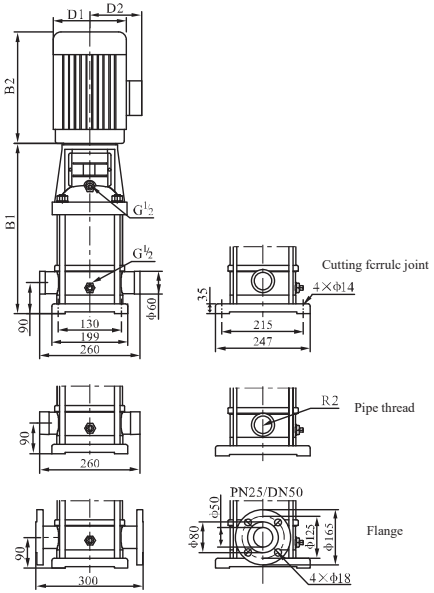
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	7	8	9	10	11	12	13	14	15	16
CDL12-2	1.5		23.5	23	22.5	22	21	20	18.5	17	15.5	14
CDL12-3	2.2		35.5	35	34	33	31.5	30	28	26	23.5	21
CDL12-4	3		47	46	45	44	42	40	37	34	31	28
CDL12-5	3		59.5	58	56.5	55	52.5	50	46.5	43	39	35
CDL12-6	4		71.5	70	68	66	63	60	56	52	47	42
CDL12-7	5.5	H (m)	83.5	82	79.5	77	73.5	70	65.5	61	55	49
CDL12-8	5.5		95.5	94	91	88	84	80	75	70	63	56
CDL12-9	5.5		108	106	103	100	95.5	91	85	79	71.5	64
CDL12-10	7.5		120	118	114.5	111	106	101	94.5	88	80	72
CDL12-12	7.5		143.5	141	137	133	127	121	113.5	106	96	86
CDL12-14	11		168	165	160	155	148	141	132.5	124	112	100
CDL12-16	11		192.5	189	183.5	178	170	162	152	142	128.5	115
CDL12-18	11		217	213	207.5	202	192.5	183	171.5	160	145	130

Installation sketch



Size and weight

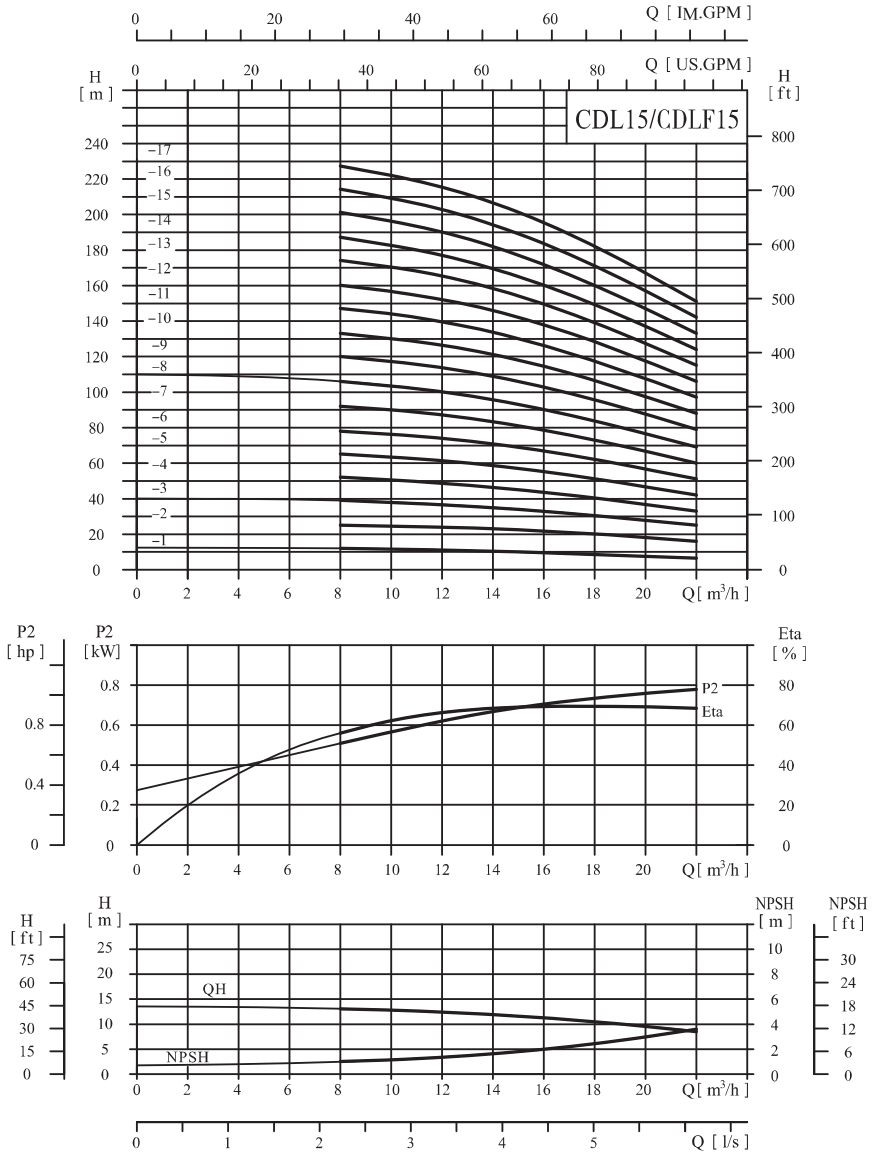
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL12-2	367	290	657	190	155	40
CDL12-3	397	290	687	190	155	45
CDL12-4	437	345	782	197	165	55
CDL12-5	467	345	812	197	165	57
CDL12-6	497	355	852	230	188	66
CDL12-7	547	390	937	260	208	77
CDL12-8	577	390	967	260	208	78
CDL12-9	607	390	997	260	208	80
CDL12-10	637	390	1027	260	208	88
CDL12-12	697	390	1087	260	208	92
CDL12-14	845	500	1345	330	255	162
CDL12-16	905	500	1405	330	255	167
CDL12-18	965	500	1465	330	255	168

The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

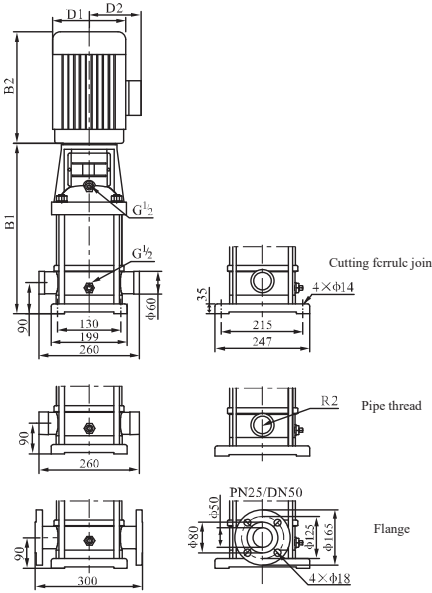
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	8	10	12	14	15	16	18	20	22
CDL15-1	1.1		12	11.5	11	10.5	10	9.5	8.5	7.5	6.5
CDL15-2	2.2		25	24.5	24	23	22.5	21.5	20	18	16
CDL15-3	3		39	38	37	35	34	33	30	28	25
CDL15-4	4		52	51	49	46	45	44	40	37	33
CDL15-5	4		65	63	61	59	57	55	51	47	42
CDL15-6	5.5		78	76	74	71	69	67	62	57	51
CDL15-7	5.5	H (m)	92	90	87	83	81	79	73	67	60
CDL15-8	7.5		106	103	100	96	93	90	84	77	69
CDL15-9	7.5		120	117	114	109	106	103	95	87	79
CDL15-10	11		133	130	126	121	118	114	106	97	88
CDL15-12	11		160	157	152	146	142	138	128	117	106
CDL15-14	11		187	182	177	169	165	160	149	137	124
CDL15-17	15		227	222	215	206	201	195	182	167	151

Installation sketch



Size and weight

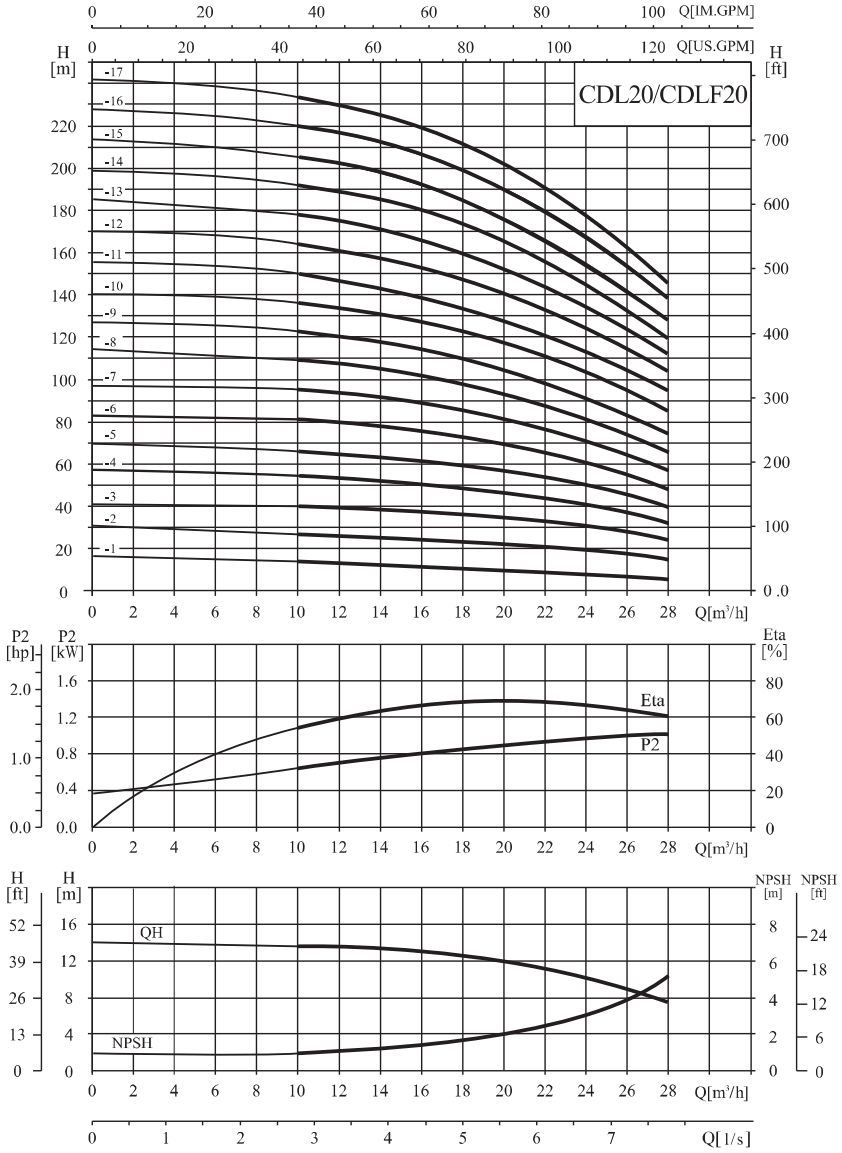
Model	Size (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL15-1	387	245	632	170	142	33
CDL15-2	397	290	687	190	155	42
CDL15-3	452	345	797	197	165	51
CDL15-4	497	355	852	230	188	60
CDL15-5	542	355	897	230	188	62
CDL15-6	607	390	997	260	208	78
CDL15-7	652	390	1042	260	208	80
CDL15-8	697	390	1087	260	208	86
CDL15-9	742	390	1132	260	208	88
CDL15-10	875	500	1375	330	255	166
CDL15-12	965	500	1465	330	255	170
CDL15-14	1055	500	1555	330	255	173
CDL15-17	1190	500	1690	330	255	186

The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

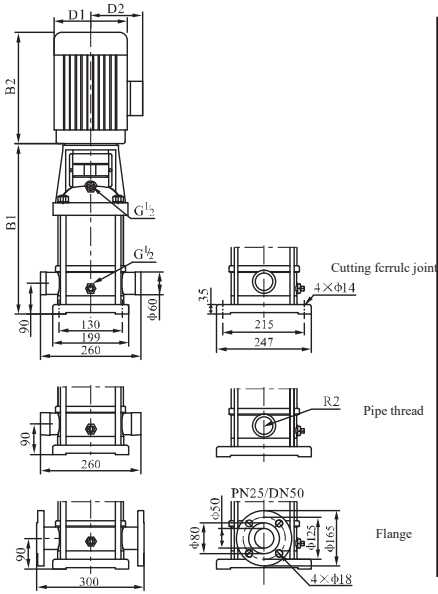
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	10	12	14	16	18	20	22	24	26	28
CDL20-1	1.1	H (m)	13.5	13	12.5	12	11	10	9	8	7	6
CDL20-2	2.2		27	26.5	26	25	24	23	22	20	18	15
CDL20-3	4.0		40	39.5	39	38	37	35	33	30	27	24
CDL20-4	5.5		54	53	52	51	49	47	44	41	37	33
CDL20-5	5.5		67	66	64	62	60	58	55	50	45	40
CDL20-6	7.5		81	79	77	75	73	70	66	61	55	49
CDL20-7	7.5		95	93	91	89	86	82	77	71	65	58
CDL20-8	11		109	107	105	102	99	94	89	82	75	67
CDL20-10	11		136	134	131	128	124	118	111	103	95	85
CDL20-12	15		164	162	158	154	149	142	133	124	114	102
CDL20-14	15		192	189	185	180	174	166	156	145	133	119
CDL20-17	18.5		234	230	225	219	212	202	190	177	162	145

Installation sketch



Size and weight

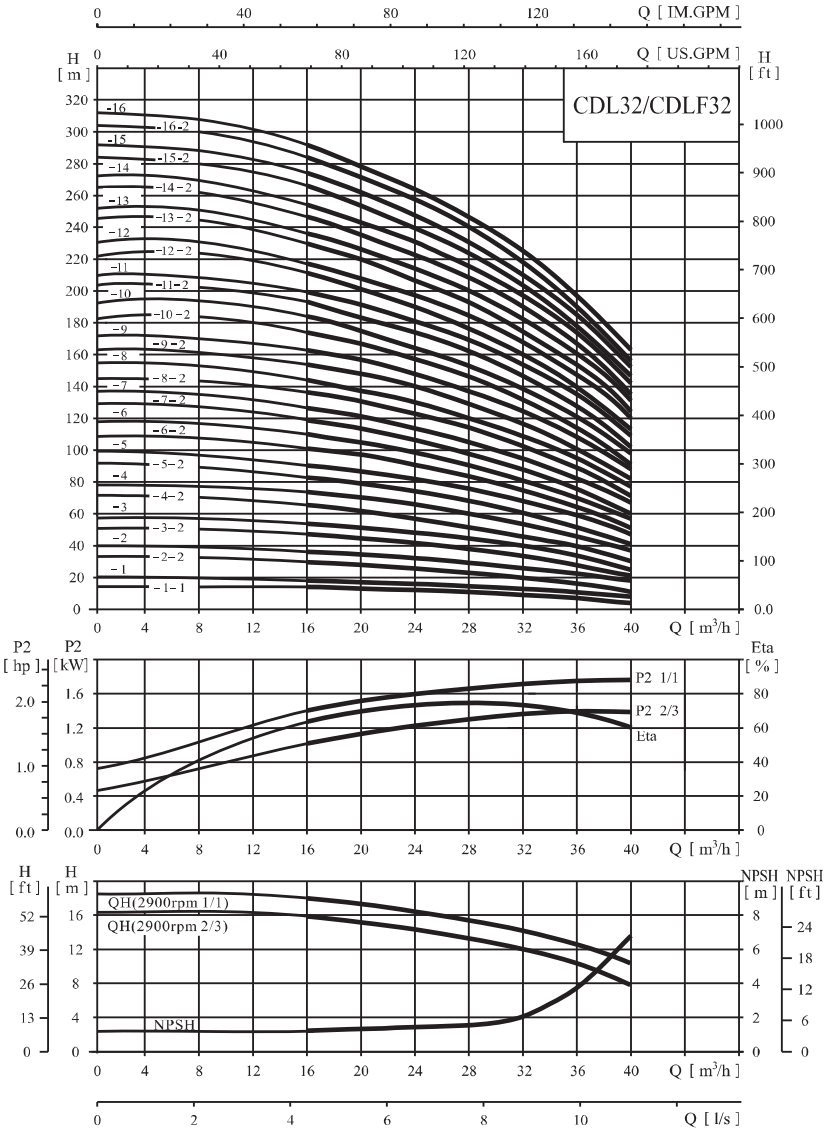
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL20-1	387	245	632	170	142	33
CDL20-2	397	290	687	190	155	42
CDL20-3	452	355	807	230	188	58
CDL20-4	517	390	907	260	208	74
CDL20-5	562	390	952	260	208	75
CDL20-6	607	390	997	260	208	84
CDL20-7	652	390	1042	260	208	86
CDL20-8	785	500	1285	330	255	157
CDL20-10	875	500	1375	330	255	162
CDL20-12	965	500	1465	330	255	176
CDL20-14	1055	500	1555	330	255	178
CDL20-17	1190	550	1740	330	255	201

The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

Technical Data

Performance curve

ISO9906 Annex A 2900rpm

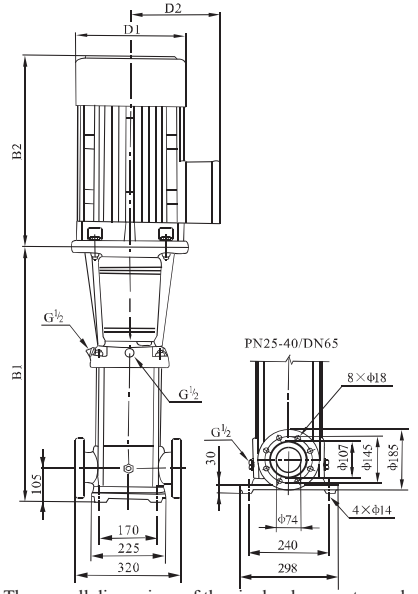


Performance table

Model	Driving motor (kW)	Q (m^3/h)	16	20	24	28	32	36	40
CDL32-1-1	1.5	H (m)	14	13	12	11	9	7	4
CDL32-1	2.2		18	17	15	14	13	11	8
CDL32-2-2	3.0		29	28	26	23	20	16	11
CDL32-2	4.0		36	34	32	29	27	23	18
CDL32-3-2	5.5		47	44	41	38	33	28	21
CDL32-3	5.5		54	51	48	44	40	35	27
CDL32-4-2	7.5		65	62	58	53	46	40	30
CDL32-4	7.5		72	69	65	59	53	47	37
CDL32-5-2	11		83	79	74	68	60	52	41
CDL32-5	11		90	86	81	74	67	59	47
CDL32-6-2	11		101	97	90	83	74	65	51
CDL32-6	11		108	104	97	90	81	72	57
CDL32-7-2	15		119	114	107	98	88	78	60
CDL32-7	15		126	121	113	105	95	85	67
CDL32-8-2	15		136	131	123	114	102	90	71
CDL32-8	15		144	138	130	120	109	97	77

Model	Driving motor (kW)	Q (m^3/h)	16	20	24	28	32	36	40
CDL32-9-2	18.5	H (m)	154	148	140	129	117	102	82
CDL32-9	18.5		162	156	147	136	124	109	88
CDL32-10-2	18.5		175	166	157	146	131	115	91
CDL32-10	18.5		182	173	164	152	138	122	98
CDL32-11-2	22		193	184	173	164	146	128	102
CDL32-11	22		200	191	180	168	153	135	109
CDL32-12-2	22		211	201	189	178	160	140	113
CDL32-12	22		218	208	196	184	167	147	120
CDL32-13-2	30		230	218	206	193	174	153	124
CDL32-13	30		237	225	213	200	181	160	131
CDL32-14-2	30		247	235	222	210	189	165	135
CDL32-14	30		255	242	229	216	196	172	142
CDL32-15-2	30		266	253	239	224	203	178	145
CDL32-15	30		274	260	246	231	210	185	152
CDL32-16-2	30		284	270	255	240	218	190	156
CDL32-16	30		292	277	262	246	225	197	163

Installation sketch



The overall dimensions of the single-phase motor and explosion-proof motor are a little different. Pls contact us for details.

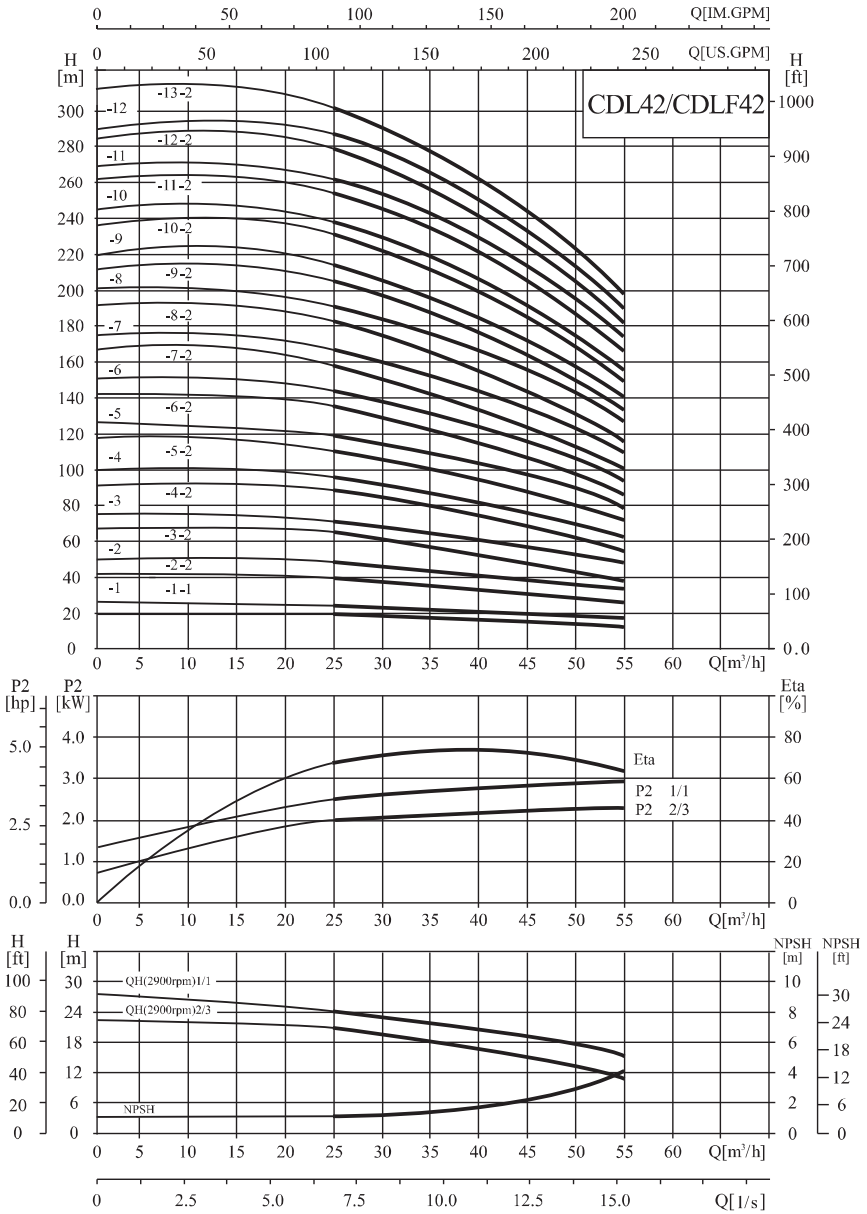
Size and weight

Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL32-1-1/CDL32-1	505	290	795	190	155	63/67
CDL32-2-2/CDL32-2	575	345/355	920/930	197/230	165/180	76/84
CDL32-3-2/CDL32-3	645	390	1035	260	208	99
CDL32-4-2/CDL32-4	715	390	1105	260	208	108
CDL32-5-2/CDL32-5	890	500	1390	330	255	187
CDL32-6-2/CDL32-6	960	500	1460	330	255	193
CDL32-7-2/CDL32-7	1030	500	1530	330	255	205
CDL32-8-2/CDL32-8	1100	500	1600	330	255	207
CDL32-9-2/CDL32-9	1170	550	1720	330	255	226
CDL32-10-2/CDL32-10	1240	550	1790	330	255	232
CDL32-11-2/CDL32-11	1310	575	1885	360	285	278
CDL32-12-2/CDL32-12	1380	575	1955	360	285	282
CDL32-13-2/CDL32-13	1450	650	2100	400	310	343
CDL32-14-2/CDL32-14	1520	650	2170	400	310	347
CDL32-15-2/CDL32-15	1590	650	2240	400	310	350
CDL32-16-2/CDL32-16	1660	650	2310	400	310	356

Technical Data

Performance curve

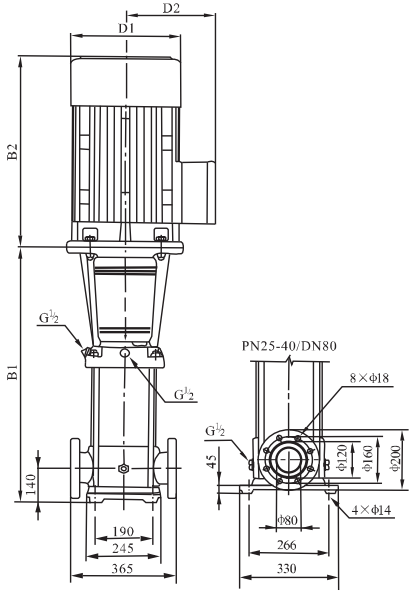
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	25	30	35	40	42	45	50	55
CDL42-1-1	3.0		20	19	18	17	16	15	13	11
CDL42-1	4.0		24	23	22	21	20	19	18	16
CDL42-2-2	5.5		40	38	36	33	32	30	27	23
CDL42-2	7.5		48	46	44	42	41	39	35	31
CDL42-3-2	11		63	61	58	54	52	50	44	38
CDL42-3	11		71	69	66	63	61	58	53	47
CDL42-4-2	15		87	84	80	75	73	69	62	54
CDL42-4	15		95	92	88	84	81	78	71	62
CDL42-5-2	18.5		111	107	102	96	93	88	80	69
CDL42-5	18.5	H (m)	119	115	110	105	101	97	88	78
CDL42-6-2	22		135	130	124	117	113	108	97	85
CDL42-6	22		143	138	132	125	122	116	106	93
CDL42-7-2	30		158	152	146	138	134	127	115	100
CDL42-7	30		166	161	154	146	142	135	124	109
CDL42-8-2	30		182	175	168	159	154	146	133	116
CDL42-8	30		190	184	176	167	162	154	141	124
CDL42-9-2	30		205	198	190	180	174	166	150	132
CDL42-9	37		214	207	198	188	183	174	159	140
CDL42-10-2	37		230	221	212	200	194	185	168	147
CDL42-10	37		238	230	220	209	203	193	177	155
CDL42-11-2	45		255	246	236	223	217	206	188	165
CDL42-11	45		263	255	244	232	225	214	196	173
CDL42-12-2	45		280	270	259	245	238	226	206	181
CDL42-12	45		289	280	268	255	247	236	216	190
CDL42-13-2	45		305	294	282	267	259	247	225	198

Installation sketch



Size and weight

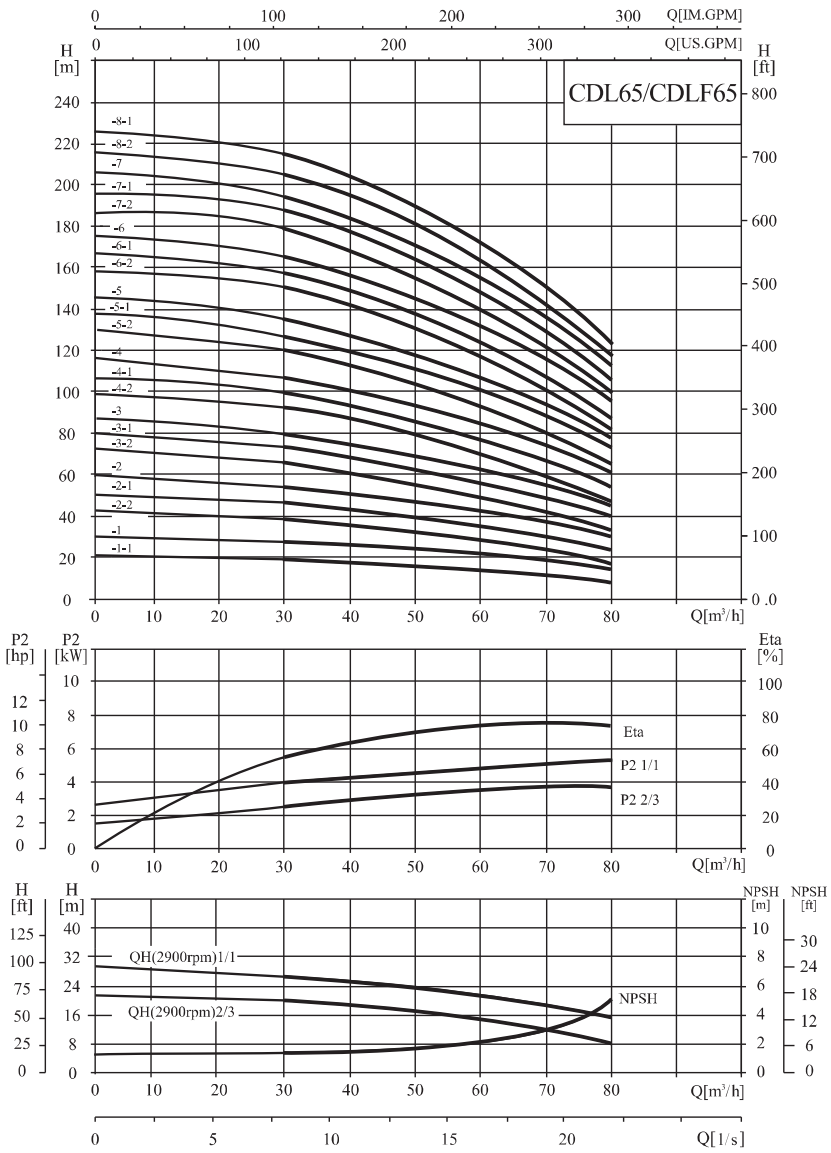
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL42-1-1 / CDL42-1	561	345/355	906/916	197/230	165/188	84/91
CDL42-2-2 / CDL42-2	641	390	1031	260	208	106/111
CDL42-3-2 / CDL42-3	826	500	1326	330	255	187
CDL42-4-2 / CDL42-4	906	500	1406	330	255	203
CDL42-5-2 / CDL42-5	986	550	1536	330	255	225
CDL42-6-2 / CDL42-6	1066	575	1641	360	285	266
CDL42-7-2 / CDL42-7	1146	650	1796	400	310	326
CDL42-8-2 / CDL42-8	1226	650	1876	400	310	330
CDL42-9-2 / CDL42-9	1306	650	1956	400	310	334
CDL42-10-2 / CDL42-10	1386	650	2036	400	310	360
CDL42-11-2 / CDL42-11	1466	685	2151	450	345	430
CDL42-12-2 / CDL42-12	1546	685	2231	450	345	438
CDL42-13-2	1626	685	2311	450	345	444

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.

Technical Data

Performance curve

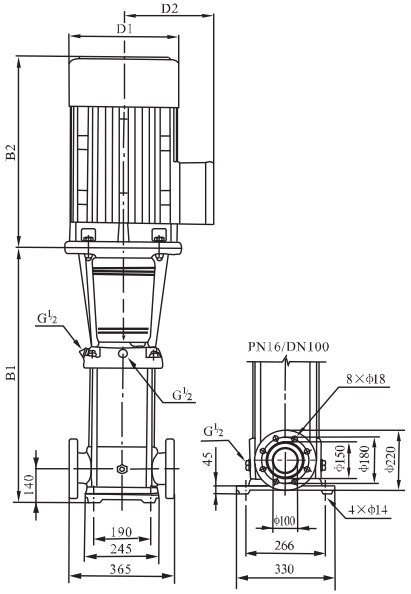
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	30	40	50	60	65	70	80
CDL65-1-1	4.0		19	18	16	14	13	11	8
CDL65-1	5.5		27	25	23	21	20	18	15
CDL65-2-2	7.5		39	36	33	29	26	23	17
CDL65-2-1	11		46	44	40	36	33	30	24
CDL65-2	11		53	51	47	43	40	37	30
CDL65-3-2	15		66	62	56	50	46	41	32
CDL65-3-1	15		73	69	63	57	53	48	39
CDL65-3	18.5		80	76	70	64	60	55	46
CDL65-4-2	18.5	H (m)	92	87	80	71	66	60	47
CDL65-4-1	22		100	94	87	78	73	67	54
CDL65-4	22		107	101	94	85	80	74	61
CDL65-5-2	30		121	114	105	95	88	80	64
CDL65-5-1	30		128	121	112	102	95	87	71
CDL65-5	30		136	129	119	109	102	94	78
CDL65-6-2	30		150	142	131	118	110	101	81
CDL65-6-1	37		157	149	138	125	117	108	88
CDL65-6	37		164	156	145	132	124	115	95
CDL65-7-2	37		179	169	156	141	132	121	99
CDL65-7-1	37		186	176	163	148	139	128	106
CDL65-7	45		193	183	170	155	146	135	112
CDL65-8-2	45		207	196	182	164	154	142	116
CDL65-8-1	45		215	203	189	171	161	149	123

Installation sketch



Size and weight

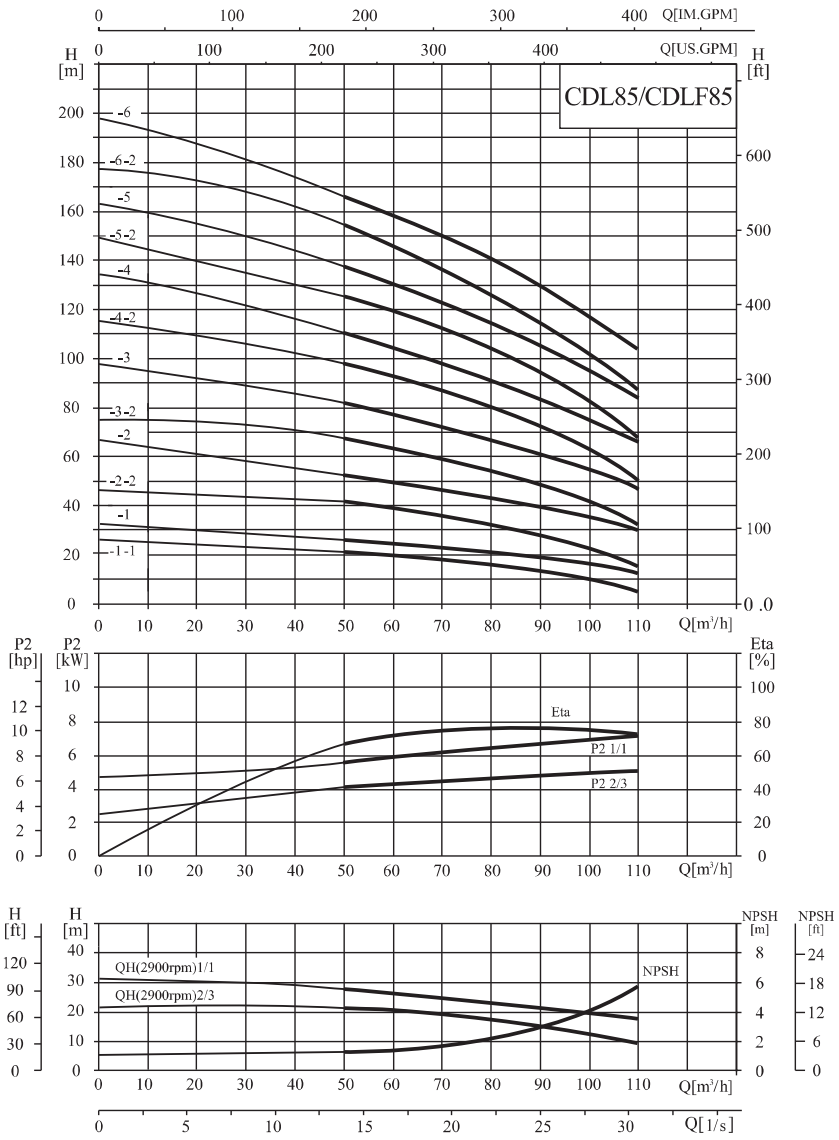
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL65-1-1	561	355	916	230	188	98
CDL65-1	561	390	951	260	208	110
CDL65-2-2	644	390	1034	260	208	115
CDL65-2-1	754	500	1254	330	255	197
CDL65-2	754	500	1254	330	255	197
CDL65-3-2	836	500	1336	330	255	206
CDL65-3-1	836	500	1336	330	255	207
CDL65-3	836	550	1386	330	255	232
CDL65-4-2	919	550	1469	330	255	239
CDL65-4-1	919	575	1494	360	285	272
CDL65-4	919	575	1494	360	285	272
CDL65-5-2	1001	650	1651	400	310	334
CDL65-5-1	1001	650	1651	400	310	334
CDL65-5	1001	650	1651	400	310	335
CDL65-6-2	1084	650	1734	400	310	340
CDL65-6-1	1084	650	1734	400	310	365
CDL65-6	1084	650	1734	400	310	365
CDL65-7-2	1166	650	1816	400	310	370
CDL65-7-1	1166	650	1816	400	310	370
CDL65-7	1166	685	1851	460	340	437
CDL65-8-2	1248	685	1933	460	340	440
CDL65-8-1	1248	685	1933	460	340	440

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.

Technical Data

Performance curve

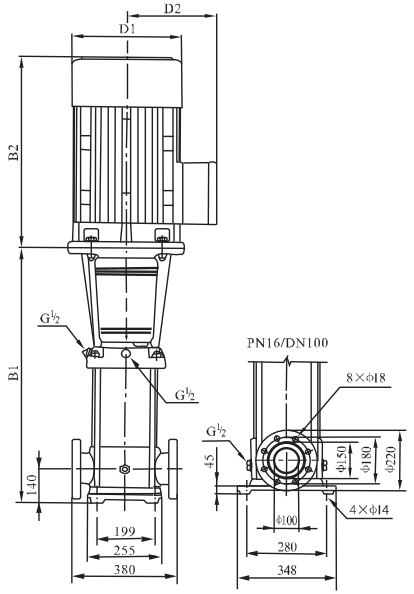
ISO9906 Annex A 2900rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	50	60	70	80	85	90	100	110
CDL85-1-1	5.5	H (m)	22	19	17	16	14	13	10	6
CDL85-1	7.5		25	24	22	21	20	19	16	12
CDL85-2-2	11		41	39	36	32	30	28	22	15
CDL85-2	15		53	50	47	44	41	40	36	30
CDL85-3-2	18.5		68	65	60	55	52	49	41	32
CDL85-3	22		81	77	72	67	64	62	55	48
CDL85-4-2	30		98	93	87	80	75	72	62	50
CDL85-4	30		110	105	100	92	86	84	76	66
CDL85-5-2	37		126	120	113	104	98	93	81	68
CDL85-5	37		139	131	124	115	110	106	94	83
CDL85-6-2	45		155	148	139	129	122	117	102	86
CDL85-6	45		168	160	150	141	134	130	117	103

Installation sketch



Size and weight

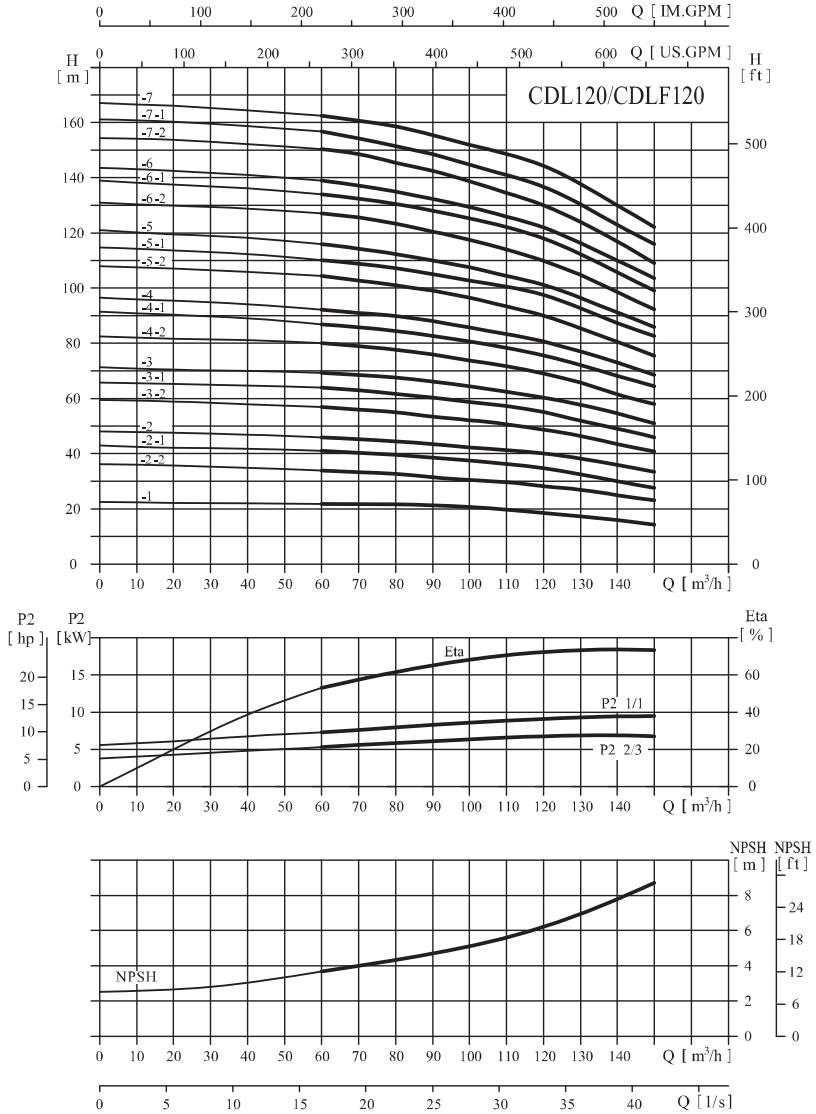
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL85-1-1	571	390	961	260	208	109
CDL85-1	571	390	961	260	208	115
CDL85-2-2	773	500	1273	330	255	185
CDL85-2	773	500	1273	330	255	202
CDL85-3-2	865	550	1415	330	255	225
CDL85-3	865	575	1440	360	285	268
CDL85-4-2	957	650	1607	400	310	328
CDL85-4	957	650	1607	400	310	328
CDL85-5-2	1049	650	1699	400	310	351
CDL85-5	1049	650	1699	400	310	351
CDL85-6-2	1141	685	1826	460	340	428
CDL85-6	1141	685	1826	460	340	428

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.
（For CDL85 series, PN25-40/DN100 standard flange is also available if required）

Technical Data

Performance curve

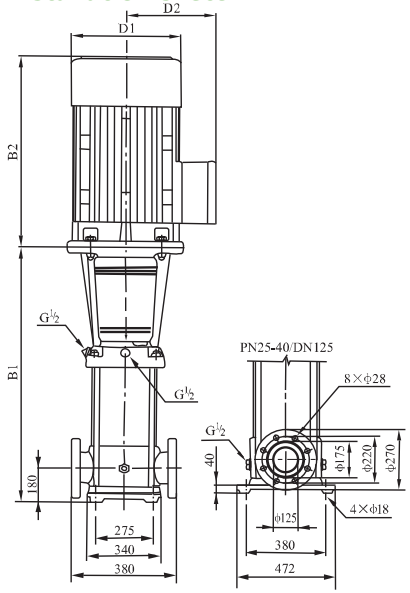
ISO9906 Annex A 2950rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	60	70	80	90	100	110	120	130	140	150
CDL120-1	11		22	21.8	21.6	21	20.5	19.5	18.5	17	16	15
CDL120-2-2	15		34	33.6	33	31	30.2	30	28.5	27	25	24
CDL120-2-1	18.5		41	40	39.5	38.5	37	36.5	34.5	32.5	30	27.5
CDL120-2	22		46	45	44.5	43.5	42.4	41	40	38	36	33.5
CDL120-3-2	30		57	56	55	53.5	52	51	49	46.5	43.5	41
CDL120-3-1	30		64	63	62	60	58.5	57.5	55.5	52	49	46
CDL120-3	30		69.5	68.5	67.5	66	64.4	62.5	61	57.5	54.5	51
CDL120-4-2	37	H (m)	80.5	79	78	76	73.5	72	69	66	61.5	58
CDL120-4-1	37		87	86	84.5	82	80	78	76	72	68	64.5
CDL120-4	45		92.5	91	90	88	85.5	83	81	77	73	68.5
CDL120-5-2	45		104.5	103	101	99	96	93	90	85.5	80.5	75.5
CDL120-5-1	45		110.5	109	107.5	105	102	100	97	92	86.5	83
CDL120-5	55		115.5	114	113	110	107.5	104.5	101.5	96	91	86
CDL120-6-2	55		128	125.5	123	121	117.3	113.5	110	104.5	98.5	92.5
CDL120-6-1	55		134	132	130.5	127	124	121	118	111	105	100
CDL120-6	75		139	137	135	132	128.8	126	123	116	110	104
CDL120-7-2	75		151	148	145.5	143	138.6	134	130	123.5	116.5	109
CDL120-7-1	75		156.5	154	152	148.5	144.5	141	137.5	130	123	116.5
CDL120-7	75		162.5	160.5	158.5	155	151	148	145	137	129	123

Installation sketch



Size and weight

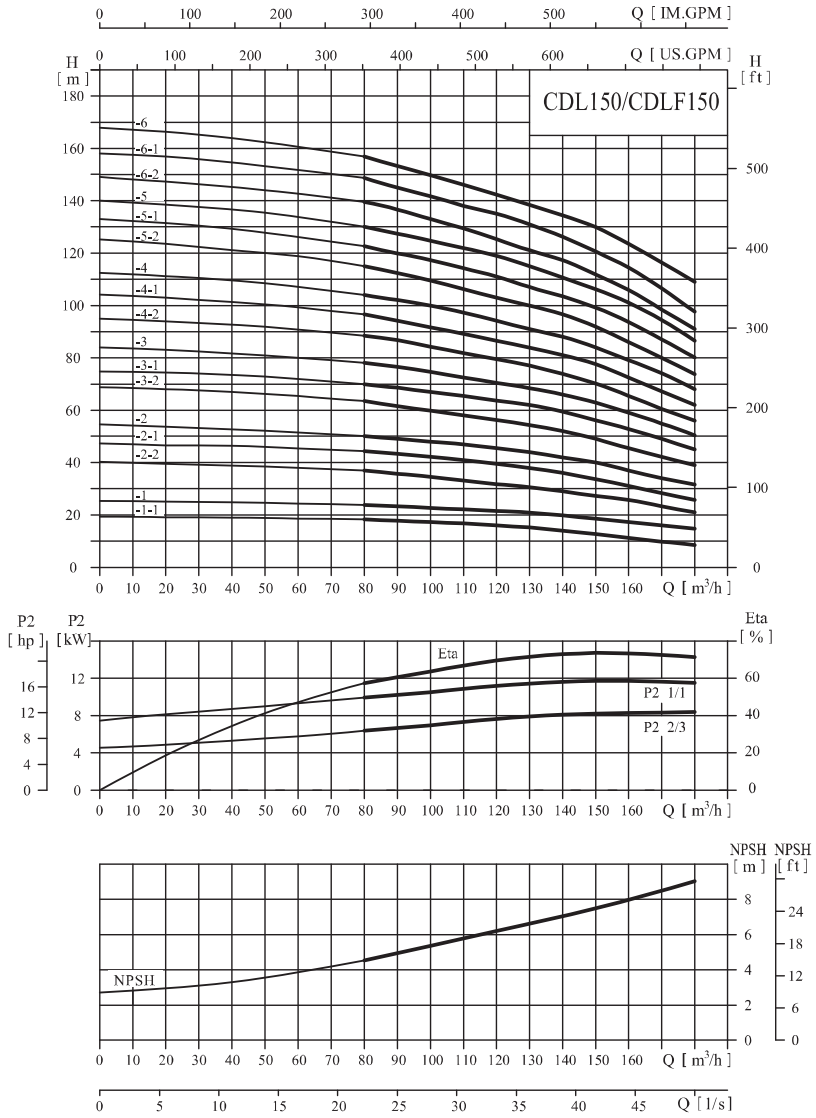
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL120-1	840	500	1340	330	255	226
CDL120-2-2	1000	500	1500	330	255	250
CDL120-2-1	1000	550	1550	330	255	263
CDL120-2	1000	575	1575	360	285	310
CDL120-3-2	1160	650	1810	400	310	375
CDL120-3-1	1160	650	1810	400	310	375
CDL120-3	1160	650	1810	400	310	375
CDL120-4-2	1320	650	1970	400	310	405
CDL120-4-1	1320	650	1970	400	310	405
CDL120-4	1320	685	2005	460	340	501
CDL120-5-2	1480	685	2165	460	340	509
CDL120-5-1	1480	685	2165	460	340	509
CDL120-5	1510	760	2270	540	370	632
CDL120-6-2	1670	760	2430	540	370	641
CDL120-6-1	1670	760	2430	540	370	641
CDL120-6	1670	845	2515	580	410	757
CDL120-7-2	1830	845	2675	580	410	766
CDL120-7-1	1830	845	2675	580	410	766
CDL120-7	1830	845	2675	580	410	766

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.

Technical Data

Performance curve

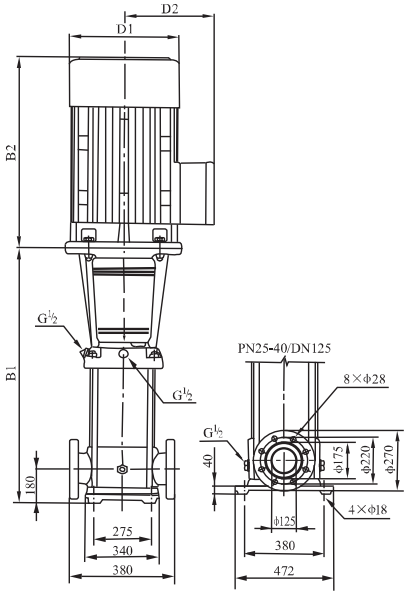
ISO9906 Annex A 2950rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	80	90	100	110	120	130	140	150	160	170	180
CDL150-1-1	11	H (m)	18.3	17.8	17.3	17	16	15	14	12.5	11	10	8.5
CDL150-1	15		24	23	22.5	22	21.5	20.5	20	18.5	17	16	15
CDL150-2-2	18.5		37	35.5	34	33	32	31	29	27.5	26	23	21
CDL150-2-1	22		44.3	43	42	40	39	38.5	37.5	35	33	30	27
CDL150-2	30		50	49	48	47	45.5	44	42	40	37	34	32
CDL150-3-2	30		63.5	61	59	57.5	56	54.5	53	49	45.5	42	39
CDL150-3-1	37		70	68	67	65	63	62	60	56	53	49	45
CDL150-3	37		78	76.5	75	73	70.5	68	66	63	59	55	50.5
CDL150-4-2	45		89	87	84	81.5	79	77	74.5	70.5	65.5	60	56
CDL150-4-1	45		96.5	94	91.5	89	86.5	84	81.5	77	72.5	67	62
CDL150-4	55		104	102	100	97	95	91	88	84	79.5	74	68
CDL150-5-2	55		115.5	112	109	106	102.5	100	97	92	86	79	73.5
CDL150-5-1	75		122.5	119.5	117	113.5	111.5	107.5	104.5	99	93.5	87	80
CDL150-5	75		130	127.5	125	121	119	115	111.5	106.5	101	94.5	86.5
CDL150-6-2	75		140	137	133	130	126	121	118	112	106	98	91
CDL150-6-1	75		148.5	145	141.7	137.5	135	131	127	120.5	114.5	106.5	97.5
CDL150-6	75		157	153	149	145	142	139.5	137	130	123.5	116	109

Installation sketch



Size and weight

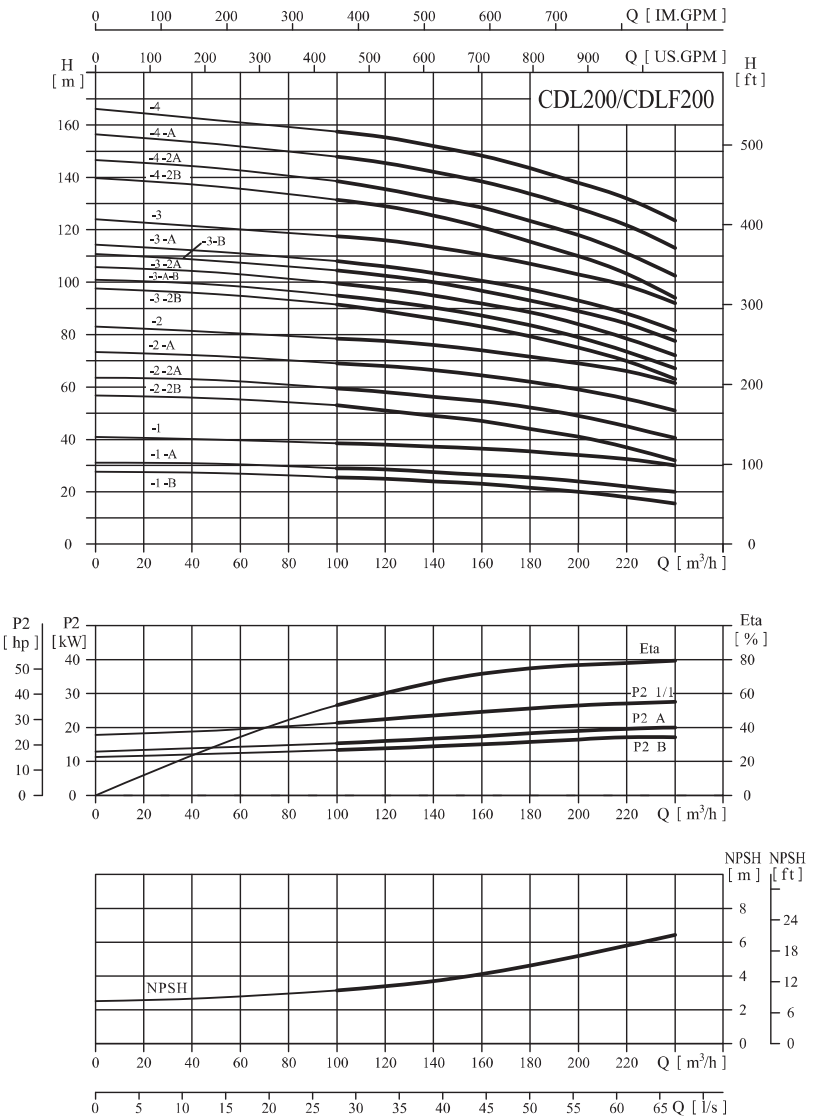
Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL150-1-1	840	500	1340	330	255	227
CDL150-1	840	500	1340	330	255	240
CDL150-2-2	1000	550	1550	330	255	263
CDL150-2-1	1000	575	1575	360	285	311
CDL150-2	1000	650	1650	400	310	364
CDL150-3-2	1160	650	1810	400	310	374
CDL150-3-1	1160	650	1810	400	310	395
CDL150-3	1160	650	1810	400	310	395
CDL150-4-2	1320	685	2005	460	340	502
CDL150-4-1	1320	685	2005	460	340	502
CDL150-4	1350	760	2110	540	370	625
CDL150-5-2	1510	760	2270	540	370	636
CDL150-5-1	1510	845	2355	580	410	752
CDL150-5	1510	845	2355	580	410	752
CDL150-6-2	1670	845	2515	580	410	762
CDL150-6-1	1670	845	2515	580	410	762
CDL150-6	1670	845	2515	580	410	762

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.

Technical Data

Performance curve

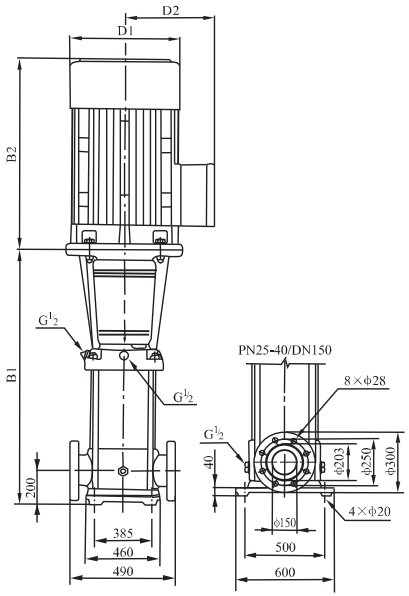
ISO9906 Annex A 2950rpm



Performance table

Model	Driving motor (kW)	Q (m^3/h)	100	120	140	160	180	200	220	240
CDL200-1-B	18.5		25.5	25	24	23	21.5	20	18	15.5
CDL200-1-A	22		29	28.5	27.5	26.5	25.5	24	22	20
CDL200-1	30		38.5	38	37.5	36.5	35	34	32.5	30
CDL200-2-2B	37		53	51	49	47	44	41	37	32
CDL200-2-2A	45		59.5	58	56	54	52.5	49	44.5	40.5
CDL200-2-A	55		69	68	66	64	62	59	55.5	51
CDL200-2	55	H (m)	78.5	77.5	76	74	71.5	69	66	61.5
CDL200-3-2B	75		91.5	89	86.5	83.5	79	75	70	63
CDL200-3-A-B	75		95	93	90	87	83.5	79	73.5	67
CDL200-3-2A	75		99.5	97.5	94.5	91.5	89	84	78.5	72
CDL200-3-B	75		104.5	102.5	100	97	93	89	84.5	77.5
CDL200-3-A	75		108	106	103.5	100.5	97.5	93	88	81.5
CDL200-3	90		117.5	116	113.5	110.5	107	103	99	92
CDL200-4-2B	90		131.5	129	125.5	121	115.5	110	103.5	94
CDL200-4-2A	110		138.5	136	132	128	124	118	111	102.5
CDL200-4-A	110		148	145.5	142.5	138	134	128	122	113
CDL200-4	110		157.5	155.5	152.5	148	143.5	138	132.5	123.5

Installation sketch



Size and weight

Model	Size(mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
CDL200-1-B	907	550	1457	330	255	343
CDL200-1-A	907	575	1482	360	285	390
CDL200-1	907	650	1557	400	310	443
CDL200-2-2B	1101	650	1751	400	310	482
CDL200-2-2A	1101	685	1786	460	340	578
CDL200-2-A	1131	760	1891	540	370	710
CDL200-2	1131	760	1891	540	370	710
CDL200-3-2B	1325	845	2170	580	410	845
CDL200-3-A-B	1325	845	2170	580	410	845
CDL200-3-2A	1325	845	2170	580	410	845
CDL200-3-B	1325	845	2170	580	410	845
CDL200-3-A	1325	845	2170	580	410	845
CDL200-3	1325	895	2220	580	410	921
CDL200-4-2B	1519	895	2414	580	410	938
CDL200-4-2A	1519	1140	2659	645	550	1148
CDL200-4-A	1519	1140	2659	645	550	1148
CDL200-4	1519	1140	2659	645	550	1148

The overall dimensions of explosion-proof motor is a little different. Pls contact us for details.

MEMO

MEMO

CHL

Light Horizontal Multistage Centrifugal Pump

Operation Manual

Zhejiang Nanbeng Fluid Machinery Co.,Ltd.
Add:Zhongguan Town,Deqing County,Huzhou,Zhejiang,China
Service hotline:400-088-8233

221002

Zhejiang Nanbeng Fluid Machinery Co.,Ltd.

CHL

Light Horizontal Multistage Centrifugal Pump

Operation Manual

221002

Contents

Read this manual carefully before installing,starting the pump.

I. Applications and conditions

CHL are non-self-priming light horizontal multistage centrifugal pump (abbr. as pump in the following).They are efficient,low n-oisc,little corrosive tolerance, compact structure, good looking, small volu-me, light weight, etc.

1.Applications

· Pumped liquids: Low viscosity, neutral, non-explosive liquids, not containing solid particles or fibres. The liquid must not attack the pump materials chemically. (Oil or the liquid mainly consisted of oil can be pumped by special type of pumps);

· Circulation for air condition system;

· Cooling system;

· Water treatment, purification system;

· Industry cleaning system;

· Liquid transferring, circulation, boosting;

· Hot or cold water;

· Feed proportioning system of food, beverage, agriculture, etc.

2.Operation conditions

· Liquid temperature: Normal temperature type -15℃～+70℃;
Hot water type -15℃～+ 105℃;

· Flow range: 0.5～28m^3/h;

· Max pressure: 10 bar;

· Liquid pH range: pH5～9;

· Max ambient temperature: +40℃;

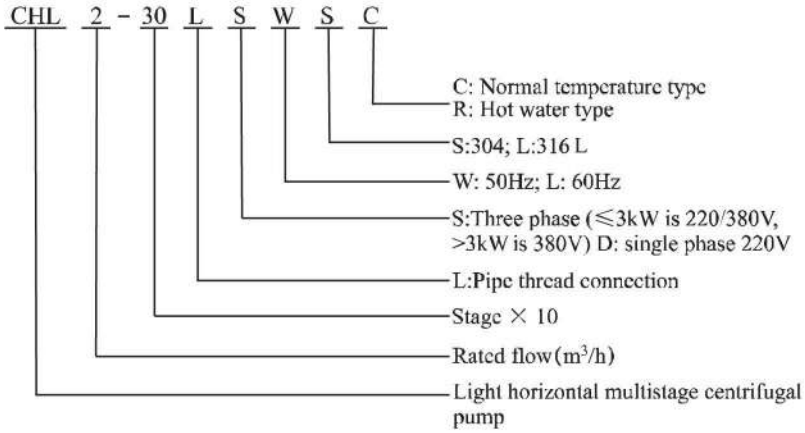
· The Max suction pressure is limited by max operating pressure;

· Min inlet pressure: Refer to NPSH curve.

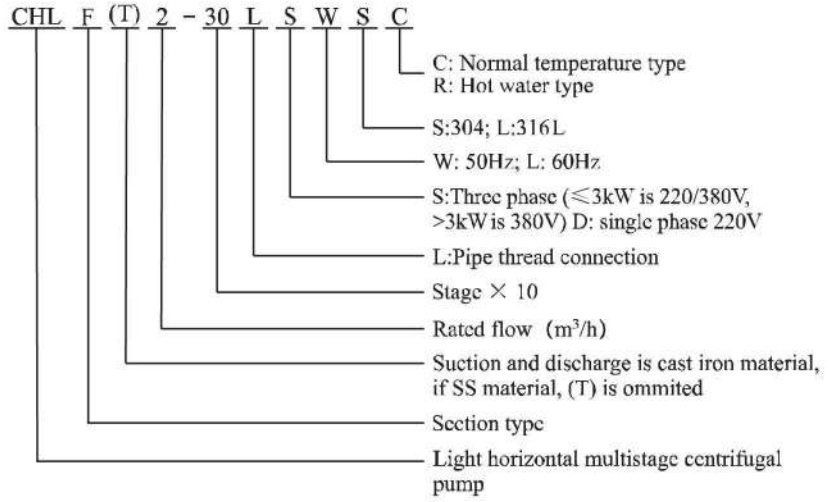
Caution:When pumping liquids with a density and/or viscosity higher than that of water, use motors with correspondingly higer outputs, if required.

II. Definition of model

1.CHL



2.CHLF,CHLF(T)



III.Performance parameter

Continued 50Hz

Model	Motor (kW)	Q(m³/h)	0.5	1	1.5	2	2.5	3	3.5
CHL2-20	0.37		19	18	16.5	15	13	10	7.5
CHL2-30	0.37		28	26.5	24.5	22	19	15.5	12
CHL2-40	0.55	H(m)	36	34.5	33	29	25	20.5	16
CHL2-50	0.55		45.5	43	40	36	31.5	26.5	20.5
CHL2-60	0.75		53.5	51	48	44	39	32	24

Model	Motor (kW)	Q(m³/h)	1	2	3	4	5	6	7
CHL4-20	0.37		19	18	17	15	12.5	10	8
CHL4-30	0.55	H(m)	28	27	26	23.5	20.5	17	13
CHL4-40	0.75		37.5	36	34	31	27	23	19

Model	Motor (kW)	Q(m³/h)	5	6	7	8	9	10	11
CHL8-10	0.75		10	9.5	9.3	9	8	7.5	7
CHL8-20	0.75		20	19.5	19	18	17	15.5	14
CHL8-30	1.1	H(m)	29.5	29	28	27	25	23	21
CHL8-40	1.5		39	38	37	35	33	30.5	27.5
CHL8-50	2.2		51	49.5	47.5	45	42.5	39.5	36

Model	Motor (kW)	Q(m³/h)	7	8	9	10	11	12	13	14	15	16
CHL12-10	0.75		11.5	11.2	11	10.5	10	9.5	9	8	7	6
CHL12-20	1.2		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
CHL12-30	1.8	H(m)	35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
CHL12-40	2.4		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
CHL12-50	3		60	58	56.5	55	52.5	50	47	44	40	35

Model	Motor (kW)	Q(m³/h)	8	10	12	14	15	16	18	20	22
CHL15-10	1.1		12	11	10.5	9.5	9	8.5	7.5	6.5	6
CHL15-20	2.2	H(m)	24.5	24	23	22	21	20.5	19	18	16
CHL15-30	3		38	37	35.5	34	33	32	30	28	25

Model	Motor (kW)	Q(m³/h)	10	12	14	16	18	20	22	24	26	28
CHL20-10	1.1		13.5	13	12.5	12	11	10	9	8	7	6
CHL20-20	2.2		27	26.5	25.5	25	23.5	22	20.5	18.5	17	14.5
CHL20-30	4	H(m)	39.5	39	38	37.5	35.5	34	31.5	29	26	23

Model	Motor (kW)	Q(m³/h)	0.5	1.0	1.5	2.0	2.5	3.0	3.5
CHLF(T)2-20	0.37		19	18	16.5	15	13	10	7.5
CHLF(T)2-30	0.37		28	26.5	24.5	22	19	15.5	12
CHLF(T)2-40	0.55	H (m)	36	34.5	33	29	25	20.5	16
CHLF(T)2-50	0.55		45.5	43	40	36	31.5	26.5	20.5
CHLF(T)2-60	0.75		53.5	51	48	44	39	32	24

Model	Motor (kW)	Q(m³/h)	1	2	3	4	5	6	7
CHLF(T)4-20	0.37		19	18	17	15	12.5	10	8
CHLF(T)4-30	0.55		28	27	26	23.5	20.5	17	13
CHLF(T)4-40	0.75	H (m)	37.5	36	34	31	27	23	19
CHLF(T)4-50	1.1		47	45	42.5	39	34	29	23
CHLF(T)4-60	1.1		56	54	51	47	41.5	35.5	28

Model	Motor (kW)	Q(m³/h)	5	6	7	8	9	10	11
CHLF(T)8-10	0.75	H (m)	10	9.5	9.3	9	8	7.5	7
CHLF(T)8-20	0.75		20	19.5	19	18	17	15.5	14
CHLF(T)8-30	1.1		29.5	29	28	27	25	23	21
CHLF(T)8-40	1.5		39	38	37	35	33	30.5	27.5
CHLF(T)8-50	2.2		51	49.5	47.5	45	42.5	39.5	36

Model	Motor (kW)	Q(m³/h)	7	8	9	10	11	12	13	14	15	16
CHLF(T)12-10	0.75	H (m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
CHLF(T)12-20	1.2		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
CHLF(T)12-30	1.8		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
CHLF(T)12-40	2.4		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
CHLF(T)12-50	3		60	58	56.5	55	52.5	50	47	44	40	35

Model	Motor (kW)	Q(m³/h)	8	10	12	14	15	16	18	20	22
CHLF(T)15-10	1.1	H (m)	12	11	10.5	9.5	9	8.5	7.5	6.5	6
CHLF(T)15-20	2.2		24.5	24	23	22	21	20.5	19	18	16
CHLF(T)15-30	3		38	37	35.5	34	33	32	30	28	25
CHLF(T)15-40	4		51	50	48	46	45	43	40	37	33

Model	Motor (kW)	Q(m³/h)	10	12	14	16	18	20	22	24	26	28
CHLF(T)20-10	1.1	H (m)	13.5	13	12.5	12	11	10	9	8	7	6
CHLF(T)20-20	2.2		27	26.5	25.5	25	23.5	22	20.5	18.5	17	14.5
CHLF(T)20-30	4		39.5	39	38	37.5	35.5	34	31.5	29	26	23
CHLF(T)20-40	4.4		53	52	51	50	48.5	46.5	43	40	36	32.5

Continued 60Hz

Model	Motor (kW)	Q(m³/h)	1	1.5	2	2.5	3	3.5	4
CHL2-20	0.55	H(m)	24.5	23	21.5	19.5	17	14	10.5
CHL2-30	0.75		37.5	35.5	33	30.5	27.5	23.5	19
CHL2-40	1.1		49.5	48	45.5	42	36	32	26
CHL2-50	1.1		62	58.5	55	51	46	40.5	33
CHL2-60	1.1		73.5	70.5	66	61.5	56	49	40

Model	Motor (kW)	Q(m³/h)	2	3	4	5	6	7	8
CHL4-20	0.75	H(m)	26	25	23	21	19	16	14
CHL4-30	1.1		39	37.5	36	32	23	24	21
CHL4-40	1.5		52	50	47	43.5	38.5	35	31
CHL4-50	1.5		52	50	47	43.5	38.5	35	31
CHL4-60	1.5		56	54	51	47	41.5	35.5	28

Model	Motor (kW)	Q(m³/h)	6	7	8	9	10	11	12	13
CHL8-10	0.75	H(m)	14.5	13	12	11.5	11	10.5	10	9.5
CHL8-20	1.5		29	27	26	25	24	23	21.5	20
CHL8-30	2.2		42	41	40	39	37	35	33	30
CHL8-40	3		55.5	54.5	53	51	49	46.5	43.5	40
CHL8-50	3		71	69.5	67.5	65	63	59	56	52

Model	Motor (kW)	Q(m³/h)	7	9	11	12	13	15	17	19
CHL12-10	1.1	H(m)	17	16	15	14.5	14	12.5	11	8.5
CHL12-20	2.2		34	33	32	31	30	27	24.5	19
CHL12-30	3		52.5	50	48.5	47	45	41.5	37.5	29
CHL12-40	4		69	67.5	65	63	60.5	55	49.5	40
CHL12-50	5.5		88	85	82	80	76	70	62	50.5

Model	Motor (kW)	Q(m³/h)	10	12	14	15	16	18	20	22	24	26
CHL15-10	1.5	H(m)	17	15.5	14.5	14	13.5	13	12	11	10	9
CHL15-20	3		35.5	34.5	33.5	33	32.5	31	30	28	26	23
CHL15-30	4		55	53.5	52.5	51.5	51	49	47	44	41	36.5

Model	Motor (kW)	Q(m³/h)	12	14	16	18	20	22	24	26	28	30	32
CHL20-10	2.2	H(m)	19	18.5	18	17.5	17	16	15	13.5	12	11	10
CHL20-20	4		38	37	36	35	34	33	32	30.5	29	26.5	24
CHL20-30	5.5		58	57	56	55	53	51.4	50	47.5	45	41.6	38

Model	Motor (kW)	Q(m³/h)	1	1.5	2	2.5	3	3.5	4
CHLF(T)2-20	0.55	H (m)	24.5	23	21.5	19.5	17	14	10.5
CHLF(T)2-30	0.75		37.5	35.5	33	30.5	27.5	23.5	19
CHLF(T)2-40	1.1		49.5	48	45.5	42	36	32	26
CHLF(T)2-50	1.1		62	58.5	55	51	46	40.5	33
CHLF(T)2-60	1.1		73.5	70.5	66	61.5	56	49	40

Model	Motor (kW)	Q(m³/h)	2	3	4	5	6	7	8
CHLF(T)4-20	0.75	H (m)	26	25	23	21	19	16	14
CHLF(T)4-30	1.1		39	37.5	36	32	28	24	21
CHLF(T)4-40	1.5		52	50	47	43.5	38.5	35	31
CHLF(T)4-50	2.2		65.5	62.5	59	54.5	49	43	39
CHLF(T)4-60	2.2		78	75.5	71.5	66.5	59	53.5	47

Model	Motor (kW)	Q(m³/h)	6	7	8	9	10	11	12	13
CHLF(T)8-10	0.75	H (m)	14.5	13	12	11.5	11	10.5	10	9.5
CHLF(T)8-20	1.5		29	27	26	25	24	23	21.5	20
CHLF(T)8-30	2.2		42	41	40	39	37	35	33	30
CHLF(T)8-40	3		55.5	54.5	53	51	49	46.5	43.5	40
CHLF(T)8-50	3		71	69.5	67.5	65	63	59	56	52

Model	Motor (kW)	Q(m³/h)	7	9	11	12	13	15	17	19
CHLF(T)12-10	1.1	H (m)	17	16	15	14.5	14	12.5	11	8.5
CHLF(T)12-20	2.2		34	33	32	31	30	27	24.5	19
CHLF(T)12-30	3		52.5	50	48.5	47	45	41.5	37.5	29
CHLF(T)12-40	4		69	67.5	65	63	60.5	55	49.5	40
CHLF(T)12-50	5.5		88	85	82	80	76	70	62	50.5

Model	Motor (kW)	Q(m³/h)	10	12	14	15	16	18	20	22	24	26
CHLF(T)15-10	1.5	H (m)	17	15.5	14.5	14	13.5	13	12	11	10	9
CHLF(T)15-20	3		35.5	34.5	33.5	33	32.5	31	30	28	26	23
CHLF(T)15-30	4		55	53.5	52.5	51.5	51	49	47	44	41	36.5
CHLF(T)15-40	5.5		73.5	72.5	70.5	69.5	68.5	65.5	62	58	54	48

Model	Motor (kW)	Q(m³/h)	12	14	16	18	20	22	24	26	28	30	32
CHLF(T)20-10	2.2	H (m)	19	18.5	18	17.5	17	16	15	13.5	12	11	10
CHLF(T)20-20	4		38	37	36	35	34	33	32	30.5	29	26.5	24
CHLF(T)20-30	5.5		58	57	56	55	53	51.4	50	47.5	45	41.6	38
CHLF(T)20-40	7.5		77	76	75	73.5	72	70	67	65	60.5	56	51

IV.Construction

· Pump is horizontal, multistage, sectional type. Pump shaft is the extended motor shaft. Axial suction and radical discharge.

· CHL is mainly composed of motor, seal plate, diffuser, impeller, inlet and outlet chamber, pump shaft, mechanical seal, etc. CHLF, CHLFT is mainly composed of motor, suction head, discharge head, diffuser, impeller, pump shaft, mechanical seal, etc.

· The key parts of pump---diffuser, impeller, inlet and outlet chamber, pump shaft are made of stainless steel. The suction head and discharge head of CHLFT is made of cast iron.

· Mechanical seal is single face seal. Seal part is made of Silicon Carbide/Carbide. Other material for Seal part is also available on demand of customers.

· The standard connection type is pipe thread connection, which is conformable with GB7307 standard. See the following pump structure figure.

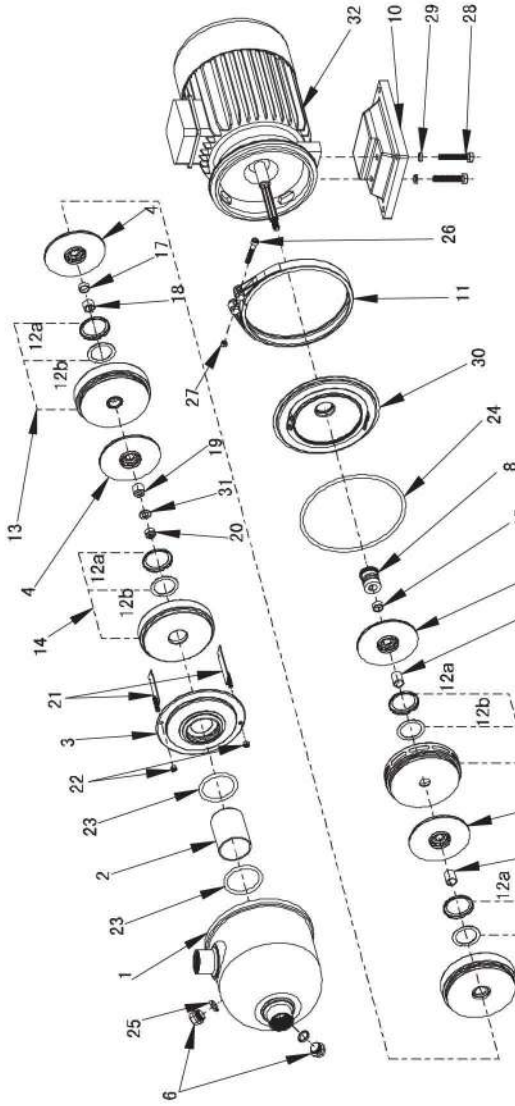
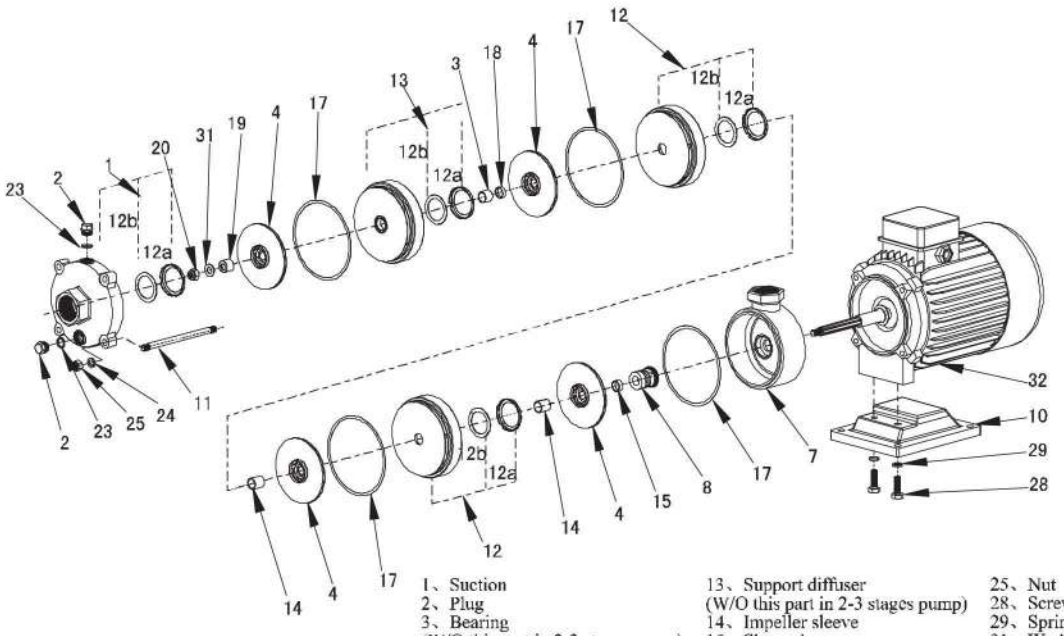


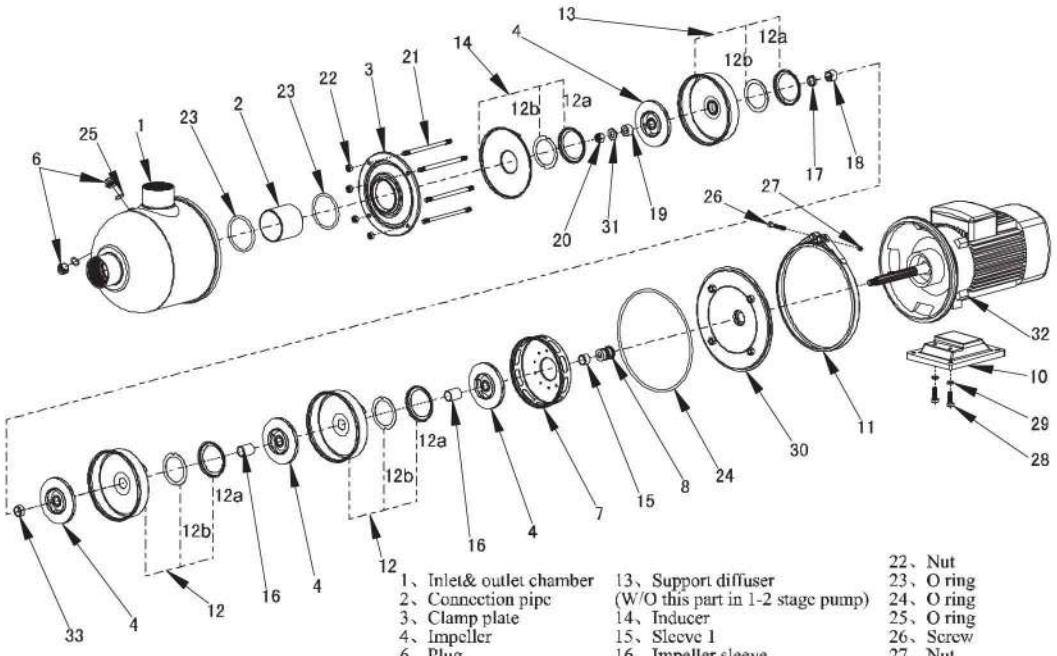
Fig. 1-A CHL2,4 Pump structure



1、Suction
2、Plug
3、Bearing
(W/O this part in 2-3 stages pump)
4、Impeller
7、Discharge
8、Mechanical seal
10、Base plate
11、Staybolt
12、Diffuser
12a、Neck ring retainer
12b、Neck ring
13、Support diffuser
(W/O this part in 2-3 stages pump)
14、Impeller sleeve
15、Sleeve 1
(W/O this part in CHLF(T)2)
17、Seal ring
18、Impeller sleeve(S)
(W/O this part in 2-3 stages pump)
19、First impeller cover
20、Nut
23、O ring
24、Spring washer
25、Nut
28、Screw
29、Spring Washer
31、Washer
32、Motor

CHLF(T)2、4-220501

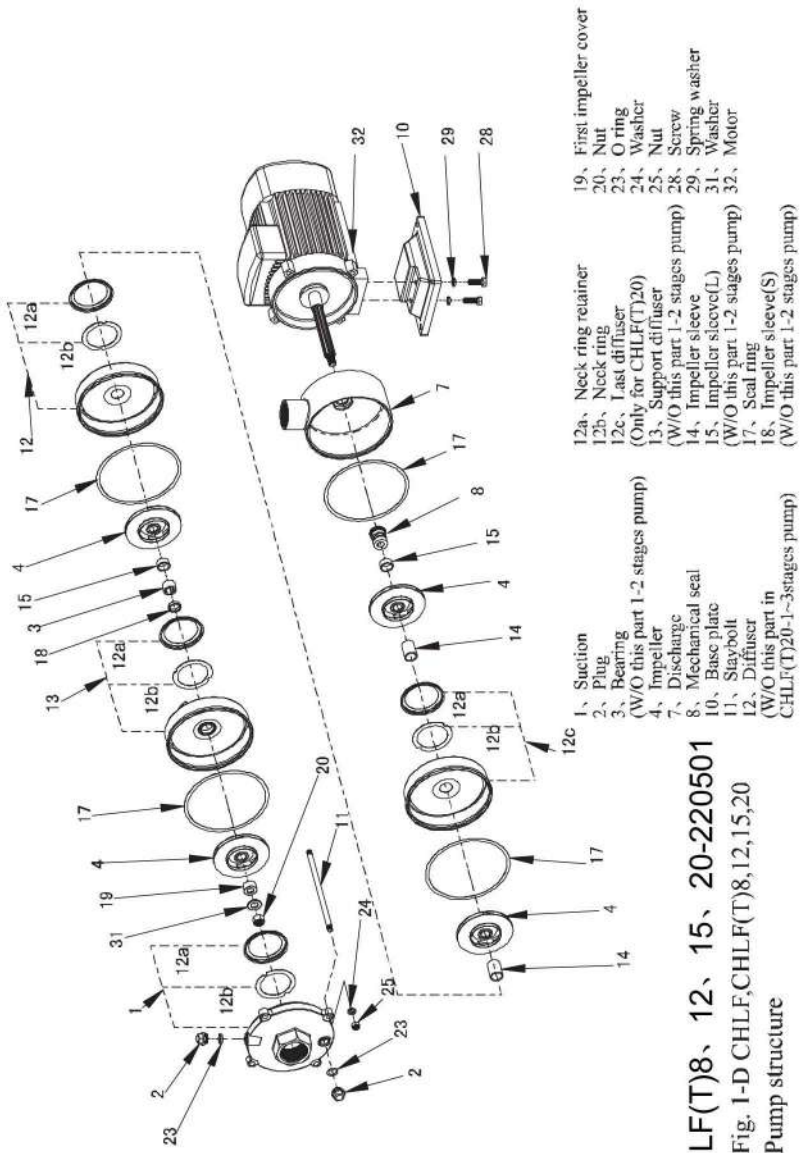
Fig. 1-B CHLF,CHLF(T)2,4 Pump structure



1、Inlet& outlet chamber
2、Connection pipe
3、Clamp plate
4、Impeller
6、Plug
7、Discharge diffuser
8、Mechanical seal
10、Base plate
11、Spannband
12、Diffuser
12a、Neck ring retainer
12b、Neck ring
13、Support diffuser
(W/O this part in 1-2 stage pump)
14、Inducer
15、Sleeve 1
16、Impeller sleeve
17、Impeller sleeve(S)
(W/O this part in 1-2 stage pump)
18、Bearing
(W/O this part in 1-2 stage pump)
19、First impeller cover
20、Nut
21、Staybolt
22、Nut
23、O ring
24、O ring
25、O ring
26、Screw
27、Nut
28、Screw
29、Spring washer
30、Seal plate
31、Washer
32、Motor
33、Impeller sleeve(L)
(W/O this part in 1-2 stage pump)

CHL 8、12、15、20-220501

Fig. 1-C CHL8,12,15, 20 Pump structure



CHLF(T)8、12、15、20-220501

Fig. 1-D CHLF,CHLF(T)8,12,15,20
Pump structure

V. Installation and connection

1.Installation

· Pump should be sited in a well ventilated but frost-free position. The distance between pump with motor and other objects should be at least 150mm, in order to cool the motor by fan with enough air.

· To reduce the inlet wear of inlet as least as possible, the inlet pipe shall be as short as possible.

· Ensure the check valve is installed in pipe line system before the pump installation to prevent liquid from returning.

· Pump should be fixed in ground or fixed on the brackets on wall. Pump should be safely fixed and stable. Pay attention not to let the weight of pipe system on pump to prevent pump from damage.

· Before pump installation, the inlet pipe line shall be cleaned. If there is impurities in the pipe, it is necessary to install a strainer at 0.5-1mm in front of the pump inlet.

· The air pockets shall be avoided when installing the inlet pipe line. see Fig. 2

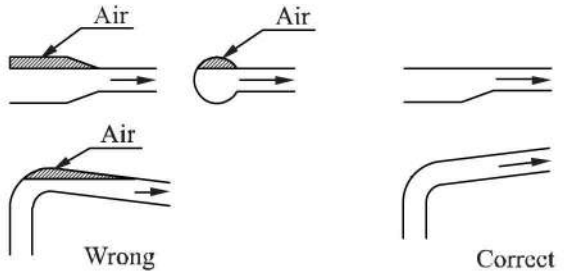


Figure 2

· It is necessary to fit a pressure meter to observe and control operation of pump.

· When the height of pump position is higher than liquid level, in the suction range of pump, a foot valve should be installed in the inlet pipe end. And fit a water pouring screw hole in the drainage pipe. It is used for pouring water in before starting pump.

· 2.Electrical connection

· The electrical connections should be carried out by a qualified electri-

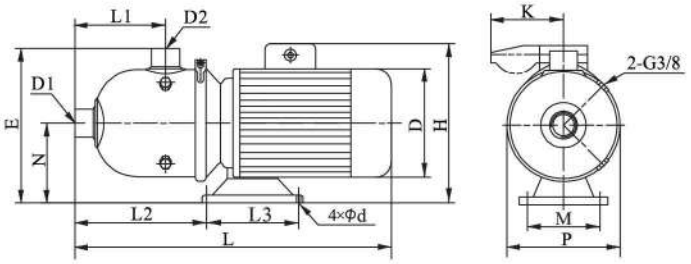
cian.

· To make sure the motor is suitable for the power supply, cables of the motor must be connected to power supply according to the Fig. on the terminal box and the motor nameplate.

· Motor shall be connected with a fast and effective motor starter, to ensure that the motor will not be damaged by lack of phase, unstable voltage or overload. The motor shall be earthed reliably.

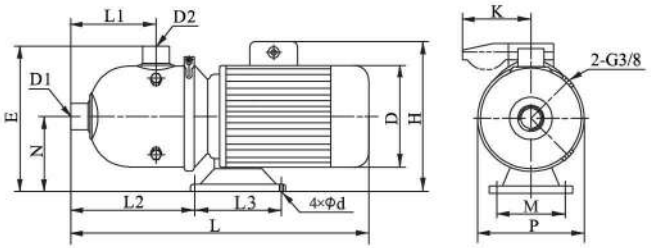
Caution: Before taking apart the terminal box cover or dismantle pump, make sure that the power supply is switched off.

3、CHL outline dimensions（mm）50Hz



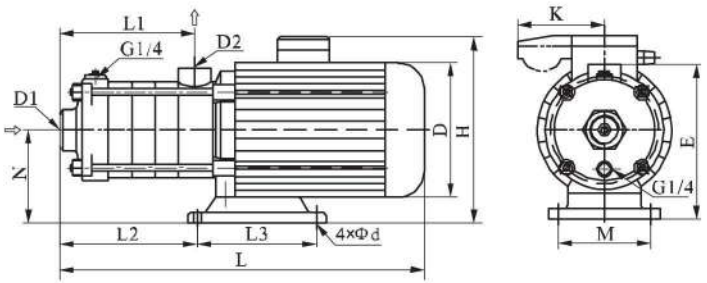
Model	D1	D2	N	E	L1	L2	L3	d	L	D	H (Three phase)	H (Single phase)	K (Single phase)	P	M	Weight kg
2-20	G1	G1	110	215	125	165	138	9	400	141	215	249	62	165	108	10
2-30					125	165			400							10
2-40					125	165			400							11
2-50					125	165			400							12
2-60					125	165			420	151/161	225	265	91			14
4-20	G1¼	G1	110	215	132	172	138	9	400	141	215	249	62	165	108	10
4-30					132	172			400							11
4-40					132	172			420	151/161	225	265	91			14
8-10	G2	G2	118	264	176	279	138	9	530	151/161	225	265	91	223	108	18
8-20				264	176	279			530					223		19
8-30				264	176	279			530		230	265		223		22
8-40				265	176	279			563	171/176	235	270		223		27
8-50				265	176	279			563					223		32
12-10	G2	G2	117	264	176	279	138	9	530	151/161	225	265	91	223	108	18
12-20				264	176	279			530					223		22
12-30			118	265	176	279			563	171/176	235	270		223		28
12-40				265	176	279			563					223		33
12-50			128	275	176	279			610	196/	259	/	/	223		37
15-10	G2	G2	117	264	176	279	138	9	530	151/161	225	265	91	223	108	20
15-20			118	265	176	279			563	171/176	235	270		223		26
15-30			128	275	176	279			605	196/	259	/	/	223		34
20-10	G2	G2	117	264	176	279	138	9	530	151/161	230	265	91	223	108	20
20-20			118	265	176	279			563	171/176	235	270		223		26
20-30			120	267	176	357	140	12	612	213/	270	/	/	223	190	40

4、CHL outline dimensions（mm）60Hz



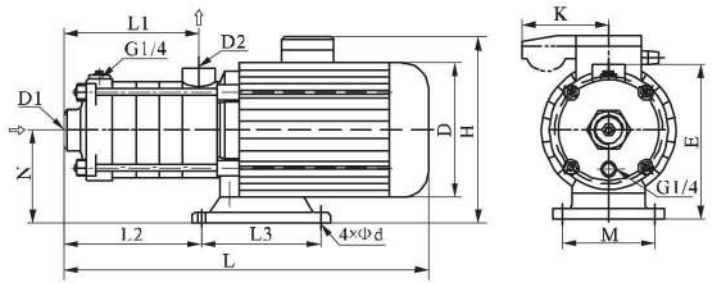
Model	D1	D2	N	E	L1	L2	L3	d	L	D	H		K	P	M	Weight
											Three phase	Single phase	Single phase			kg
2-20	G1	G1	110	210	125	165	138	9	395	140	215	249	96	165	108	13
2-30									415	157	230	265	100			
2-40																15
2-50																
2-60																
4-20	G1¼	G1	110	210	132	172	138	9	422	157	230	265	100	165	108	12
4-30																15
4-40			118	228					470	177	235	270				20
8-10	G2	G2	118	264	175	278	138	9	560	157	230	265	100	230	108	20
8-20									570	177	235	270				25
8-30																25
8-40			128	274		278			610	197	255	/	/			30
8-50																30
12-10	G2	G2	118	264	175	278	138	9	560	157	230	265	100	230	108	22
12-20									570	177	235	270				25
12-30			128	274		278			610	197	255					32
12-40			120	266		355	140	12	612	213	270	/	/		190	44
12-50			132	278		370			670	255	300				216	58
15-10	G2	G2	118	264	176	279	138	9	563	171/176	235	270	91	233	108	23
15-20			128	274		279			605	196/	259	/	/			32
15-30			120	266		357	140	12	612	213/	270				190	45
20-10	G2	G2	118	264	175	278	138	9	570	177	235	270	100	230	108	26
20-20			120	266		355	140	12	612	213	270	/	/		190	43
20-30			132	278		370			670	255	300				216	56

5、CHLF, CHLFT outline dimensions（mm）50Hz



Model	D1	D2	N	E	L	L1	L2	L3	d	D	H		K	M	Weight
											Three phase	Single phase	Single phase		kg
CHLF(T)2-20	G1	G1	110	182	305	84	87	138	9	145	215	230	96	108	15
CHLF(T)2-30					323	102	105								
CHLF(T)2-40					341	120	123								
CHLF(T)2-50					359	138	141								
CHLF(T)2-60					422	156	159			170	225	245	100		17
CHLF(T)4-20	G1¼	G1	110	182	329	102	105	138	9	145	215	230	96	108	15
CHLF(T)4-30					356	129	132								
CHLF(T)4-40					416	156	162								
CHLF(T)4-50					455	183	188			170	225	245	100		17
CHLF(T)4-60					482	210	213								
CHLF(T)8-10	G1½	G1¼	118	228	395	108	126	138	9	170	230	265	100	108	20
CHLF(T)8-20					395	108	126								
CHLF(T)8-30					425	138	156								25
CHLF(T)8-40					490	168	186			180	240	270			28
CHLF(T)8-50					520	198	216								30
CHLF(T)12-10	G1½	G1½	118	228	395	108	126	138	9	170	230	265	100	108	20
CHLF(T)12-20					395	108	126								21
CHLF(T)12-30					460	138	156			180	240	270			25
CHLF(T)12-40					490	168	186								29
CHLF(T)12-50			126	240	555	198	216			195	270	/	/		34
CHLF(T)15-10	G2	G2	117	227	400/420	126	150	138	9	151/161	230	265	91	108	19
CHLF(T)15-20			118	228	440/451	126	150			171/176	240	270			27
CHLF(T)15-30			128	238	544/	171	195			197/	259	/			34
CHLF(T)15-40			120	230	595/	216	336	140	12	213/	270	/	/	190	41
CHLF(T)20-10	G2	G2	117	227	423	126	151	138	9	170	230	265	100	108	17.5
CHLF(T)20-20			118	228	455	126	151			180	240	270			27
CHLF(T)20-30			120	230	576	171	294	140	12	220	270	/	/	190	41
CHLF(T)20-40					621	216	340								44

6、CHLF, CHLFT outline dimensions（mm） 60Hz



Model	D1	D2	N	E	L	L1	L2	L3	d	D	H		K	M	Weight
											Three phase	Single phase	Single phase		kg
CHLF(T)2-20	G1	G1	110	182	305	84	87	138	9	145	215	230	96	108	15
CHLF(T)2-30					370	102	105			170	230	245	100		17
CHLF(T)2-40					388	120	123								
CHLF(T)2-50					406	138	141								
CHLF(T)2-60					424	156	159								
CHLF(T)4-20	G1¼	G1	110	182	359	102	105	138	9	170	230	245	100	108	15
CHLF(T)4-30					395	129	132								17
CHLF(T)4-40			118	190	465	156	159			180	240	260			20
CHLF(T)4-50					492	183	186								25
CHLF(T)4-60					519	210	213								
CHLF(T)8-10	G1½	G1¼	117	227	395	108	128	138	9	170	230	265	100	108	22
CHLF(T)8-20			118	228	430	108	128				240	270			25
CHLF(T)8-30					460	138	158								27
CHLF(T)8-40			128	238	550	168	188			195	270	/	/		32
CHLF(T)8-50					580	198	218								
CHLF(T)12-10	G1½	G1½	117	227	395	108	126	138	9	170	230	265	100	108	22
CHLF(T)12-20			118	228	430	108	126			180	240	270			25
CHLF(T)12-30			130	240	510	138	156			195	270	/	/		32
CHLF(T)12-40			120	230	565	168	285	140	12	220				190	44
CHLF(T)12-50			132	242	620	198	325			255				216	58
CHLF(T)15-10	G2	G2	118	228	440/451	126	150	140	12	171/176	240	270	91	108	24
CHLF(T)15-20			128	238	499/	126	150			197/	259	/			36
CHLF(T)15-30			120	230	550/	171	291			213	270	/	/	190	45
CHLF(T)15-40			132	242	646/	216	349			255/	300	/		216	54
CHLF(T)20-10	G2	G2	118	228	455	126	151	138	9	180	230	270	100	108	26
CHLF(T)20-20			120	230	531	126	249	140	12	220	240	/	/	190	43
CHLF(T)20-30			132	242	600	171	310			255	305			216	56
CHLF(T)20-40					645	216	355								63

VI.Start-up, operation and maintenance

Caution: It is prohibited to run without liquid, which will damage mechanical seal and sliding bearing.

1.Do not start the pump until it has been filled with water or liquid fully.

· Fill water in pump in inverse pouring system:

Close the pump outlet valve, release air vent screw on the pump head, and open the inlet valve slowly until stable water flows from the air vent screw. Then fasten the screw.

· Fill water in pump when liquid level is lower than pump:

Before installing, pump and pipes must be filled with liquid fully and air vented.

2.Check the rotary direction

Switch on the power supply and view the rotary direction by viewing the motor fan. From the motor end, pump shall run counter-clockwise.

3.Check before pump start-up

· Check whether the pump is fixed securely;

· Check whether pump is filled with water fully and check whether liquid can flow freely;

· Check whether the voltage of power supply is stable;

· Check whether it turns correctly;

· To make sure all pipe lines are connected tightly and can supply water normally;

· The valves in the inlet pipe line are completely opened;

· The outlet valve shall be opened slowly after the pump is started up;

· Check the operation pressure if pressure meter is installed.

· Check all the controls for normal operation. If the pump is controlled by pressure switch, check and adjust the starting pressure and stopping pressure. Check the full load current to make sure it will not exceed the max allowed current.

4.Frequency of pump starts

· Pump should not be started too frequently. It is suggested pump shall not be started more than 100 times per hour;

· The application of pump should according to the range of performance curve to avoid motor overload;

· There should be no noise when pump running. If there is something wrong, stop pump and check it and repair.

5.Frost Protecting

Pump can be used in the system with anti-frozen measures. If the pump

is installed in easily frozen environment, suitable antifreeze shall be added to the transfering liquid to prevent pump from being damaged. If antifreeze is not used, pump shall not be used during periods of frost. Pump should be drained when stops using.

6.The following should be checked regularly for pump.

- Pump working and operating pressure
- Possible leakage
- Possible motor overheat
- Cleaning/replacement of all strainers(If strainers fit)
- The switch off time of motor overload
- Frequency of starts and stops
- All control operation

If find faults, check system according to "Fault Finding and Solution chart".

- Pump shall be cleaned and kept appropriately when it is not used for a long time.
- Pump shall be prevented from being corrupted and damaged in storage.

VII. Assemble and disassemble

1.CHL

- Fit the seal plate on the motor. Fit mechanical seal. The faces of mechanical seal should be lubricated.
- Fit the impellers, diffusers etc. in position according to the drawing. Fit inducer and clamp plate, tightened by straps.
- Finally, fit the connecting pipe and inlet and outlet chamber.
- After fitting all the parts, rotate the motor fan by hand to ensure that the shaft is not choked.
- Reverse the process above can disassemble a pump.

2.CHL, CHLFT

- Fit discharge head on the motor. Fit mechanical seal. The faces of mechanical seal should be lubricated.
- Fit the impellers, diffusers etc. in position according to the drawing. Then fit impeller cover, tighten nuts, fit seal circle on every diffusers.
- Fit suction head, stay bolts, tighten the nuts of stay bolts.
- Rotate the motor fan by hand to ensure that the shaft is not choked. Reverse the process above can disassemble a pump.

VIII. Fault finding and solution chart

Caution: Before removing the terminal box cover and before any removal/dismantling of the pump, make sure that the power supply has been switched off.

Fault	Cause	Solution	Remarks
Motor does not run when started	a) Power supply failure.	a)Check power supply.	
	b) Fuses are blown.	b) Replace fuses.	
	c) Motor is overloaded.	c) Check system.	
	d) Main contacts of starter are not connected well or the coil is defective.	d) Replace motor starter.	
	e) Control circuit is defective.	e) Check control circuit.	
	f) Motor is defective.	f)Repair.	
Overload device of motor starter trips out immediately when power supply is switched on.	a) Fuses are blown.	a) Replace fuses.	In the case of d) and e), users shall not disassemble the pump by themselves.
	b) Contacts of overload device are faulty.	b) Check motor starter.	
	c) Cable connection is loose or faulty.	c) Check cables and power supply	
	d) Motor winding is defective.	d) Replace motor	
	e) Pump mechanically blocked.	e) Check and repair pump	
Overload device trips out occasionally.	a)The setting of overload is too low.	a) Reset overload setting	
	b) Periodic power supply faults.	b) Check power supply	
	c) Low voltage at peak times.	c) Add regulator.	
Motor starter has not tripped out but the pump does not run.	a) Contacts of starter are not contacted well or the coil is faulty.	a) Change motor starter	
	b) Control circuit are defective	b) Check control circuit	

Continued

Fault	Cause	Solution	Remarks
Pumped water does not flow constantly	a) Suction pipe is too small.	a) Enlarge inlet pipeline	
	b) There is not sufficient water in pump water inlet.	b) Improve system and increase coming water	
	c) Liquid level is low.	c) Try to lift liquid level.	
	d) Pump inlet pressure is too low compared with water temperature, pipeline loss and flow.	d) Improve system and try to increase the inlet pressure.	
	e) Suction pipe is partly blocked by impurities.	e) Check and clear impurities.	
Pump runs but gives no water.	a) Suction pipe is blocked by impurities.	a) Check and clean suction pipe.	
	b) Foot valve or check valve is closed.	b) Check and repair foot valve or check valve.	
	c) Leakage in suction pipe.	c) Check and repair suction pipe.	
	d) There is air in suction pipe or pump.	d) Refill liquid, release air.	
Pump runs backwards when switched off.	a) Leakage in suction pipe.	a) Check suction pipe	
	b) Foot valve or check valve is defective.	b) Check and repair foot valve or check valve.	
	c) Foot valve is blocked in opened or partly opened position.	c) Check and repair foot valve.	
	d) There is air lock in suction pipe.	d) Check and repair suction pipe and release air.	

Continued

Fault	Cause	Solution	Remarks
Abnormal vibration or noise from pump	a) Leakage in suction pipe.	a) Check and repair suction pipe.	In the case of e), users shall not disassemble the pump by themselves.
	b) Suction pipe is too small or suction pipe is partly blocked by impurities.	b) Enlarge or check suction pipe.	
	c) There is air in suction pipe or pump.	c) Refill liquid to the pump and vent air.	
	d) The comparison of the delivery head of device with delivery head of pump is very low.	d) Improve system or choose another pump model.	
	c) Pump mechanically blocked.	c)Check and repair pump.	

IX.Warning

A. Before opening the terminal box, please shut off the power supply to prevent from electric shock.

B. Before opening the coupling guards, please stop pump firstly to prevent from hurts.

C. When installing the pump, please fix the foundation bolts vertically to prevent from pump falling to hurt people.

D. Please fill grease to the pump when it requires.

For motor power less than 5.5kW, it is free of filling grease. For motor power equal or higher than 5.5kW, please fill grease every 5000 running hours.

E.Recommendation for Electrical Connention and Safety Devices

Motor parameter 380V 50Hz/60Hz

No.	Motro Power (kW)	Motor Frequency	Cable connecation	Cable spec (mm^2)
1	0.37	50Hz 60Hz	Y	0.75
2	0.55	50Hz 60Hz	Y	0.75
3	0.75	50Hz 60Hz	Y	0.75
4	1.1	50Hz 60Hz	Y	1
5	1.5	50Hz 60Hz	Y	1
6	2.2	50Hz 60Hz	Y	1.5
7	3	50Hz 60Hz	Y	1.5
8	4	50Hz 60Hz	Δ	2.5
9	5.5	60Hz	Λ	2.5
10	7.5	60Hz	Δ	4

X.Important notice

1.Customers will not be advised if this manual is updated.

2. Under the condition of proper selection and normal use, the normal wear and tear of the vulnerable parts will not be limited to 12 months.

3.Users shall be responsible for the damage if they disassemble the pumps by themselves in guaranteed period.