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50HZ **CHL/CHDF** Horizontal Multistage Pump



Distributor : Energy Power Save CO.,LTD.

www.siamenergysaving.com
ww.7-mars.com

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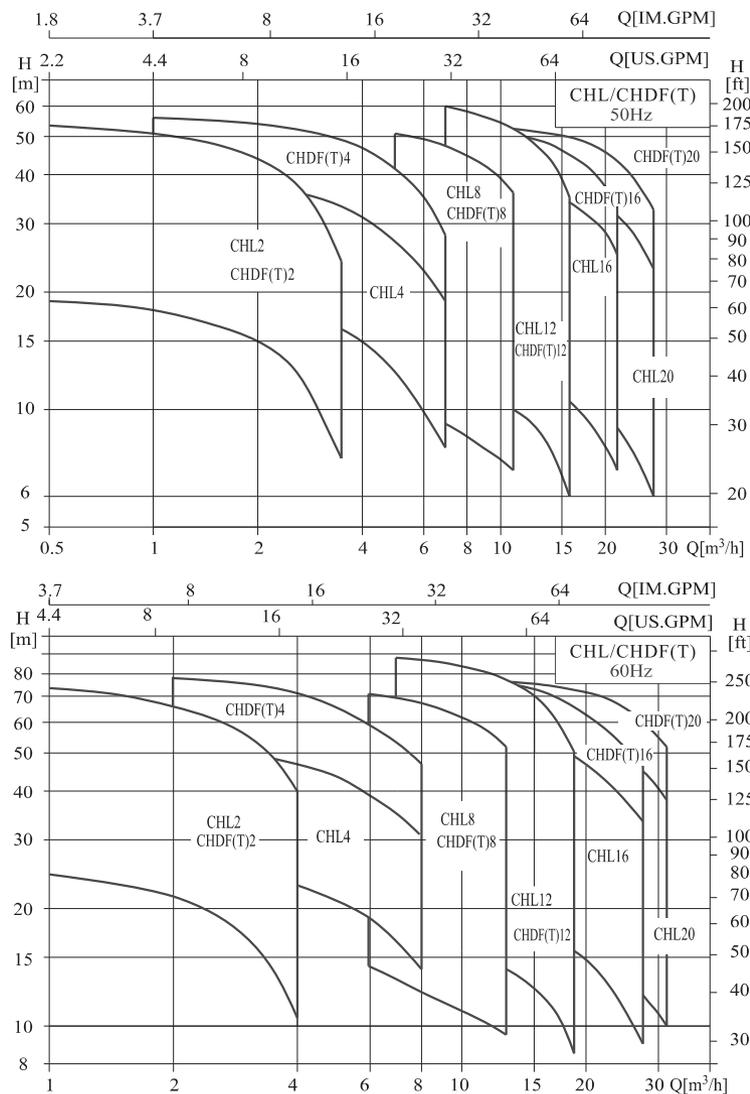
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● Performance scope



● Application

CHL, and CHDF(T) type pump are mainly used in industrial field:

- Air-conditioning system
- Cooling system
- Industrial cleaning
- Water treatment (Water purification)
- Aquiculture
- Fertilizing / metering system
- Environmental application
- Other special applications

● Applicable medium

- Thin and clean non-flammable and non-explosive liquid without solid granules and fibers.
- Mineral water, soft water, pure water, edible vegetable oil and other light chemical mediums.
- When the density or viscosity of to-be-conveyed liquid is larger than that of water, it is necessary to select a driving motor of high-power.
- Whether a specific liquid is suitable for the pump depends on many factors, among which the most important ones are chlorine content, PH value, temperature, solvent and oil content.

● Pump

- Horizontal multistage non-self-priming centrifugal pump, attached with long shaft electric motor.
- Compact structure renders small size of pump; axial inlet and radial outlet.

● Curve conditions

Following conditions are suitable for the performance curves shown above.

- All curves are based on the measured values of 50Hz: constant motor speed 2900r/min, 60 Hz: constant motor speed 3500 r/min;
- Curve tolerance in conformity with ISO9906:2012,3B.
- Measurement is done with 20°C air-free water, kinematic viscosity of 1mm²/sec.
- The operation of pump shall refer to the performance region described by the thickened curve to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

● Motor

- TEFC motor 2-pole
- Protection class:IP55
- Insulation class:F
- Standard voltage, 50Hz: 1 × 220-240V
3 × 220-240V/380-415V
- Standard voltage, 60Hz: 1 × 220-240V
3 × 220-240V/380-415V
- Single phase motor (max) : 2.4kW

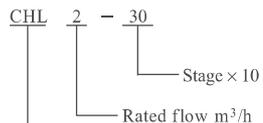
● Operation condition

- Liquid temperature:
Normal temperature type: -15°C~+70°C
Hot water type: -15°C~+105°C
- Ambient temperature: up to +40°C
- Max.operation pressure:10 bar
- Max.inlet pressure is limited by max. Operation pressure

Connection port	CHL/CHDF(T)2	CHL/CHDF(T)4	CHL/8, 12,16,20	CHDF(T)8	CHDF(T)12	CHDF(T)16,20
Inlet	G1	G1 ¼	G2	G1 ½	G1 ½	G2
Outlet	G1	G1	G2	G1 ¼	G1 ½	G2

● Definition of Model

CHL Example



Light horizontal multistage centrifugal pump
(Flow passage components stainless steel 304 or 316L)

● Material CHL

No.	Name	Material	AISI / ASTM
1	Inlet and outlet chamber	Stainless steel	AISI304
2	Connection pipe	Stainless steel	AISI304
3	Clamp plate	Stainless steel	AISI304
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
6	Plug	Stainless steel	AISI304
7	Discharge diffuser	Stainless steel	AISI304
8	Mechanical seal		
9	Motor end cover	Aluminum alloy	
10	Base plate	Steel plate	AISI1015
11	Spannband	Stainless steel	AISI304
12	Diffuser	Stainless steel	AISI304
13	Support diffuser	Stainless steel	AISI304
14	Inducer	Stainless steel	AISI304

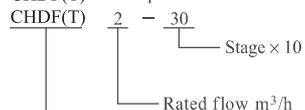
● Material CHDF/CHDF(T)

No.	Name	Material	AISI / ASTM
2	Plug	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
8	Mechanical seal		
9	Motor end cover	Aluminum alloy	
10	Base plate	Steel plate	AISI1015
11	Staybolt	Stainless steel	AISI304
12	Diffuser	Stainless steel	AISI304
13	Support diffuser	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304

CHDF			
1	Suction	Stainless steel	AISI304
7	Discharge	Stainless steel	AISI304

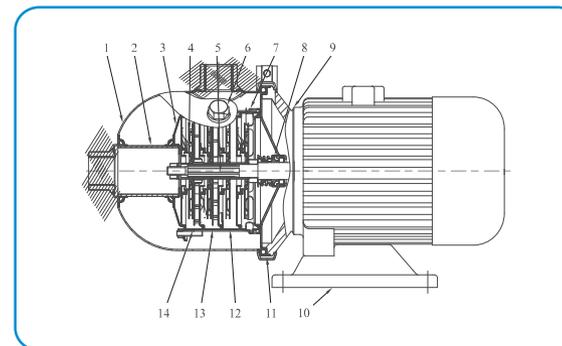
CHDF(T)			
1	Suction	Cast iron	ASTM25B
7	Discharge	Cast iron	ASTM25B

CHDF(T) Example

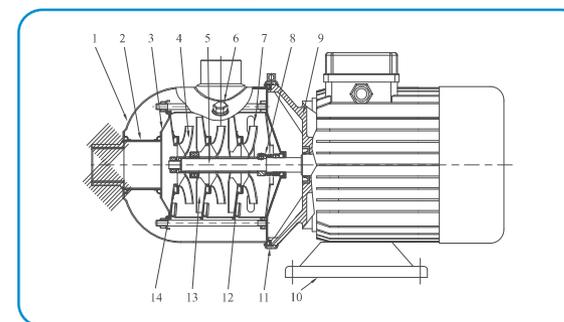


Light horizontal multistage centrifugal pump
(F stands for "section type", T means "Suction and discharge are made of cast iron"; stainless steel, omitted)

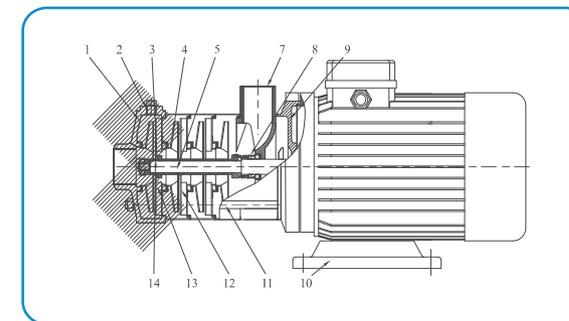
● Section drawing CHL 2,4



● Section drawing CHL 8,12,16,20

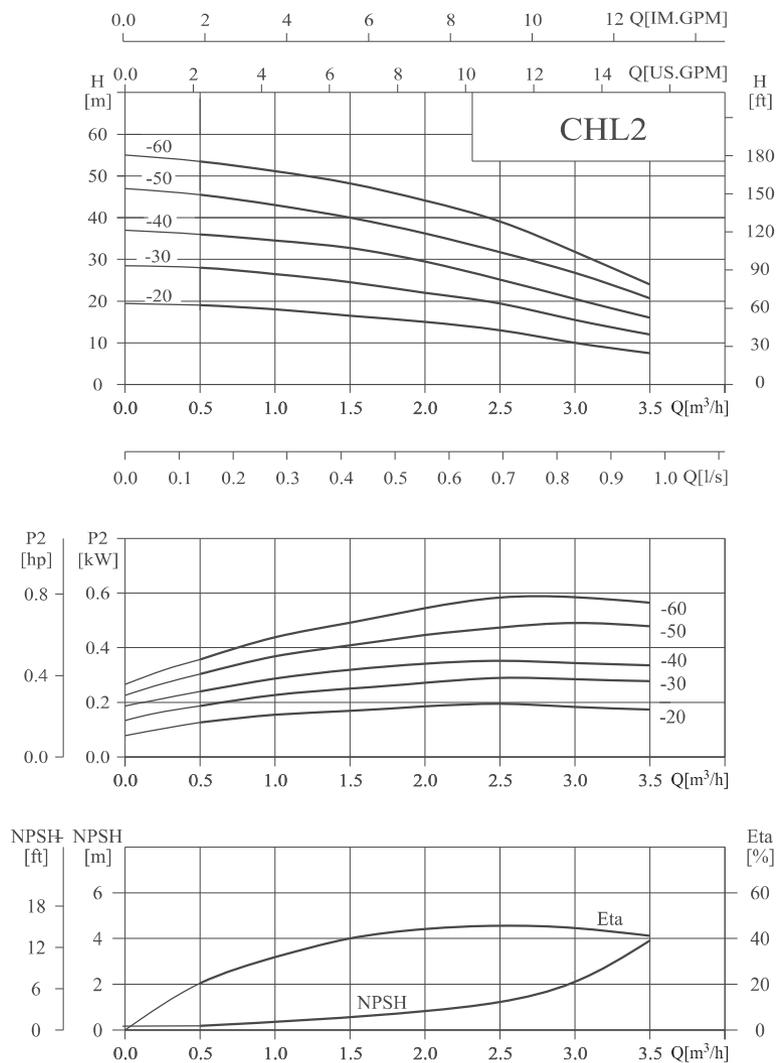


● Section drawing CHDF,CHDF(T)

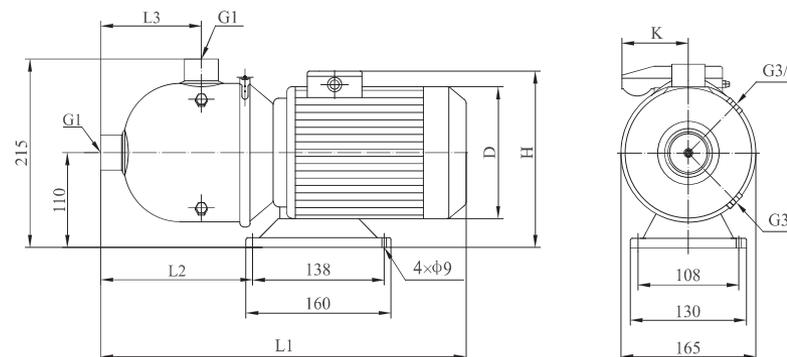


Performance curve

ISO9906:2012,3B


Performance table

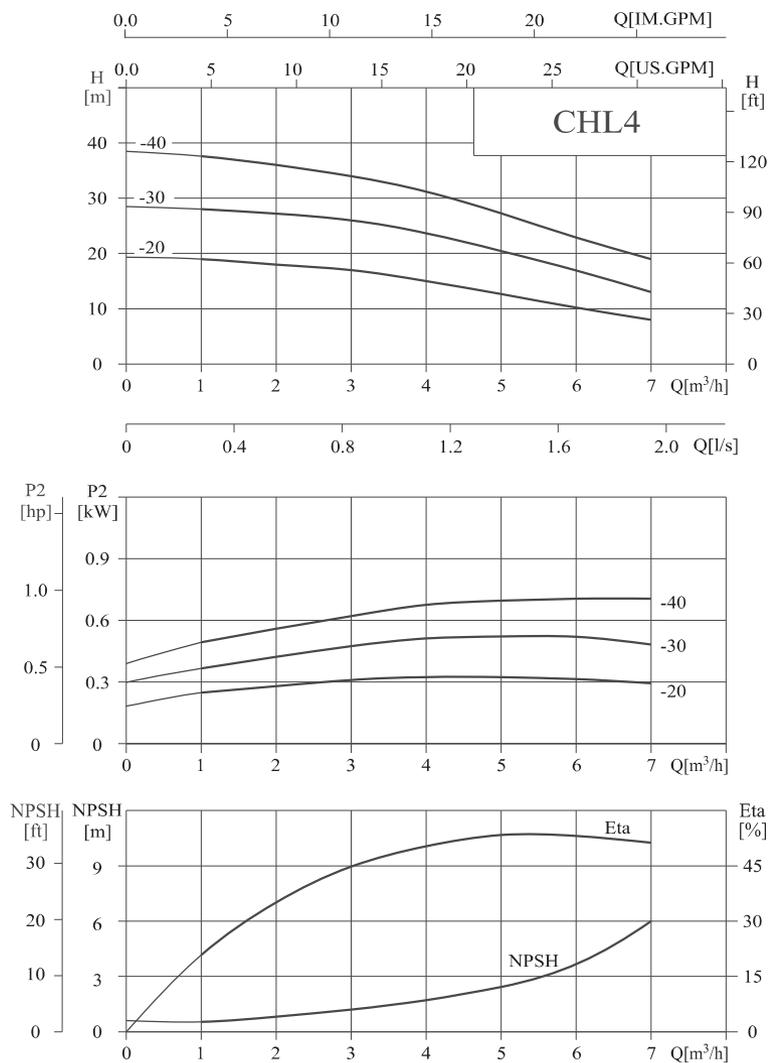
Model	Driving motor		Q(m³/h)	0.5	1.0	1.5	2.0	2.5	3.0	3.5
	(kW)	(hp)								
2-20	0.37	0.5	H (m)	19	18	16.5	15	13	10	7.5
2-30	0.55	0.5		28	26.5	24.5	22	19	15.5	12
2-40	0.55	0.75		36	34.5	33	29	25	20.5	16
2-50	0.55	0.75		45.5	43	40	36	31.5	26.5	20.5
2-60	0.75	1		53.5	51	48	44	39	32	24

Installation sketch

Size and weight

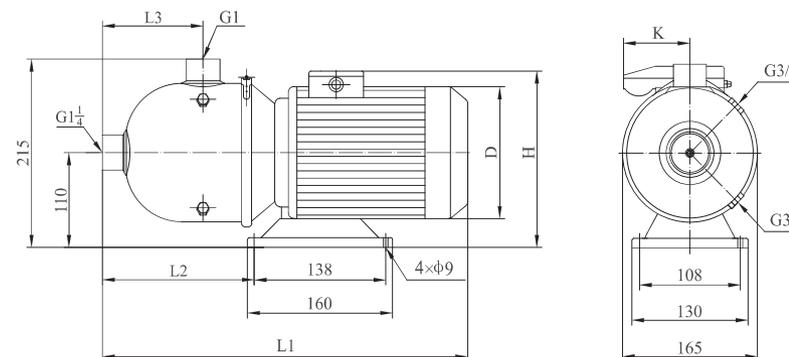
Motor	Model	Size (mm)						Weight (kg)
		L1	L2	L3	D	H	K	
Three-phase/ single-phase	2-20	395	165	125	140	215/249	/96	13
	2-30	395	165	125	140	215/249	/96	13
	2-40	395	165	125	140	215/249	/96	13
	2-50	395	165	125	140	245/249	/96	13
	2-60	415	165	125	157	230/265	/100	13

Performance curve

ISO9906:2012,3B


Performance table

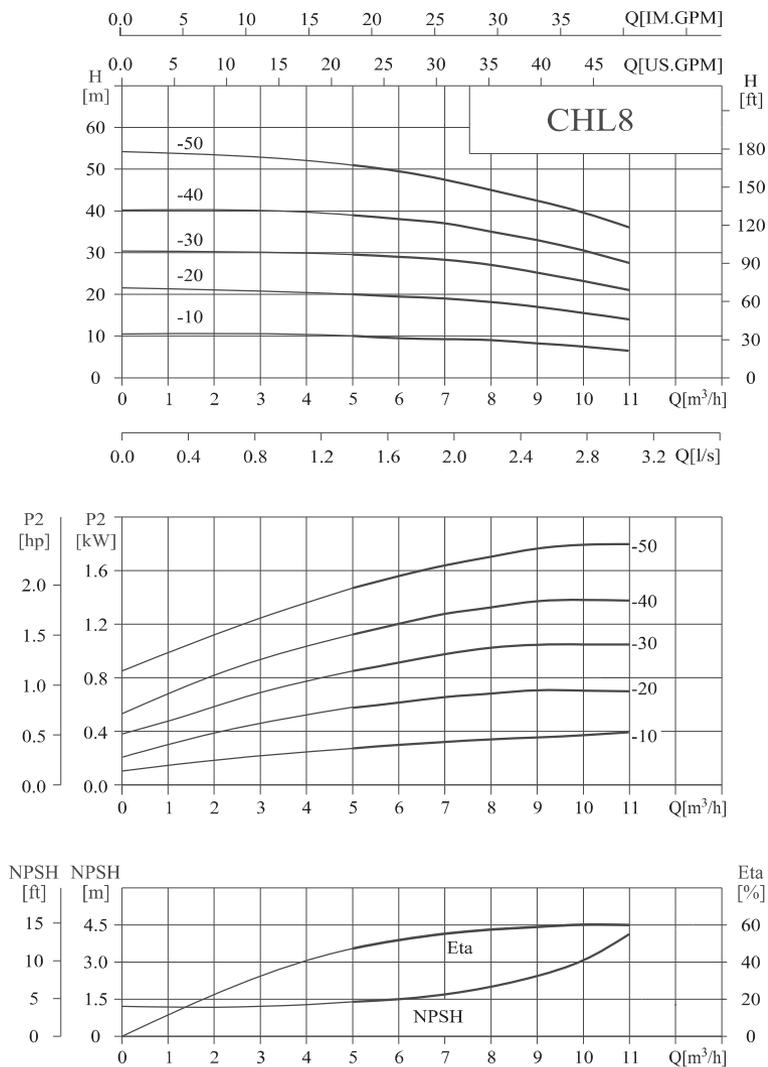
Model	Driving motor		Q(m³/h)	1	2	3	4	5	6	7
	(kW)	(hp)								
4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	8
4-30	0.55	0.75		28	27	28	23.5	20.5	17	13
4-40	0.75	1		37.5	36	34	31	27	23	19

Installation sketch

Size and weight

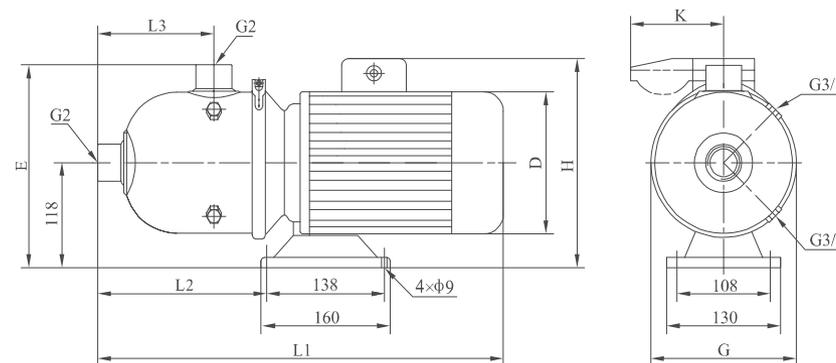
Motor	Model	Size (mm)						Weight (kg)
		L1	L2	L3	D	H	K	
Three-phase/ single-phase	4-20	402	172	132	140	215/249	/96	12
	4-30	402	172	132	140	215/249	/96	15
	4-40	422	172	132	157	230/265	/100	15

Performance curve

ISO9906:2012,3B


Performance table

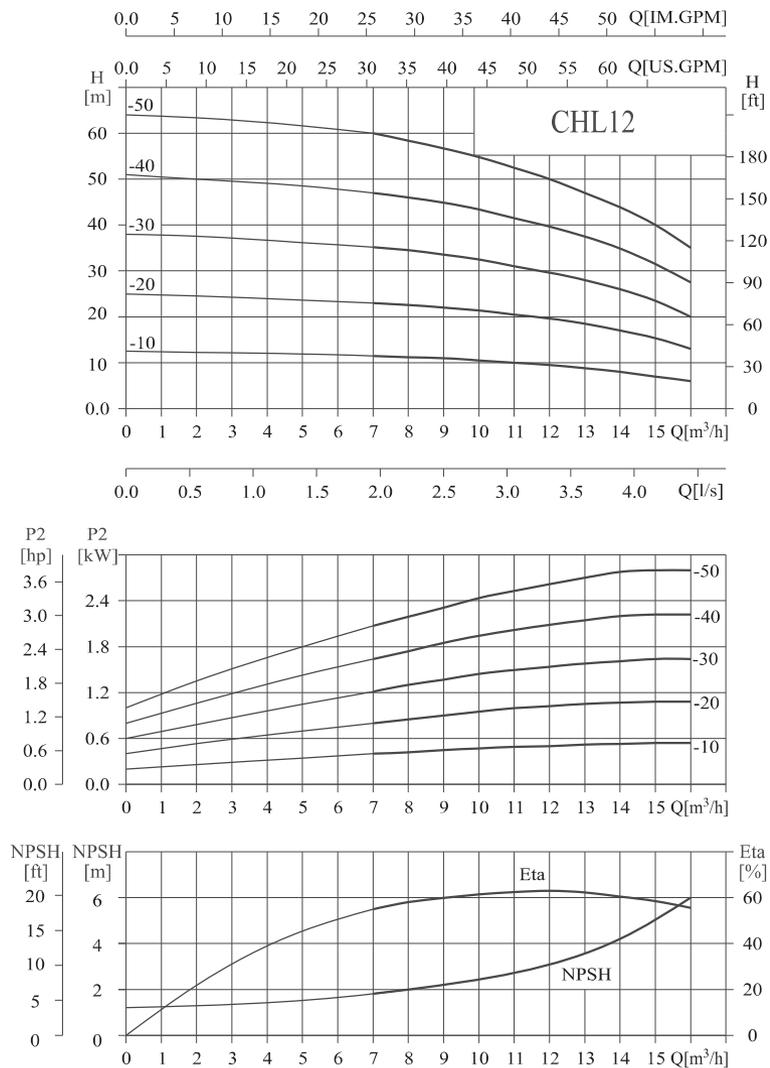
Model	Driving motor		Q(m³/h)	5	6	7	8	9	10	11
	(kW)	(hp)								
CHL										
8-10	0.75	1	H (m)	10	9.5	9.3	9	8	7.5	7
8-20	0.75	1		20	19.5	19	18	17	15.5	14
8-30	1.1	1.5		29.5	29	28	27	25	23	21
8-40	1.5	2		39	38	37	35	33	30.5	27.5
8-50	2.2	3		51	49.5	47.5	45	42.5	39.5	36

Installation sketch

Size and weight

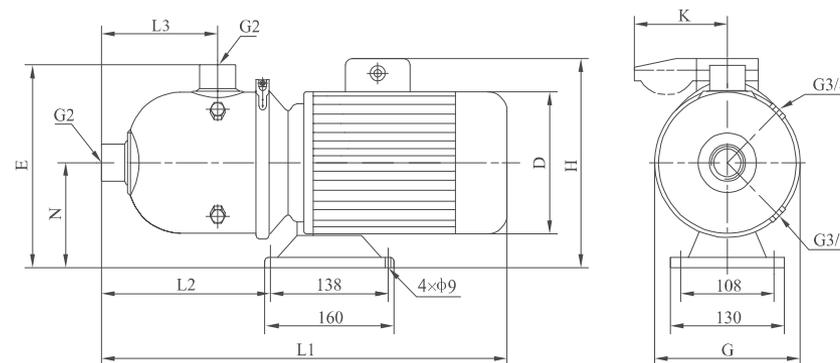
Motor	Model	Size (mm)								Weight (kg)	
		CHL	L1	L2	L3	E	G	D	H		K
Three-phase/ single-phase	8-10		560	278	175	264	230	157	230/265	/100	20
	8-20		560	278	175	264	230	157	230/265	/100	20
	8-30		560	278	175	264	230	157	230/265	/100	25
	8-40		570	278	175	264	230	157	235/270	/100	25
	8-50		570	278	175	264	230	157	235/270	/100	30

Performance curve

ISO9906:2012,3B


Performance table

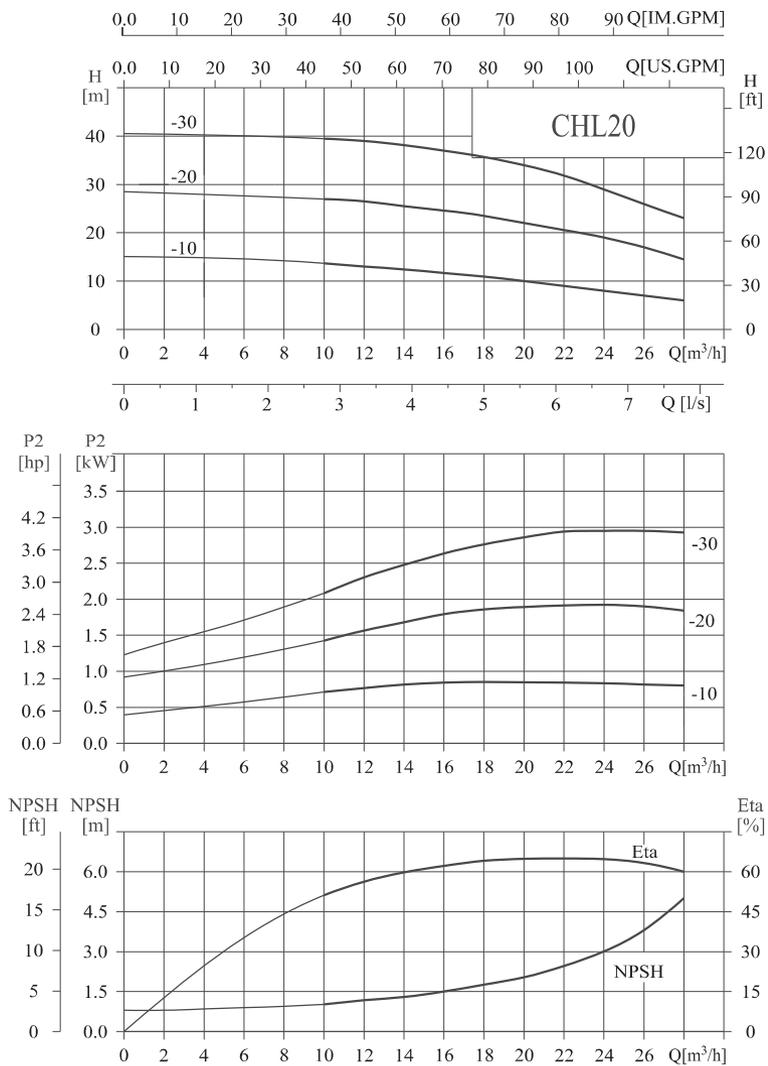
Model	Driving motor		Q(m³/h)	7	8	9	10	11	12	13	14	15	16
	(kW)	(hp)											
12-10	0.75	1	H (m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
12-20	1.2	1.6		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
12-30	1.8	2.4		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
12-40	2.4	3.3		47	45	45	43.5	41.5	39.5	37.5	35	31.5	27.5
12-50	3	4		60	56.5	56.5	55	52.5	50	47	44	40	35

Installation sketch

Size and weight

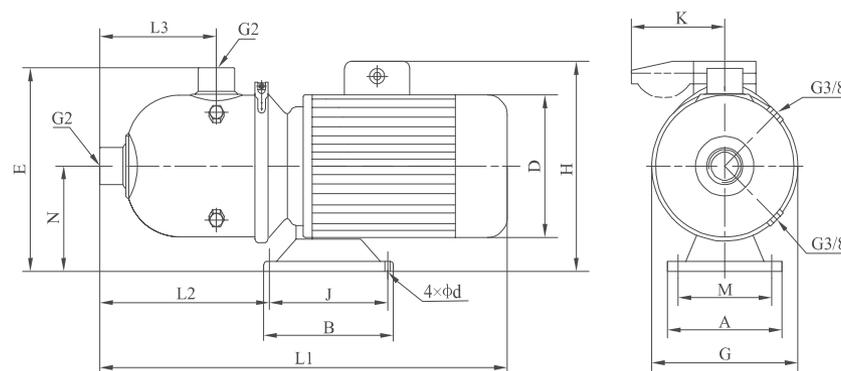
Motor	Model	Size (mm)									Weight (kg)	
		CHL	L1	L2	L3	N	E	G	D	H		K
Three-phase/ single-phase	12-10		560	278	175	118	264	230	157	230/265	/100	20
	12-20		560	278	175	118	264	230	157	230/265	/100	21
	12-30		570	278	175	118	264	230	177	235/270	/100	25
	12-40		570	278	175	118	264	230	177	235/270	/100	29
	12-50		610	268	175	128	274	230	197	255/		34

Performance curve

ISO9906:2012,3B


Performance table

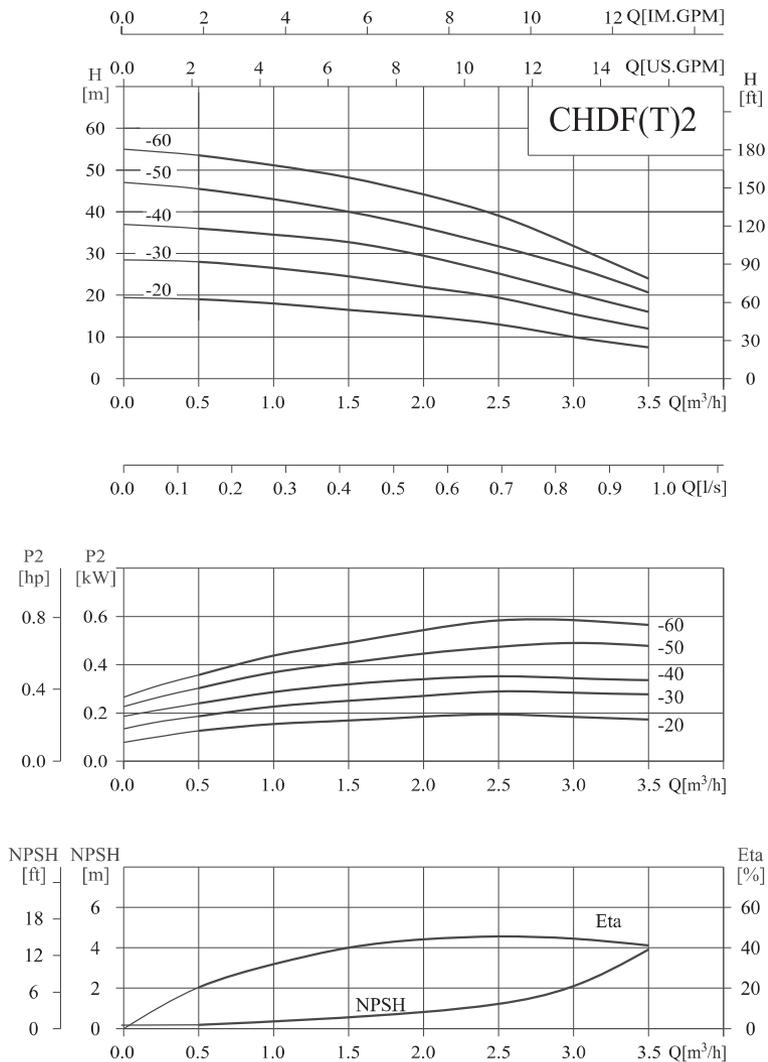
Model	Driving motor		Q(m³/h)	10	12	14	16	18	20	22	24	26	28
	(kW)	(hp)		H (m)									
20-10	1.1	1.5	H (m)	13.5	13	12.5	12	11	10	9	8	7	6
20-20	2.2	3		27	26.5	25.5	25	23.5	22	20.5	18.5	17	14.5
20-30	4	5.5		39.5	39	38	37.5	35.5	34	31.5	29	26	23

Installation sketch

Size and weight

Motor	CHL	Size (mm)													Weight (kg)	
		L1	L2	L3	N	E	G	A	M	B	J	d	D	H		K
Three-phase/ single-phase	20-10	560	278	175	118	264	230	130	108	160	138	9	157	230/265	/100	21
	20-20	570	278	175	118	264	230	130	108	160	138	9	177	235/270	/100	28
	20-30	612	355	175	120	266	230	220	190	170	140	12	213	270/		42

● Performance curve

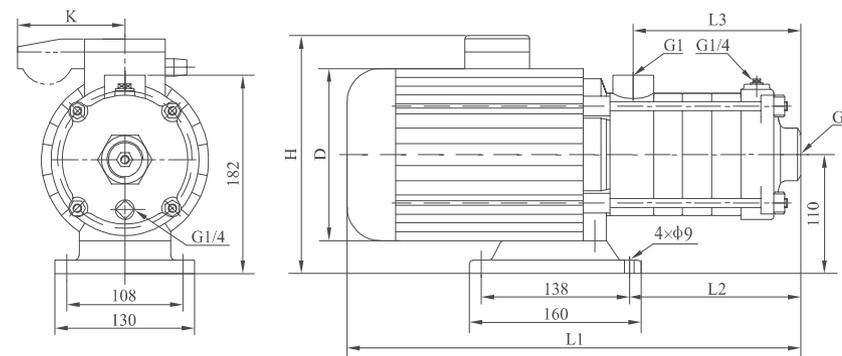
ISO9906:2012,3B



● Performance table

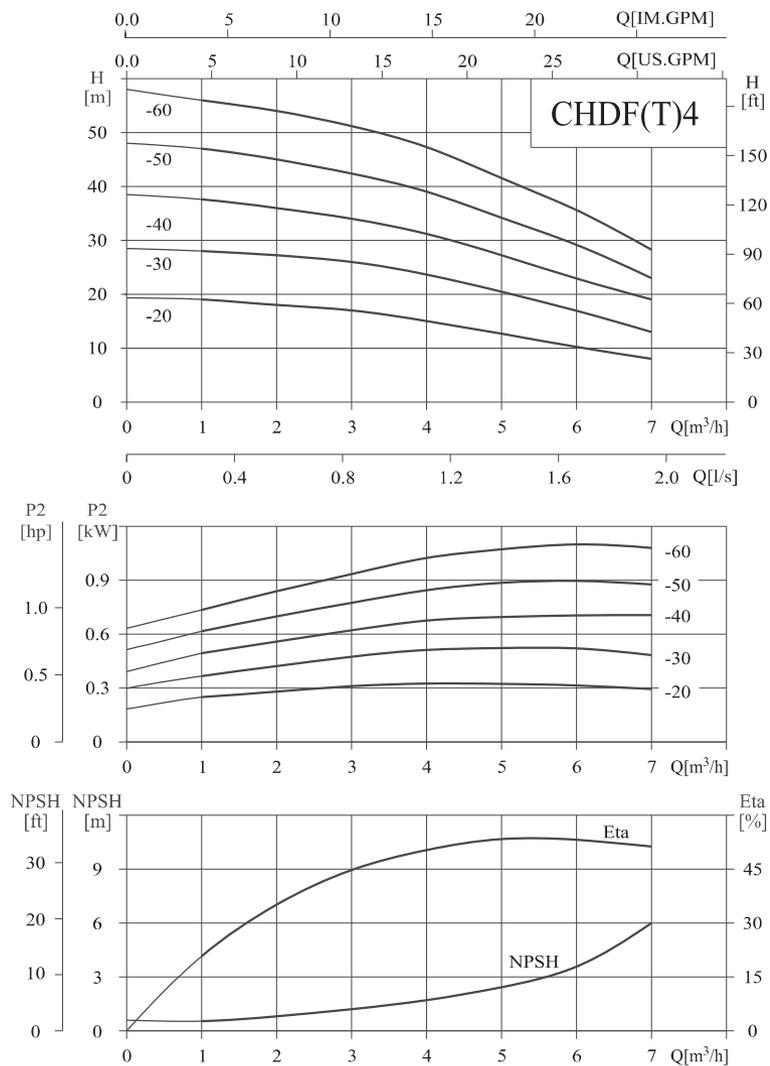
Model	Driving motor		Q (m³/h)	0.5	1	1.5	2	2.5	3	3.5
	CHDF(T)	(kW)								
2-20	0.37	0.5	H (m)	19	18	16.5	15	13	10	7.5
2-30	0.37	0.5		28	26.5	24.5	22	19	15.5	12
2-40	0.55	0.75		36	34.5	33	29	25	20.5	16
2-50	0.55	0.75		45.5	43	40	36	31.5	26.5	20.5
2-60	0.75	1		53.5	51	48	44	39	32	24

● Installation sketch

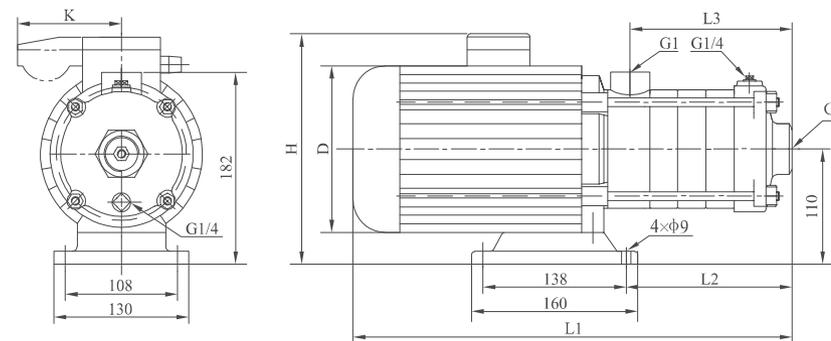


● Size and weight

Motor	Model	Size (mm)						Weight (kg)	
		CHDF(T)	L1	L2	L3	D	H		K
Three-phase/ single-phase	2-20		278	87	84	145	215/230	/96	15
	2-30		198	105	102	145	215/230	/96	15
	2-40		278	123	120	145	215/230	/96	15
	2-50		198	141	138	145	215/230	/96	15
	2-60		355	159	156	170	225/245	/100	17

● Performance curve
ISO9906:2012,3B

● Performance table

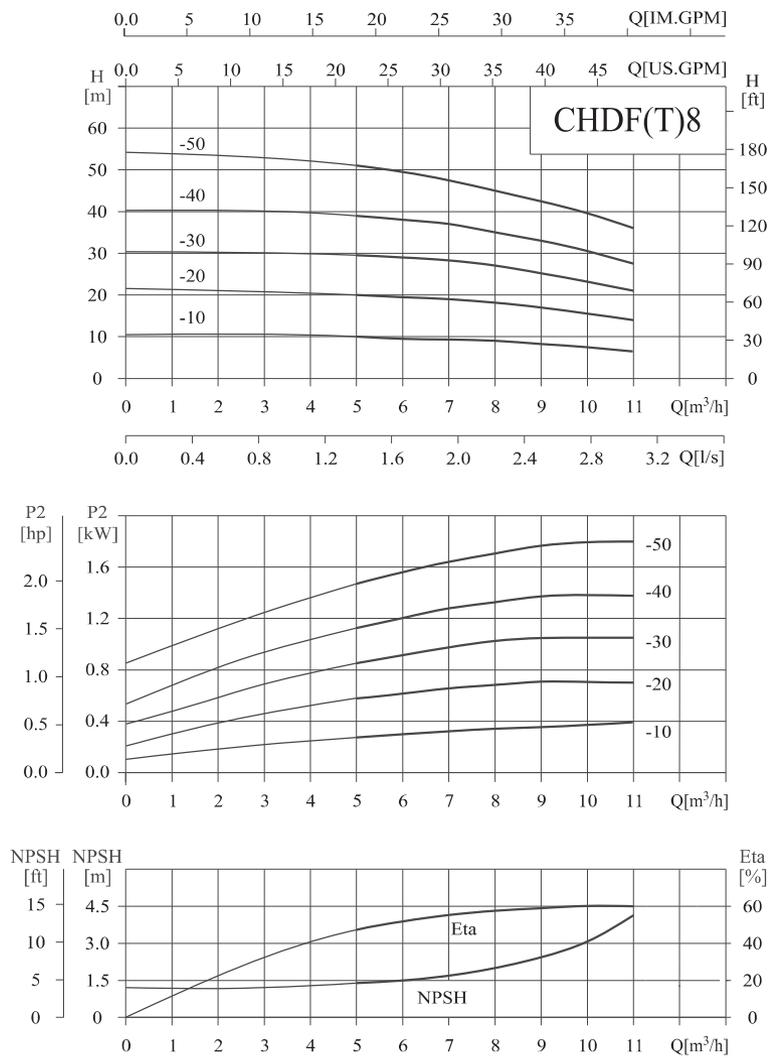
Model	Driving motor		Q (m³/h)	1	2	3	4	5	6	7
	CHDF(T)	(kW) (hp)								
4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	8
4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
4-40	0.75	1		37.5	36	34	31	27	23	19
4-50	1.1	1.5		47	45	42.5	39	34	29	23
4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

● Installation sketch

● Size and weight

Motor	Model	Size (mm)						Weight (kg)	
		CHDF(T)	L1	L2	L3	D	H		K
Three-phase/ single-phase	4-20		329	105	102	145	215/230	/96	15
	4-30		356	132	129	145	215/230	/96	15
	4-40		416	162	156	170	225/245	/100	17
	4-50		455	188	183	170	225/245	/100	17
	4-60		482	213	210	170	225/245	/100	17

● Performance curve

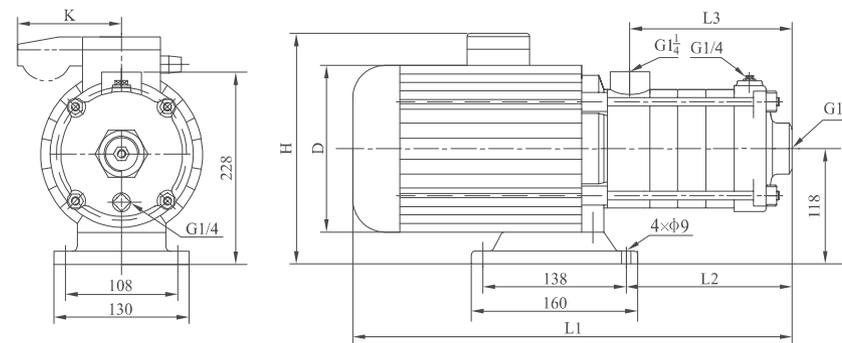
ISO9906:2012,3B



● Performance table

Model	Driving motor		Q (m³/h)	5	6	7	8	9	10	11
	CHDF(T)	(kW) (hp)								
8-10	0.75	1	H (m)	10	9.5	9.3	9	8	7.5	7
8-20	0.75	1		20	19.5	19	18	17	15.5	14
8-30	1.1	1.5		29.5	29	28	27	25	23	21
8-40	1.5	2		39	38	37	35	33	30.5	27.5
8-50	2.2	3		51	49.5	47.5	45	42.5	39.5	36

● Installation sketch

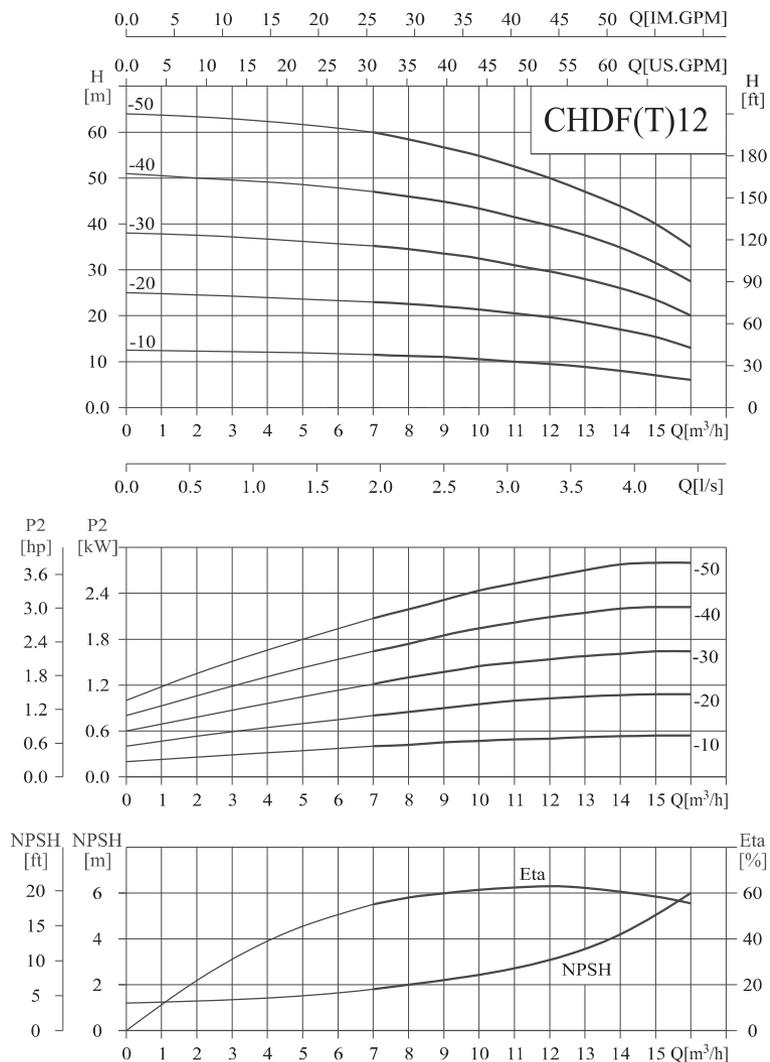


● Size and weight

Motor	Model	Size (mm)						Weight (kg)	
		CHDF(T)	L1	L2	L3	D	H		K
Three-phase/ single-phase	8-10		395	126	108	170	230/265	/100	20
	8-20		395	126	108	170	230/265	/100	20
	8-30		425	156	138	170	230/265	/100	25
	8-40		490	186	168	180	240/270	/100	28
	8-50		520	216	198	180	240/270	/100	30

● Performance curve

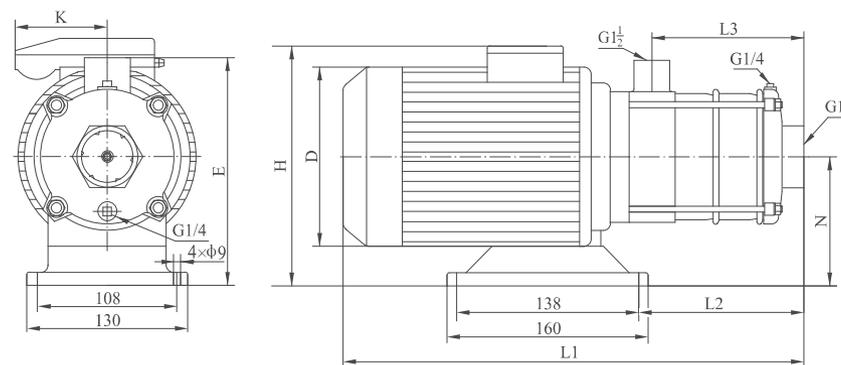
ISO9906:2012,3B



● Performance table

Model	Driving motor		Q (m³/h)	7	8	9	10	11	12	13	14	15	16
	CHDF(T)	(kW) (hp)		H (m)									
12-10	0.75	1	H (m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
12-20	1.2	1.6		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
12-30	1.8	2.4		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
12-40	2.4	3.3		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
12-50	3	4		60	58	56.5	55	52.5	50	47	44	40	35

● Installation sketch

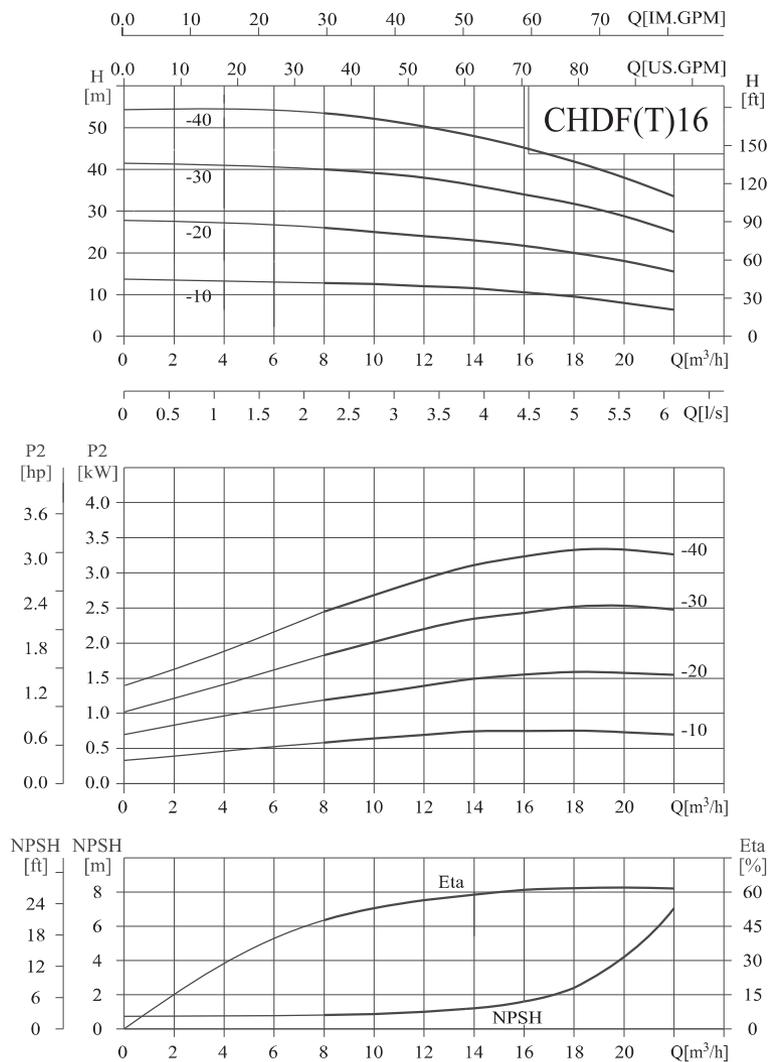


● Size and weight

Motor	Model	Size (mm)								Weight (kg)
	CHDF(T)	L1	L2	L3	H	D	E	N	K	
Three-phase/ single-phase	12-10	395	126	108	230/265	170	228	118	/100	20
	12-20	395	126	108	230/265	170	228	118	/100	21
	12-30	460	156	138	240/270	180	228	118	/100	25
	12-40	490	186	168	240/270	180	228	118	/100	29
	12-50	555	216	198	270/	195	240	126		34

● Performance curve

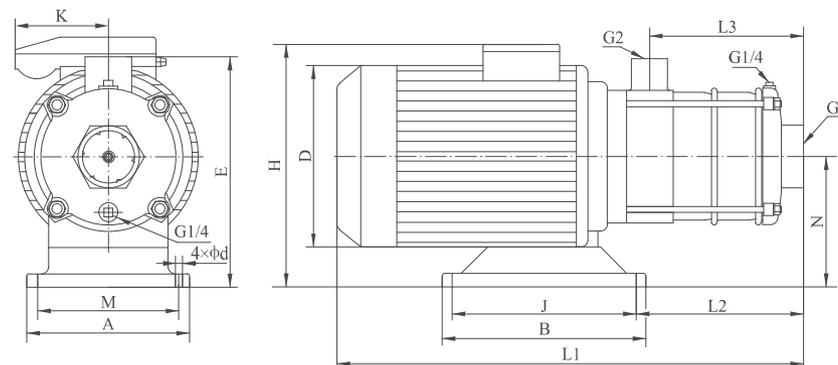
ISO9906:2012,3B



● Performance table

Model	Driving motor		Q (m³/h)	8	10	12	14	16	18	20	22
	(kW)	(hp)		H (m)							
CHLF(T)16-10	1.1	1.5	H (m)	12.8	12.5	12	11.5	10.5	9.5	8	7
CHLF(T)16-20	2.2	3		26	25	24	23	21.7	20	18	15.5
CHLF(T)16-30	3	4		40	39	38	36	34	31.5	29	25
CHLF(T)16-40	4	5.5		53.5	52	50	48	45	42	38	33.5

● Installation sketch

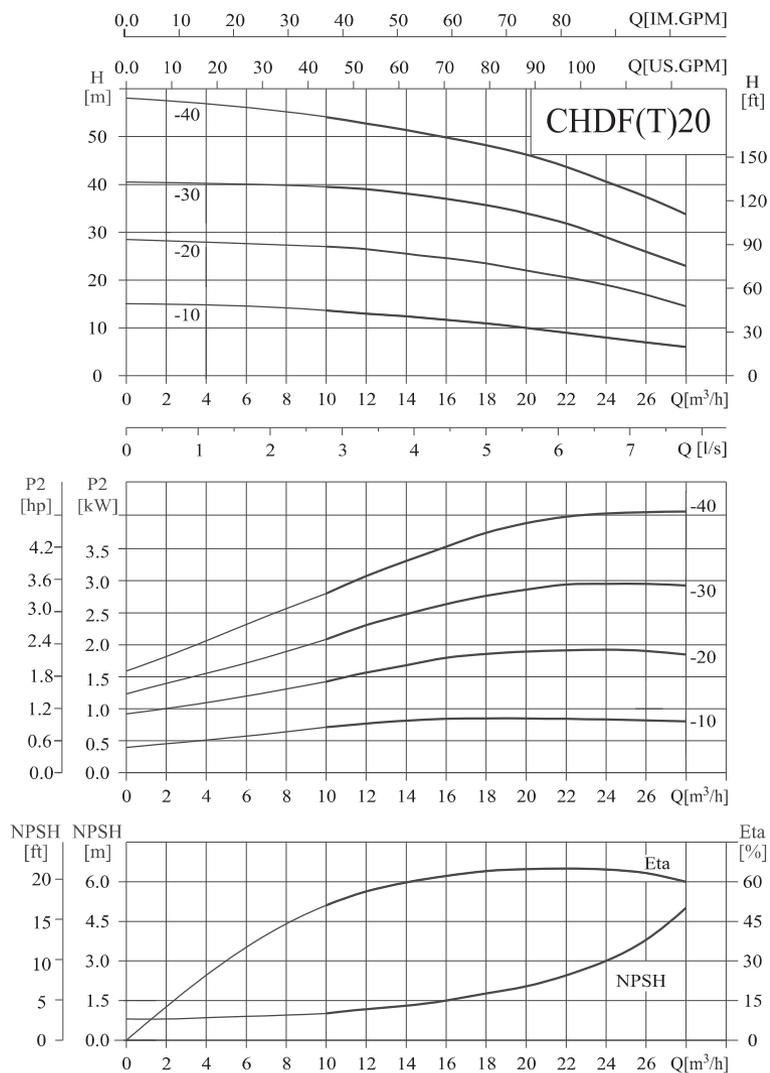


● Size and weight

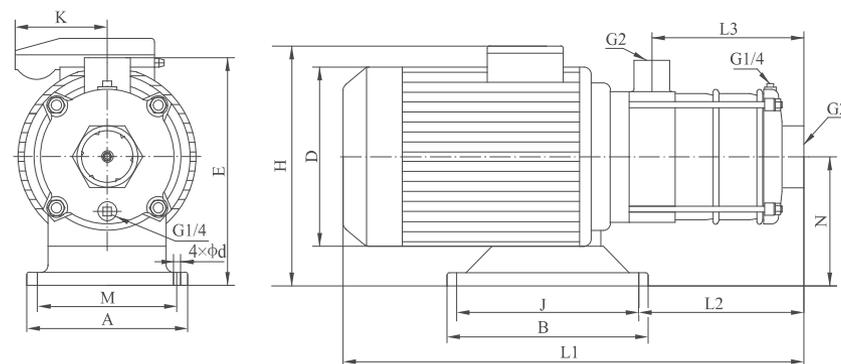
Motor	Model	Size (mm)											Weight (kg)			
		CHDF(T)	L1	L2	L3	H	D	E	N	A	M	B		J	d	K
Three-phase/ single-phase	16-10		423	151	126	230/265	170	227	117	130	108	160	138	9	/100	17.5
	16-20		455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	16-30		561	196	171	270/	195	240	130	130	108	160	138	9		33
	16-40		621	340	216	270/	220	230	120	230	190	170	140	12		41

Performance curve

ISO9906:2012,3B


Performance table

Model	Driving motor		Q (m³/h)	10	12	14	16	18	20	22	24	26	28
	CHDF(T)	(kW)		(hp)	H (m)								
20-10	1.1	1.5	H (m)	13.5	13	12.5	12	11	10	9	8	7	6
20-20	2.2	3		27	26.5	25.5	25	23.5	22	20.5	18.5	17	14.5
20-30	4	5.5		39.5	39	38	37.5	35.5	34	31.5	29	26	23
20-40	4.4	6		53	52	51	50	48.5	46.5	43	40	36	32.5

Installation sketch

Size and weight

Motor	Model	Size (mm)											Weight (kg)			
		CHDF(T)	L1	L2	L3	H	D	E	N	A	M	B		J	d	K
Three-phase/ single-phase	20-10		423	151	126	230/265	170	227	117	130	108	160	138	9	/100	17.5
	20-20		455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	20-30		576	294	171	270/	220	230	120	230	190	170	140	12		41
	20-40		621	340	216	270/	220	230	120	230	190	170	140	12		44