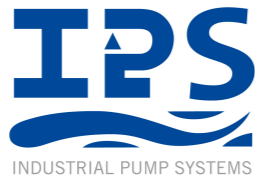


# HF, HX, HN

Horizontal multistage stainless steel centrifugal pump



## Applications

- Cooling water system
- Aquiculture
- Domestic water supply
- General industrial services
- Washing
- Environment protection



## Description

Light horizontal multistage centrifugal pumps made in Stainless Steel. Standard totally enclosed, fan cooled, insulation class F, IP 55 motors. Single phase motors up to 2,2 kW. Standard versions are suitable for smart pumping of clean water with a temperature range between -15°C and 70°C. Versions for hot water up to 110°C are available on request.

## Performance range

Capacity: Q up to 28 m³/h

Head: H up to 60 m

Temperature: T up to 110 °C

Speed: n 2900 rpm or 3500 rpm

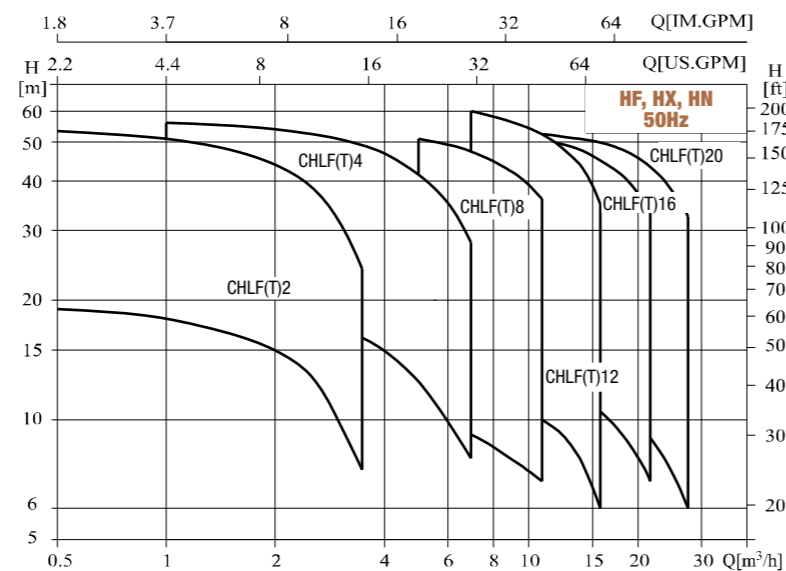
Power: P up to 4,4 kW

## Standard material

HX, HN: standard version made in AISI304 or AISI316 L Stainless Steel; pump inlet and outlet in stainless steel.

HF: standard version made in AISI304 or AISI316 L Stainless Steel; pump inlet and outlet in cast iron.

## Performance scope



## Performance table

Connection port	HF, HX, HN2	HF, HX, HN4	HF, HX, HN8	HF, HX, HN12	HF, HX, HN16, 20
Inlet	G1	G1¼	G1½	G1½	G2
Outlet	G1	G1	G1¼	G1½	G2

## 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 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.

## Application

HF, HX, HN type pump are mainly used in industrial field:

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

## Motor

–TEFC motor 2-pole

–Protection class: IP55

–Insulation class: F

–Standard voltage, 50Hz:  
1 x 220-240V  
3 x 220-240V / 380-415V

–Single phase motor (max): 2.4kW

## Curve conditions

Following conditions are suitable for the performance curves shown above.

–All curves are based on the measured values of constant motor speed 2900r/min;

–Curve tolerance in conformity with ISO9906 Annex A.

–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.

## Operation conditions

–Liquid temperature:  
Normal temperature type: -15°C~+70°C  
Hot water type: -15°C~+110°C

–Ambient temperature: up to +40°C

–Max. operation pressure: 10 bar

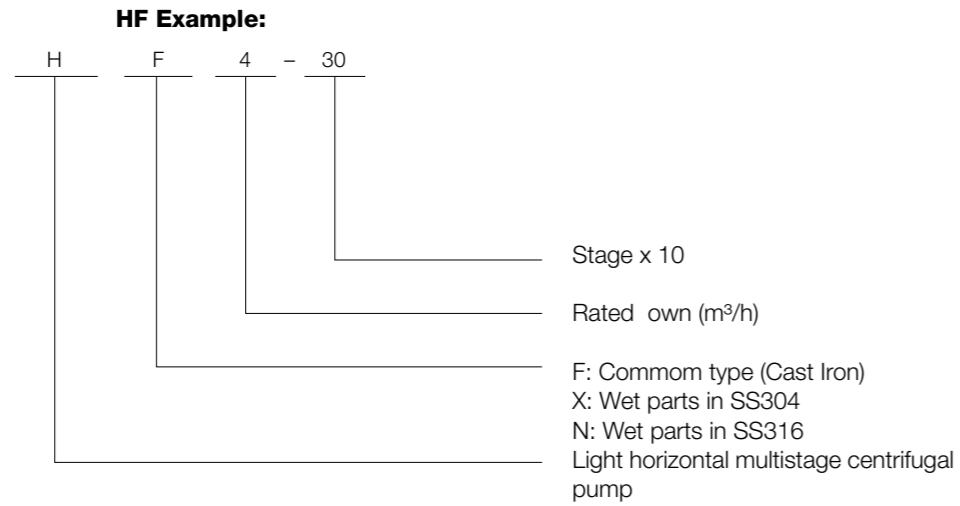
–Max. inlet pressure is limited by max. Operation Pressure

## Pump

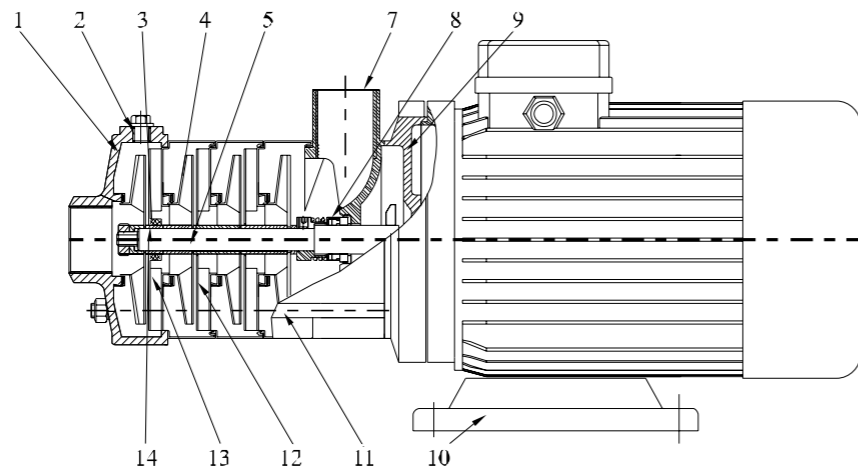
–Horizontal multistage non-self-priming centrifugal pump, attached with long shaft electric motor.

–Compact structure renders small size of pump; axial inlet and radial outlet.

## Definition of model



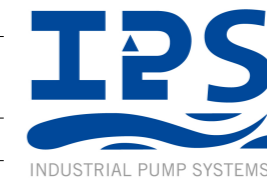
## Section drawing



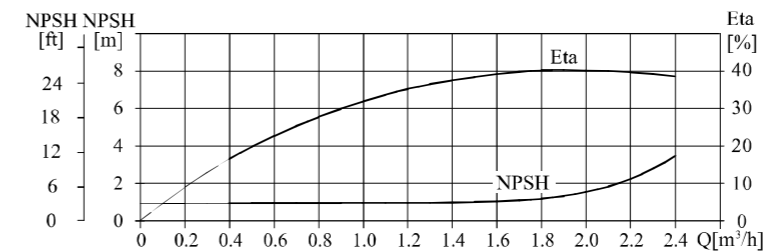
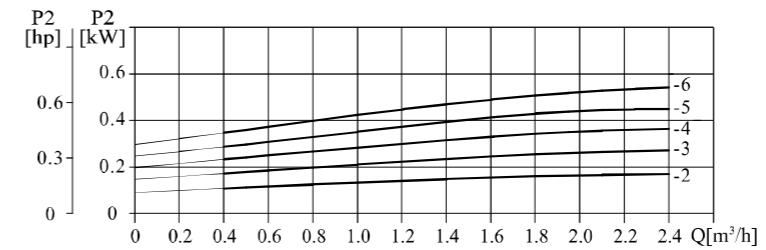
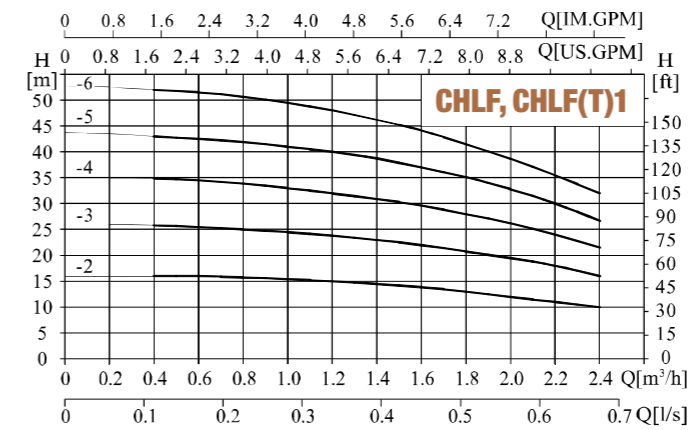
## Material

N°	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	Cast Iron	
11	Staybolt	Stainless steel	AISI304
12	Diffuser	Stainless steel	AISI304
13	Support diffuser	Stainless steel	AISI304
14	Impeller sleeve	Stainless steel	AISI304
HX			
1	Suction	Stainless steel	AISI304
7	Discharge	Stainless steel	AISI304
HF			
1	Suction	Cast Iron	ASTM25B
7	Discharge	Cast Iron	ASTM25B

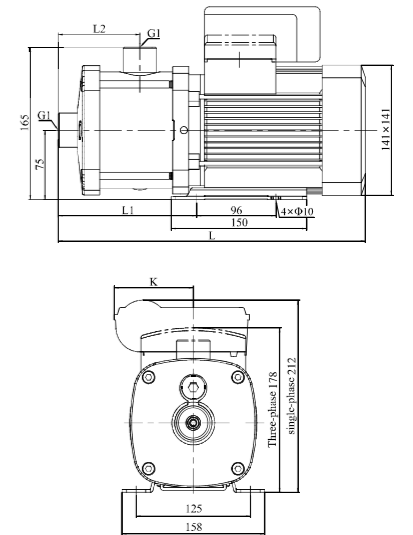
# HF, HX, HN 1



## Performance curve ISO9906 Annex A 2900rpm



## Installation sketch



## Performance table

Model	Driving motor (kW)	Q (m <sup>3</sup> /h)	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.2	2.4
HF, HX, HN1-20	0.25	H (m)	16	16	15.5	15.5	15	14.5	13.5	13	12	11	10
HF, HX, HN1-30	0.37		25.5	25.5	25	24.5	24	23	22	20.5	19.5	18	16
HF, HX, HN1-40	0.37		34.8	34.5	33.8	33	32	31	29.5	28	26	24	21.5
HF, HX, HN1-50	0.45		43	42.5	42	41	40	38.5	37	35	32.5	30	27
HF, HX, HN1-60	0.45		52	51.5	50.5	49.5	48	46.5	44	41.5	38.5	35.5	32

## Size and weight

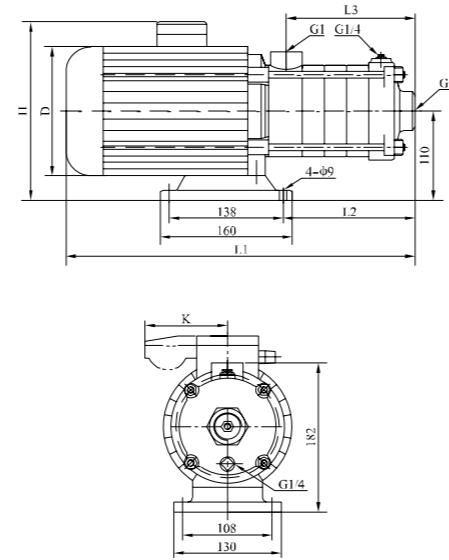
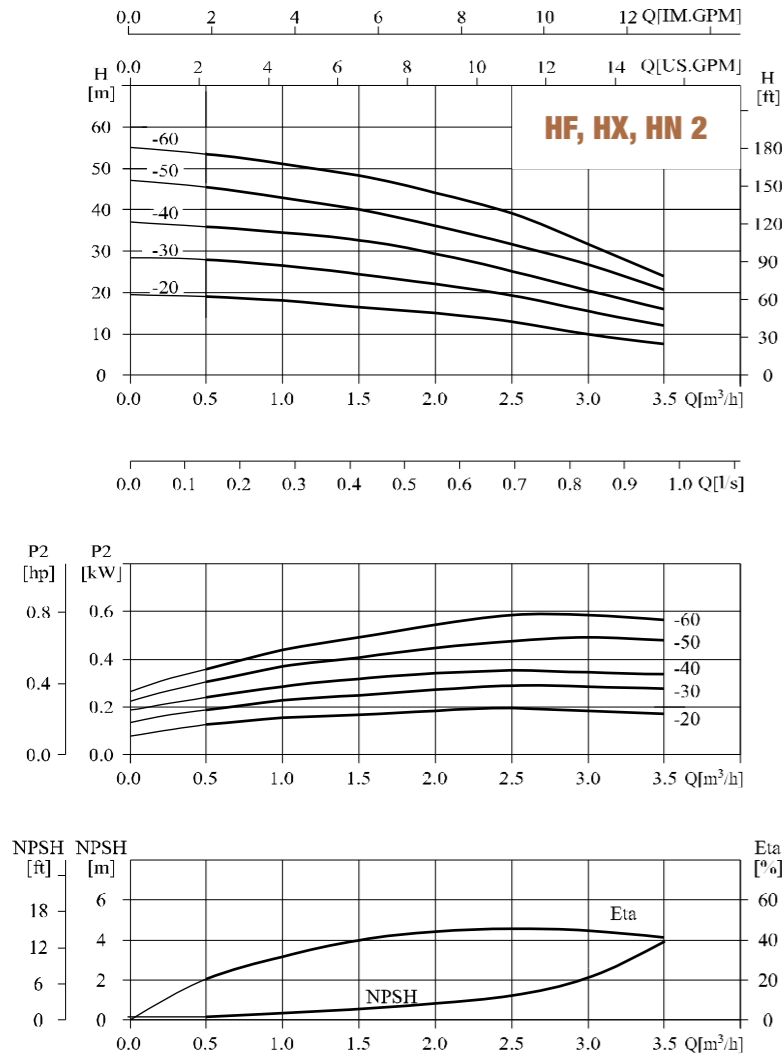
Motor	Model	Size (mm)				Weight (kg)
		L	L1	L2	K	
Three-phase/ Single-phase	HF, HX, HN1-20	322	131	72	/90	10
	HF, HX, HN1-30	322	131	72	/90	10
	HF, HX, HN1-40	340	149	90	/90	11
	HF, HX, HN1-50	358	167	108	/90	11
	HF, HX, HN1-60	376	185	126	/90	12

# HF, HX, HN 2



## Performance curve ISO9906 Annex A 2900rpm

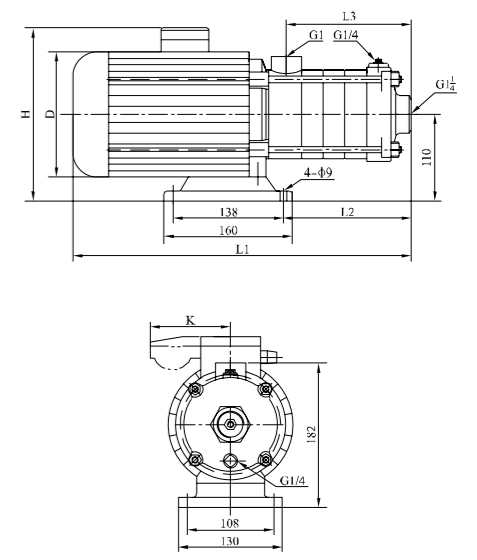
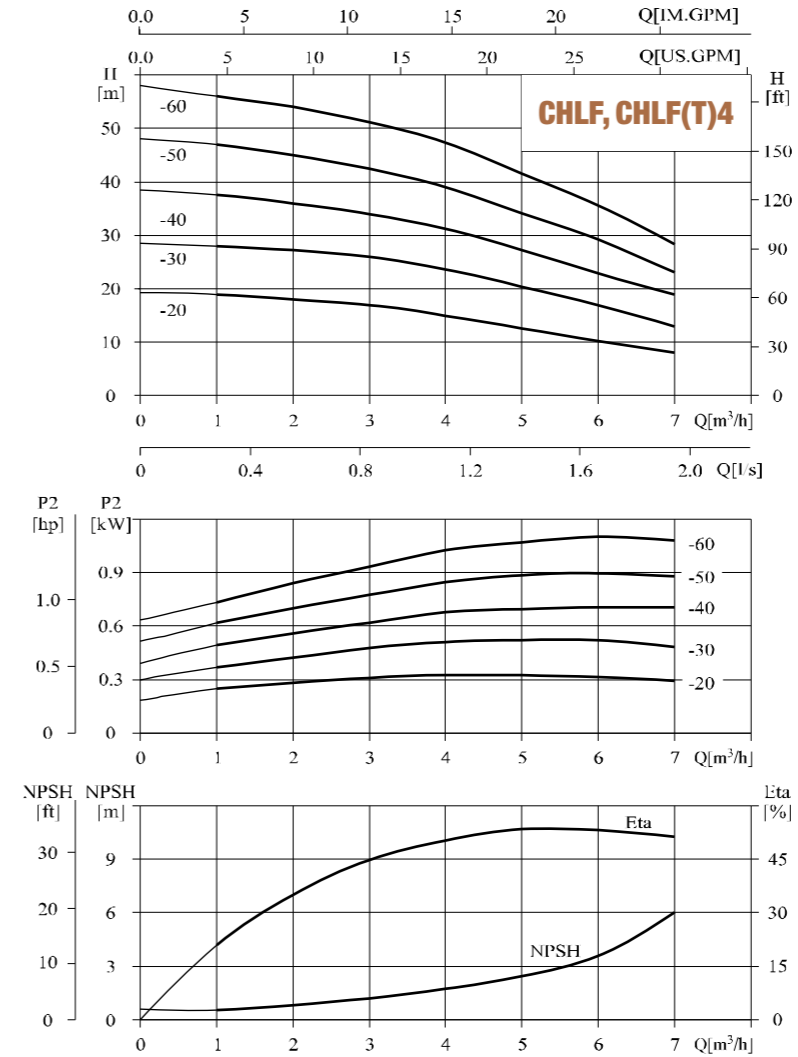
## Installation sketch



# HF, HX, HN 4

## Performance curve ISO9906 Annex A 2900rpm

## Installation sketch



### Performance table

Model	Driving motor (kW)		Q (m³/h)	0,5	1	1,5	2	2,5	3	3,5
	(kW)	(hp)								
HF, HX, HN2-20	0.37	0.5	H (m)	19	18	16.5	15	13	10	7.5
HF, HX, HN2-30	0.37	0.5		28	26.5	24.5	22	19	15.5	12
HF, HX, HN2-40	0.55	0.75		36	34.5	33	29	25	20.5	16
HF, HX, HN2-50	0.55	0.75		45.5	43	40	36	31.5	26.5	20.5
HF, HX, HN2-60	0.75	1		53.5	51	48	44	39	32	24

### Performance table

Model	Driving motor (kW)		Q (m³/h)	1	2	3	4	5	6	7
	(kW)	(hp)								
HF, HX, HN4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	8
HF, HX, HN4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HF, HX, HN4-40	0.75	1		37.5	36	34	31	27	23	19
HF, HX, HN4-50	1.1	1.5		47	45	42.5	39	34	29	23
HF, HX, HN4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

### Size and weight

Motor	Model	Size (mm)						Weight (kg)
		L1	L2	L3	D	H	K	
Three-phase/ Single-phase	HF, HX, HN2-20	305	87	84	145	215/230	/96	15
	HF, HX, HN2-30	323	105	102	145	215/230	/96	15
	HF, HX, HN2-40	341	123	120	145	215/230	/96	15
	HF, HX, HN2-50	359	141	138	145	215/230	/96	15
	HF, HX, HN2-60	422	159	156	170	225/245	/100	17

### Size and weight

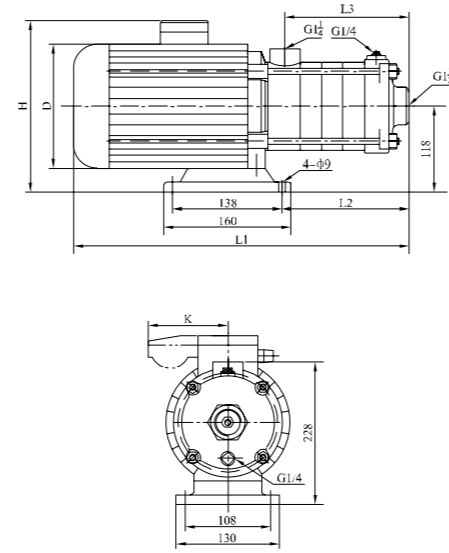
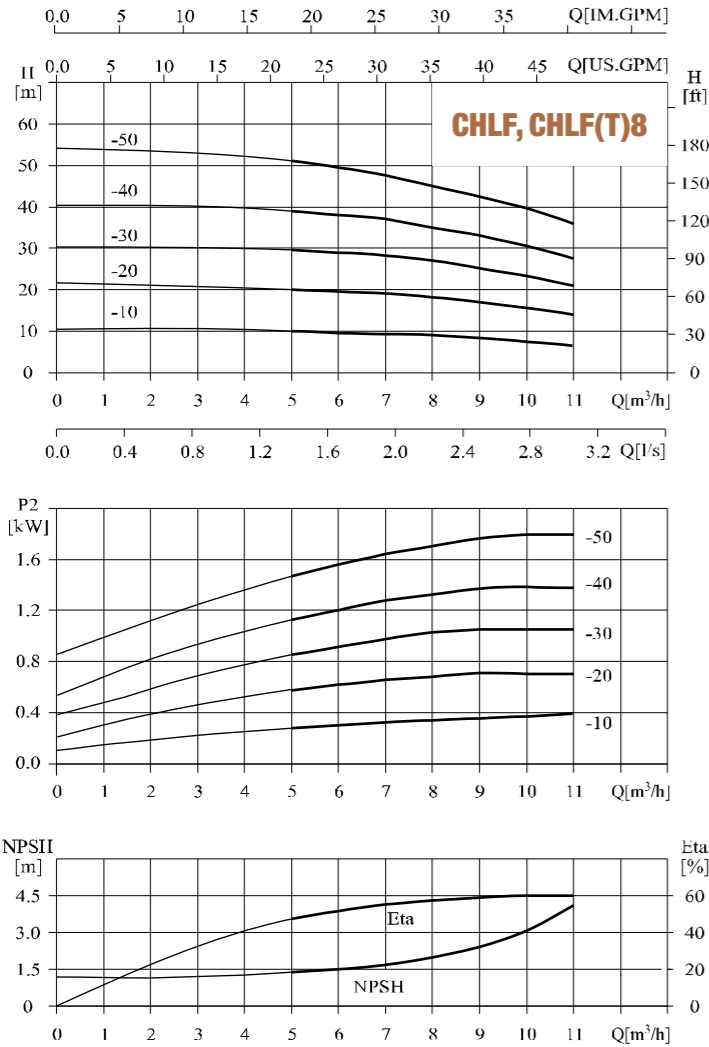
Motor	Model	Size (mm)						Weight (kg)
		L1	L2	L3	D	H	K	
Three-phase/ Single-phase	HF, HX, HN4-20	329	105	102	145	215/230	/96	15
	HF, HX, HN4-30	356	132	129	145	215/230	/96	15
	HF, HX, HN4-40	416	162	156	170	225/245	/100	17
	HF, HX, HN4-50	455	188	183	170	225/245	/100	17
	HF, HX, HN4-60	482	213	210	170	225/245	/100	17

# HF, HX, HN 8



## Performance curve ISO9906 Annex A 2900rpm

## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	5	6	7	8	9	10	11
	(kW)	(hp)								
HF, HX, HN8-10	0.75	1	H (m)	10	9.5	9.3	9	8	7.5	7
HF, HX, HN8-20	0.75	1		20	19.5	19	18	17	15.5	14
HF, HX, HN8-30	1.1	1.5		29.5	29	28	27	25	23	21
HF, HX, HN8-40	1.5	2		39	38	37	35	33	30.5	27.5
HF, HX, HN8-50	2.2	3		51	49.5	47.5	45	42.5	39.5	36

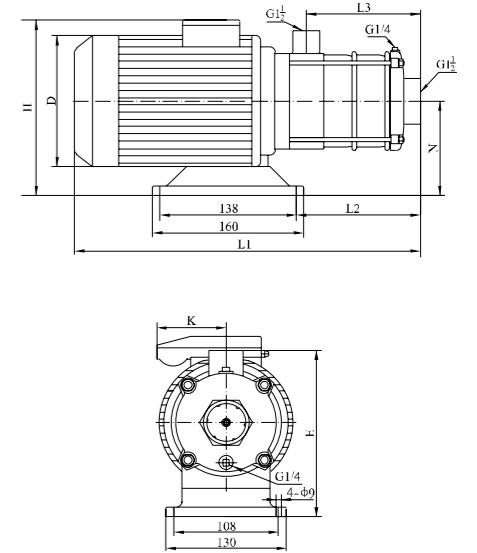
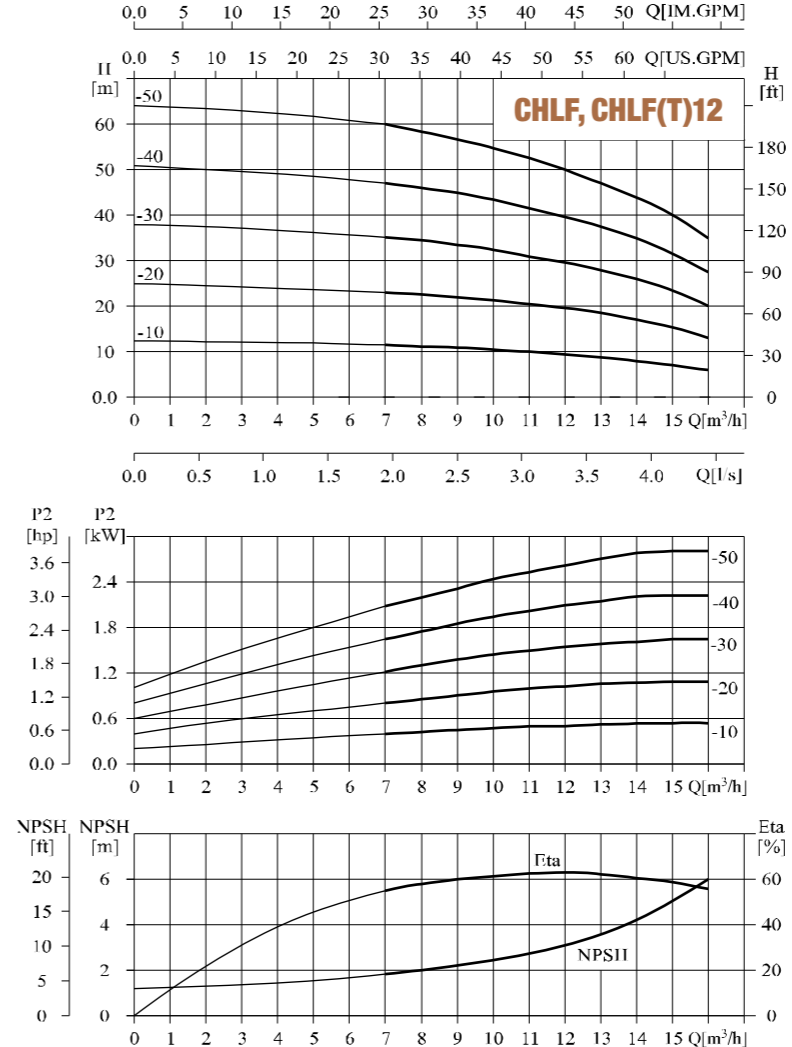
## Size and weight

Motor	Model	Size (mm)						Weight (kg)
		L1	L2	L3	D	H	K	
Three-phase/ Single-phase	HF, HX, HN8-10	395	126	108	170	230/265	/100	20
	HF, HX, HN8-20	395	126	108	170	230/265	/100	20
	HF, HX, HN8-30	425	156	138	170	230/265	/100	25
	HF, HX, HN8-40	490	186	168	180	240/270	/100	28
	HF, HX, HN8-50	520	216	198	180	240/270	/100	30

# HF, HX, HN 12

## Performance curve ISO9906 Annex A 2900rpm

## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	7	8	9	10	11	12	13	14	15	16
	(kW)	(hp)											
HF, HX, HN12-10	0.75	1	H (m)	11.5	11.2	11	10.5	10	9.5	9	8	7	6
HF, HX, HN12-20	1.2	1.6		23	22.5	22	21.5	20.5	19.5	18.5	17	15.5	13
HF, HX, HN12-30	1.8	2.4		35	34.5	33.5	32.5	31	29.5	28	26	23.5	20
HF, HX, HN12-40	2.4	3.3		47	46	45	43.5	41.5	39.5	37.5	35	31.5	27.5
HF, HX, HN12-50	3	4		60	58	56.5	55	52.5	50	47	44	40	35

## Size and weight

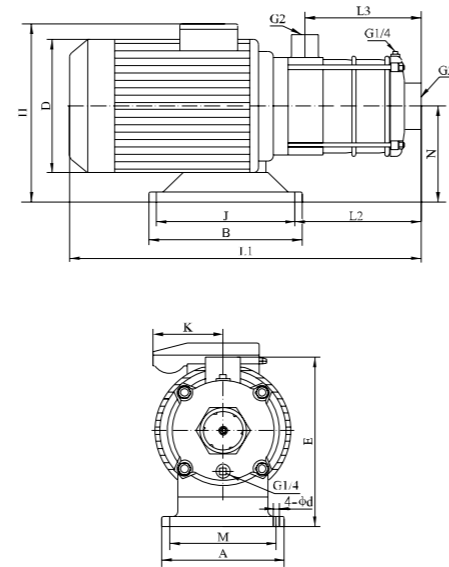
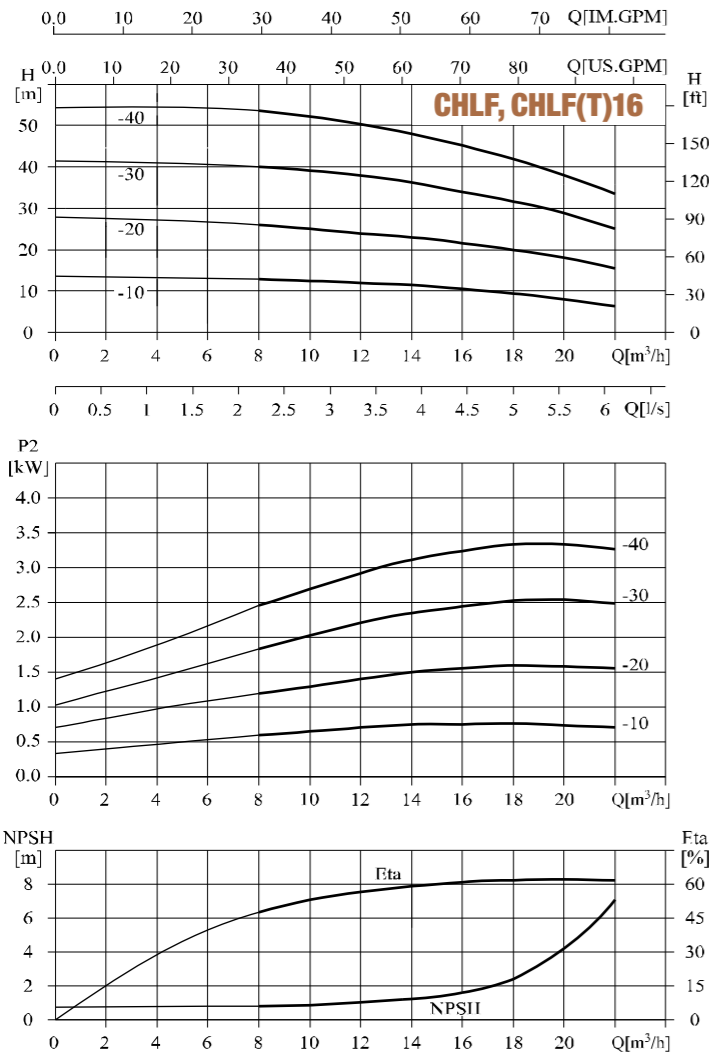
Motor	Model	Size (mm)								Weight (kg)
		L1	L2	L3	H	D	E	N	K	
Three-phase/ Single-phase	HF, HX, HN12-10	395	126	108	230/265	170	228	118	/100	20
	HF, HX, HN12-20	395	126	108	230/265	170	228	118	/100	21
	HF, HX, HN12-30	460	156	138	240/270	180	228	118	/100	25
	HF, HX, HN12-40	460	186	168	240/270	180	228	118	/100	29
	HF, HX, HN12-50	555	216	198	270/	195	240	126		34

# HF, HX, HN 16



## Performance curve ISO9906 Annex A 2900rpm

## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	8	10	12	14	16	18	20	22
	(kW)	(hp)									
HF, HX, HN16-10	1.1	1.5	H (m)	12.8	12.5	12	11.5	10.5	9.5	8	7
HF, HX, HN16-20	2.2	3		26	25	24	23	21.7	20	18	15.5
HF, HX, HN16-30	3	4		40	39	38	36	34	31.5	29	25
HF, HX, HN16-40	4	5.5		53.5	52	50	48	45	42	38	33.5

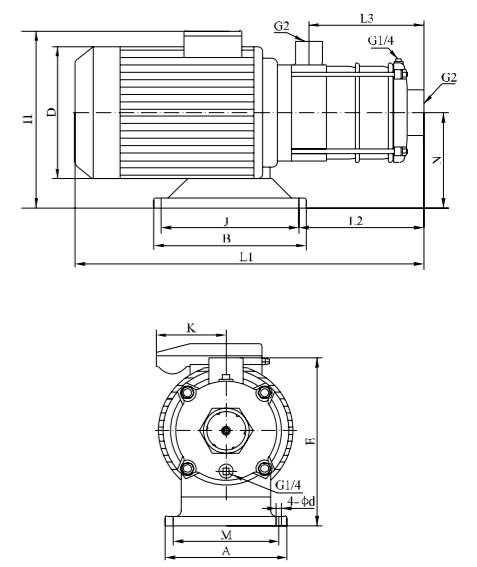
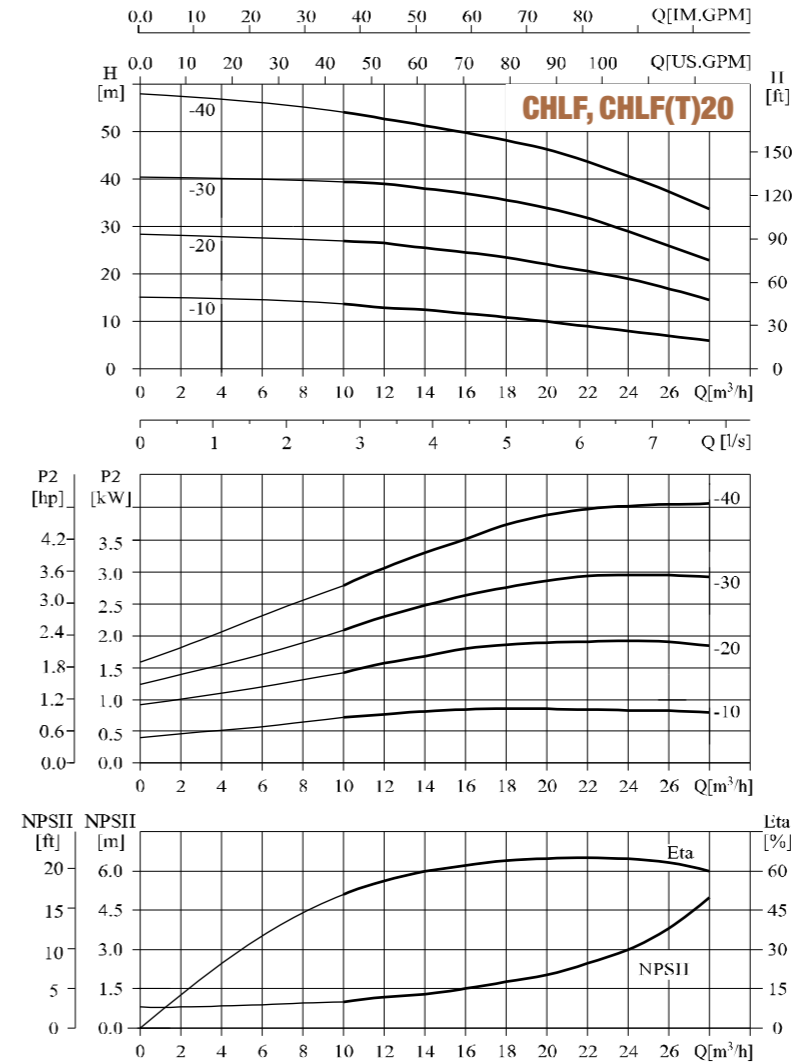
## Size and weight

Motor	Model	Size (mm)													Weight (kg)
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K	
Three-phase/ Single-phase	HF, HX, HN16-10	423	151	126	230/265	170	227	117	130	108	160	138	9	/100	17.5
	HF, HX, HN16-20	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	HF, HX, HN16-30	561	196	171	270/	195	240	130	130	108	160	138	9		33
	HF, HX, HN16-40	621	340	216	270/	220	230	120	230	190	170	140	12		41

# HF, HX, HN 20

## Performance curve ISO9906 Annex A 2900rpm

## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	10	12	14	16	18	20	22	24	26	28
	(kW)	(hp)											
HF, HX, HN20-10	1.1	1.5	H (m)	13.5	13	12.5	12	11	10	9	8	7	6
HF, HX, HN20-20	2.2	3		27	26.5	25.5	25	23.5	22	20.5	18.5	17	14.5
HF, HX, HN20-30	4	5.5		39.5	39	38	37.5	35.5	34	31.5	29	26	23
HF, HX, HN20-40	4.4	6		53	52	51	50	48.5	46.5	43	40	36	32.5

## Size and weight

Motor	Model	Size (mm)													Weight (kg)
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K	
Three-phase/ Single-phase	HF, HX, HN20-10	423	151	126	230/265	170	227	117	130	108	160	138	9	/100	17.5
	HF, HX, HN20-20	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	27
	HF, HX, HN20-30	576	294	171	270/	220	230	120	230	190	170	140	12		41
	HF, HX, HN20-40	621	340	216	270/	220	230	120	230	190	170	140	12		44