

**hydroo®**

# HF, HX, HN SERIES

**60Hz**





## PRESENTATION

**Hydroo Pump Industries SL** is an enterprise specialised in the research, development and large-scale production of Stainless Steel centrifugal pumps. We have a vertical integration of the production processes, standing out stamping, welding and motor wiring in 6 value centers and production units. All of them with a high performance management on pump engineering and production quality.

**HYDROO** has set up a wide range of pumping solutions for many applications as building services, industry, irrigation and industrial process. Customers enjoy of the highest performance in booster sets and pressurization, fire-fighting sets, pumping of underground water, HVAC, drainage and sewage, utilities, desalination and OEM integrations. Versions in 50 Hz and 60 Hz are available, as well as any modification on materials, on request.

**Global water challenges require excellence in pumping technologies**

and close cooperation between pump designers, manufacturers and pump engineers. In order to better meet the customers' needs and requirements our company is facing an expansion of its operations worldwide, providing timely and effective services in more than 30 countries. With tight relationships in many regions, we're proud to introduce a new regional value center for Europe. We are based near Barcelona at the Girona industrial area. Hydroo is a trademark to forge excellent and successful business relationships with our value customers by means of an operative assembling unit and an application engineering unit. HYDROO trademark wants to symbolize the firm commitment for a high level service to our value partners.

**At Hydroo we bet on a high level service to our value pump partners.**

# 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

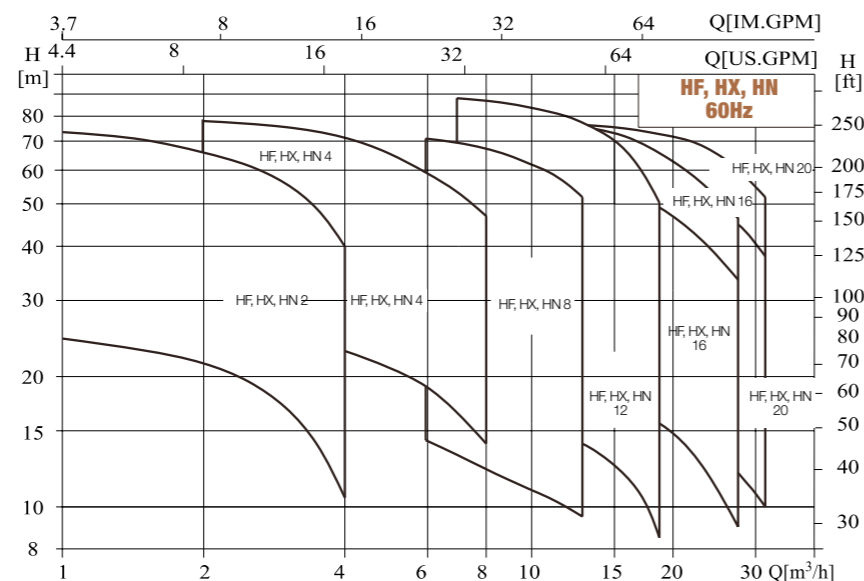
## Standard material

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 bers.

–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.a

## 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 motor2-pole

–Protection class: IP55

–Insulation class: F

–Standard voltage, 60Hz:  
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 3500r/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 ow rate or overload of motor due to too large ow 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

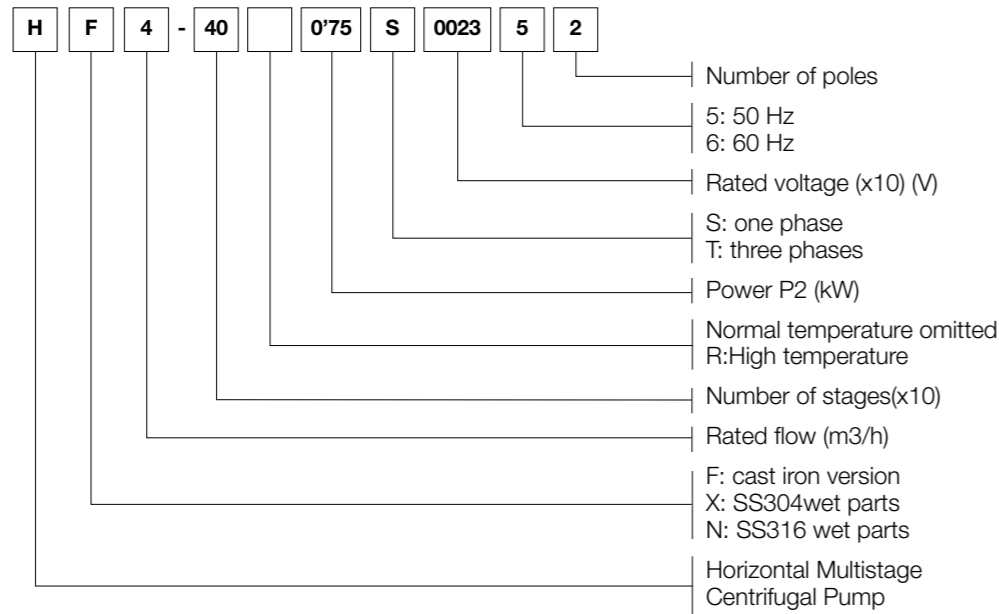
–Max. inlet pressure is limited by max. Operation Pressure

## Pump

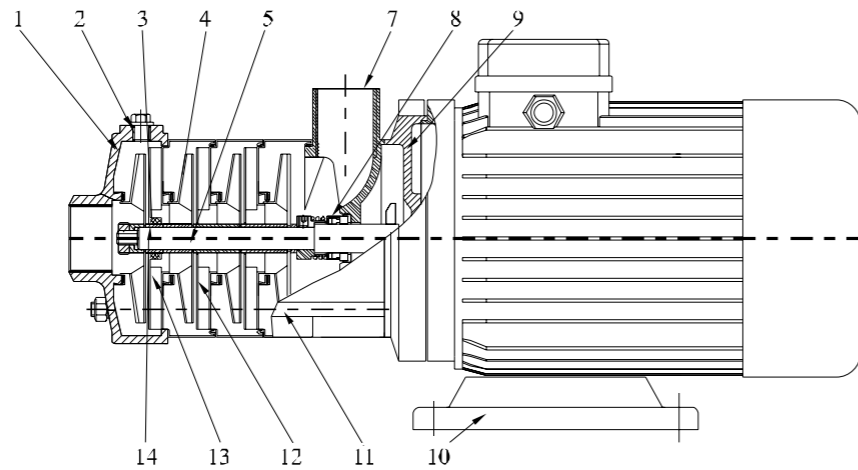
–Horizontal multistage non-self-priming centrifugal pump, attached with long shaft electric motor.

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

## Definition of model



## Section drawing

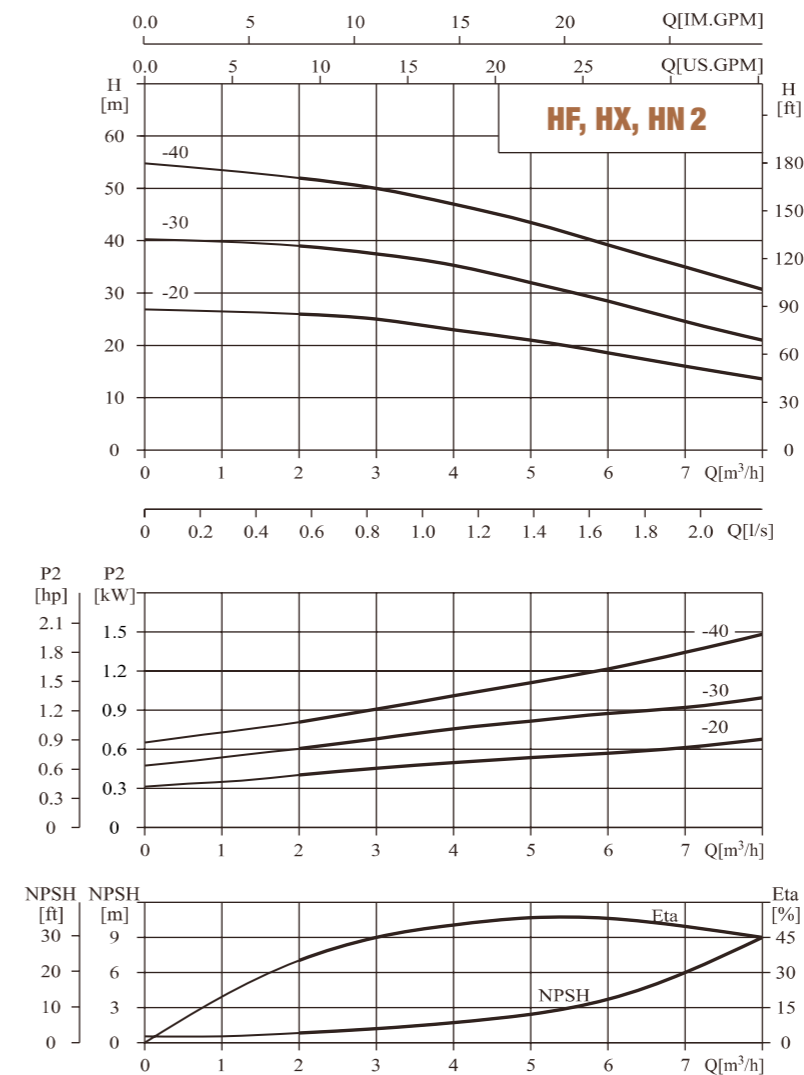


## Material

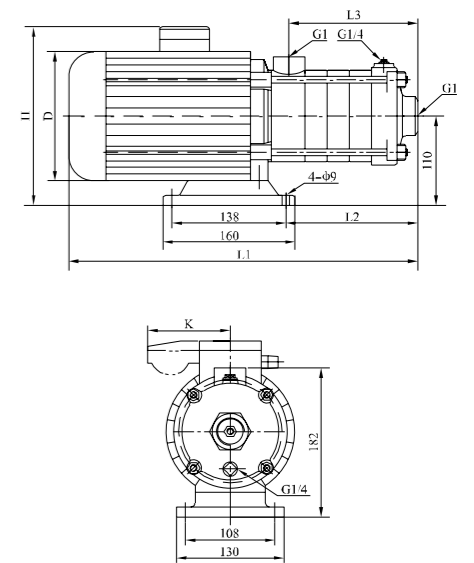
N°	Name	Material	AISI/ASTM
2	Plug	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
8	Mechanical seal		
9	Motor end cover	Aluminum Alloy	
10	Base plate	Cast Iron	
11	Staybolt	Stainless steel	AISI304
12	Diffuser	Stainless steel	AISI304
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 2

### Performance curve ISO9906 Annex A 3500rpm



### Installation sketch



### Performance table

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

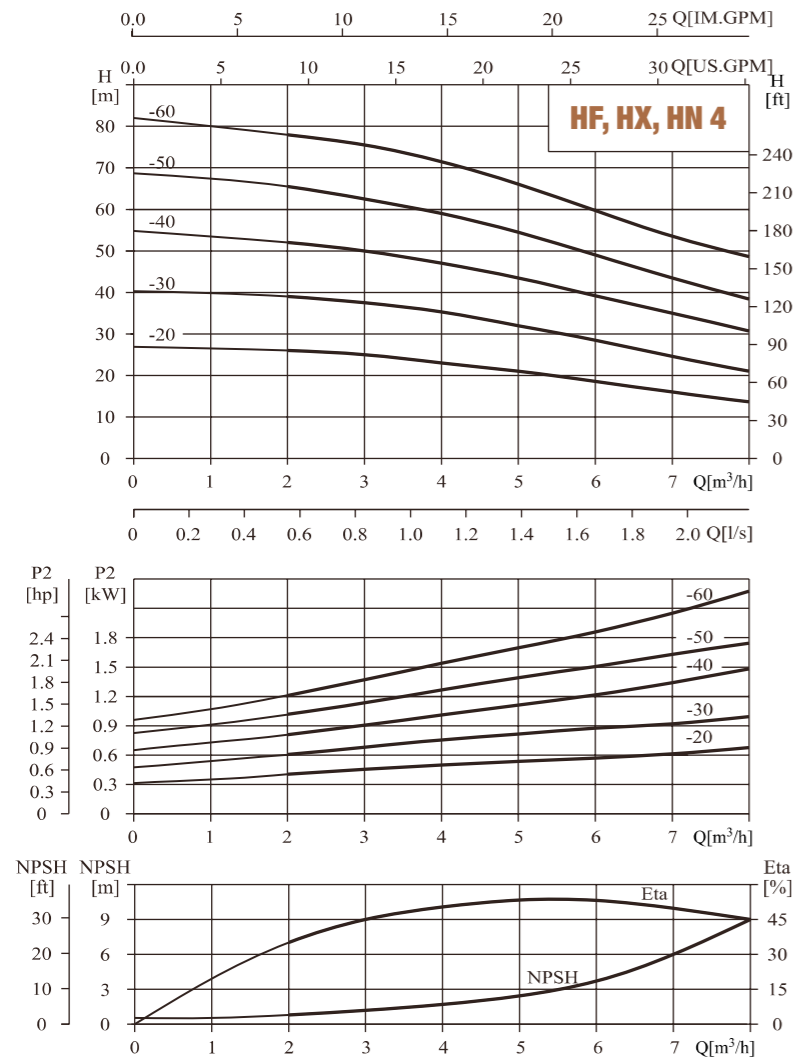
### Size and weight

Motor	Model	Size (mm)								Weight (kg)
		L1	L2	L3	E	H	N	D	K	
Three-phase/ Single-phase	HF, HX, HN 2-20	305	87	84	182	230/230	110	145	/96	15
	HF, HX, HN 2-30	370	105	102	182	230/245	110	170	/100	17
	HF, HX, HN 2-40	388	123	120	182	230/245	110	170	/100	17
	HF, HX, HN 2-50	406	141	138	182	230/245	110	170	/100	17
	HF, HX, HN 2-60	465	159	156	190	230/260	118	170	/100	20

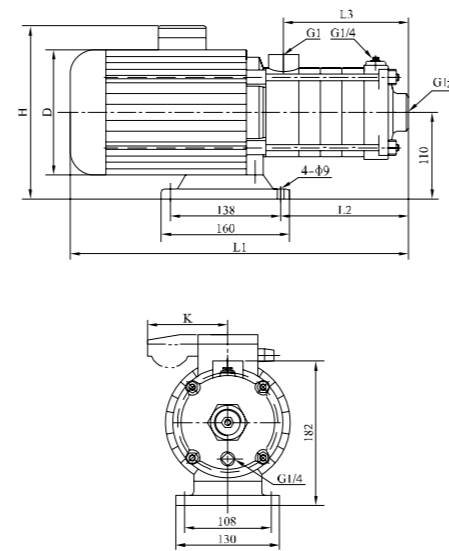


# HF, HX, HN 4

## Performance curve ISO9906 Annex A 3500rpm

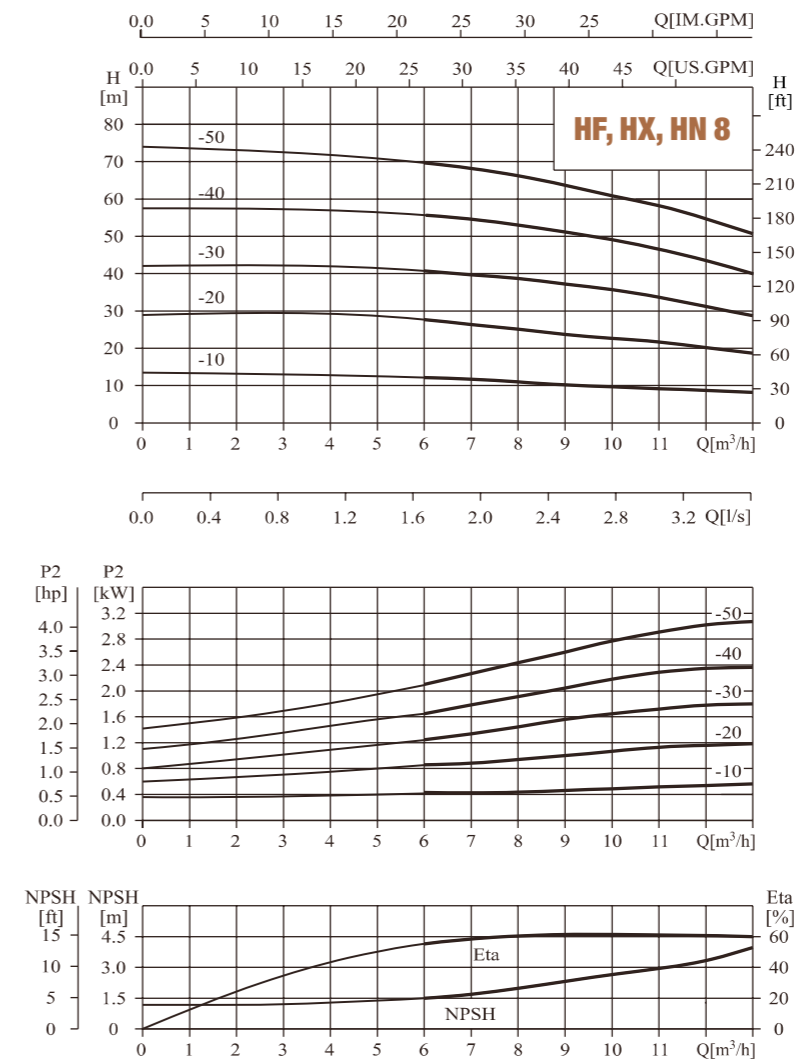


## Installation sketch

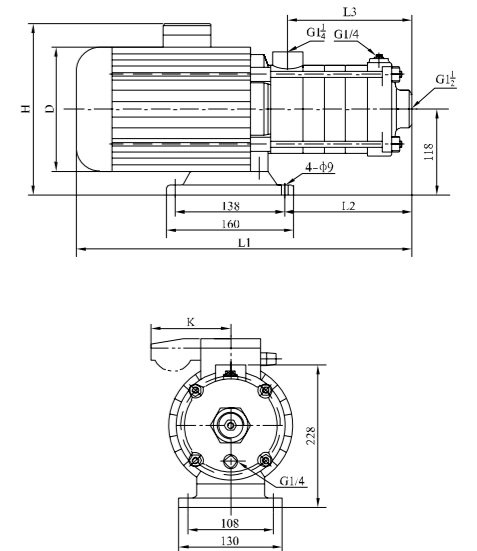


# HF, HX, HN 8

## Performance curve ISO9906 Annex A 3500rpm



## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	2	3	4	5	6	7	8
	(kW)	(hp)								
HF, HX, HN 4-20	0.75	1	H (m)	26	25	23	21	19	16	14
HF, HX, HN 4-30	1.1	1.5		39	37.5	36	32	28	24	21
HF, HX, HN 4-40	1.5	2		52	50	47	43.5	38.5	35	31
HF, HX, HN 4-50	2.2	3		65.5	62.5	59	54.5	49	43	39
HF, HX, HN 4-60	2.2	3		78	75.5	71.5	66.5	59	53.5	47

## Size and weight

Motor	Model	Size (mm)								Weight (kg)
		L1	L2	L3	E	H	N	D	K	
Three-phase/ Single-phase	HF, HX, HN 4-20	359	105	102	182	230/245	110	170	/100	15
	HF, HX, HN 4-30	395	132	129	182	230/245	110	170	/100	17
	HF, HX, HN 4-40	465	159	156	190	240/260	118	170	/100	20
	HF, HX, HN 4-50	492	186	183	190	240/260	118	180	/100	25
	HF, HX, HN 4-60	519	213	210	190	240/260	118	180	/100	25

## Performance table

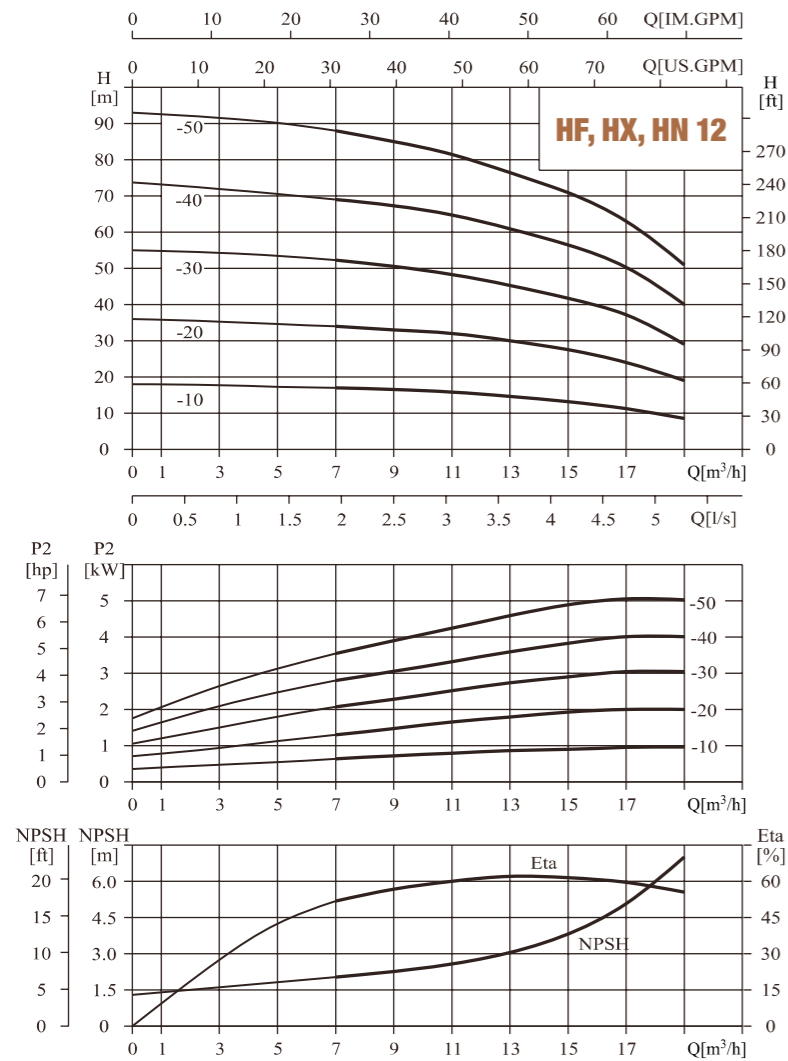
Model	Driving motor (kW)		Q (m³/h)	6	7	8	9	10	11	12	13
	(kW)	(hp)									
HF, HX, HN 8-10	0.75	1	H (m)	14.5	13	12	11.5	11	10.5	10	9.5
HF, HX, HN 8-20	1.75	2		29	27	26	25	24	23	21.5	20
HF, HX, HN 8-30	2.2	3		42	41	40	39	37	35	33	30
HF, HX, HN 8-40	3	4		55.5	54.5	53	51	49	46.5	43.5	40
HF, HX, HN 8-50	3	4		71	69.5	67.5	65	63	59	56	52

## Size and weight

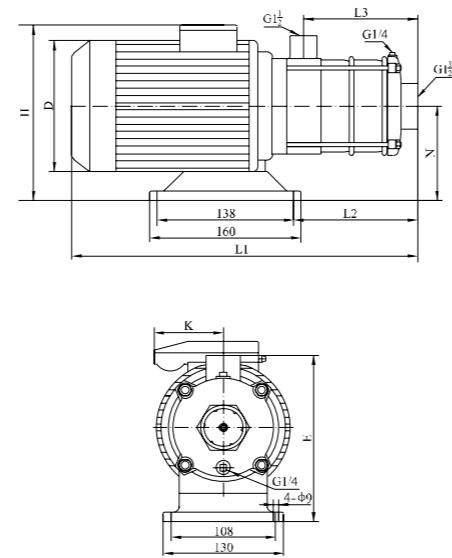
Motor	Model	Size (mm)								Weight (kg)
		L1	L2	L3	E	H	N	D	K	
Three-phase/ Single-phase	HF, HX, HN 8-10	395	128	108	227	230/265	117	170	/100	22
	HF, HX, HN 8-20	430	128	108	228	240/270	118	170	/100	25
	HF, HX, HN 8-30	460	158	138	228	240/270	118	170	/100	27
	HF, HX, HN 8-40	550	188	168	238	270/	128	195		32
	HF, HX, HN 8-50	580	218	198	238	270/	128	195		32

# HF, HX, HN 12

## Performance curve ISO9906 Annex A 3500rpm

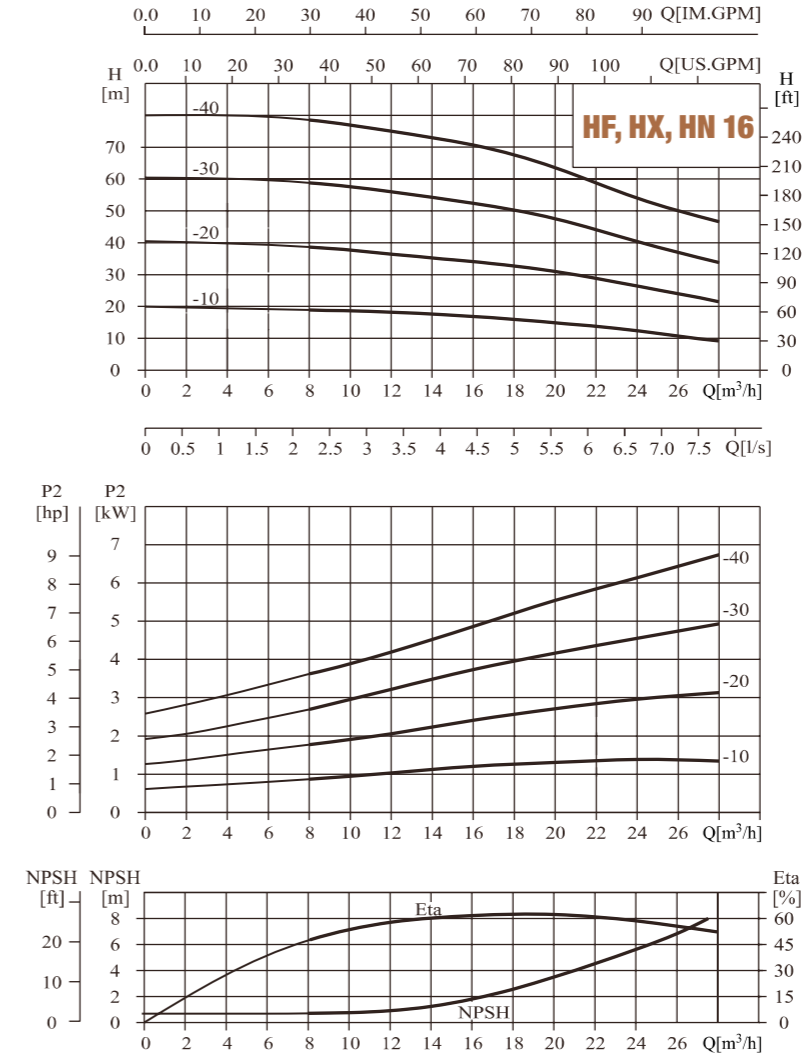


## Installation sketch

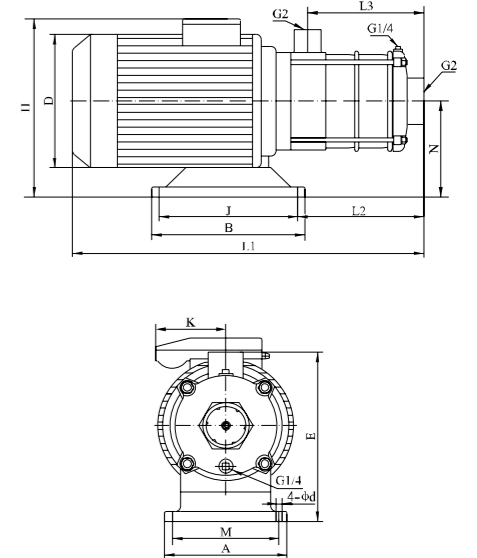


# HF, HX, HN 16

## Performance curve ISO9906 Annex A 3500rpm



## Installation sketch



## Performance table

Model	Driving motor (kW)		Q (m³/h)	7	9	11	12	11	13	15	17	19
	(kW)	(hp)										
HF, HX, HN 12-10	1.1	1.5	H (m)	17	16	15	14.5	10	14	12.5	11	8.5
HF, HX, HN 12-20	2.2	3		34	33	32	31	20.5	30	27	24.5	19
HF, HX, HN 12-30	3	4		52.5	50	48.5	47	31	45	41.5	37.5	29
HF, HX, HN 12-40	4	5.5		69	67.5	65	63	41.5	60.5	55	49.5	40
HF, HX, HN 12-50	5.5	7.5		88	85	82	80	52.5	76	70	62	50.5

## Size and weight

Motor	Model	Size (mm)														Weight (kg)	
		L1	L2	L3	H	L3	D	E	N	D	A	M	B	J	d		K
Three-phase/ Single-phase	HF, HX, HN 12-10	395	126	108	230/265	108	170	227	117	170	130	108	160	138	9	/100	20
	HF, HX, HN 12-20	430	126	108	240/270	108	180	228	118	170	130	108	160	138	9	/100	21
	HF, HX, HN 12-30	510	156	138	270/	138	195	240	130	180	130	108	160	138	9		25
	HF, HX, HN 12-40	565	285	168	270/	168	220	230	120	180	230	190	170	140	12		29
	HF, HX, HN 12-50	620	325	198	305/	198	255	242	132	195	260	216	190	140	12		34

## Performance table

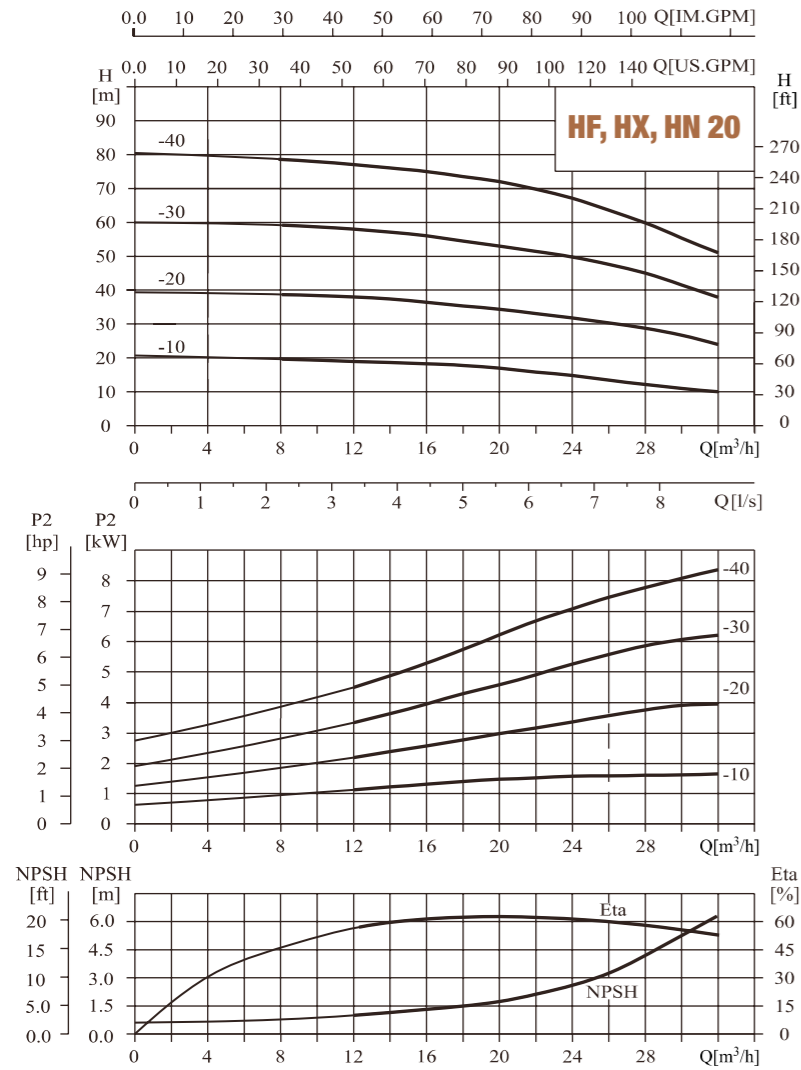
Model	Driving motor		Q (m³/h)	8	12	16	20	24	28
	(kW)	(hp)							
HF, HX, HN 16-10	2.2	3	H (m)	19	18	17	15	12	9
HF, HX, HN 16-20	4	5.5		38.5	36.5	34	31	26	21.5
HF, HX, HN 16-30	5.5	7.5		59	56	53.5	47.5	40.3	33.5
HF, HX, HN 16-40	7.5	10		78.5	75	72	64	54	46.5

## Size and weight

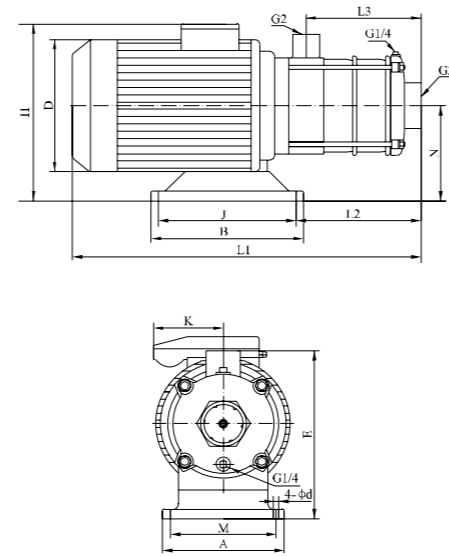
Motor	Model	Size (mm)														Weight (kg)
		L1	L2	L3	H	D	E	N	A	M	B	J	d	K		
Three-phase/ Single-phase	HF, HX, HN 16-10	455	151	126	240/270	180	228	118	131	108	161	138	9	/100	26	
	HF, HX, HN 16-20	531	249	126	270/	220	230	120	230	190	170	140	12		43	
	HF, HX, HN 16-30	600	310	171	305/	255	242	132	260	216	190	140	12		56	
	HF, HX, HN 16-40	645	355	216	305/	255	242	132	260	216	190	140	12		63	

# HF, HX, HN 20

## Performance curve ISO9906 Annex A 3500rpm



## Installation sketch



# Notes

## Performance table

Model	Driving motor		Q (m³/h)	12	14	16	18	20	22	24	26	28	30	32
	(kW)	(hp)												
HF, HX, HN 20-10	2.2	3	H (m)	19	18.5	18	17.5	17	16	15	13.5	12	11	10
HF, HX, HN 20-20	4	5.5		38	37	36	35	34	33	32	30.5	29	26.5	24
HF, HX, HN 20-30	5.5	7.5		58	57	56	55	53	51.4	50	47.5	45	41.6	38
HF, HX, HN 20-40	7.5	10		77	76	75	73.5	72	70	67	65	60.5	56	51

## 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, HN 20-10	455	151	126	240/270	180	228	118	130	108	160	138	9	/100	26
	HF, HX, HN 20-20	531	249	126	270/	220	230	120	230	190	170	140	12		43
	HF, HX, HN 20-30	600	310	171	305/	255	242	132	260	216	190	140	12		56
	HF, HX, HN 20-40	645	355	216	305/	255	242	132	260	216	190	140	12		63





# hydroo®

Be pumping partners

**HYDROO**  
**Pump Industries SL**

Carrer La Banyeta Nova, 11  
Polígon Industrial La Banyeta  
17843 Palol de Revardit  
Catalonia. Spain  
Tel. +34 972 394 654  
E-mail: [info@hydroo.com](mailto:info@hydroo.com)  
[www.hydroo.com](http://www.hydroo.com)

201910-CTL-HFHXHN60HZ-EN  
subject to amendments

