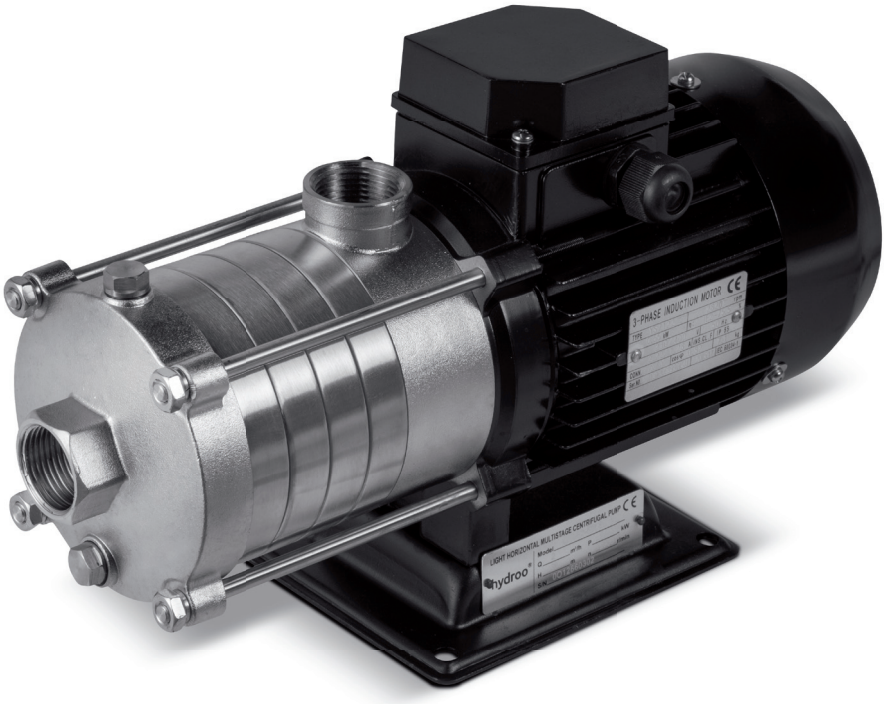
HF, HX, HN
HDROO Series

Horizontal multistage
stainless steel
centrifugal pump



hydroo®

hydroo®

HYDROO is present in all the European markets by means of a distribution network focused on the service and the valuation of the pumping business. HYDROO conceives, researches, develops, designs, industrializes, and manufactures a wide range of pumping solutions for the most demanding applications in industrial markets, irrigation, water supply and water treatment as well as in residential and commercial buildings. The values of operational excellence, experience, reliability, and passion for a well-done job guide the daily work of the Hydroo team together with our partners and distributors. The global challenges of water management require excellence in pumping technologies and a join effort between designers, manufacturers, and pumping engineers. To meet the needs of the market in the more demanding installations Hydroo is firmly committed to manufacturing the best pumping equipment on the market following and sharing our values worldwide.

The Hydroo values are presented in 5 great concepts that we summarize in our motto Hy5, which are our principles and commitments:

BE PUMPING PARTNERS

Parc Natural del Montseny
(Vallès Oriental county, Catalonia)

The Montseny, Biosphere Reserve is a mosaic of Mediterranean and Central European landscapes. Its extraordinary biodiversity and the cultural footprint that man has left over time, present a universal value that has inspired artists, intellectuals and scientists, and that awakens the emotion of the people who visit it.

Coordinates:
Longitude: 2.44042
Latitude: 41.74003

hylite

Contribution to preservation of the environment and to sustainability. We reduce the environmental impact and footprint of carbon. We contribute to the development of the circular economy. Our team stand out for the highest standards of energy efficiency.

hymotion

Value proposal based on the reliability of products enhancing the quality, the development of efficient supply chains, the productivity with the love of craftsmen at every step of the manufacturing and production lines. We move with the commitment to improve pumping systems, make them more efficient, more reliable, more digitized, more at the service of the human development.

hyficient

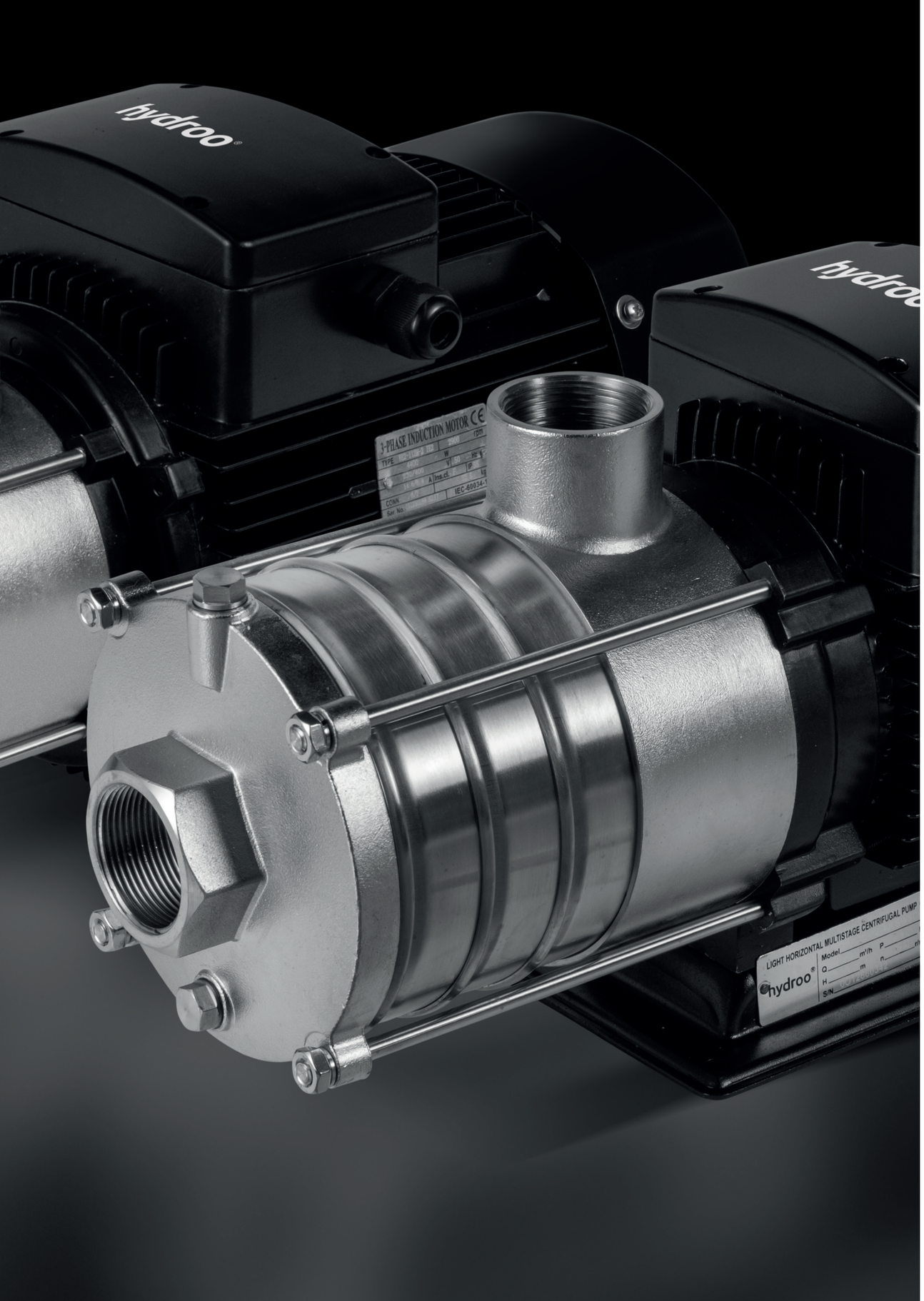
The use of the most advanced analytical, development and simulation tools allows us to optimize our R&D teamwork results. We maximize the study of materials, efficient hydraulics, mechanical improvements and the optimization of our motors up to 200 kW. The results are robust, reliable, flexible, adjustable, multipurpose, and user-friendly pumping equipment.

hynovative

Commitment to implementation of the innovation process as strategic pilar of the company. Transfer new ideas to realities that evolve pumping industry and internalize the process in each job position to offer market improvements.

hyliance

We are the factory of our customers. Without solution of continuity between the value chain starting in the components production plants and ending with amortization of the pumping equipment operating at full performance for years and giving satisfaction to distributors, project engineers and pumping systems managers. We make real our catchphrase **Be Pumping Partners**.



INDEX

HF
HX
HN

Horizontal multistage stainless steel centrifugal pump

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 ºC and 70 ºC.

Versions for hot water up to 110 ºC are available on request.

ACS certified.

Performance range

Capacity: Q up to 28 m³/h
Head: H up to 60 m
Temperature: T up to 110 ºC
Speed: n 2900 rpm or 3500 rpm
Power: P up to 4,4 kW

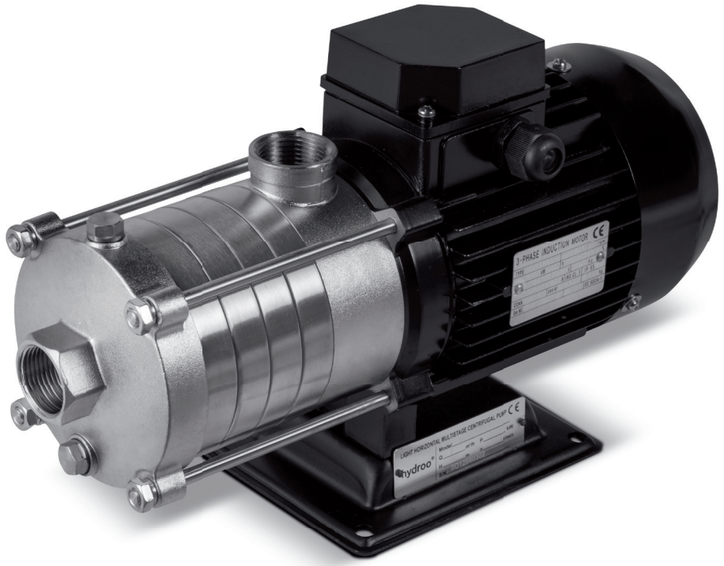
Standard material

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.

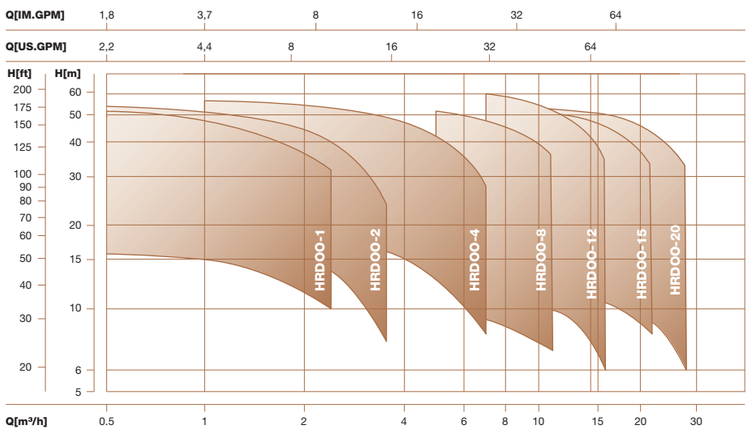
Applications

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



Performance scope

50Hz



Installation table

Connection port	HX1	HF, HX, HN2	HF, HX, HN4	HF, HX, HN8	HF, HX, HN12	HF, HX, HN15, 20
Inlet	G1	G1	G1¼	G1½	G1½	G2
Outlet	G1	G1	G1¼	G1½	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.

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 3500r/min;

– Curve tolerance in conformity with ISO9906 Annex A.

– Measurement is done with 20 ºC air-free water, kinematic viscosity of lmm2/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 ºC~+70 ºC
Hot water type: -15 ºC~+110 ºC

– Ambient temperature: up to +40 ºC

– Max. operation pressure: 10 bar

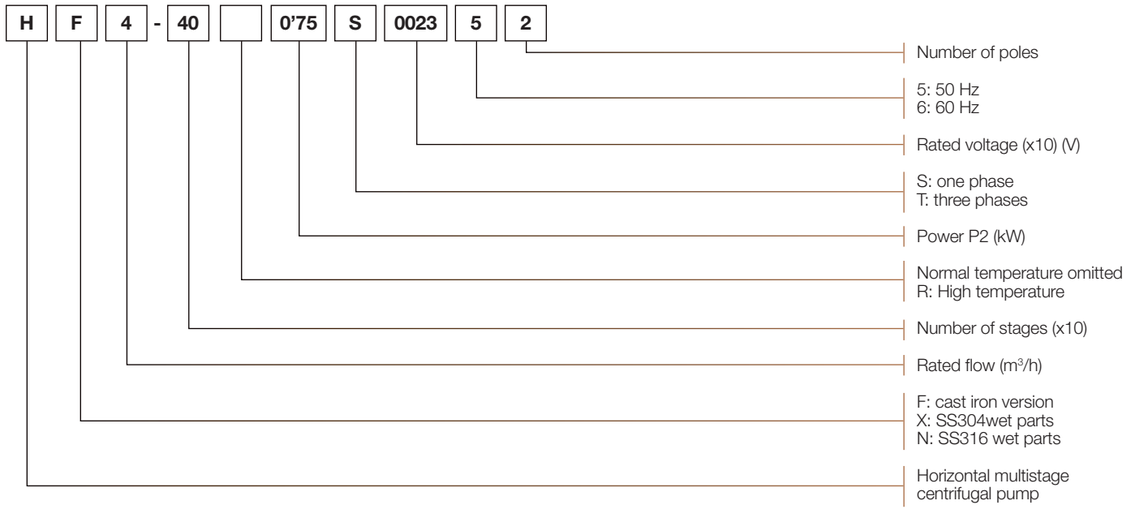
– Max. inlet pressure is limited by max. Operation Pressure

Pump

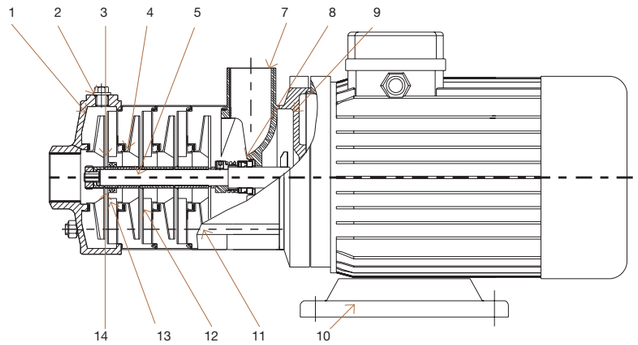
– Horizontal multistage non-self-priming centrifugal pump, attached with long shaft electric motor.

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

Definition of model



Section drawing

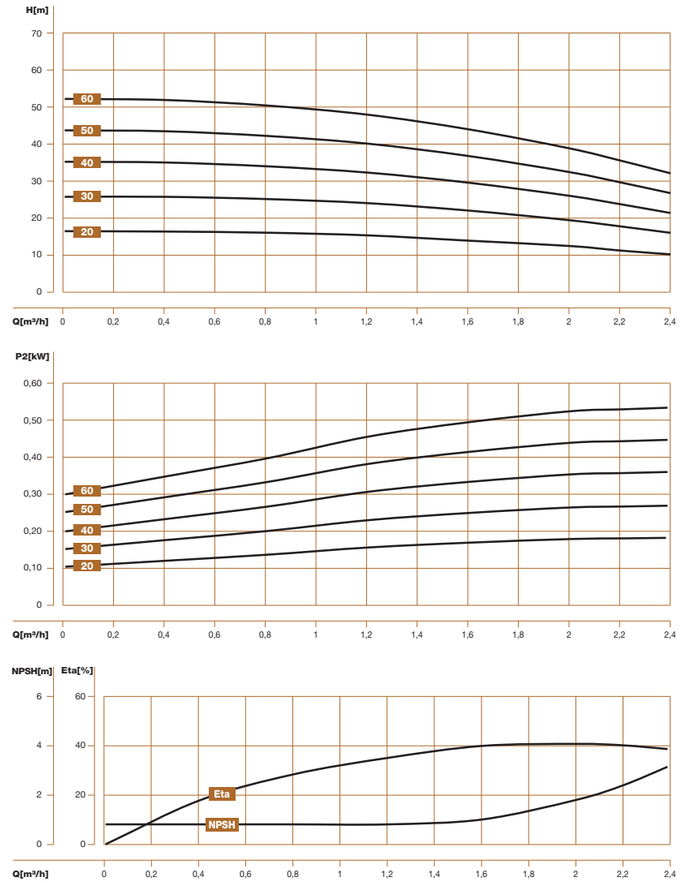


Material

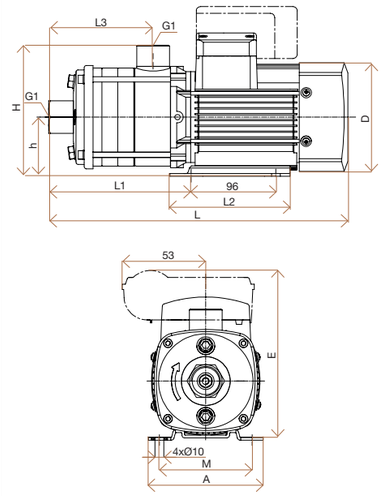
Nº	Name	Material	AISI /ASTM
2	Plug	Stainless steel	AISI304
3	Bearing	Tungsten carbide	
4	Impeller	Stainless steel	AISI304
5	Shaft	Stainless steel	AISI304
8	Mechanical seal		
9	Motor end cover	Aluminum Alloy	
10	Base plate	Cast Iron	
11	Staybolt	Stainless steel	AISI304
12	Diffuser	Stainless steel	AISI304
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

HX1

Performance curve ISO9906:2012 Grade 3B



Installation sketch



Performance table

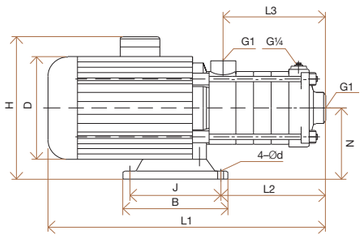
Model	I (A)		P2		Q	0,4	0,8	1,2	1,6	2	2,2	2,4
	1~220V	3~380V	kW	HP	m³/h							
HX 1-20	1,9	0,8	0,25	0,33		16	16	15	14	12	11	10
HX 1-30	2,3	1	0,37	0,5		26	25	24	22	19	18	16
HX 1-40	2,3	1	0,37	0,5	mca	35	34	32	30	26	24	29
HX 1-50	3,7	1,4	0,45	0,75		43	42	40	37	33	30	27
HX 1-60	3,7	1,4	0,55	0,75		52	51	48	44	39	36	32

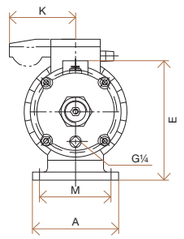
Size and weight

Model	A	D	E (3 ph/1 ph)	H	L	L1	L2	L3	M	h	Weight
	mm										kg
HX 1-20	130	121	162/197	149	327	144	136	101	105	67	7
HX 1-30	130	121	162/197	149	346	163	136	120	105	67	7
HX 1-40	130	121	162/197	149	364	1181	136	138	105	67	8
HX 1-50	130	121	162/197	149	383	200	136	157	105	67	9
HX 1-60	157	141	162/197	157	405	211	150	175	125	75	10

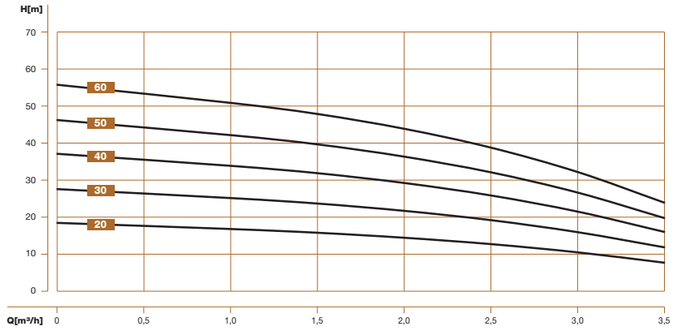
HF, HX, HN 2

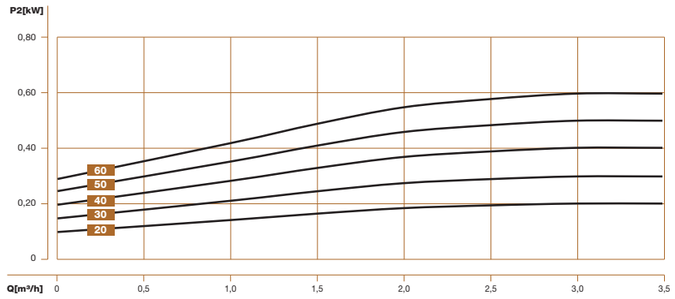
Installation sketch

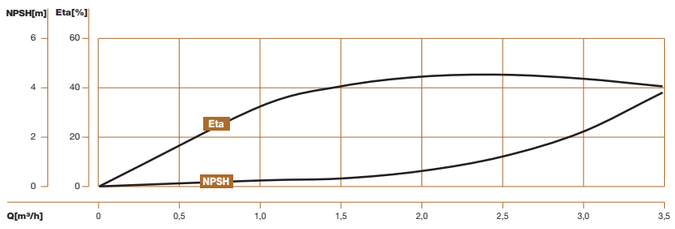




Performance curve ISO9906:2012 Grade 3B







Performance table

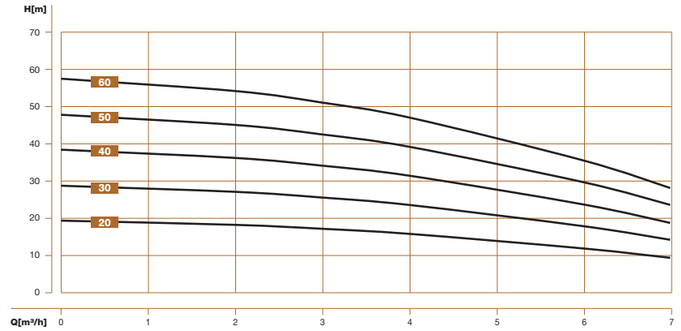
Model	I (A)		P2		Q	0,5	1,0	1,5	2,0	2,5	3,0	3,5
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 2-20	1,7	1	0,37	0,5		19	18	17	15	13	10	8
HF, HX, HN 2-30	1,7	1	0,37	0,5		28	27	25	22	19	16	12
HF, HX, HN 2-40	2,4	1,4	0,55	0,75	mca	36	35	33	29	25	21	16
HF, HX, HN 2-50	2,4	1,4	0,55	0,75		46	43	40	36	32	27	21
HF, HX, HN 2-60	2,9	1,7	0,75	1		54	51	48	44	39	32	24

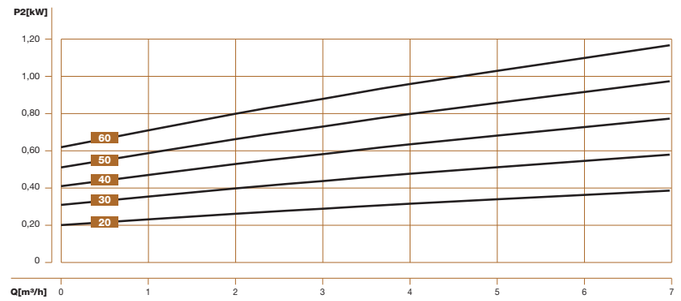
Size and weight

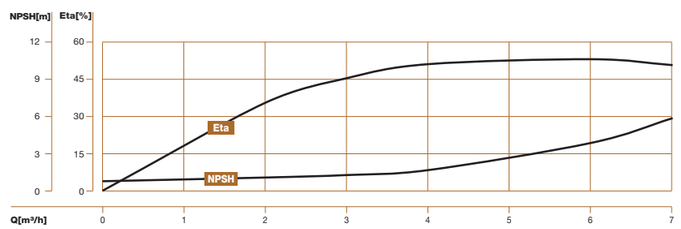
Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 2-20	130	160	145	182	215/230	138	305	87	84	108	110	9	96	400 x 230 x 280	15
HF, HX, HN 2-30	130	160	145	182	215/230	138	323	105	102	108	110	9	96	420 x 230 x 280	15
HF, HX, HN 2-40	130	160	145	182	215/230	138	341	123	120	108	110	9	96	420 x 230 x 280	15
HF, HX, HN 2-50	130	160	145	182	215/230	138	359	141	138	108	110	9	96	450 x 230 x 280	15
HF, HX, HN 2-60	130	160	170	182	225/245	138	422	159	156	108	110	9	100	490 x 240 x 230	17

HF, HX, HN 4

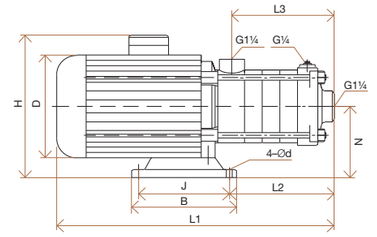
Performance curve ISO9906:2012 Grade 3B

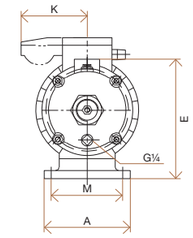






Installation sketch





Performance table

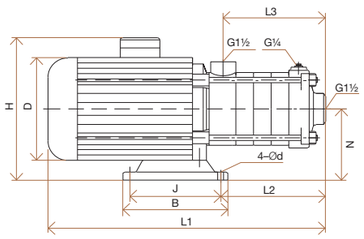
Model	I (A)		P2		Q	1	2	3	4	5	6	7
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 4-20	1,7	1	0,37	0,5		19	18	17	15	13	10	8
HF, HX, HN 4-30	2,4	1,4	0,55	0,75		28	27	26	24	21	17	13
HF, HX, HN 4-40	2,9	1,7	0,75	1	mca	38	36	34	31	27	23	19
HF, HX, HN 4-50	4,3	2,4	1,1	1,5		47	45	43	39	34	29	23
HF, HX, HN 4-60	4,3	2,4	1,1	1,5		56	54	51	47	42	36	28

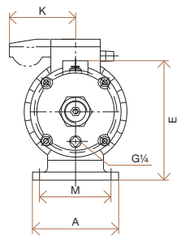
Size and weight

Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 4-20	130	160	145	182	215/230	138	329	105	102	108	110	9	96	420 x 230 x 280	15
HF, HX, HN 4-30	130	160	145	182	215/230	138	356	132	129	108	110	9	96	450 x 230 x 280	15
HF, HX, HN 4-40	130	160	170	182	225/245	138	416	162	156	108	110	9	100	490 x 240 x 320	17
HF, HX, HN 4-50	130	160	170	182	225/245	138	455	188	183	108	110	9	100	520 x 240 x 320	17
HF, HX, HN 4-60	130	160	170	182	225/245	138	482	213	210	108	110	9	100	550 x 240 x 320	17

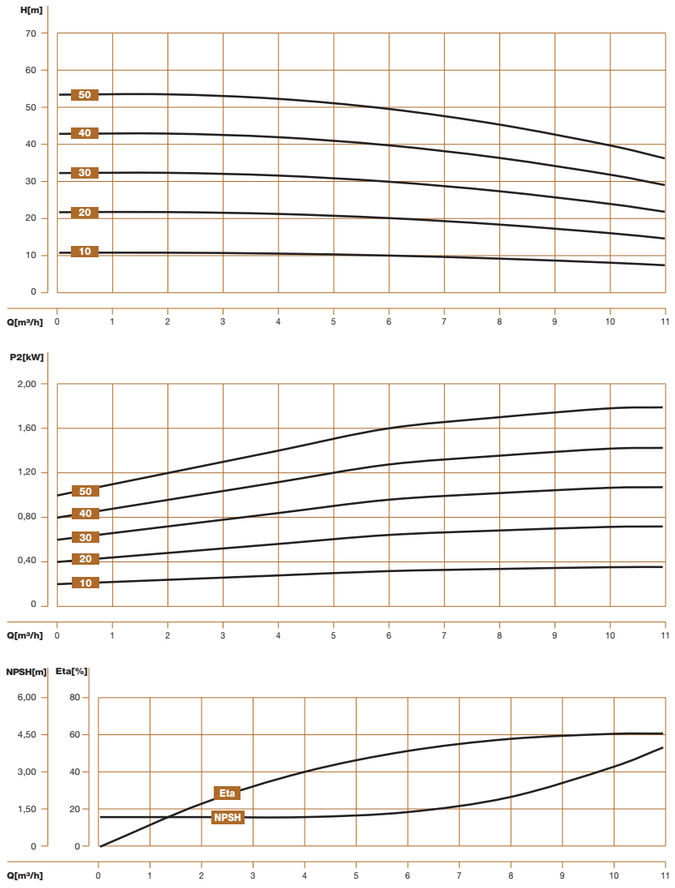
HF, HX, HN 8

Installation sketch





Performance curve ISO9906:2012 Grade 3B



Performance table

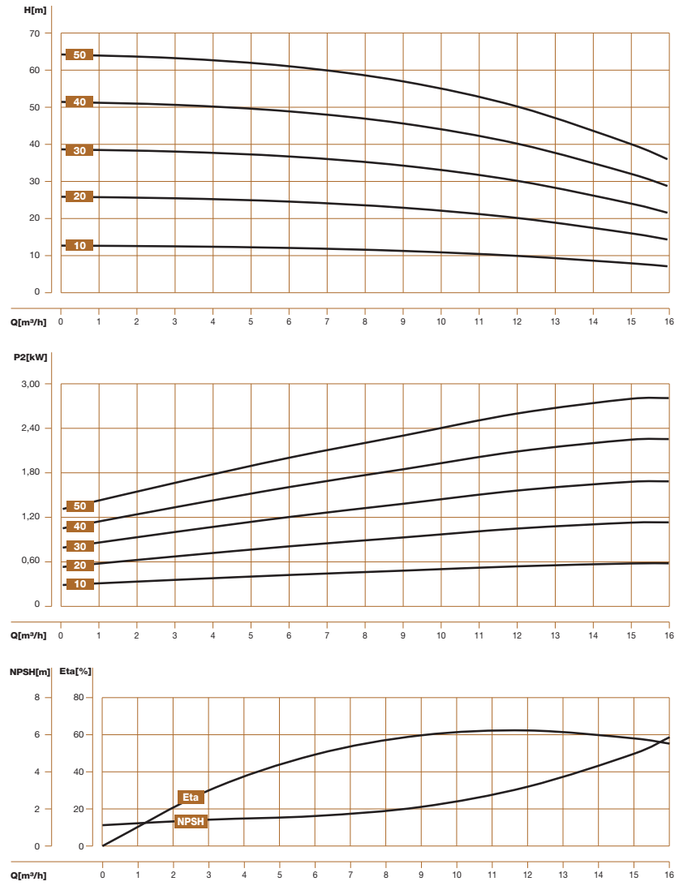
Model	I (A)		P2		Q	5	6	7	8	9	10	11
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 8-10	2,9	1,7	0,75	1		10	10	9	9	8	8	7
HF, HX, HN 8-20	2,9	1,7	0,75	1		20	20	19	18	17	16	14
HF, HX, HN 8-30	4,3	2,4	1,1	1,5	mca	30	29	28	27	25	23	21
HF, HX, HN 8-40	5,6	3,3	1,5	2		39	38	37	35	33	31	28
HF, HX, HN 8-50	7,9	4,6	2,2	3		51	50	48	45	43	40	36

Size and weight

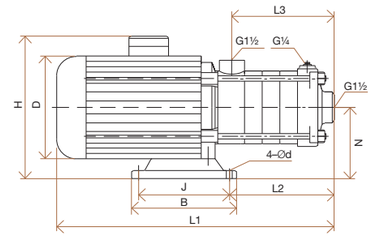
Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 8-10	130	160	170	228	230/265	138	395	126	108	108	118	9	100	520 x 240 x 300	20
HF, HX, HN 8-20	130	160	170	228	230/265	138	395	126	108	108	118	9	100	520 x 240 x 300	20
HF, HX, HN 8-30	130	160	170	228	230/265	138	425	156	138	108	118	9	100	520 x 240 x 300	25
HF, HX, HN 8-40	130	160	180	228	240/270	138	490	186	168	108	118	9	100	600 x 240 x 300	28
HF, HX, HN 8-50	130	160	180	228	240/270	138	520	216	198	108	118	9	100	600 x 240 x 300	30

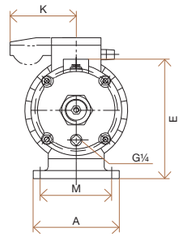
HF, HX, HN 12

Performance curve ISO9906:2012 Grade 3B



Installation sketch





Performance table

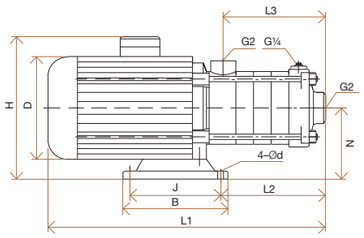
Model	I (A)		P2		Q	7	9	11	13	14	15	16
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 12-10	2,9	1,7	0,75	1		12	11	10	9	8	7	6
HF, HX, HN 12-20	4,3	2,4	1,2	1,6		23	22	21	19	17	16	13
HF, HX, HN 12-30	6,6	3,8	1,8	2,4	mca	35	34	31	28	26	24	20
HF, HX, HN 12-40	7,9	4,6	2,4	3,3		47	45	42	38	35	32	28
HF, HX, HN 12-50	–	6	3	4		60	57	53	47	44	40	35

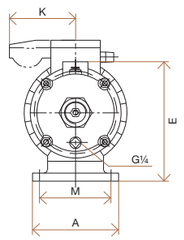
Size and weight

Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 12-10	130	160	151	228	230/265	138	395	126	108	108	118	9	100	520 x 240 x 300	20
HF, HX, HN 12-20	130	160	170	228	230/265	138	395	126	108	108	118	9	100	520 x 240 x 300	21
HF, HX, HN 12-30	130	160	180	228	240/270	138	460	156	136	108	118	9	100	520 x 240 x 300	25
HF, HX, HN 12-40	130	160	180	228	240/270	138	490	186	168	108	118	9	100	600 x 240 x 300	29
HF, HX, HN 12-50	130	160	195	240	270/–	138	555	216	198	108	126	9	–	650 x 240 x 300	34

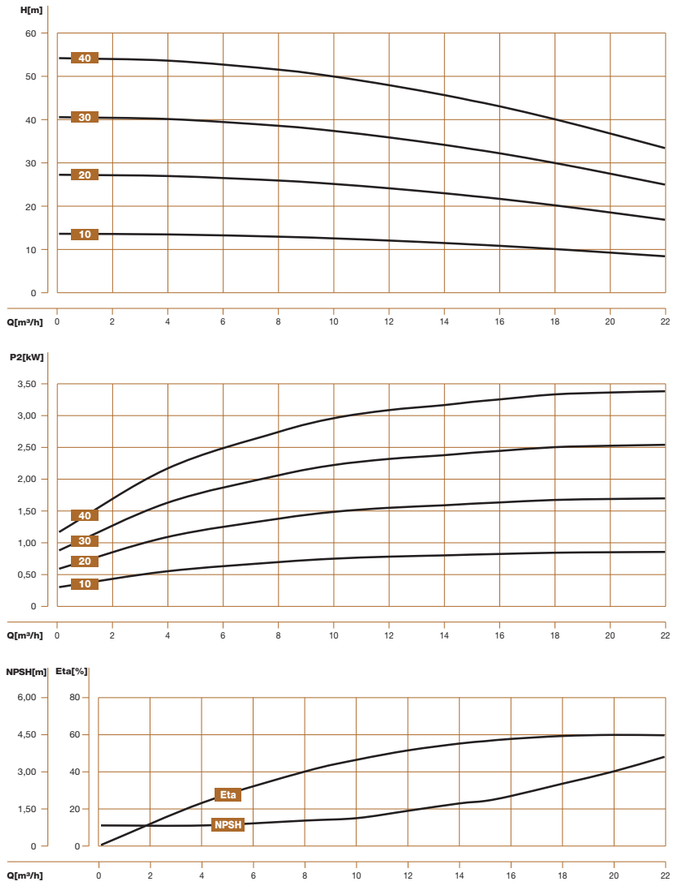
HF, HX, HN 15

Installation sketch





Performance curve ISO9906:2012 Grade 3B



Performance table

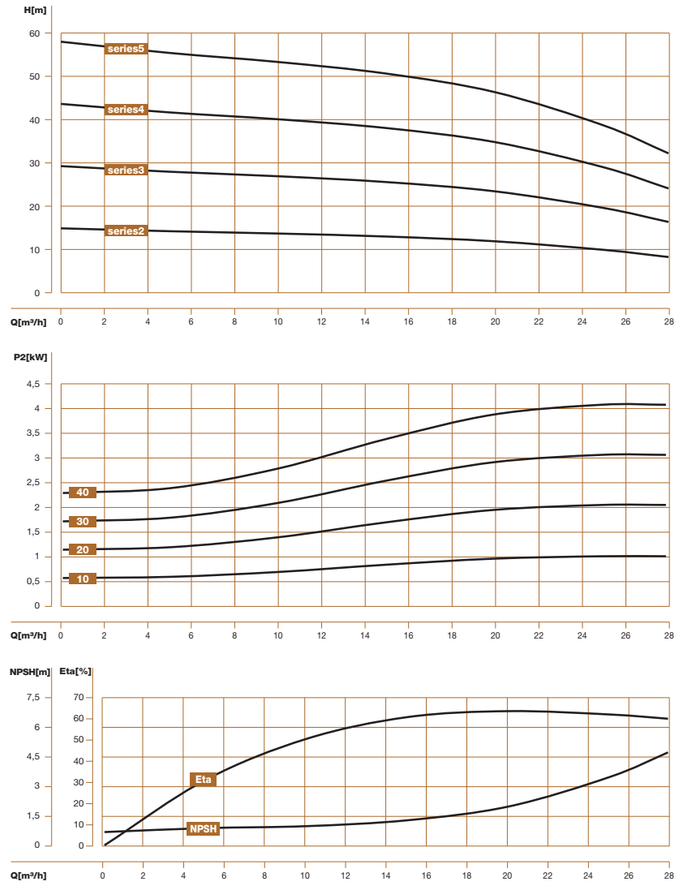
Model	I (A)		P2		Q	8	12	14	16	18	20	22
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 15-10	4,3	2,4	1,1	1,5	mca	12	10	9	9	8	7	6
HF, HX, HN 15-20	7,9	4,6	2,2	3		25	23	22	21	19	18	16
HF, HX, HN 15-30	–	6	3	4		38	36	34	32	30	28	25
HF, HX, HN 15-40	–	8,1	4	5,5		52	48	46	43	40	37	33

Size and weight

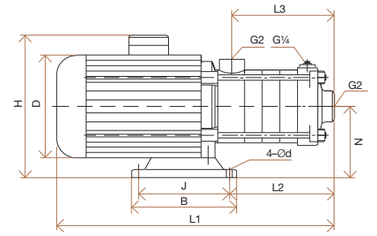
Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 15-10	130	160	151	227	230/265	138	400	150	126	108	117	9	100	520 x 240 x 300	17,5
HF, HX, HN 15-20	130	160	171	228	240/270	138	440	150	126	108	118	9	100	520 x 240 x 300	27
HF, HX, HN 15-30	130	160	197	238	259/–	138	544	195	171	108	128	9	–	650 x 240 x 300	33
HF, HX, HN 15-40	221	170	213	230	270/–	140	595	336	216	190	120	12	–	770 x 400 x 470	41

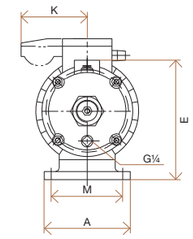
HF, HX, HN 20

Performance curve ISO9906:2012 Grade 3B



Installation sketch





Performance table

Model	I (A)		P2		Q	10	14	18	22	24	26	28
	1~220V	3~380V	kW	HP	m³/h							
HF, HX, HN 20-10	4,3	2,4	1,1	1,5	mca	14	13	11	9	8	7	6
HF, HX, HN 20-20	7,9	4,6	2,2	3		27	26	24	21	19	17	15
HF, HX, HN 20-30	–	8,1	4	5,5		40	38	36	32	29	26	23
HF, HX, HN 20-40	–	9	4,4	6		53	51	49	43	40	36	33

Size and weight

Model	A	B	D	E	H (3 ph/1 ph)	J	L1	L2	L3	M	N	d	k (1 ph)	Packaging	Weight
	mm														kg
HF, HX, HN 20-10	130	160	170	228	230/265	138	423	151	126	108	118	9	100	520 x 240 x 300	17,5
HF, HX, HN 20-20	130	160	180	228	240/270	138	455	151	126	108	118	9	100	520 x 240 x 300	27
HF, HX, HN 20-30	230	170	220	230	270/–	140	576	294	171	108	120	12	–	770 x 400 x 470	41
HF, HX, HN 20-40	230	170	220	230	270/–	140	621	340	216	108	120	12	–	760 x 400 x 530	44

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