智慧箱泵集成供水行业引领者

Jiangsu Mingxing water supply equipment Co., Ltd

Address: No. 1, Mingxing North Road, Tech Inovation Park,Jianhu,Yancheng City,Jiangsu,China
National free service hotline：400-6767-228　　Consultation hotline：0515-80663333
After sales hotline：0515-80685356　　Fax：0515-86272222
Website：www.mxgs.cn/ www.xinxingjs.com
Postal code：224700　　E-MAIL:xinxing@xinxingjs.com

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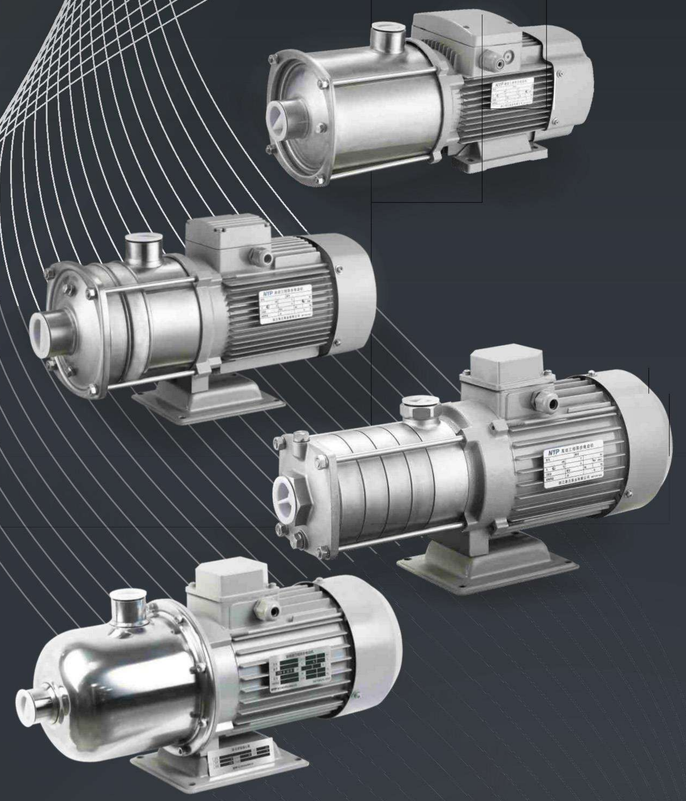
铭星供水设备
MINGXING WATER SUPPLY



HL / HF / HC / HE

Horizontal Multi-Stage Centrifugal Pump

50Hz

江苏铭星供水设备有限公司
JIANGSU MINGXING WATER SUPPLY EQUIPMENT CO.,LTD

MINGXING
WATER SUPPLY

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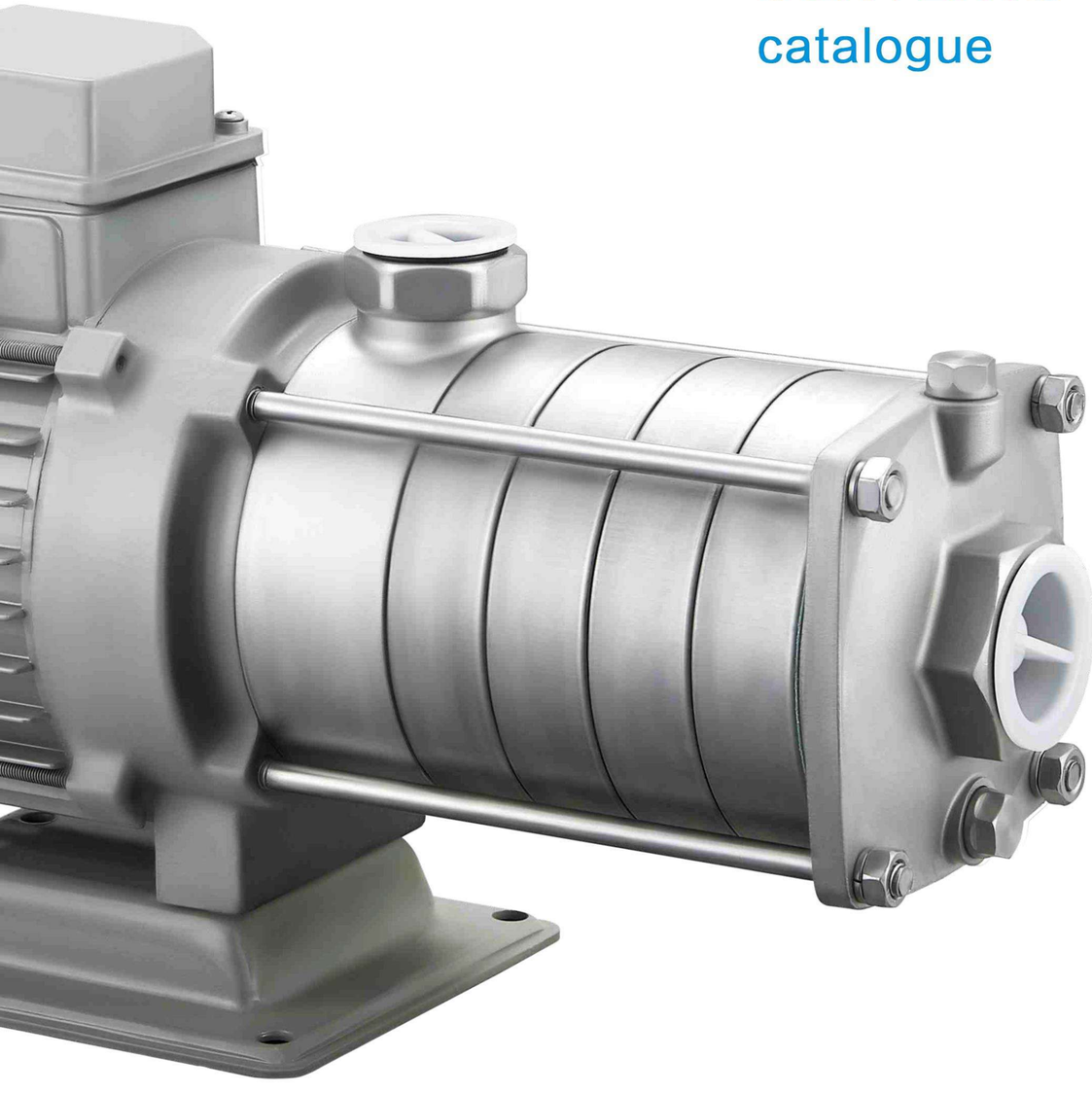


MINGXING
WATER SUPPLY

COMPANY PROFILE

About Us

The company is product-oriented and has established long-term industry-university-research cooperation relationships with national key scientific research institutes. It has a provincial R&D platform, and has dozens of intellectual property rights such as invention patents, utility model patents, and copyrights. Many products such as floating pump station have been rated as provincial high-tech products and provincial new product and new technology appraisal. Editor-in-chief of "Selection and Installation of Prefabricated Tank Pump Integrated Fire Water Supply Pump Station - MX Smart Pump Station" 18CS01, "Technical Regulations of Prefabricated Tank Pump Integrated Fire Water Supply Pump Station" CECS623-2019, and participated in the compilation of "Inverter Frequency Modulation" Selection and Installation of Quick Water Supply Equipment" 16S111, "Technical Regulations for the Application of Sewage Lifting Devices" CECS463-2017, "Practical Guidelines for Water Disposal Regulations" and other atlases, standards and technical documents.

Since its establishment in 2006, the company has unswervingly adhered to product innovation, and has a broad customer base in government departments, hospitals, education and other fields.

The company has passed the three major certifications of ISO9001 quality management system, ISO14000 environmental management system and OHSAS occupational health and safety system. Fire protection products have passed 3C compulsory certification, established a perfect quality assurance system, and was rated as "AAA-level" credit unit in Jiangsu Province.

As a standard-setting enterprise for intelligent fire protection integrated pumping station, the company has an independent and mature software and hardware development team, independent research and development and production capacity is quite large, which has laid a solid foundation and strong guarantee for the intelligent fire protection industry.

The company's latest "smart fire protection" system, based on the design concept of smart city construction, applies a new generation of information technologies such as the Internet of Things, big data, cloud computing, mobile Internet, etc., which can fully realize the efficient operation of the fire alarm system and effectively improve the entire fire protection system. The efficiency of linkage and cooperation of the system truly achieves the perfect embodiment of prevention first and the combination of prevention and fire protection advocated by fire protection.

Pump Introduction

HL,HF,HC,HE series of non-self-priming horizontal multistage centrifugal pumps, through the centrifugal force generated by the impeller of the rotating pump to drive the rotation of the fluid to complete the liquid transport. The series is equipped with a non-standard customized motor, which uses the motor shaft as the main shaft to closely connect the impeller, guide vane, mechanical seal, etc., and is mounted on the bottom plate to connect.

HL,HF,HC,HE series horizontal multistage centrifugal pump adopts the pull back structure design of axial thread inlet and radial thread outlet, and its balanced impeller design reduces the axial thrust of the motor bearing and extends the service life of the motor bearing. Based on specific applications and installations in the domestic, industrial and construction services markets, the HL,HF,HC,HE series offers a variety of solutions to meet different usage habits.

- The HL Series integrated design: connected directly to the motor flange through a single stainless steel inlet water body, the use of O-rings as sealing bushings reduces the possibility of leakage.
- HF,HC series segment design: Through the pull rod, the O-shaped rubber ring and the external mounted guide vane are tightly closed and tightened to the motor flange.
- HE Series Sleeve design: is made up of a separate stainless steel welded casing and separate suction casing held together by an aluminum cast pump bracket and tie rod tightened in the motor flange.

Motor

- HL,HF,HC,HE series adopt custom extended shaft squirrel cage type fully enclosed air-cooled IEC motor, which can be suitable for continuous operation
- Protection grade: IP55
- Insulation class：F
- Standard voltage：3x220-240/380-415V /1x220-240V
- Single-phase motors are available from 0.37kW-2.2kW

Pump liquid temperature

- Normal temperature pump: liquid temperature -15 ℃ to +70 ℃
- Hot water pump: liquid temperature -15 ℃ to +105 ℃

Performance curve

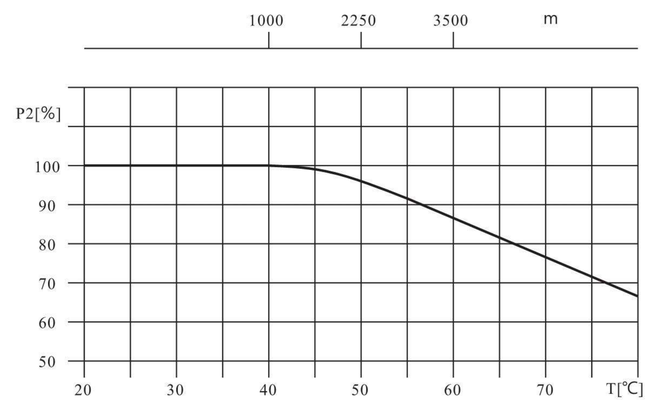
- All curves are based on the motor's test value at a constant speed of 2900rpm
- Curve tolerance match with ISO9906
- Test using 20℃ water without air, kinematic viscosity 1mm□/s
- The use of the pump refers to the performance range of the thick line to prevent the flow rate from overheating or excessive flow to cause motor overloaded

Pump operating condition

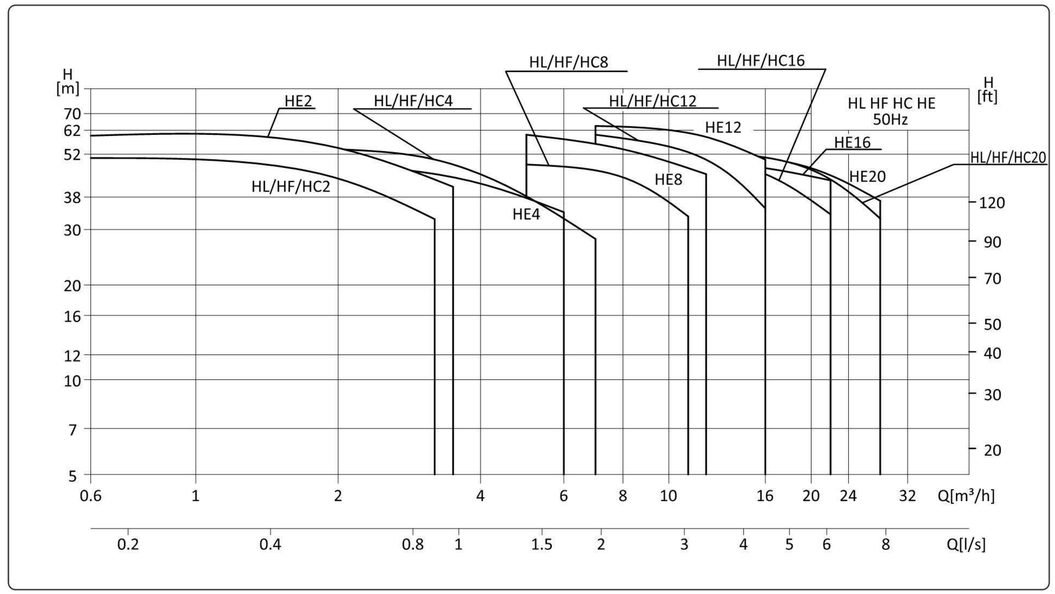
- Liquid should be thin, clean, non-flammable and explosive, and does not contain particles or fibers
- Ambient temperature: no more than +40 ℃
- Altitude: no more than 1000m
- Maximum working pressure: 10bar

Altitude and ambient temperature

When the pump is operating at an ambient temperature greater than 40 ° C or an altitude greater than 1000m, the motor output power P2 will be reduced, and the pump in the above cases, the motor power needs to be equipped with large



Performance Range



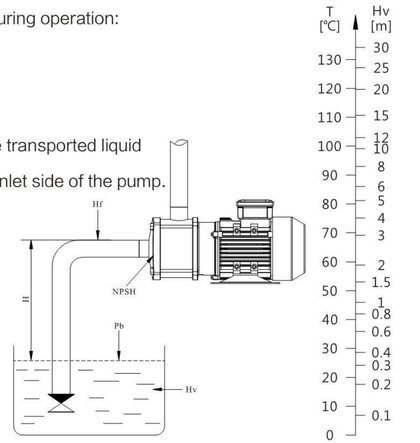
Minimum Inlet NPSH

Cavitation may occur if the pump is under any of the following conditions during operation:

- The water tank or pool is lower than the water pump inlet
- Liquid temperature is too high
- The actual flow rate is significantly bigger than the rated flow rate
- The pressure in the pump is lower than the vaporization pressure of the transported liquid

To avoid cavitation, ensure that there is a minimum pressure on the inlet side of the pump.

The maximum suction H[m] can be calculated as follows:



H = Pb x 10.2 − NPSH − Hf − Hv − Hs

Pb= Atmospheric pressure [bar]

（Atmospheric pressure can be set to 1bar ）

In a closed system, Pb is the system pressure [bar]

NPSH= net positive suction head

(Can be read from the maximum possible flow of the pump on the NPSH curve)

Hf= Line loss at inlet [m]

Hv= Vaporization pressure [m]

Hs= Safety margin = Minimum 0.5m head

If the calculated H is positive, the pump can operate at maximum suction H.

If H is negative, there must be a head with a minimum inlet pressure H.

Check to make sure the pump is not/is not in a cavitation state

Model Definition

HL2/4/8/12/16/20

H L 4 −40

- Horizontal multistage centrifugal pump
- The flow parts are 304/316L stainless steel)
- Integrated type
- Rated flow (m³/h)
- Number of impellers ×10

HF2/4/8/12/16/20

H F 8 −30

- Horizontal multistage centrifugal pump
- The flow parts are 304/316L stainless steel)
- Cast segment type
- Rated flow (m³/h)
- series/Number of impellers ×10

HC2/4/8/12/16/20

H C 4 −30

- Horizontal multistage centrifugal pump
- The flow parts are 304/316L stainless steel)
- Stamping segment type
- Rated flow (m³/h)
- series/Number of impellers ×10

HE2/4/8/12/16/20

H E 8 −30

- Horizontal multistage centrifugal pump
- The flow parts are 304/316L stainless steel)
- Sleeve cylinder type
- Rated flow (m³/h)
- series/Number of impellers ×10

Typical Applications

Water supply

- Water plant filtration and transportation
- Water works are distributed in different areas
- Main pipeline supercharging
- High-rise building
- Pressurization of hotels, etc

Industrial pressurization

- Process water system
- Cleaning system
- High pressure flushing system
- Fire protection system
- Car washing equipment

Industrial liquid conveying

- Cold air conditioning system
- Boiler feed water
- Condensing system and cooling tower
- Machine tool cooling lubrication

Liquid transportation

- Oil and alcohol
- Acids and bases
- Glycol and coolant

Irrigation area

- Field irrigation
- Sprinkling irrigation
- Drip irrigation
- Glasshouse

HL Model Parameters

Main parameter	HL2	HL4	HL8	HL12	HL16	HL20
Rated flow rate[m³/h]	2	4	8	12	16	20
Rated flow rate [l/s]	0.56	1.1	2.2	3.3	4.4	5.6
Flow range [m³/h]	0.6 ~ 3.2	1 ~ 7	5 ~ 11	7 ~ 16	8 ~ 22	10 ~ 28
Flow range [l/s]	0.17 ~ 0.89	0.28 ~ 1.9	1.39 ~ 3.0	1.9 ~ 4.4	2.2 ~ 6.1	2.8 ~ 7.8
Maximum pressure [bar]	5.2	3.7	5.0	6.0	3.9	3.9
Motor power [kW]	0.37 ~ 0.75	0.37 ~ 0.75	0.75 ~ 2.2	1.2 ~ 3.0	2.2 ~ 3.0	2.2 ~ 4.0
Temperature range [℃]	-15~105					
Maximum efficiency [%]	46	58	62	63	66	69
Process water system						
Water outlet	Rp1	Rp1	Rp2	Rp2	Rp2	Rp2
Water inlet	Rp1	Rp1¼	Rp2	Rp2	Rp2	Rp2

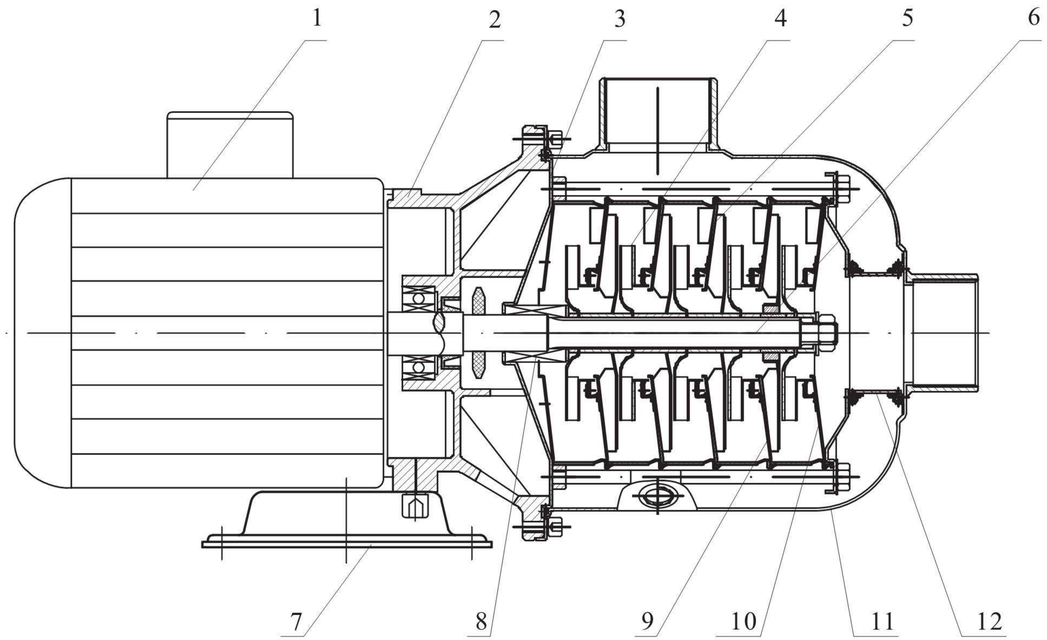
HC,HF Model Parameters

Main parameter	HF,HC2	HF,HC4	HF,HC8	HF,HC12	HF,HC16	HF,HC20
Rated flow rate[m³/h]	2	4	8	12	16	20
Rated flow rate [l/s]	0.56	1.1	2.2	3.3	4.4	5.6
Flow range [m³/h]	0.6 ~ 3.2	1 ~ 7	5 ~ 11	7 ~ 16	8 ~ 22	10 ~ 28
Flow range [l/s]	0.17 ~ 0.89	0.28 ~ 1.9	1.39 ~ 3.0	1.9 ~ 4.4	2.2 ~ 6.1	2.8 ~ 7.8
Maximum pressure	5.2	5.6	5.0	6.0	5.3	5.3
Motor power [kW]	0.37 ~ 0.75	0.37 ~ 1.1	0.75 ~ 2.2	1.2 ~ 3.0	2.2 ~ 4.0	2.2 ~ 4.4
Temperature range	-15~105					
Maximum efficiency	46	58	62	63	66	69
Process water system						
Water outlet	Rp1	Rp1	Rp1¼	Rp1½	Rp2	Rp2
Water inlet	Rp1	Rp1¼	Rp1½	Rp1½	Rp2	Rp2

HE Model Parameters

Main parameter	HE2	HE4	HE8	HE12	HE16	HE20
Rated flow rate [m³/h]	2	4	8	12	16	20
Rated flow rate [l/s]	0.56	1.1	2.2	3.3	4.4	5.6
Flow range [m³/h]	0.6 ~ 3.5	1.5 ~ 6.0	5 ~ 12	7 ~ 16	8 ~ 22	10 ~ 28
Flow range [l/s]	0.17 ~ 0.97	0.42 ~ 1.77	1.39 ~ 3.33	1.9 ~ 4.4	2.2 ~ 6.1	2.8 ~ 7.8
Maximum pressure [bar]	6.2	5.3	6.2	6.6	5.2	5.4
Motor power [kW]	0.37 ~ 0.75	0.37 ~ 1.1	0.75 ~ 2.2	1.5 ~ 4.0	1.1 ~ 4.4	2.2 ~ 4.4
Temperature range [° C]	-15~105					
Maximum efficiency [%]	50	57	61	63	62	65
Process water system						
Water outlet	Rp1	Rp1	Rp1½	Rp1½	Rp2	Rp2
Water inlet	Rp1	Rp1¼	Rp1½	Rp1½	Rp2	Rp2

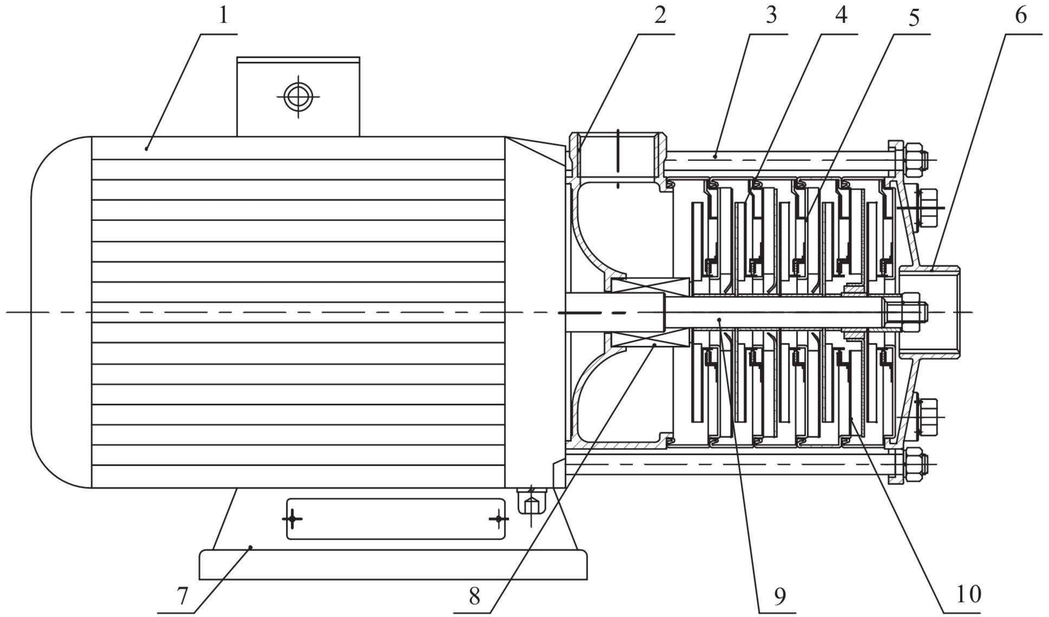
Structure diagram HL Series (Integrated type)



Material Table –HL Series (Integrated type)

Model	Components	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Motor front end cover	Aluminium alloy	/	/	/
3	Sealing seat	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
4	Impeller	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
5	Diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
6	Shaft extension	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
7	Base	Steel plates	/	/	/
8	Mechanical seal	/	/	/	/
9	Support diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
10	Inlet diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
11	Casing	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
12	Inlet connection	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304

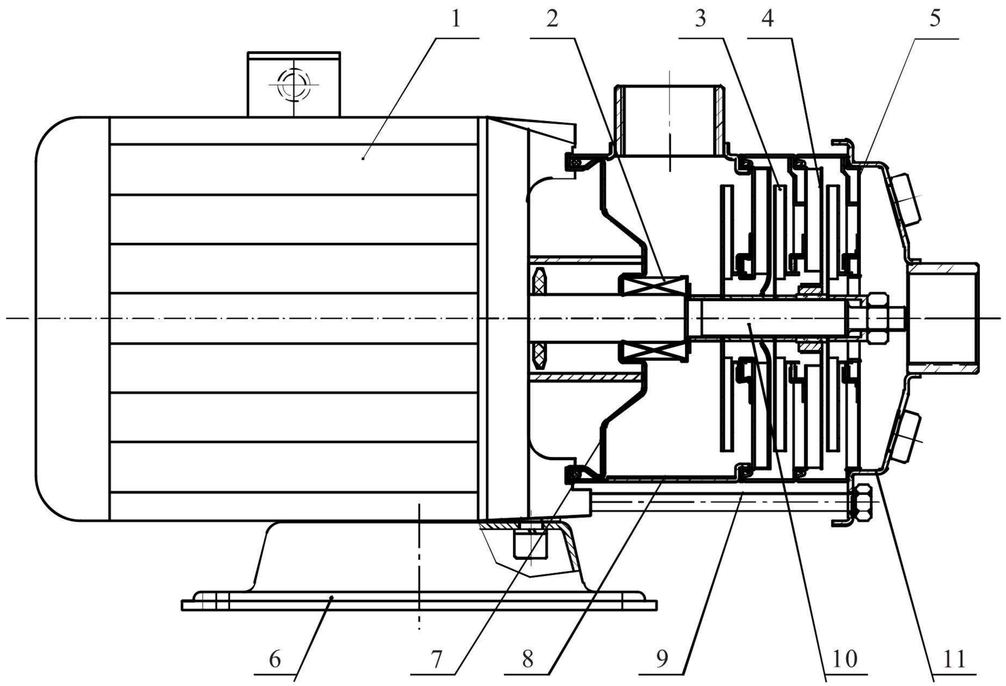
Structure Diagram HF series (Casting segment type)



Material Table– HF Series (Casting segment type)

Model	Components	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Casing	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
3	Lever	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
4	Impeller	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
5	Guide vane	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
6	Intake body	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
7	Base	Plastic/ Steel plates	/	/	/
8	Mechanical seal	/	/	/	/
9	Shaft extension	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
10	Support diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304

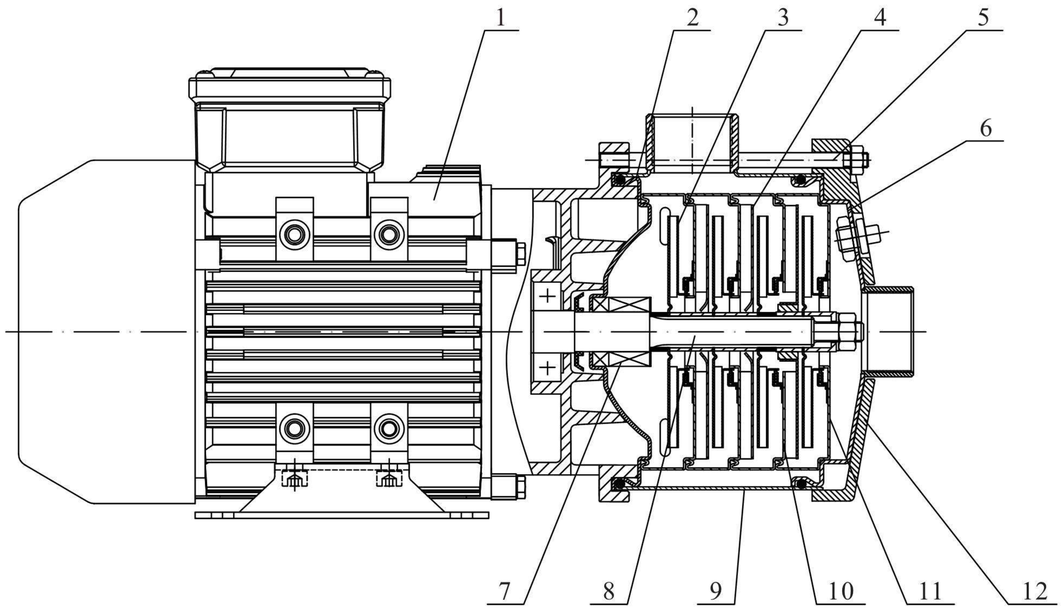
Structure diagram– HC Series (Stamping segment type)



Material Table –HC Series (Stamping segment type)

Model	Components	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Mechanical seal	/	/	/	/
3	Impeller	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
4	Support diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
5	Inlet diffuser	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
6	Base	Plastic / Steel plates	/	/	/
7	Sealing seat	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
8	Effluent body	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
9	pull rod	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
10	Motor shaft extension	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
11	inlet water body	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304

Structure diagram– HE series (Sleeve type)



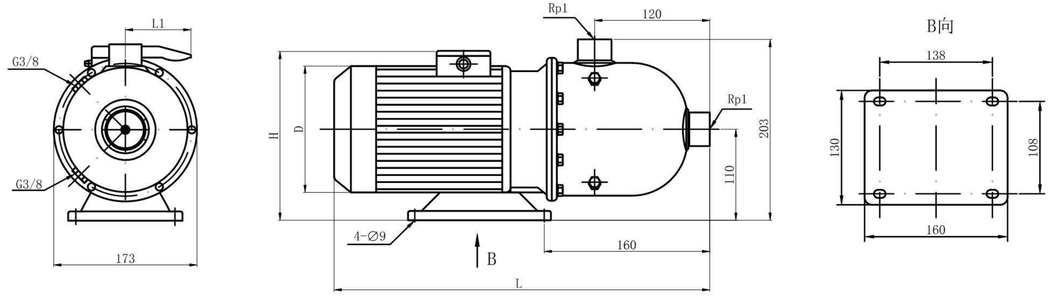
Material table –HE Series (sleeve type)

Model	Components	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Sealing seat	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
3	Impeller	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
4	diffuser	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
5	pull rod	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
6	inlet water body	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
7	Mechanical seal	/	/	/	/
8	Shaft extension	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
9	Casing	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
10	Support diffuser	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
11	Inlet diffuser	stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
12	gland	aluminum	GB/T 15115-2009	EN 1706-1998	ASTMB85-03

Operational performance data

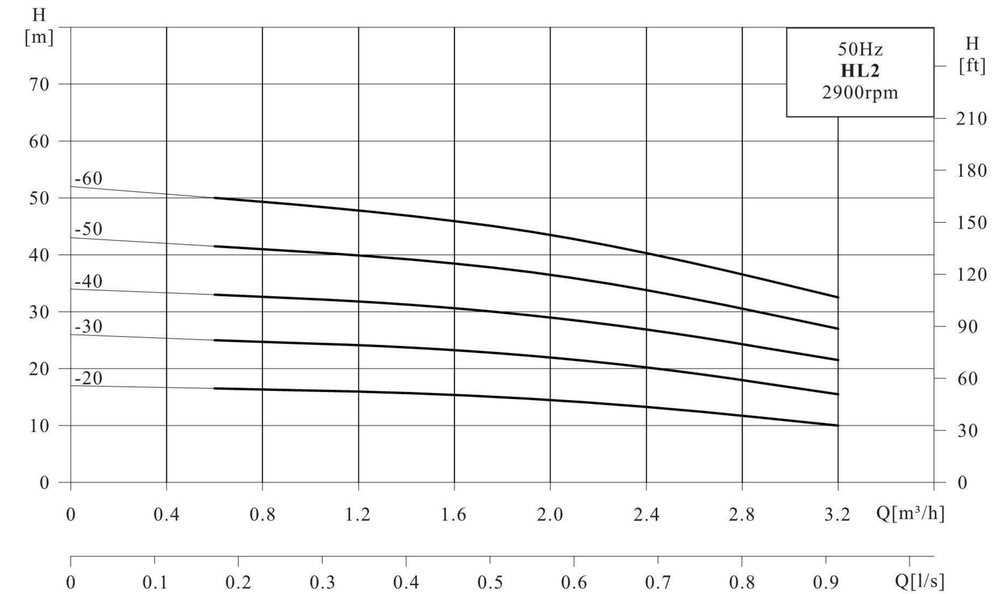
Pump model	Motor power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.2
	(kW)	(HP)								
HL2-20	0.37	0.5	H (m)	16.5	16	15.5	14.5	13	11.5	10
HL2-30	0.37	0.5		25	24	23	22	20.5	18	15.5
HL2-40	0.55	0.75		33	31.5	30.5	29	27.5	25	21.5
HL2-50	0.55	0.75		41.5	40	38.5	36.5	34	31	27
HL2-60	0.75	1.0		50	48	46	43.5	41	37	32.5

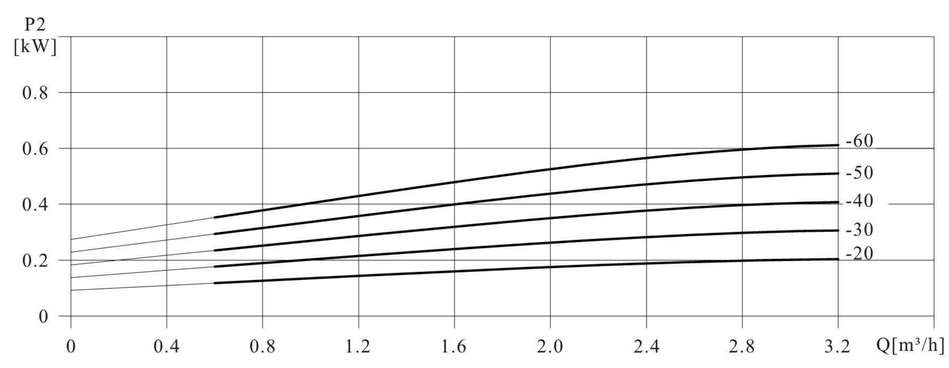
Mounting dimensions and weight

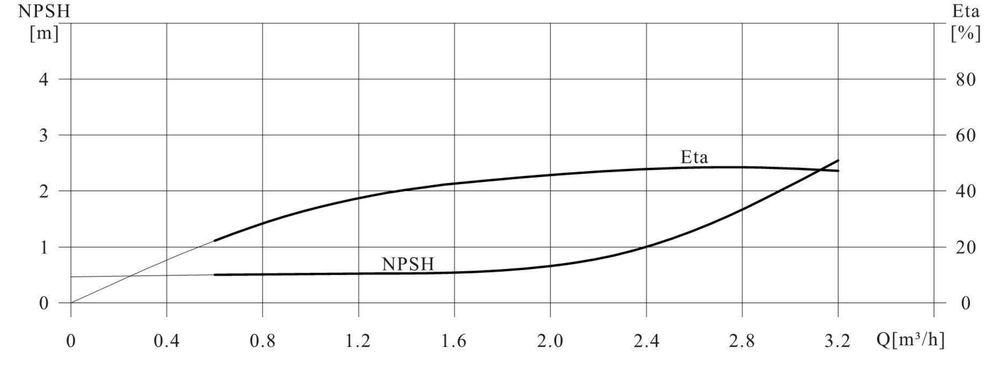


Motor	Pump model	Size (mm)				Weight (kg)
		L	D	H	L1	
Three-phase/ single-phase	HL2-20	408	140	215/230	/96	13
	HL2-30	408	140	215/230	/96	13
	HL2-40	408	140	215/230	/96	13
	HL2-50	408	140	215/230	/96	13
	HL2-60	446	155	225/245	/100	14

Operational performance data



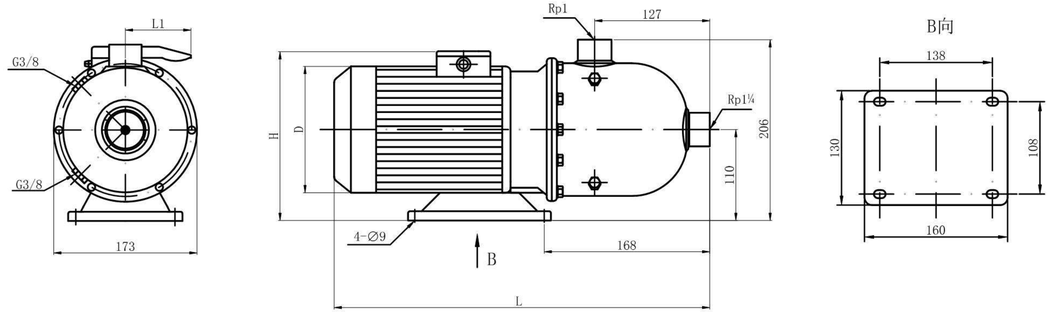




Operational performance data

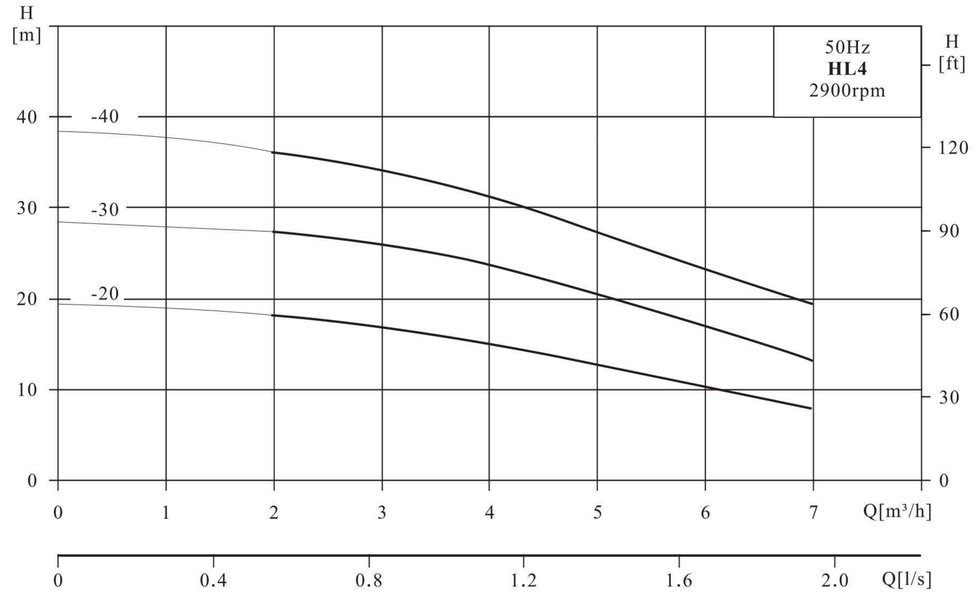
Pump model	Motor power		Q (m^3/h)	1	2	3	4	5	6	7
	(kW)	(HP)								
HL4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	7.5
HL4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HL4-40	0.75	1.0		37.5	36	34	31	27	23	19

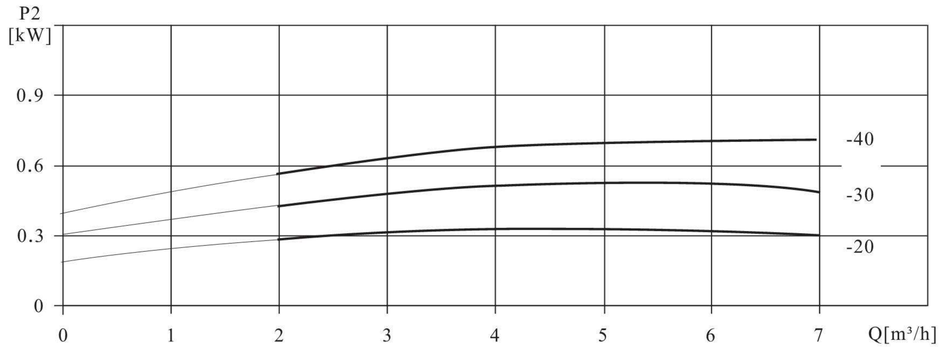
Mounting dimensions and weight

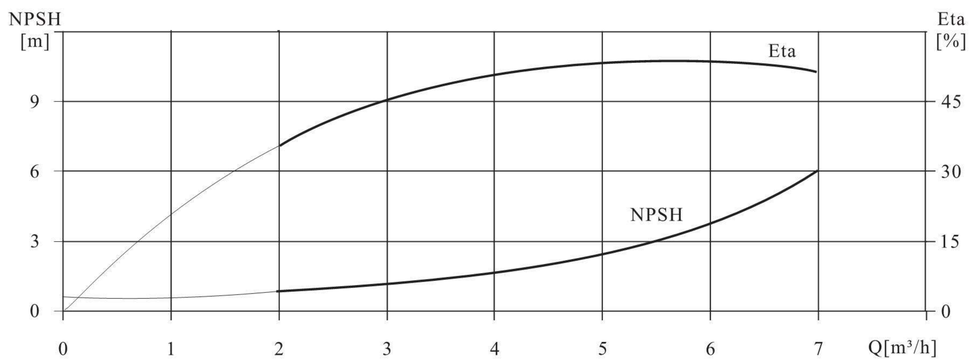


Motor	Pump model	Size (mm)				Weight (kg)
		L	D	H	L1	
Three-phase/ single-phase	HL4-20	406	140	215/230	/96	12
	HL4-30	406	140	215/230	/96	13
	HL4-40	446	140	225/245	/100	15

Operational Performance curve



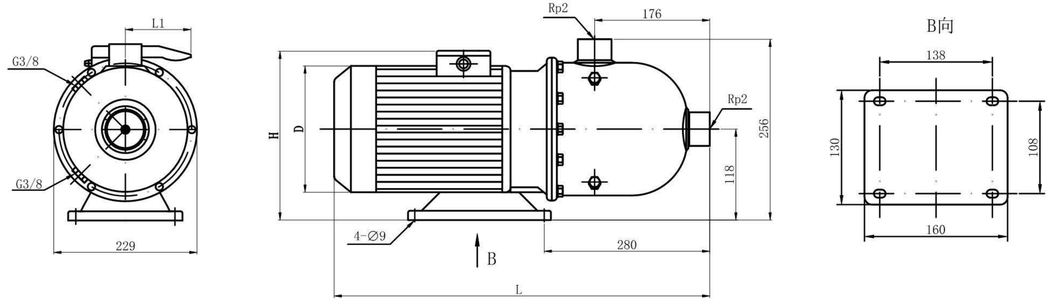




Operational performance data

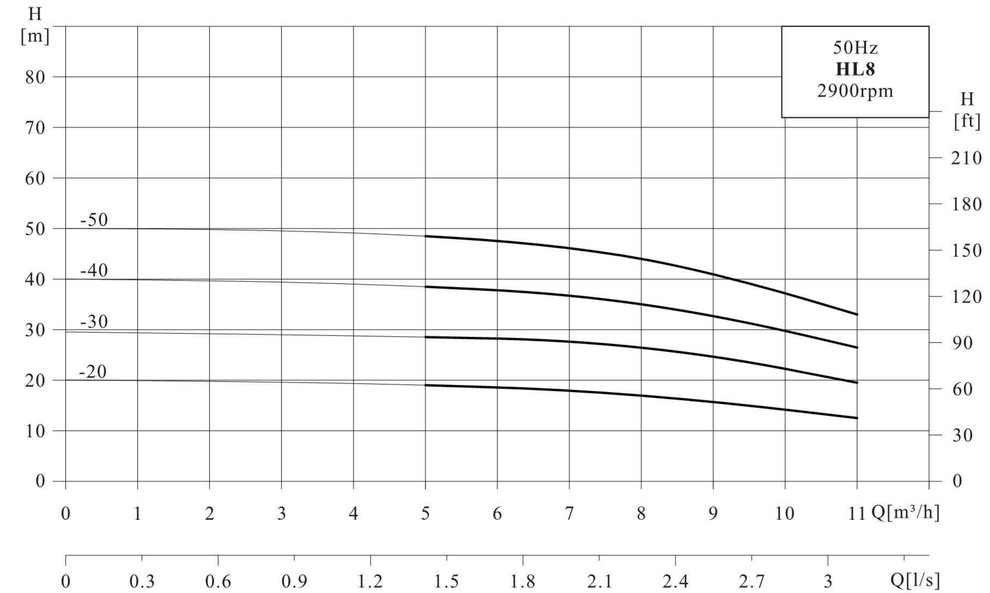
Pump model	Motor power		Q (m^3/h)	5	6	7	8	9	10	11
	(kW)	(HP)								
HL8-20	0.75	1.0	H (m)	19	18.5	18	17	16	14.5	12.5
HL8-30	1.1	1.5		28.5	28	27.5	26.5	25	22.5	19.5
HL8-40	1.5	2.0		38.5	37.5	36.5	35	33	30	26.5
HL8-50	2.2	3.0		48.5	47.5	46	44	41	37.5	33

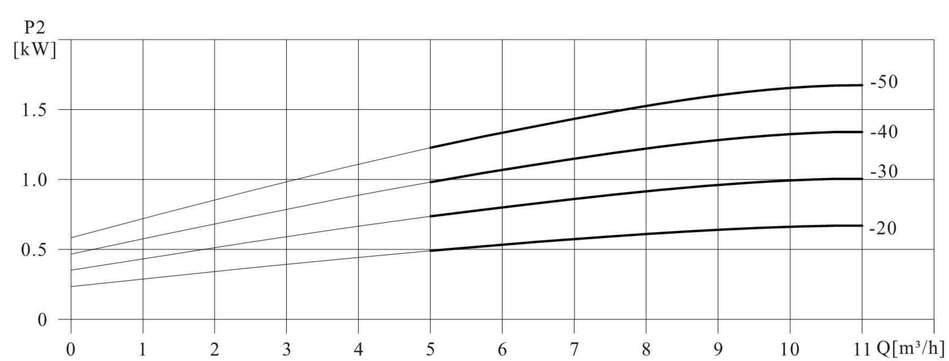
Mounting dimensions and weight

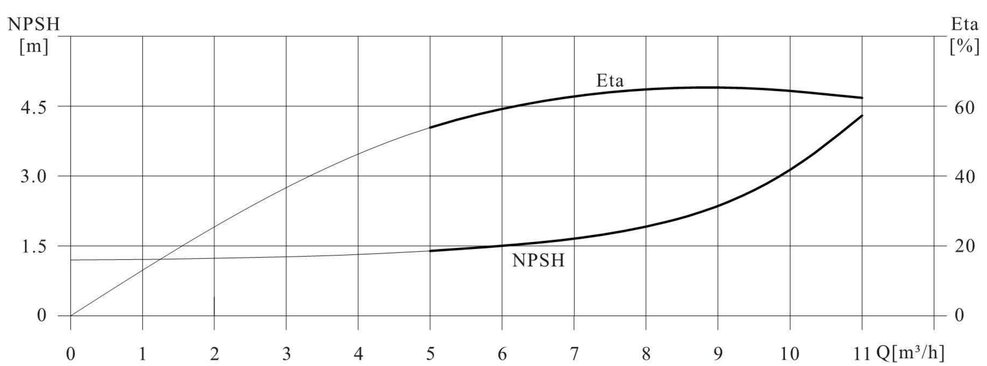


Motor	Pump model	Size (mm)				weight (kg)
		L	D	H	L1	
Three-phase/ single-phase	HL8-20	555	170	230/265	/100	20
	HL8-30	555	170	230/265	/100	23
	HL8-40	570	180	240/270	/100	25
	HL8-50	570	180	240/270	/100	29

Operational Performance curve



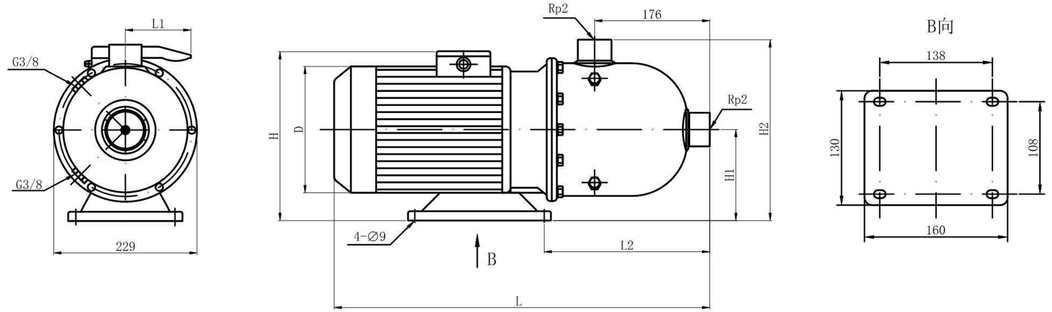




Operational performance data

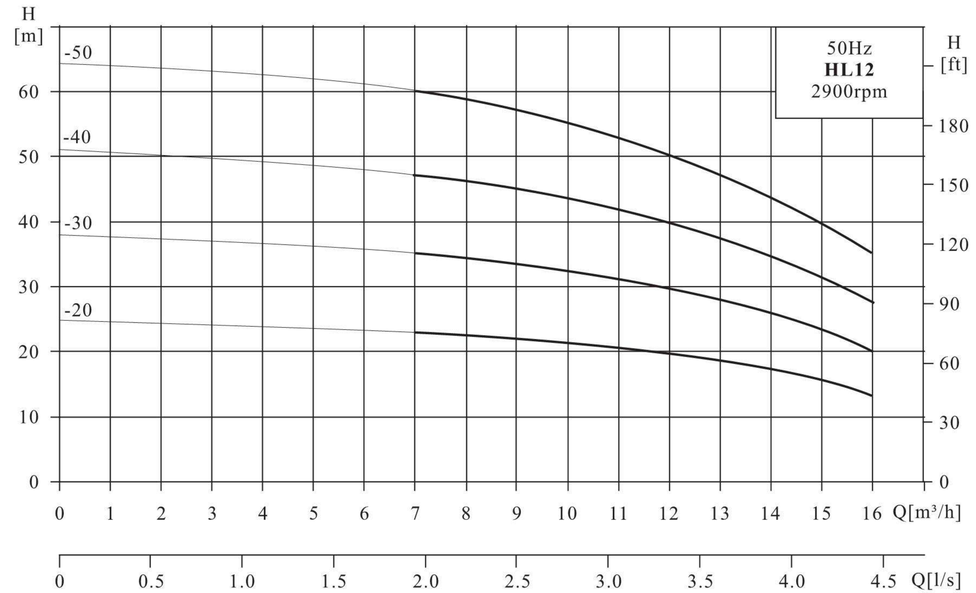
Pump model	Motor power		Q (m^3/h)	7	9	11	12	13	15	16
	(kW)	(HP)								
HL12-20	1.2	1.6	H (m)	23	22	20.5	19.5	18.5	15.5	13
HL12-30	1.8	2.4		35	33.5	31	29.5	28	23.5	20
HL12-40	2.4	3.3		47	45	41.5	39.5	37.5	31.5	27.5
HL12-50	3.0	4.0		60	56.5	52.5	50	47	40	35

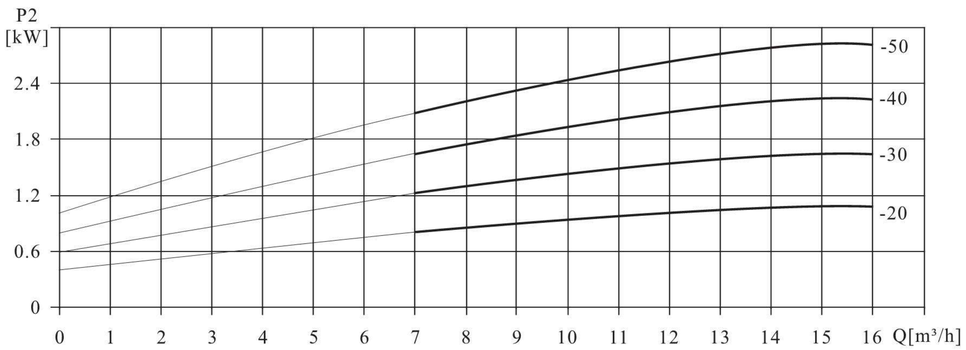
Mounting dimensions and weight

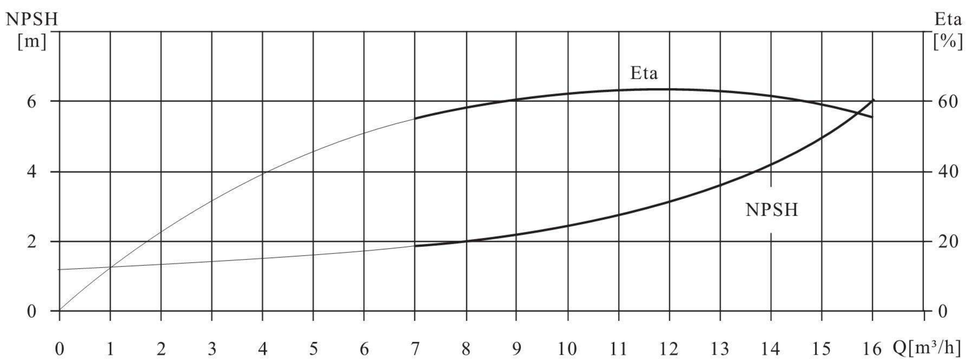


Motor	Pump model	Size (mm)							weight(kg)
		L	L1	L2	H	H1	H2	D	
Three-phase/ single-phase	HL12-20	560	/100	280	230/265	118	256	170	21
	HL12-30	570	/100	280	240/270	118	256	180	25
	HL12-40	570	/100	280	240/270	118	256	180	28
	HL12-50	570		280	270/	118	256	180	33

Operational Performance curve



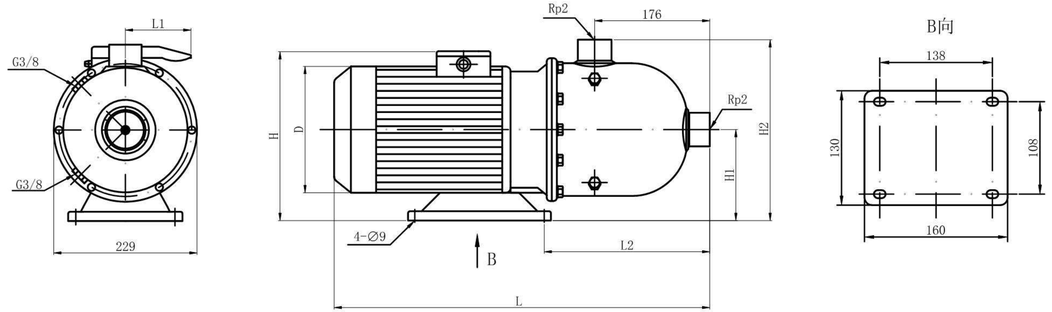




Operational performance data

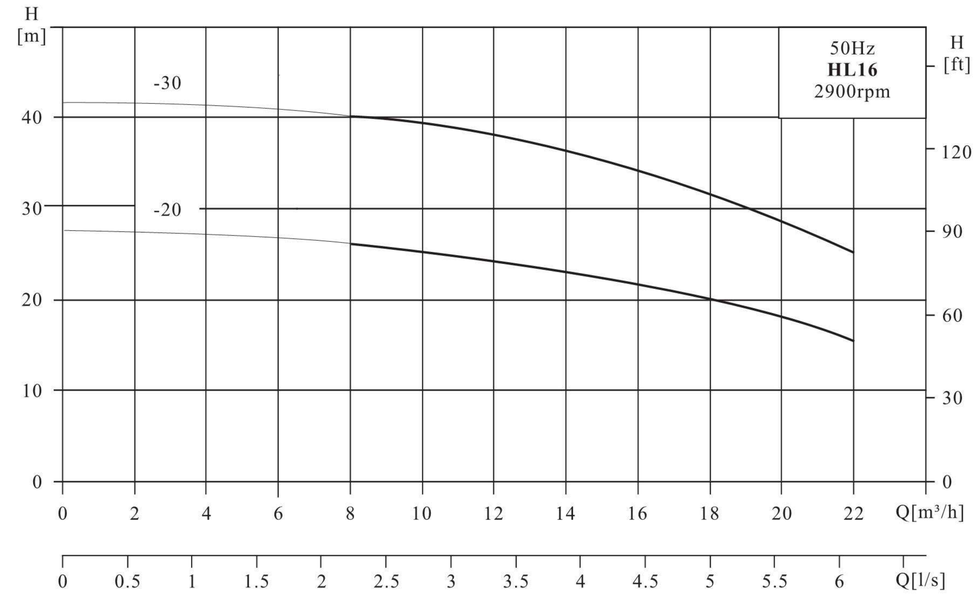
Pump model	Motor power		Q (m^3/h)	8	10	12	14	16	18	20	22
	(kW)	(HP)									
HL16-20	2.2	3.0	H (m)	26	25	24	23	21.6	20	18	15.5
HL16-30	3.0	4.0		40	39	38	36	34	31.5	29	25

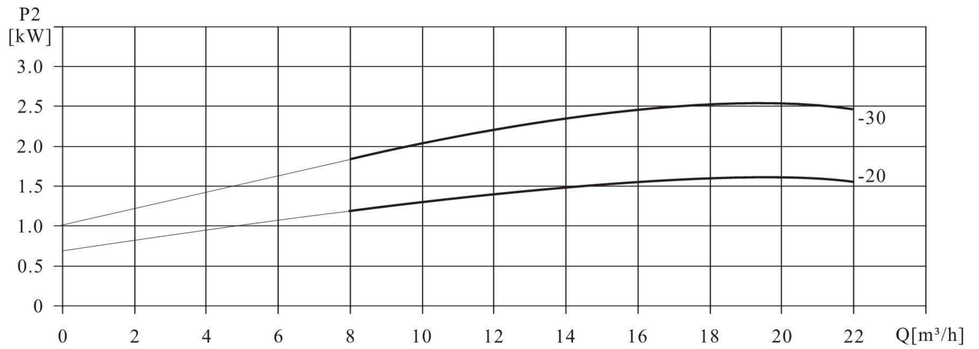
Mounting dimensions and weight

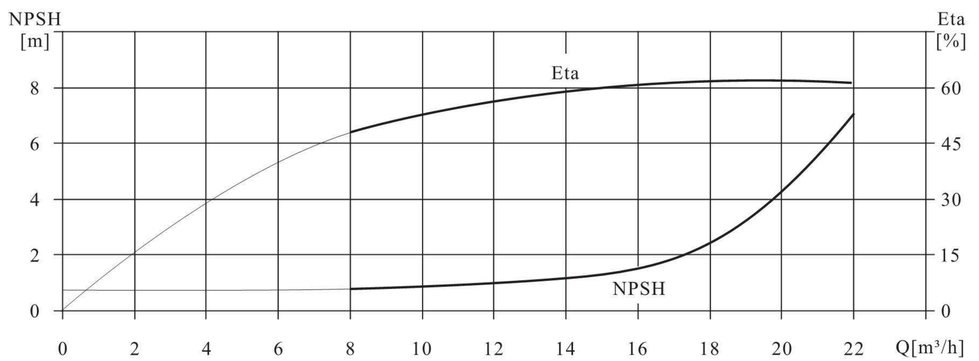


Motor	Pump model	Size (mm)							Weight (kg)
		L	L1	L2	H	H1	H2	D	
Three-phase/ single-phase	HL16-20	570	/100	285	240/270	118	252	180	26
	HL16-30	570		285	270/	130	256	180	33

Operational Performance curve



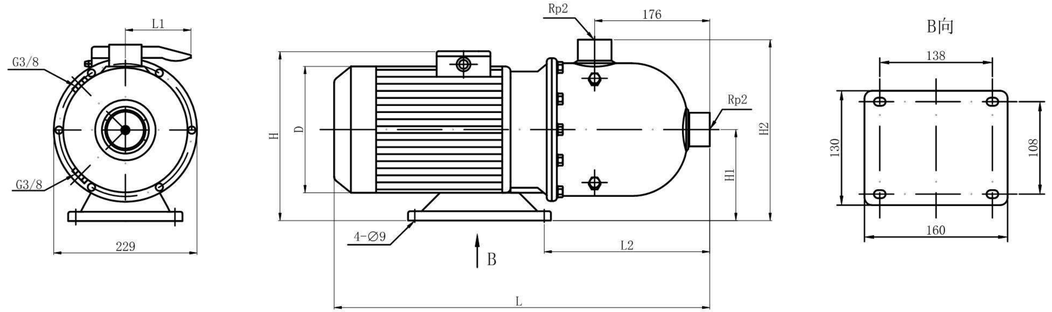




Operational performance data

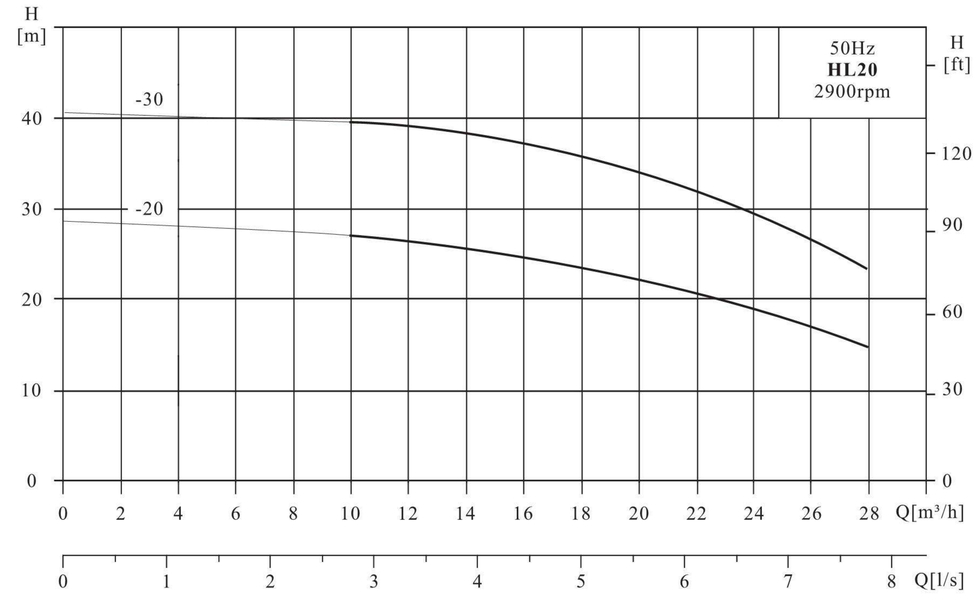
Pump model	Motor power		Q (m^3/h)	10	14	16	18	20	22	24	28
	(kW)	(HP)									
HL20-20	2.2	3.0	H (m)	27	25.5	25	23.5	22	20.5	18.5	14.5
HL20-30	4.0	5.5		39.5	38	37.5	35.5	34	31	29	23

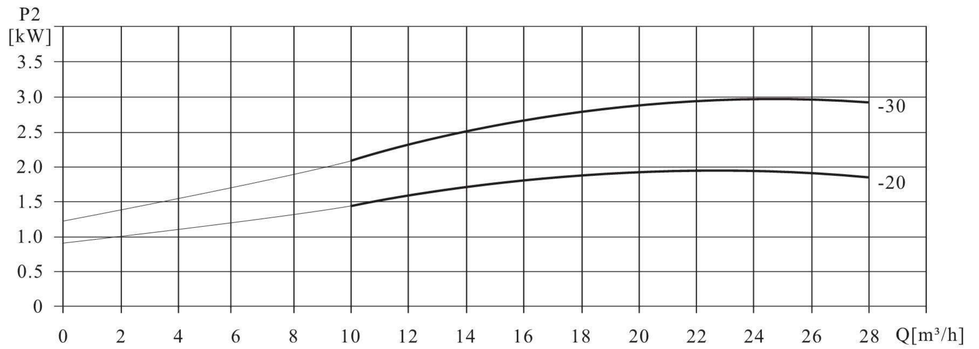
Mounting dimensions and weight

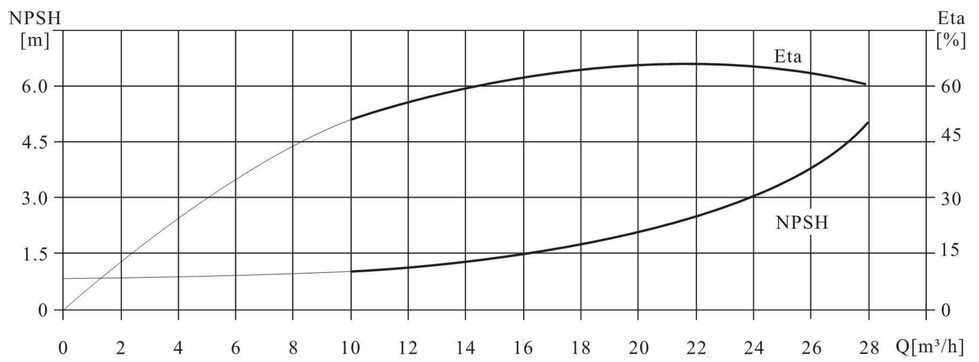


Motor	Pump model	Size (mm)							Weight (kg)
		L	L1	L2	H	H1	H2	D	
Three-phase/ single-phase	HL20-20	570	/100	284	240/270	118	252	180	28
	HL20-30	650	/100	360	270/	118	252	220	41

Operational Performance curve



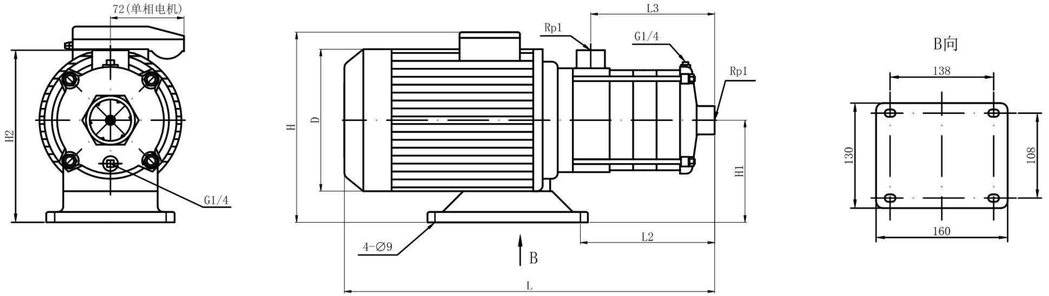




Operational performance data

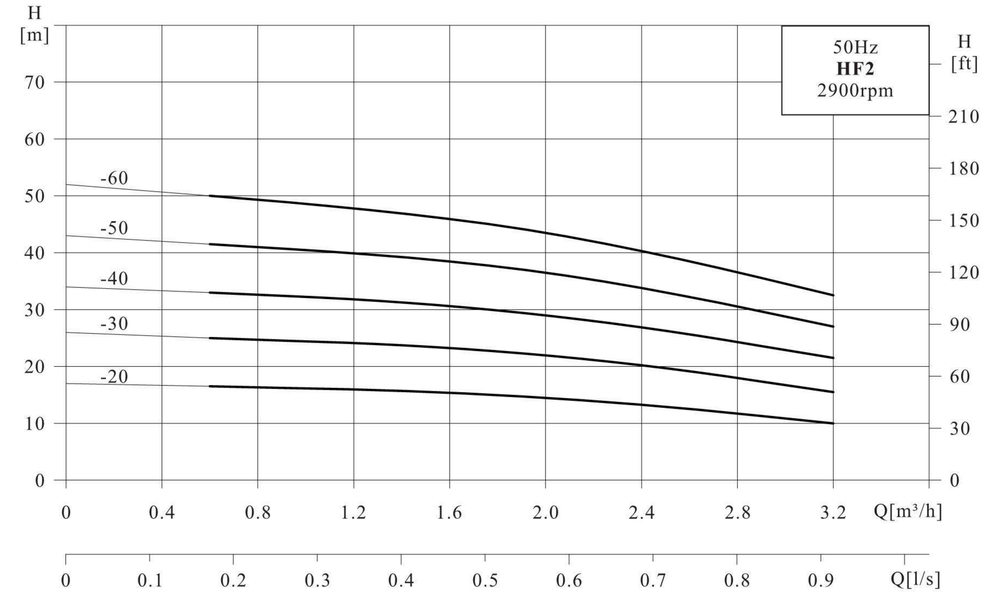
Pump model	Motor power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.2
	(kW)	(HP)								
HF2-20	0.37	0.5	H (m)	16.5	16	15.5	14.5	13	11.5	10
HF2-30	0.37	0.5		25	24	23	22	20.5	18	15.5
HF2-40	0.55	0.75		33	31.5	30.5	29	27.5	25	21.5
HF2-50	0.55	0.75		41.5	40	38.5	36.5	34	31	27
HF2-60	0.75	1.0		50	48	46	43.5	41	37	32.5

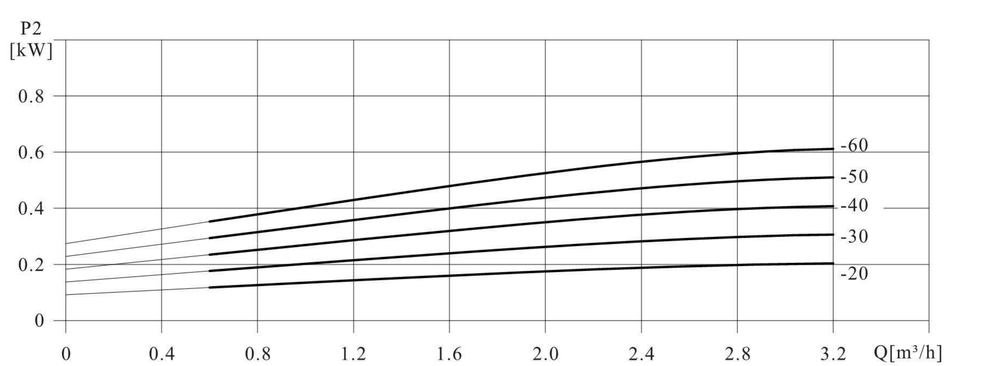
Mounting dimensions and weight

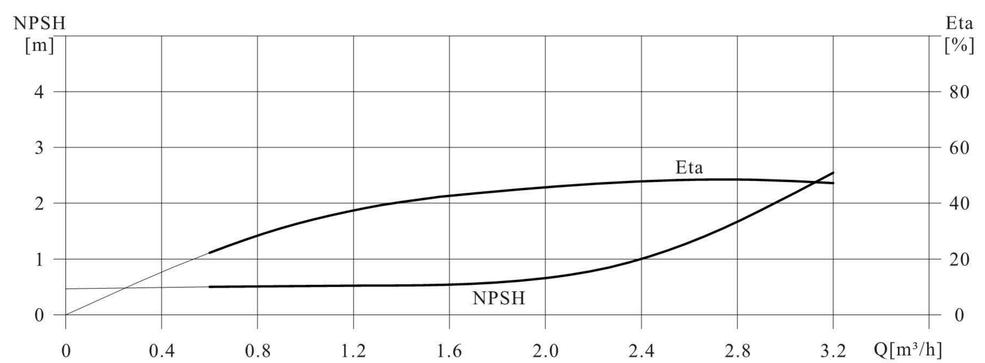


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HF2-20	335	90	87	216/234	110	184	136	13
	HF2-30	353	108	105	216/234	110	184	136	13
	HF2-40	371	126	123	216/234	110	184	136	14
	HF2-50	389	144	141	216/234	110	184	136	14
	HF2-60	407	162	159	216/234	110	184	136	16

Operational Performance curve



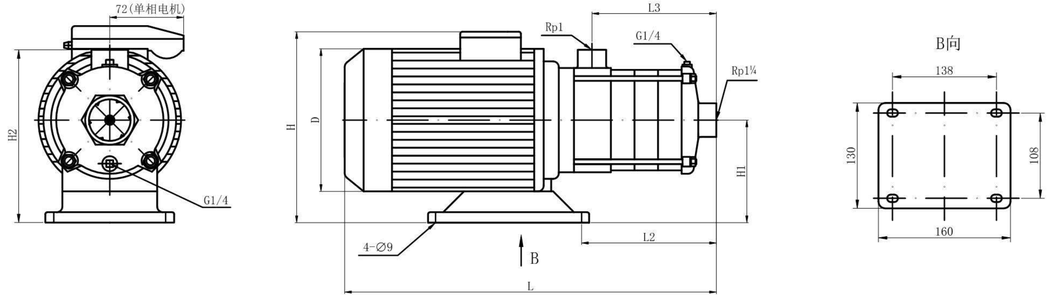




Operational performance data

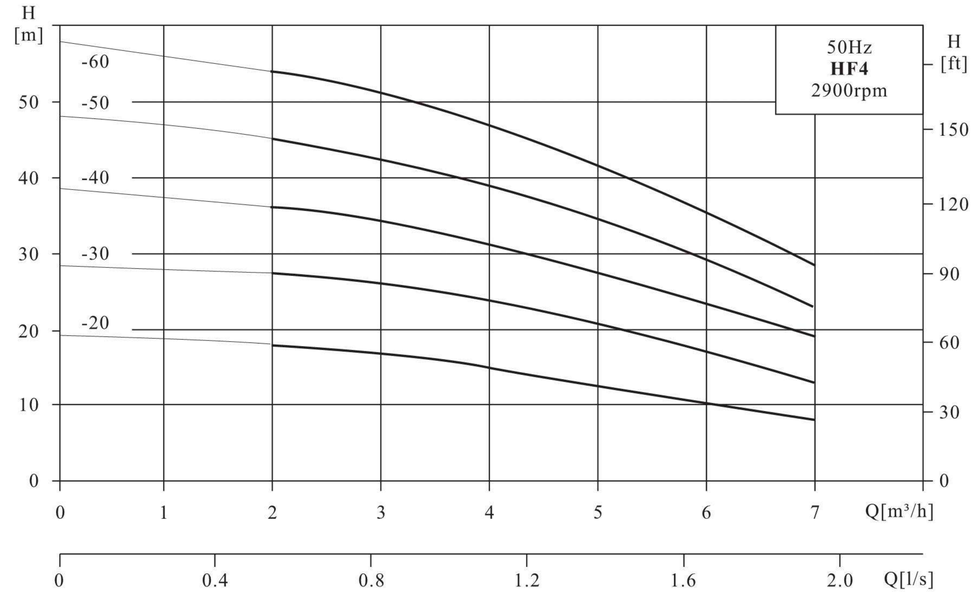
Pump model	Motor power		Q (m^3/h)	1	2	3	4	5	6	7
	(kW)	(HP)								
HF4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	7.5
HF4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HF4-40	0.75	1.0		37.5	36	34	31	27	23	19
HF4-50	1.1	1.5		47	45	42.5	39	34	29	23
HF4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

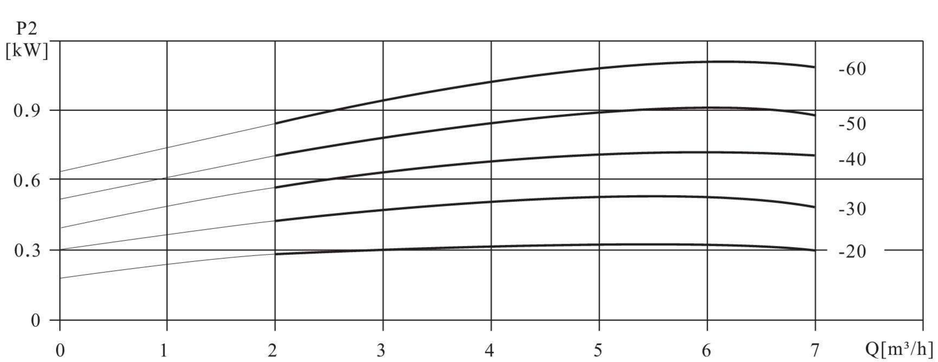
Mounting dimensions and weight

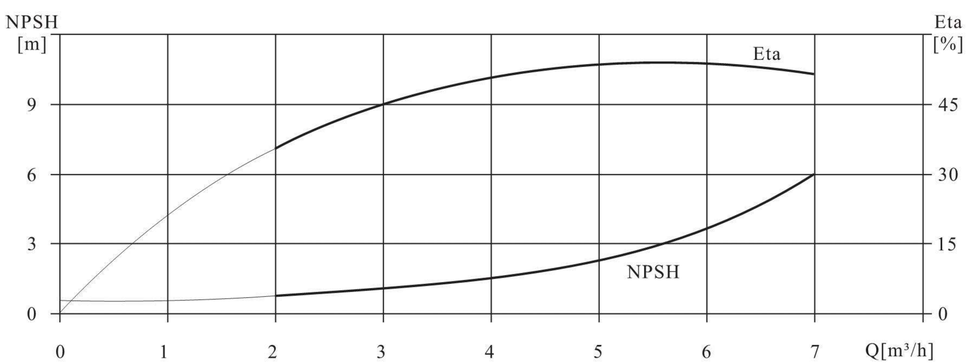


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HF4-20	321	108	105	198/235	100	174	118	13
	HF4-30	348	135	132	198/235	100	174	118	13
	HF4-40	407	162	159	216/234	110	184	136	14
	HF4-50	434	189	186	216/234	110	184	136	16
	HF4-60	461	216	213	216/234	110	184	136	16

Operational Performance curve



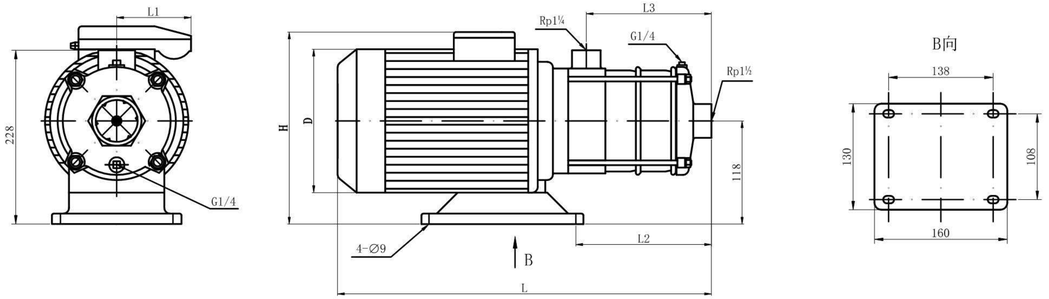




Operational performance data

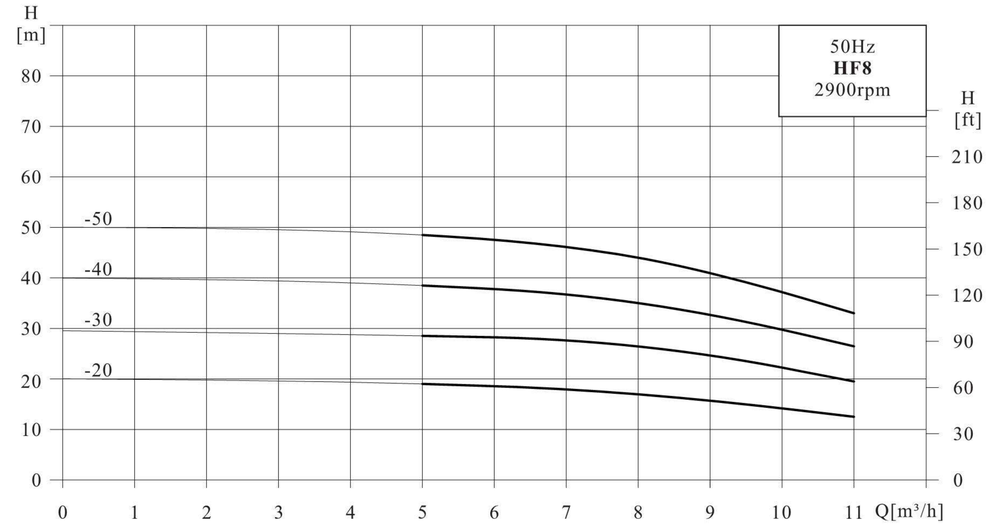
Pump model	Motor power		Q (m^3/h)	5	6	7	8	9	10	11
	(kW)	(HP)								
HF8-20	0.75	1.0	H (m)	19	18.5	18	17	16	14.5	12.5
HF8-30	1.1	1.5		28.5	28	27.5	26.5	25	22.5	19.5
HF8-40	1.5	2.0		38.5	37.5	36.5	35	33	30	26.5
HF8-50	2.2	3.0		48.5	47.5	46	44	41	37.5	33

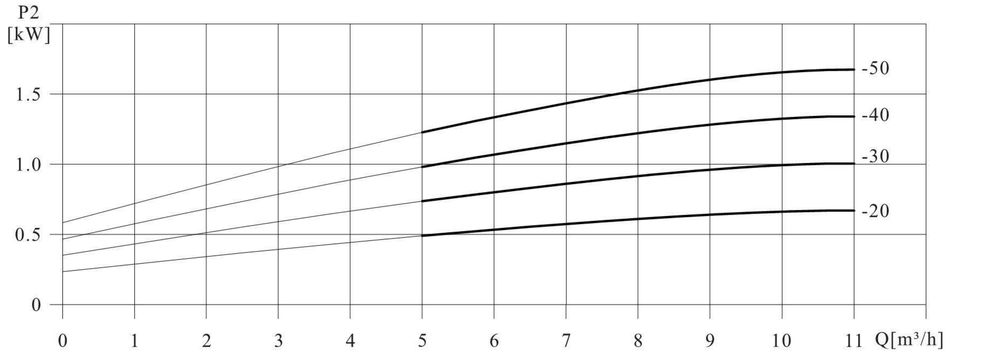
Mounting dimensions and weight

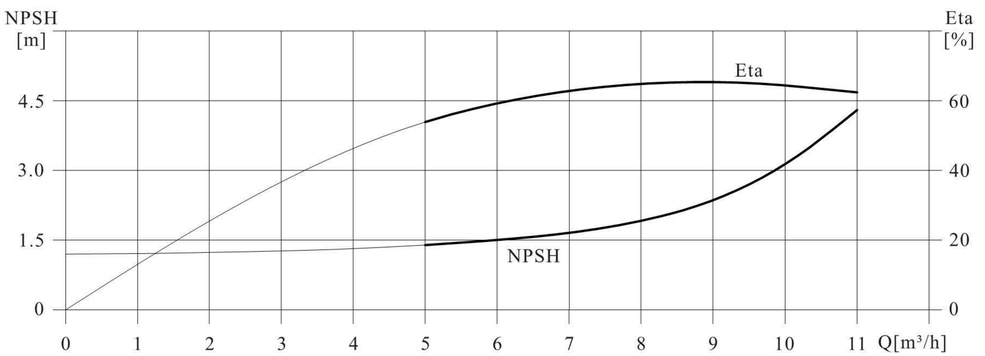


Motor	Pump model	Size (mm)						Weight (kg)
		L	L1	L2	L3	H	D	
Three-phase/ single-phase	HF8-20	377	/72	130	108	224/242	136	20
	HF8-30	407	/72	160	138	224/242	136	24
	HF8-40	469	/85	190	168	234/252	146	28
	HF8-50	540	/85	220	198	240/258	159	30

Operational Performance curve



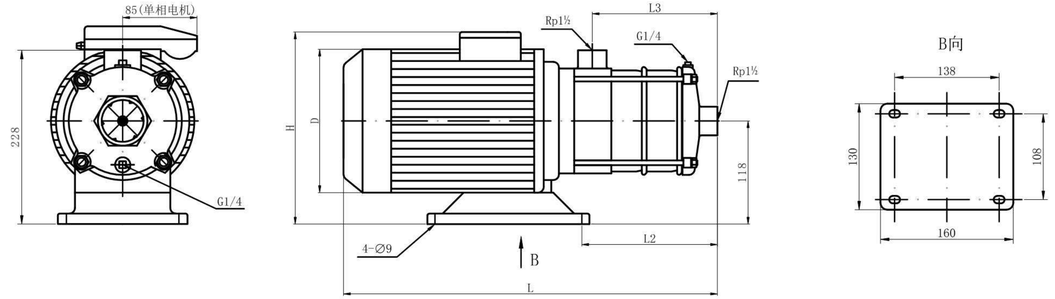




Operational performance data

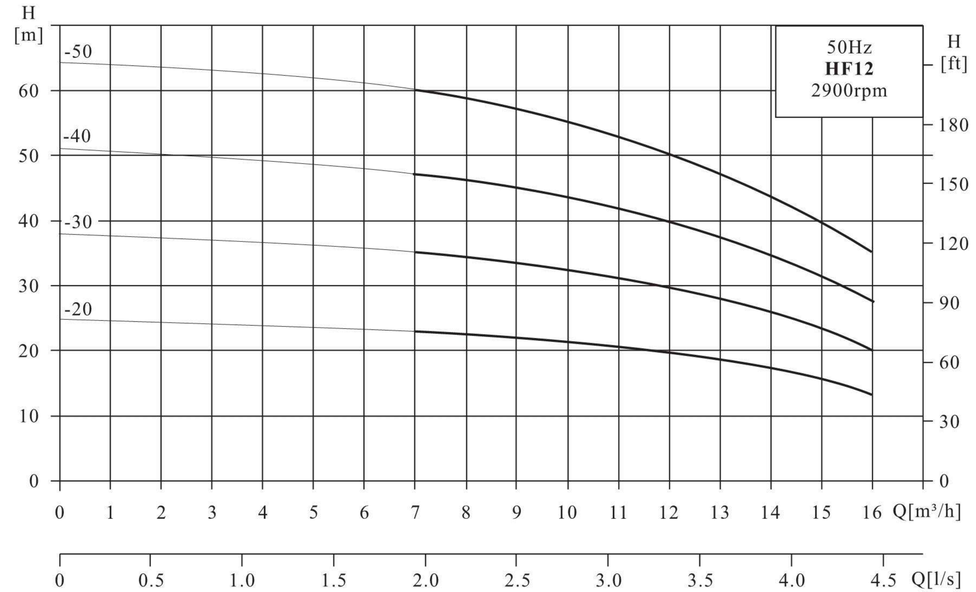
Pump model	Motor power		Q (m^3/h)	7	9	11	12	13	15	16
	(kW)	(HP)								
HF12-20	1.2	1.6	H (m)	23	22	20.5	19.5	18.5	15.5	13
HF12-30	1.8	2.4		35	33.5	31	29.5	28	23.5	20
HF12-40	2.4	3.3		47	45	41.5	39.5	37.5	31.5	27.5
HF12-50	3.0	4.0		60	56.5	52.5	50	47	40	35

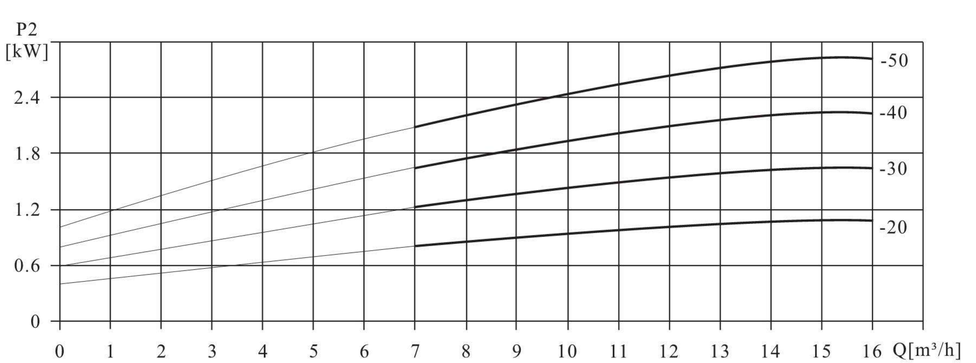
Mounting dimensions and weight

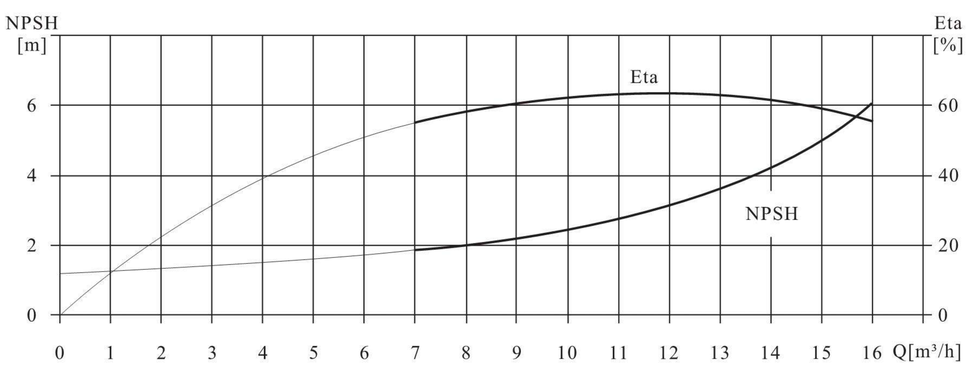


Motor	Pump model	Size (mm)						Weight (kg)
		L	L1	L2	L3	H	D	
Three-phase/ single-phase	HF12-20	409	/85	130	108	234/252	146	21
	HF12-30	439	/85	160	138	234/252	146	25
	HF12-40	510		190	168	240/	159	29
	HF12-50	540		220	198	240/	159	34

Operational Performance curve



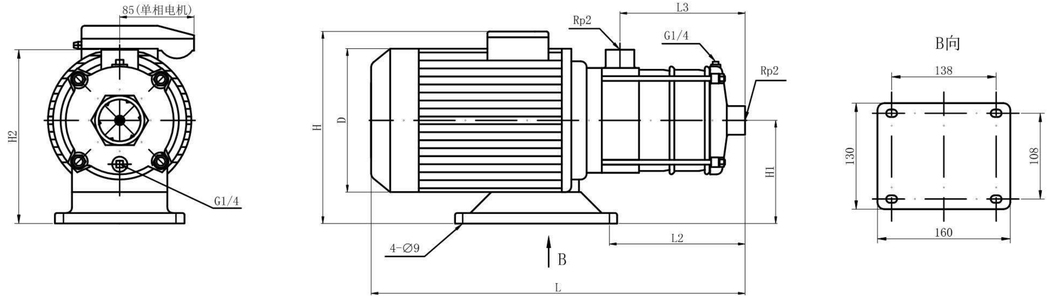




Operational performance data

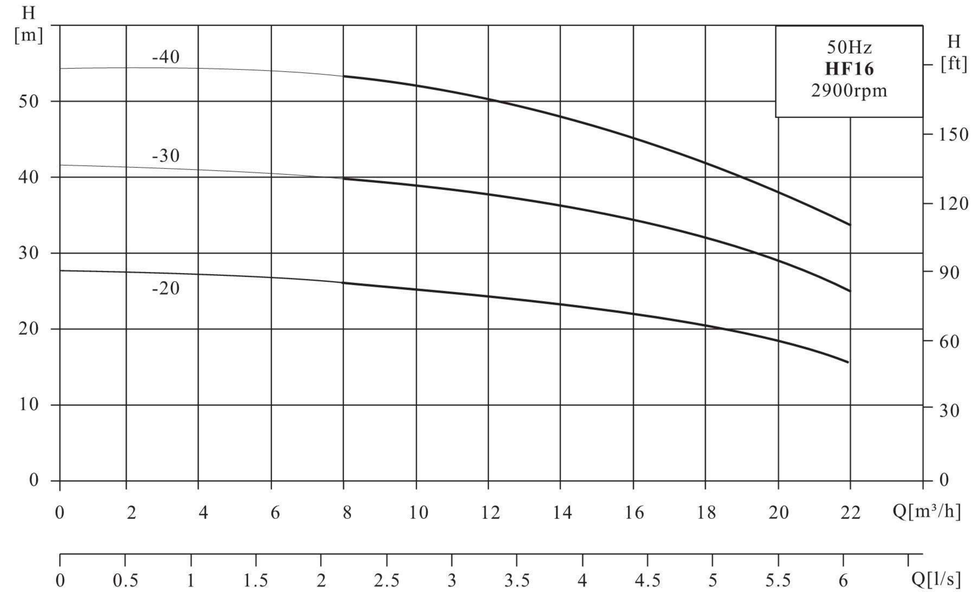
Pump model	Motor power		Q (m^3/h)	8	10	12	14	16	18	20	22
	(kW)	(HP)									
HF16-20	2.2	3	H (m)	26	25	24	23	21.6	20	18	15.5
HF16-30	3	4		40	39	38	36	34	31.5	29	25
HF16-40	4	5.5		53.5	52	50	48	45	42	38	33.5

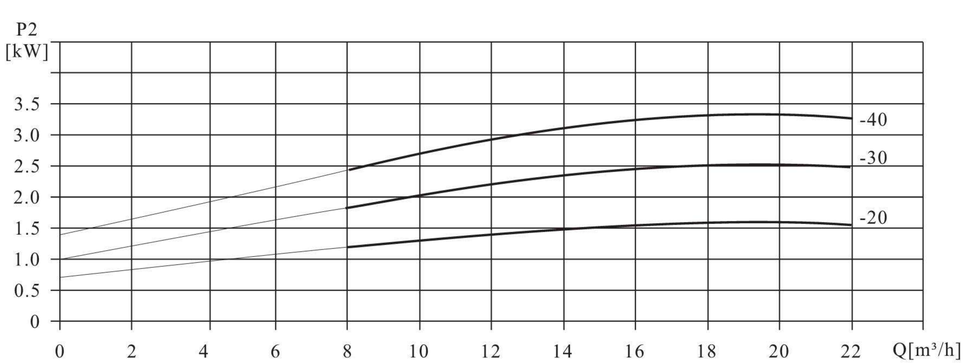
Mounting dimensions and weight

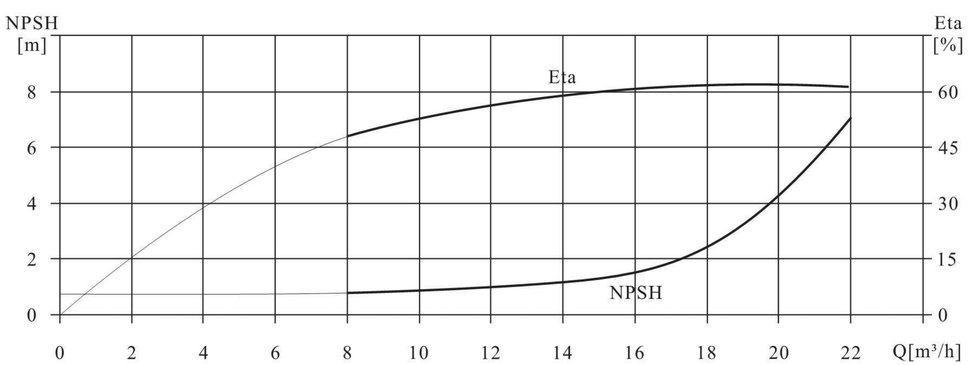


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HF16-20	475	155	126	240/258	118	228	159	27
	HF16-30	520	200	171	240/	118	228	159	33
	HF16-40	611	245	216	283/	130	240	192	40

Operational Performance curve



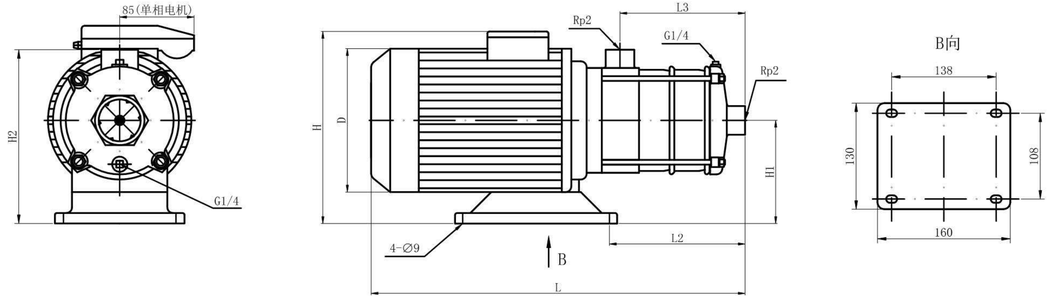




Operational performance data

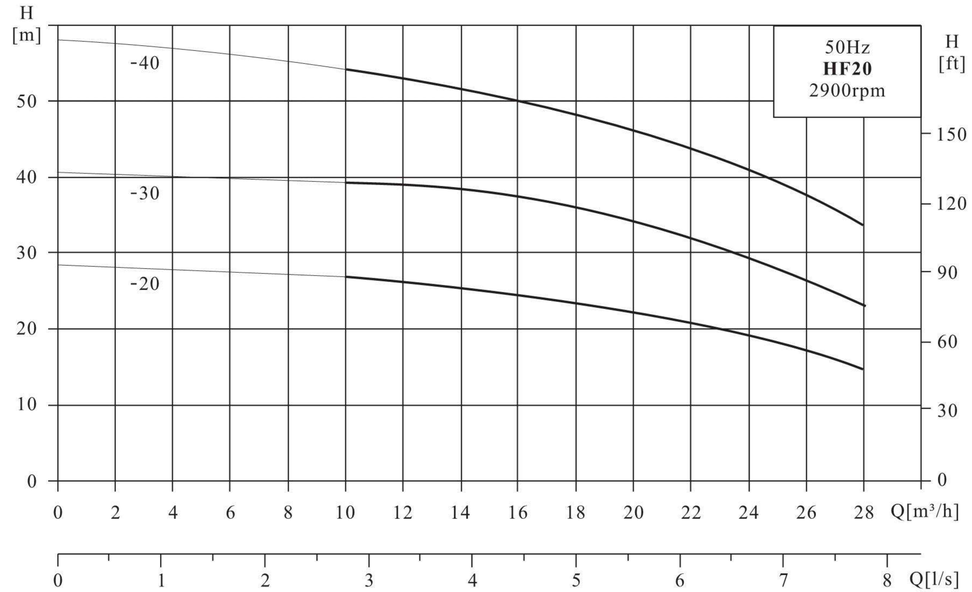
Pump model	Motor power		Q (m^3/h)	10	14	16	18	20	22	24	28
	(kW)	(HP)									
HF20-20	2.2	3	H (m)	27	25.5	25	23.5	22	20.5	18.5	14.5
HF20-30	4	5.5		39.5	38	37.5	35.5	34	31	29	23
HF20-40	4.4	6		53	51	50	48.5	46.5	43	40	32.5

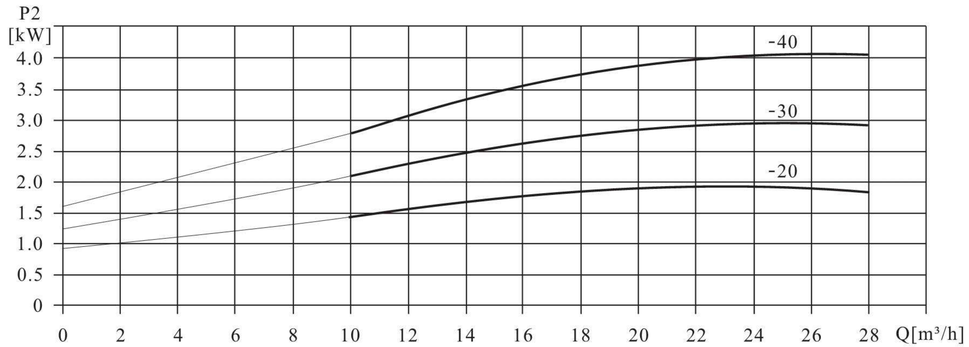
Mounting dimensions and weight

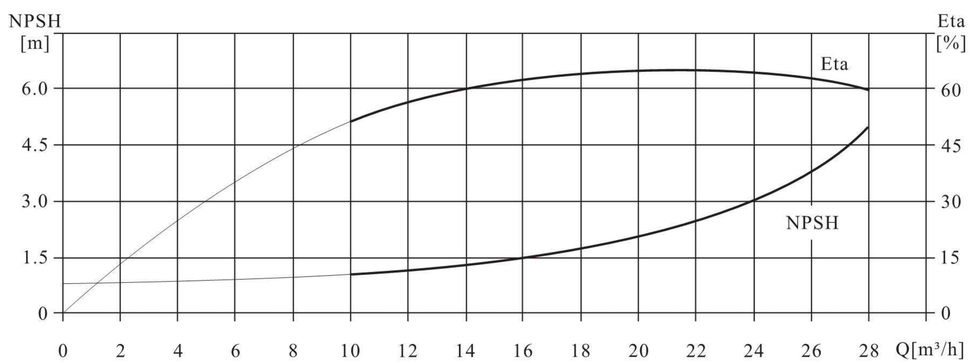


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HF20-20	475	155	126	240/258	118	228	159	27
	HF20-30	566	200	171	283/	130	240	192	40
	HF20-40	611	245	216	283/	130	240	192	44

Operational Performance curve



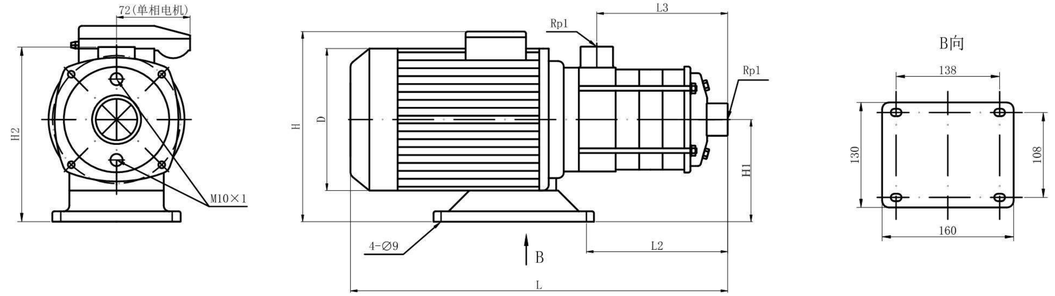




Operational performance data

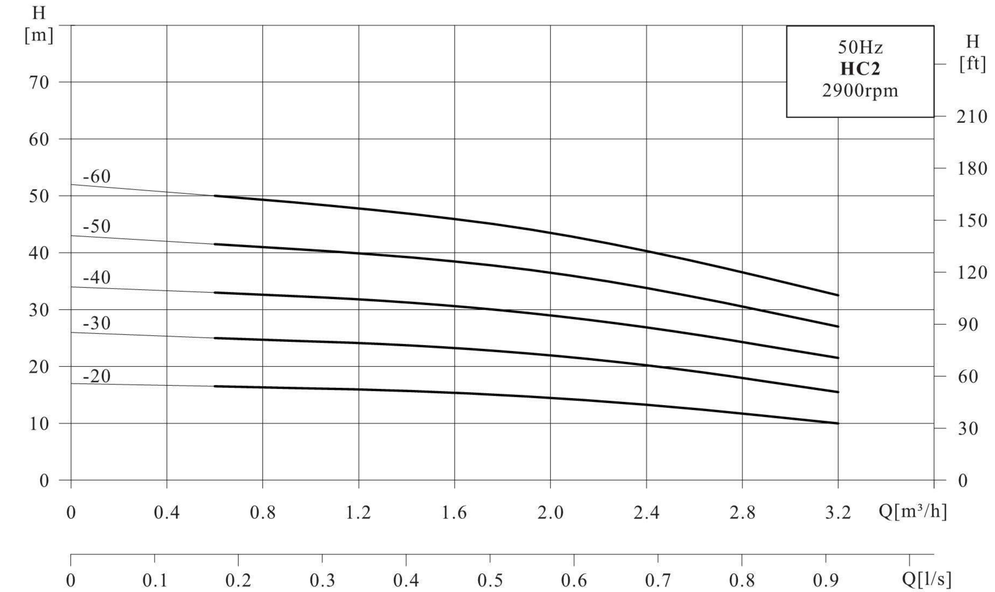
Pump model	Motor power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.2
	(kW)	(HP)								
HC2-20	0.37	0.5	H (m)	16.5	16	15.5	14.5	13	11.5	10
HC2-30	0.37	0.5		25	24	23	22	20.5	18	15.5
HC2-40	0.55	0.75		33	31.5	30.5	29	27.5	25	21.5
HC2-50	0.55	0.75		41.5	40	38.5	36.5	34	31	27
HC2-60	0.75	1.0		50	48	46	43.5	41	37	32.5

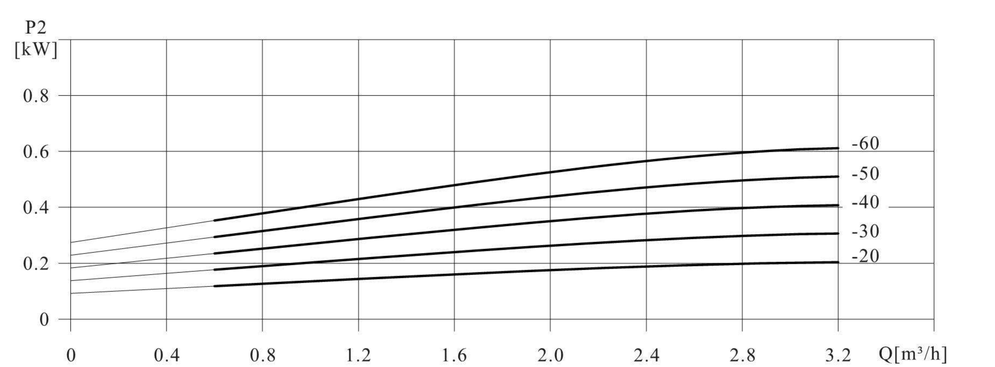
Mounting dimensions and weight

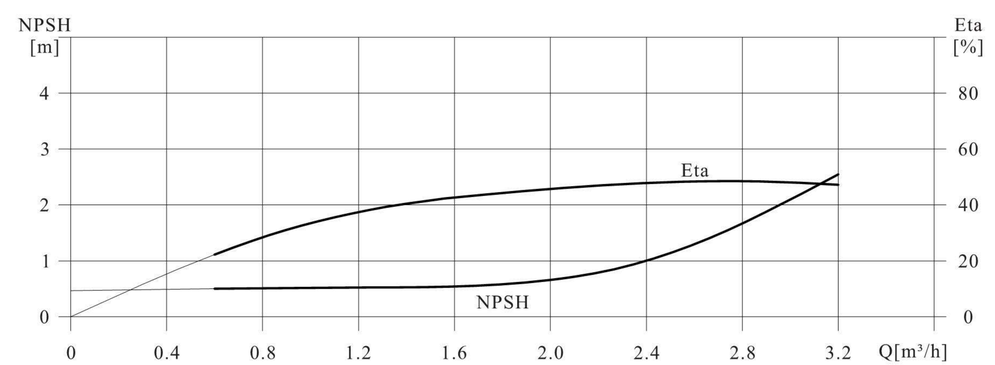


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HC2-20	348	103	87	216/234	110	189	136	12
	HC2-30	366	121	105	216/234	110	189	136	12
	HC2-40	384	139	123	216/234	110	189	136	13
	HC2-50	402	157	141	216/234	110	189	136	13
	HC2-60	420	175	159	216/234	110	189	136	14

Operational Performance curve



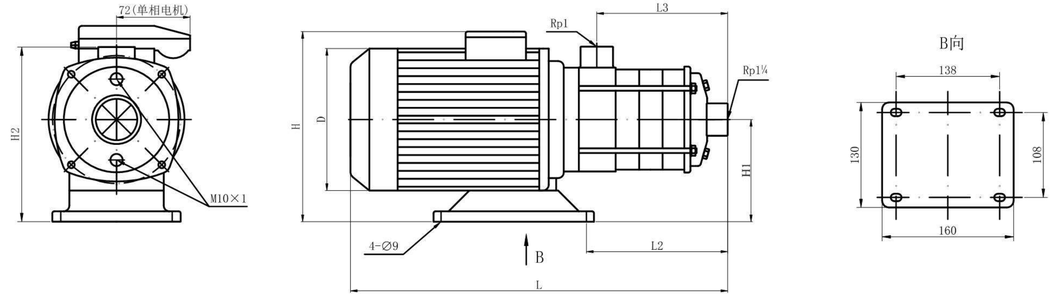




Operational performance data

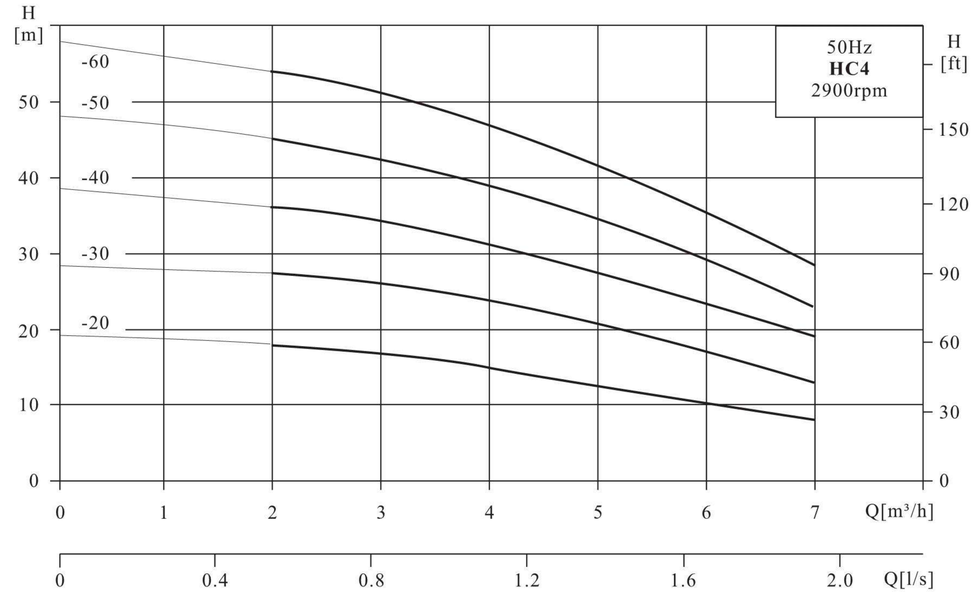
Pump model	Motor power		Q (m^3/h)	1	2	3	4	5	6	7
	(kW)	(HP)								
HC4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	7.5
HC4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HC4-40	0.75	1.0		37.5	36	34	31	27	23	19
HC4-50	1.1	1.5		47	45	42.5	39	34	29	23
HC4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

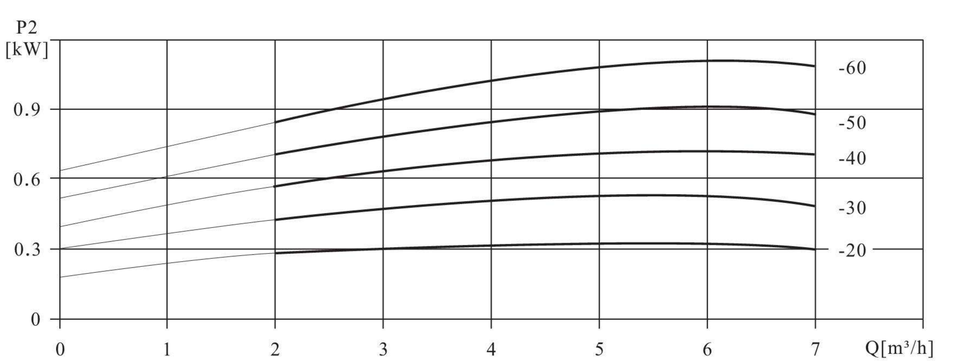
Mounting dimensions and weight

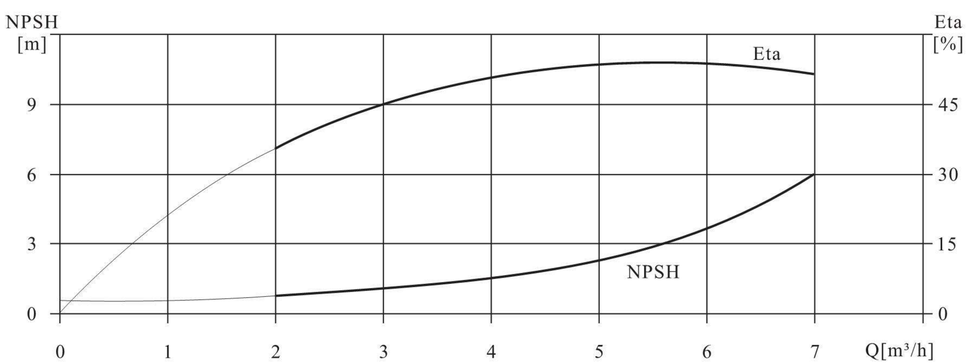


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HC4-20	359	114	98	216/234	110	189	136	12
	HC4-30	386	141	125	216/234	110	189	136	12
	HC4-40	413	168	152	216/234	110	189	136	13
	HC4-50	440	195	179	216/234	110	189	136	15
	HC4-60	467	222	206	216/234	110	189	136	15

Operational Performance curve



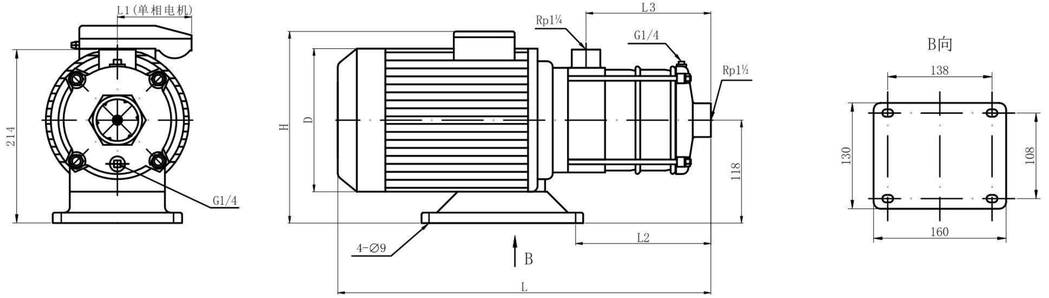




Operational performance data

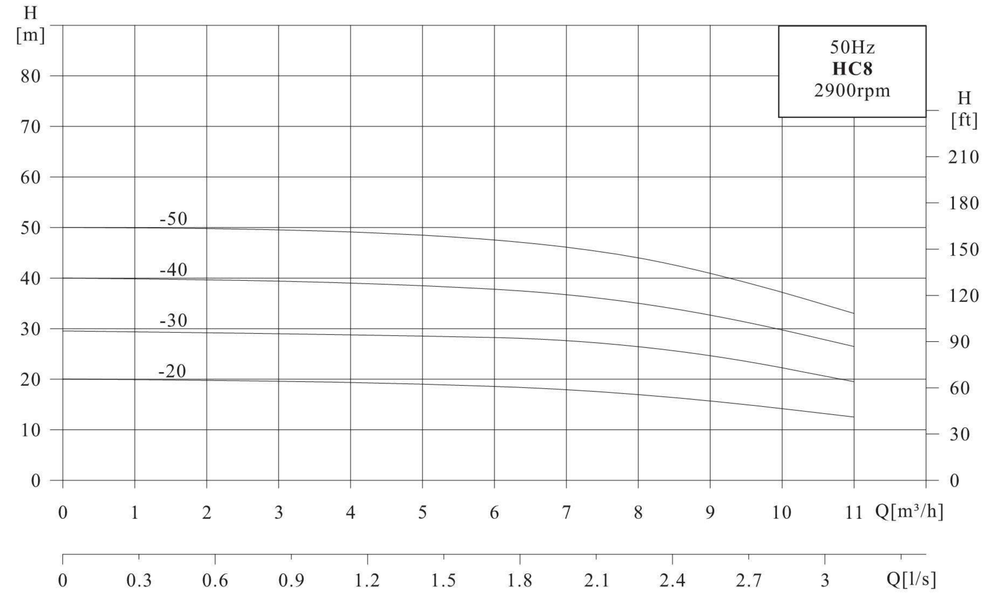
Pump model	Motor power		Q (m^3/h)	5	6	7	8	9	10	11
	(kW)	(HP)								
HC8-20	0.75	1.0	H (m)	19	18.5	18	17	16	14.5	12.5
HC8-30	1.1	1.5		28.5	28	27.5	26.5	25	22.5	19.5
HC8-40	1.5	2.0		38.5	37.5	36.5	35	33	30	26.5
HC8-50	2.2	3.0		48.5	47.5	46	44	41	37.5	33

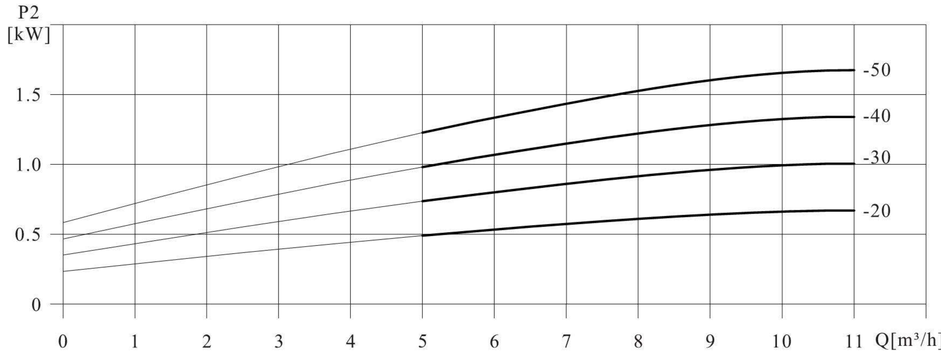
Mounting dimensions and weight

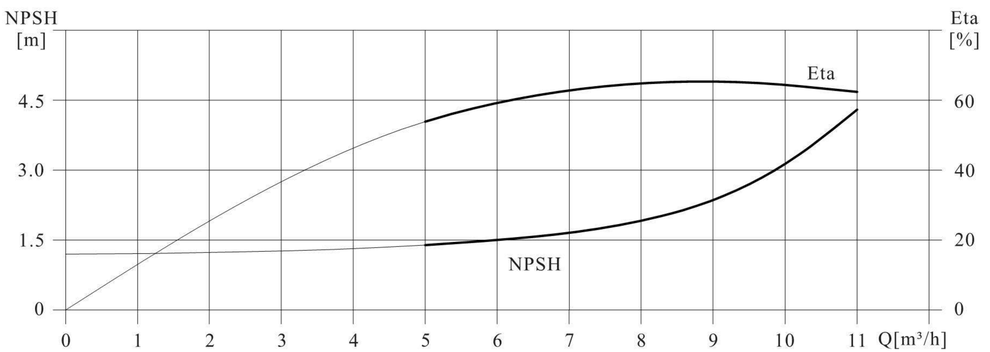


Motor	Pump model	Size (mm)						Weight (kg)
		L	L1	L2	L3	H	D	
Three-phase/ single-phase	HC8-20	370	/72	124	112	224/242	136	19
	HC8-30	400	/72	154	142	224/242	136	22
	HC8-40	462	/85	184	172	234/252	146	26
	HC8-50	533	/85	236	202	240/258	159	28

Operational Performance curve



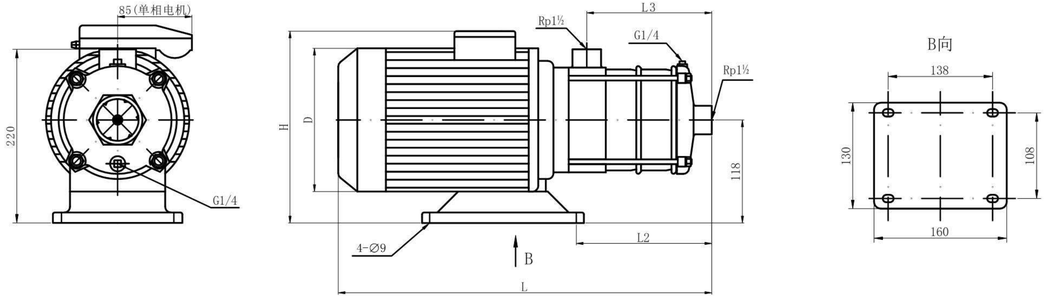




Operational performance data

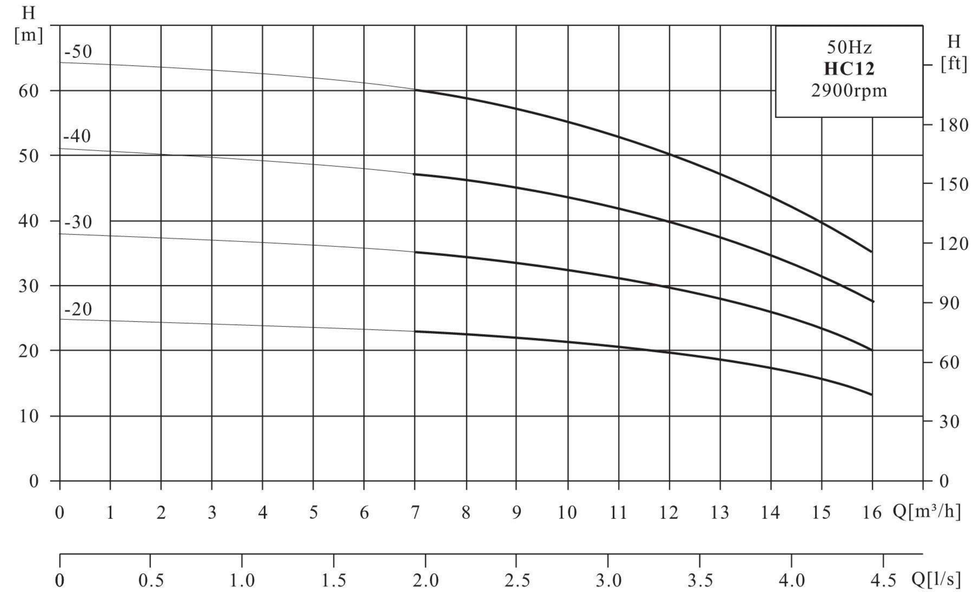
Pump model	Motor power		Q (m^3/h)	7	9	11	12	13	15	16
	(kW)	(HP)								
HC12-20	1.2	1.6	H (m)	23	22	20.5	19.5	18.5	15.5	13
HC12-30	1.8	2.4		35	33.5	31	29.5	28	23.5	20
HC12-40	2.4	3.3		47	45	41.5	39.5	37.5	31.5	27.5
HC12-50	3.0	4.0		60	56.5	52.5	50	47	40	35

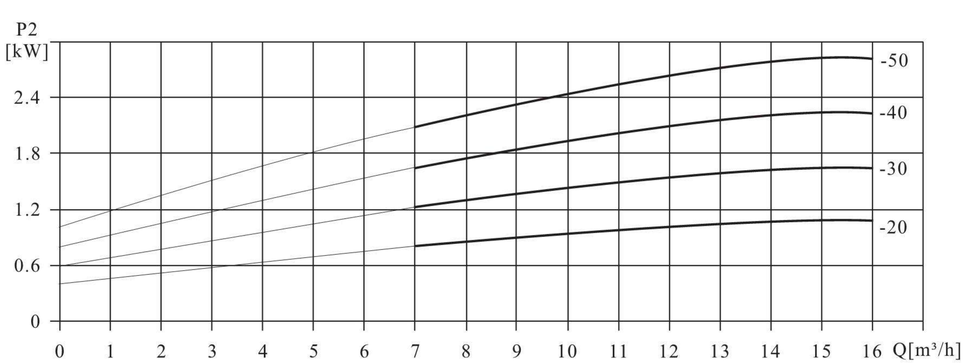
Mounting dimensions and weight

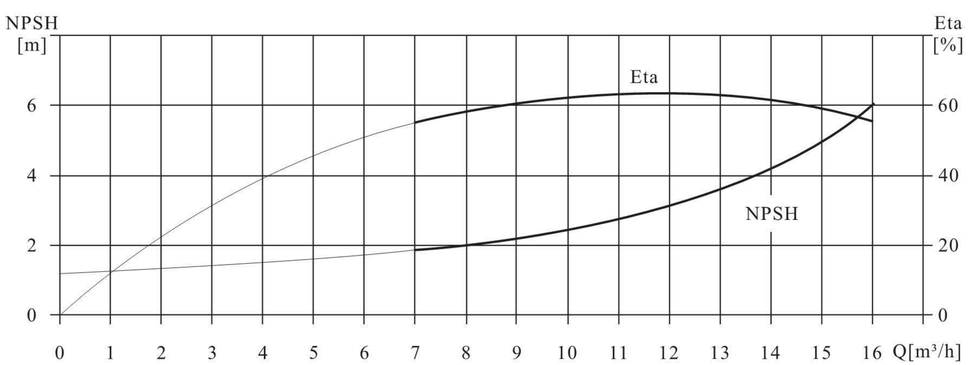


Motor	Pump model	Size (mm)					Weight (kg)
		L	L2	L3	H	D	
Three-phase/ single-phase	HC12-20	410	132	116	224/242	146	20
	HC12-30	440	162	146	224/242	146	24
	HC12-40	511	214	176	240/	159	28
	HC12-50	541	244	206	240/	159	32

Operational Performance curve



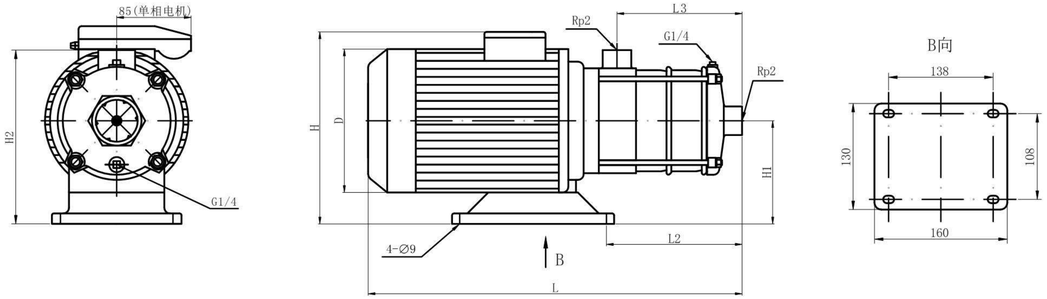




Operational performance data

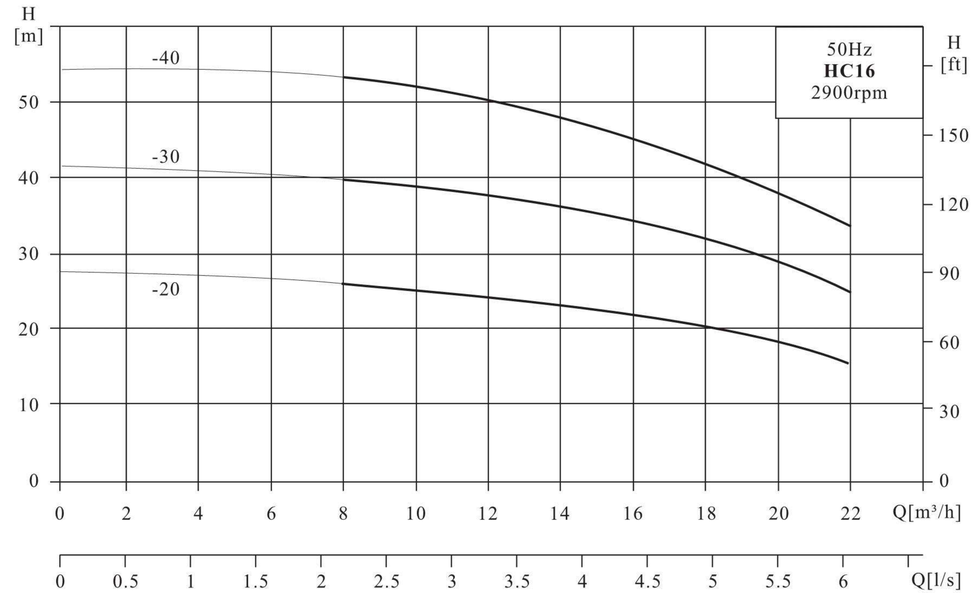
Pump model	Motor power		Q (m^3/h)	8	10	12	14	16	18	20	22
	(kW)	(HP)									
HC16-20	2.2	3	H (m)	26	25	24	23	21.6	20	18	15.5
HC16-30	3.0	4		40	39	38	36	34	31.5	29	25
HC16-40	4.0	5.5		53.5	52	50	48	45	42	38	33.5

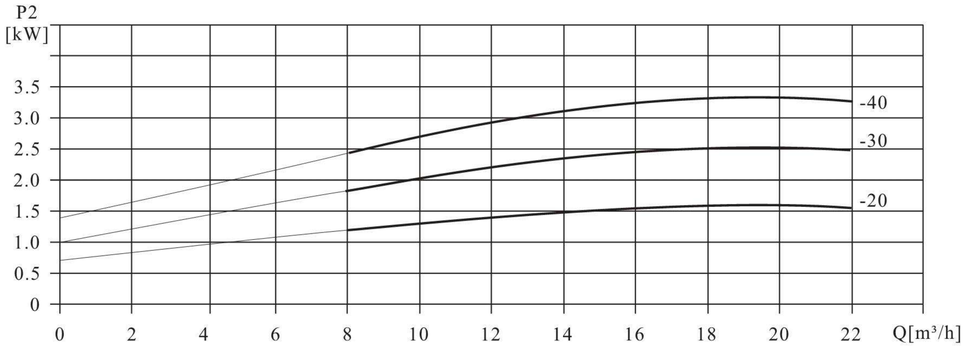
Mounting dimensions and weight

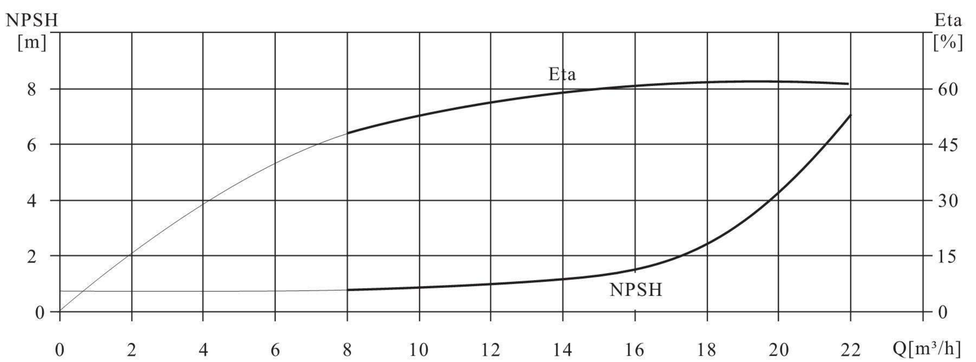


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HC16-20	478	181	137	240/258	118	222	159	25
	HC16-30	523	226	182	240/	118	222	159	31
	HC16-40	614	268	227	283/	130	234	192	38

Operational Performance curve



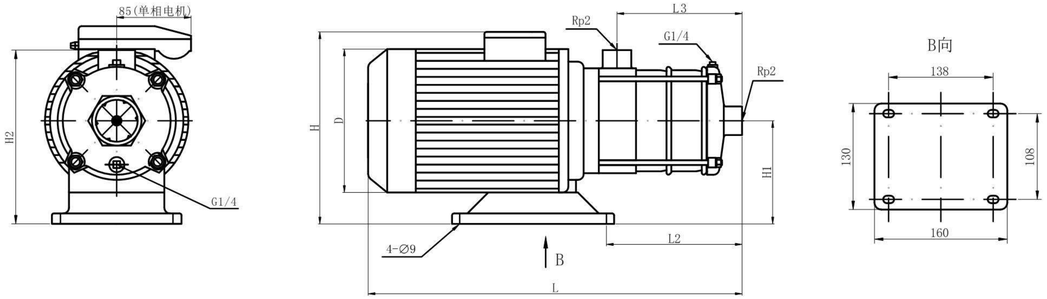




Operational performance data

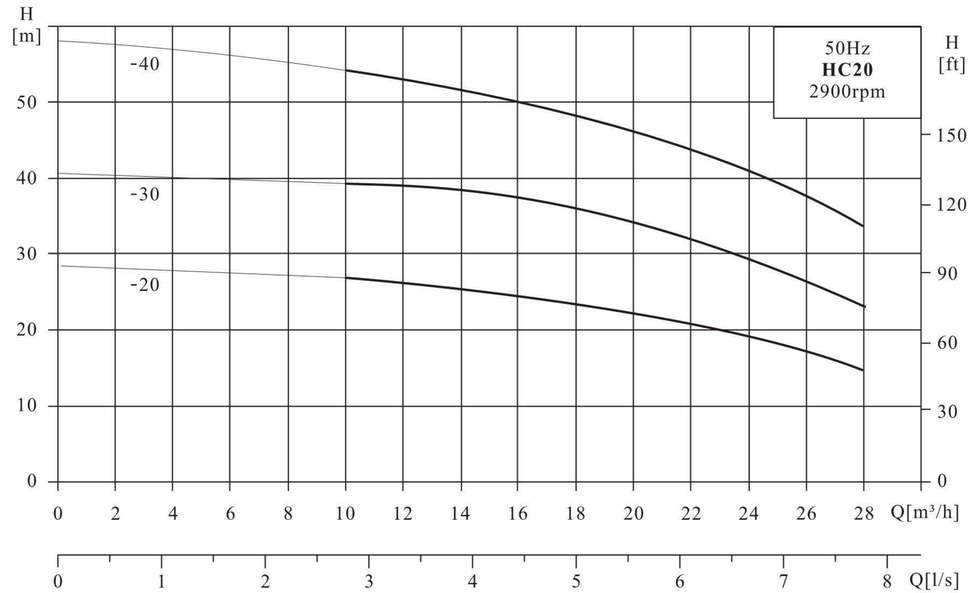
Pump model	Motor power		Q (m^3/h)	10	14	16	18	20	22	24	28
	(kW)	(HP)									
HC20-20	2.2	3	H (m)	27	25.5	25	23.5	22	20.5	18.5	14.5
HC20-30	4.0	5.5		39.5	38	37.5	35.5	34	31	29	23
HC20-40	4.4	6		53	51	50	48.5	46.5	43	40	32.5

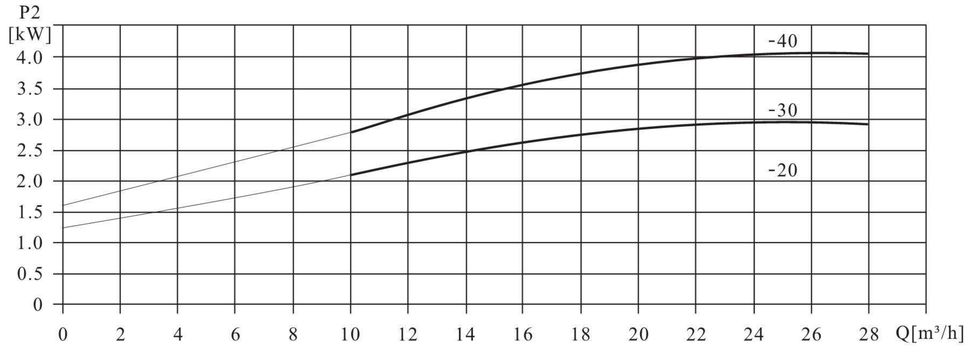
Mounting dimensions and weight

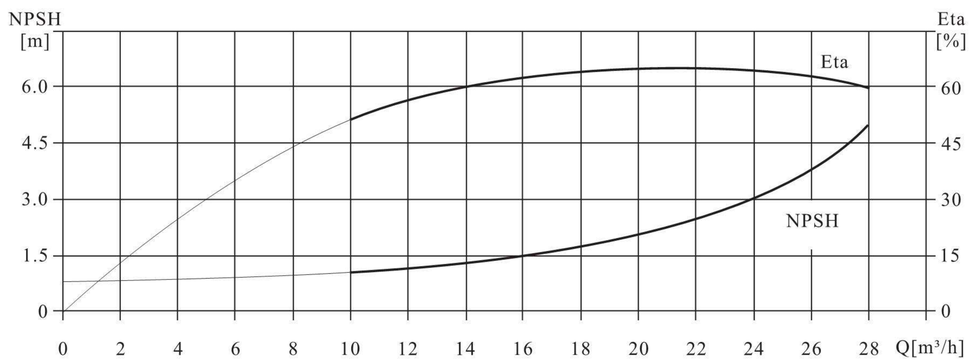


Motor	Pump model	Size (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
Three-phase/ single-phase	HC20-20	478	181	137	240/258	118	222	159	26
	HC20-30	569	223	182	283/	130	234	192	32
	HC20-40	614	268	227	283/	130	234	192	40

Operational Performance curve



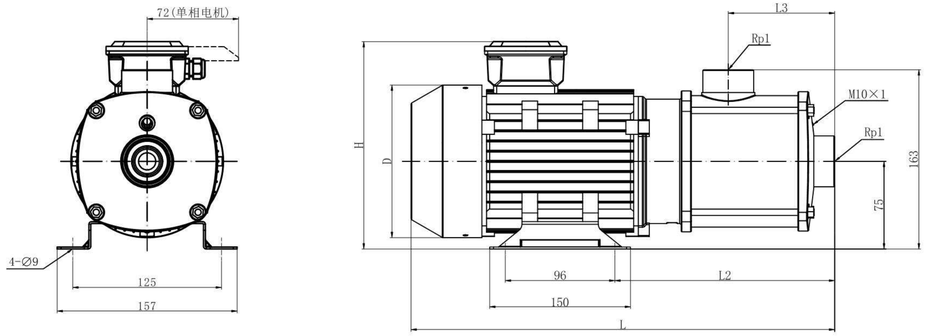




Operational performance data

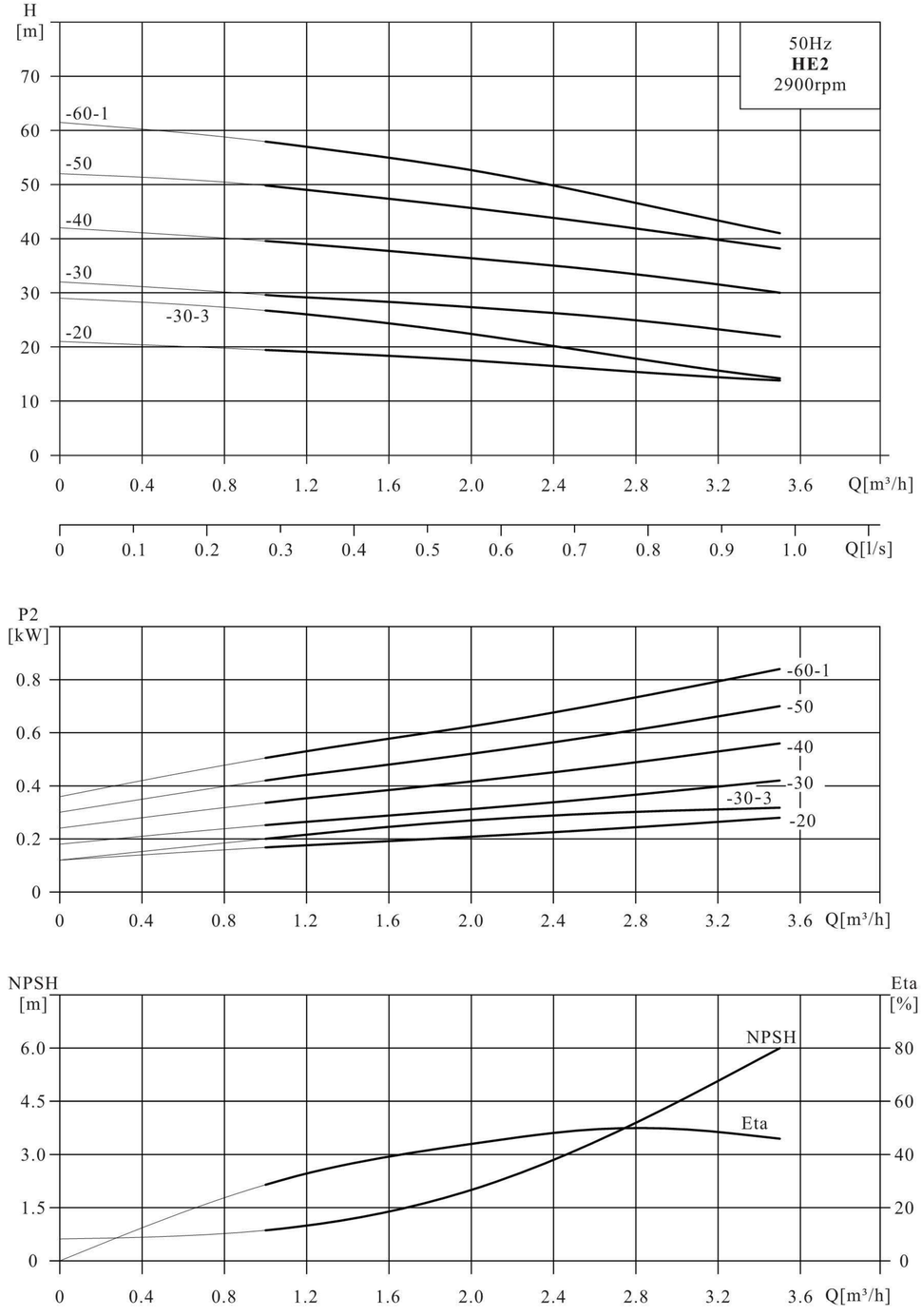
Pump model	Motor power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.5
	(kW)	(HP)								
HE2-20	0.37	0.5	H (m)	20	19	18.5	18	17.5	17	14
HE2-30-3	0.37	0.5		28	26	24.5	22	20	17.5	15
HE2-30	0.55	0.75		30.5	29	28	27.5	27	26	23
HE2-40	0.55	0.75		40.5	39	38	37	35.5	34.5	30
HE2-50	0.75	1.0		51	49	48	46	45	43.5	38
HE2-60-1	0.75	1.0		59.5	57	54.5	52	49	46	41

Mounting dimensions and weight



Motor	Pump model	Size (mm)					Weight(kg)
		L	L2	L3	H	D	
Three-phase/ single-phase	HE2-20	342	165	73	181/199	136	12
	HE2-30-3	342	165	73	181/199	136	12
	HE2-30	342	165	73	181/199	136	12
	HE2-40	360	183	91	181/199	136	13
	HE2-50	378	201	109	181/199	136	13
	HE2-60-1	396	219	127	181/199	136	14

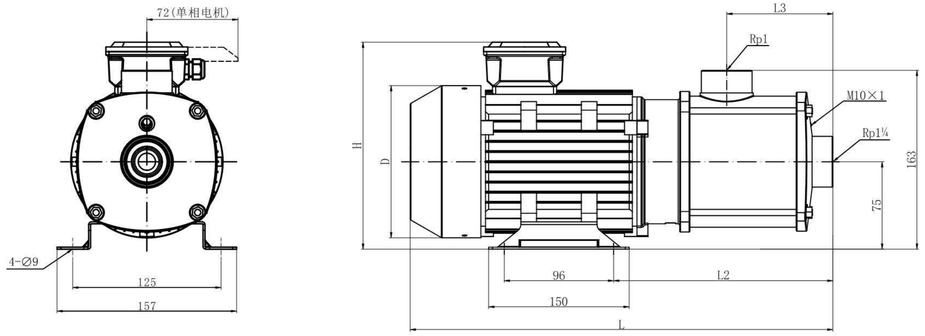
Operational Performance curve



Operational performance data

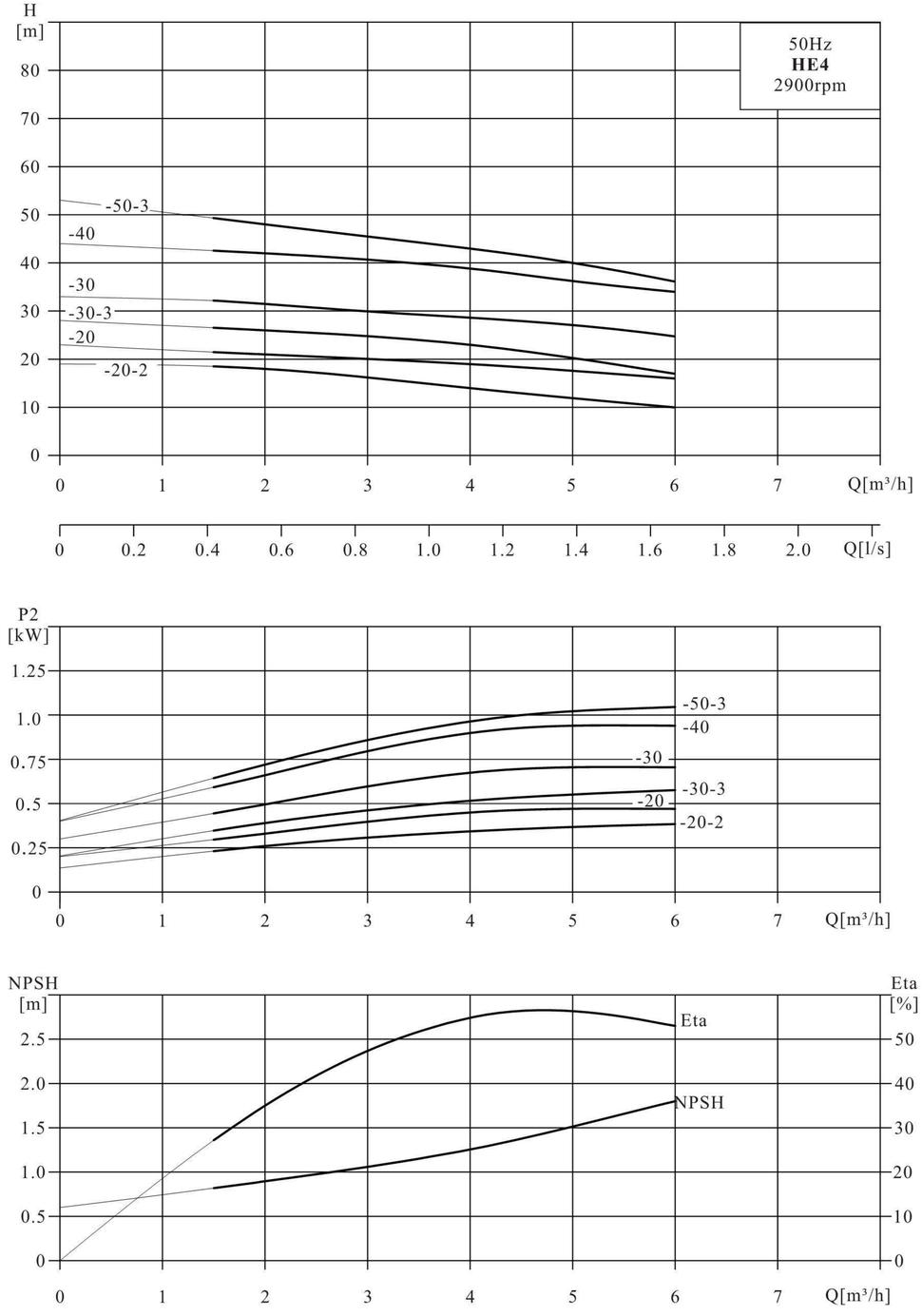
Pump model	Motor power		Q (m^3/h)	1.5	2	3	4	5	6
	(kW)	(HP)							
HE4-20-2	0.37	0.5	H (m)	18.5	18	16	14	12	10
HE4-20	0.55	0.75		21.5	21	20	19	17.5	16
HE4-30-3	0.55	0.75		26.5	26	25	23	20.5	17
HE4-30	0.75	1.0		32	31.5	30	29	27.5	25.5
HE4-40	1.1	1.5		42.5	42	40.5	39	36.5	34
HE4-50-3	1.1	1.5		49	48	46	43.5	40	35.5

Mounting dimensions and weight



Motor	Pump model	Size (mm)					Weight (kg)
		L	L2	L3	H	D	
Three-phase/ single-phase	HE4-20-2	317	168	75	181/199	136	12
	HE4-20	317	168	75	181/199	136	12
	HE4-30-3	344	195	102	181/199	136	12
	HE4-30	371	195	102	181/199	136	12
	HE4-40	398	222	129	181/199	136	13
	HE4-50-3	425	249	156	181/199	136	15

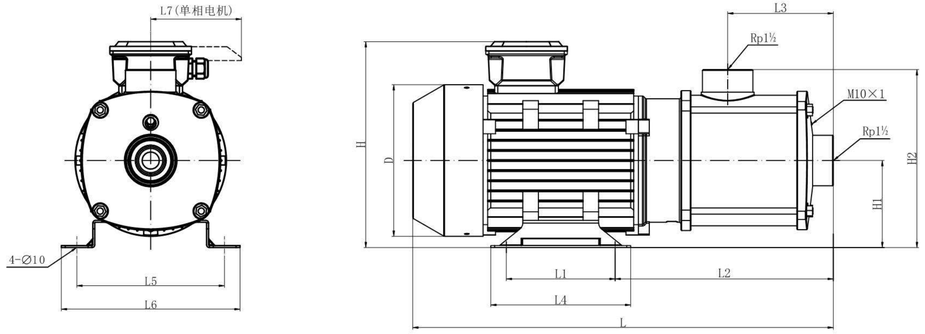
Operational Performance curve



Operational performance data

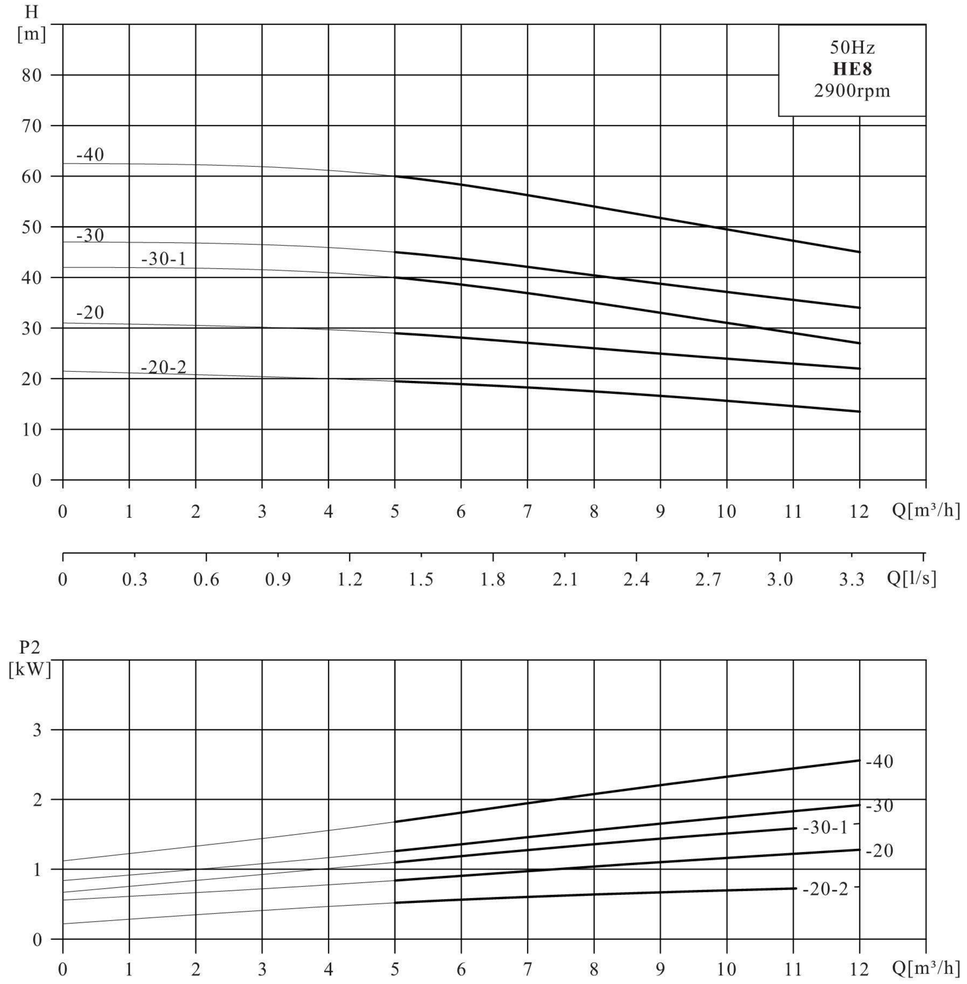
Pump model	Motor power		Q (m^3/h)	5	6	7	8	9	10	11	12
	(kW)	(HP)									
HE8-20-2	0.75	1.0	H (m)	19.5	19	18.5	17.5	16.5	15.5	14.5	13.5
HE8-20	1.1	1.5		29	28	27	26	25	24	23	22
HE8-30-1	1.5	2.0		40	38.5	37	35	33	31	29	27
HE8-30	1.8	2.5		45	43.5	42	40.5	39	37	35.5	34
HE8-40	2.2	3.0		60	58.5	56	54	51.5	49.5	47.5	45

Mounting dimensions and weight



Motor	Pump model	Size (mm)												Weight (kg)
		L	L1	L2	L3	L4	L5	L6	L7	H	H1	H2	D	
Three-phase/ single-phase	HE8-20-2	361	96	184	76	140	125	158	/72	206/224	100	216	136	19
	HE8-20	361	96	184	76	140	125	158	/72	206/224	100	216	136	19
	HE8-30-1	422	140	209	106	180	160	200	/85	216/234	100	216	146	22
	HE8-30	422	140	209	106	180	160	200	/85	216/234	100	216	146	22
	HE8-40	493	140	254	136	180	160	200	/85	234/252	112	228	159	26

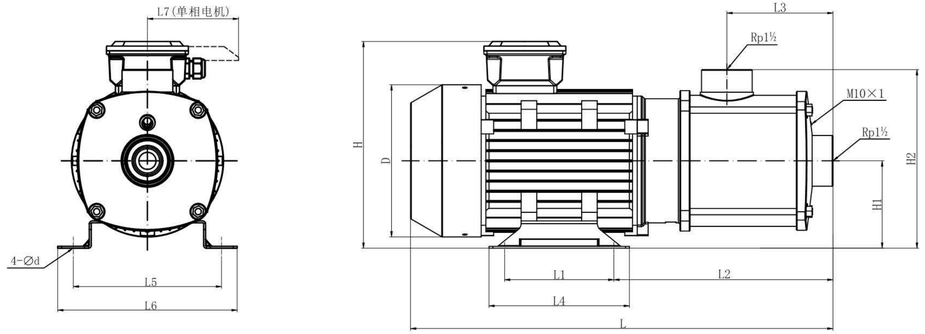
Operational Performance curve



Operational performance data

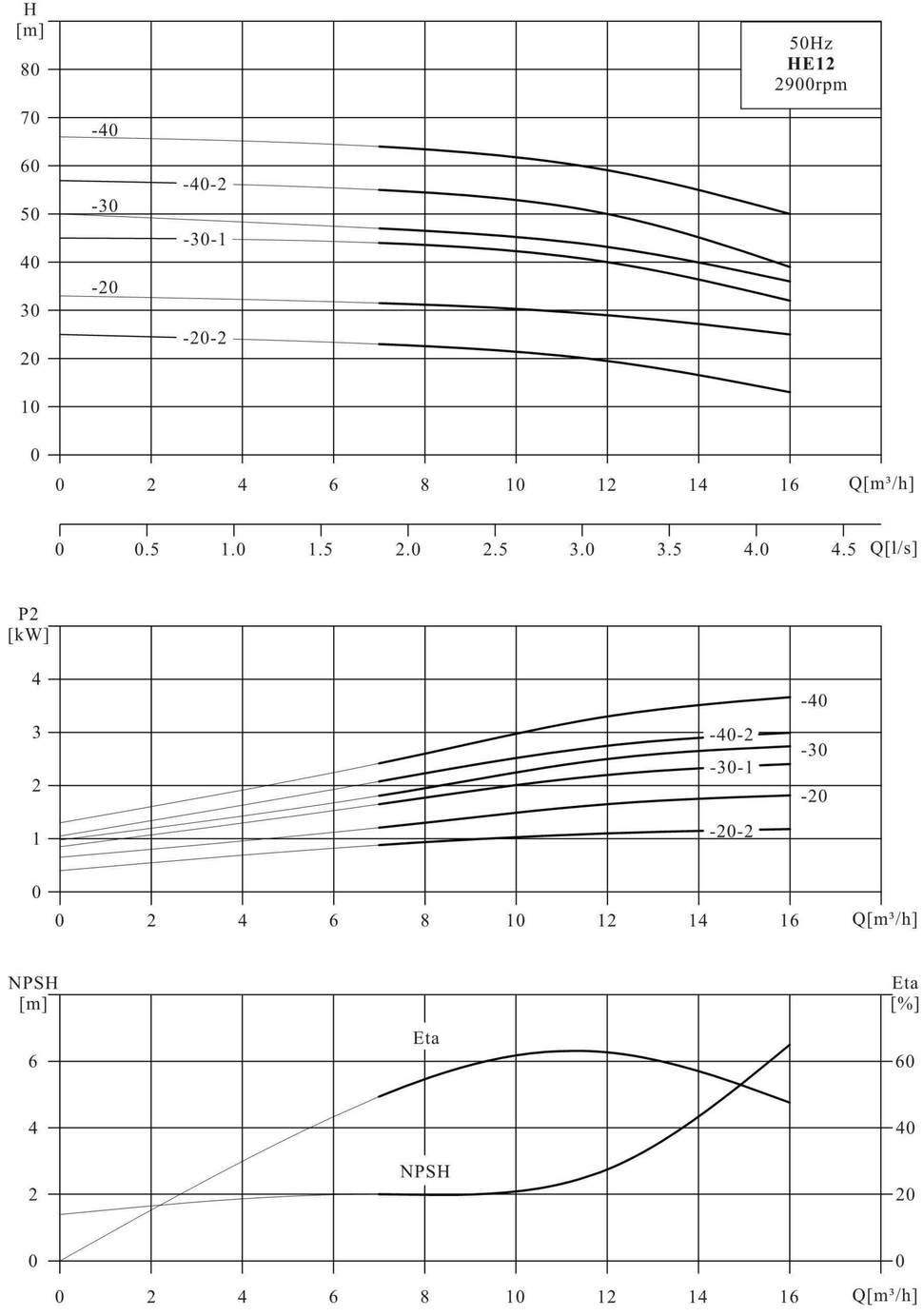
Pump model	Motor power		Q (m³/h)	7	8	9	10	11	12	13	14	15	16
	(kW)	(HP)											
HE12-20-2	1.5	2.0	H (m)	23	22.5	22	21.5	20.5	19.5	18	16.5	15	13
HE-12-20	1.8	2.5		31.5	31	30.5	30	29.5	29	28	27	26	25
HE-12-30-1	3.0	4.0		44	43.5	43	42	41.5	40	38.5	36.5	34	32
HE12-30	3.0	4.0		47	46.5	46	45	44.5	43	41.5	40	38	36
HE-12-40-2	3.0	4.0		55	54.5	54	53	51.5	50	48	45	42	39
HE12-40	4.0	5.4		64	63.5	62.5	61.5	60.5	59	57	55	52.5	50

Mounting dimensions and weight



Motor	Pump model	Size (mm)													Weight (kg)
		L	L1	L2	L3	L4	L5	L6	L7	H	H1	H2	d	D	
Three-phase/ single-phase	HE12-20-2	392	140	179	76	180	160	200	/85	216/234	100	216	10	146	20
	HE12-20	392	140	179	76	180	160	200	/85	216/234	100	216	10	146	20
	HE12-30-1	463	140	224	106	180	160	200		234/	112	228	10	159	24
	HE12-30	463	140	224	106	180	160	200		234/	112	228	10	159	24
	HE12-40-2	493	140	254	136	180	160	200		234/	112	228	10	159	28
	HE12-40	539	140	274	136	180	190	230		265/	112	228	12	192	28

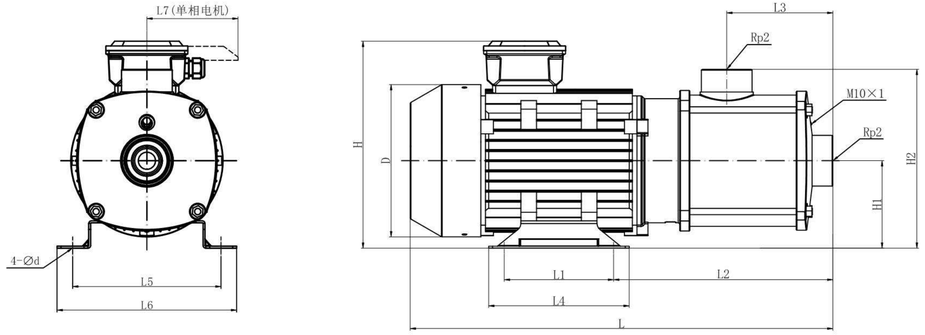
Operational Performance curve



Operational performance data

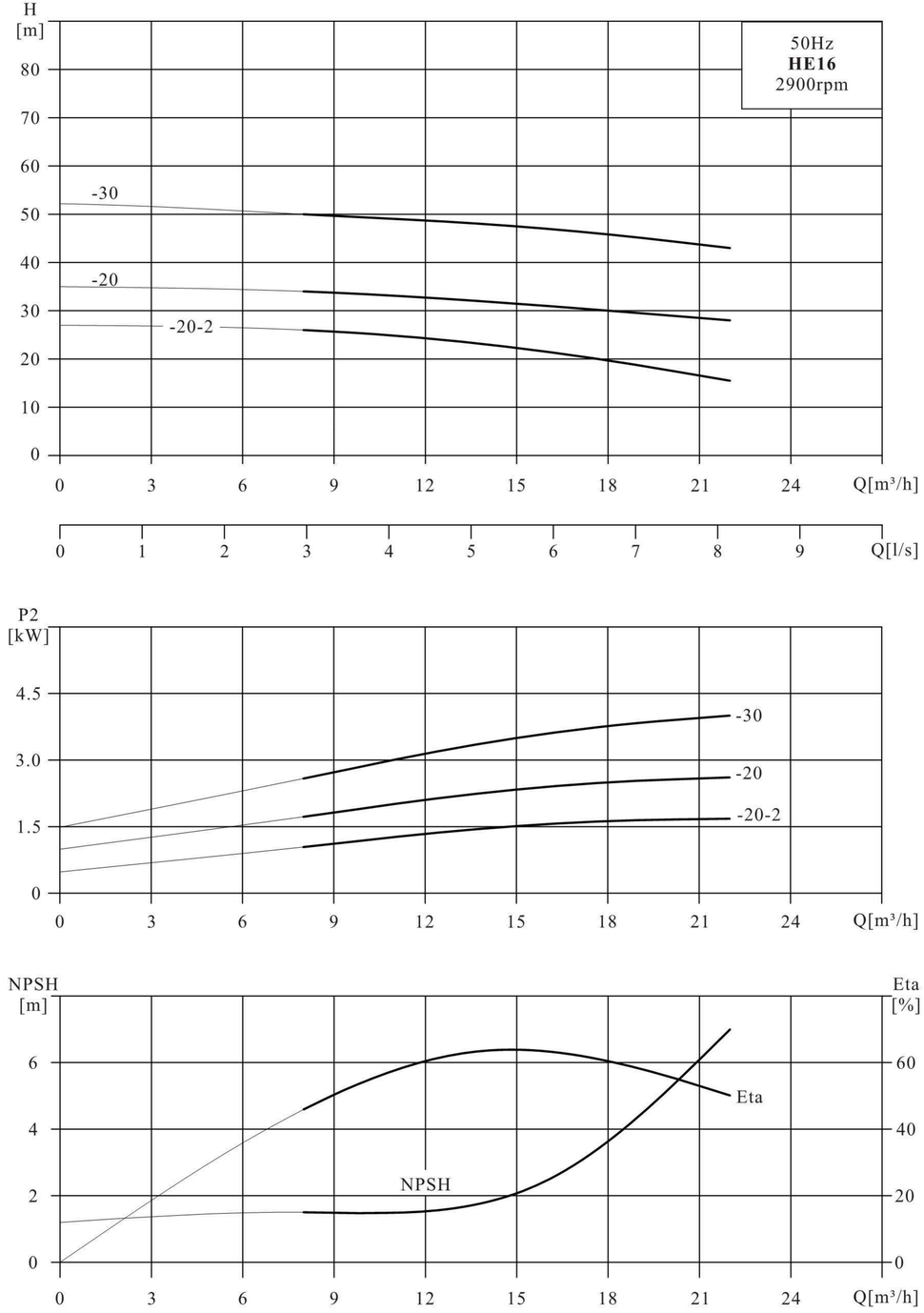
Pump model	Motor power		Q (m^3/h)	8	10	12	14	16	18	20	22
	(kW)	(HP)									
HE16-20-2	2.2	3	H (m)	26	25	24	23	21.5	19.5	17.5	15.5
HE16-20	3.0	4		34	33.5	32.5	32	31	30	29	28
HE16-30	4.0	5.4		50	49	48.5	48	47	45.5	44.5	43

Mounting dimensions and weight



Motor	Pump model	Size (mm)													Weight (kg)
		L	L1	L2	L3	L4	L5	L6	L7	H	H1	H2	d	D	
Three-phase/ single-phase	HE16-20-2	465	140	226	91	180	160	200	/85	234/252	112	229	10	159	25
	HE16-20	465	140	226	91	180	160	200		234/	112	229	10	159	25
	HE16-30	556	140	291	136	180	190	230		265/	112	229	12	192	31

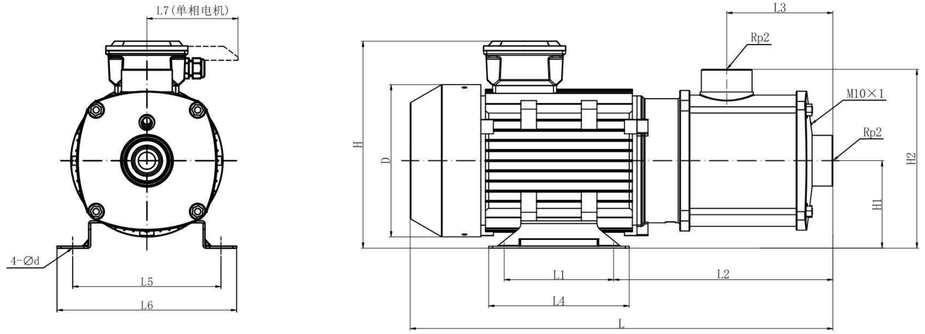
Operational Performance curve



Operational performance data

Pump model	Motor power		Q (m³/h)	10	12	14	16	18	20	22	24	26	28
	(kW)	(HP)											
HE20-10-1	1.1	1.5	H (m)	13.5	13	12.5	11.5	11	10	9	7.5	6.5	5
HE20-10	1.5	2.0		17.5	17	16.5	16	15.5	15	14.5	13.5	13	12
HE20-20-2	2.2	3.0		27	26.5	25.5	24.5	23.5	22	20.5	18.5	16.5	14.5
HE20-20	3.4	4.6		34	33.5	33	32.5	32	31	30	28.5	26.5	25
HE20-30-1	4.4	6.0		48	47	46	44.5	43	41	38.5	36	33.5	30.5
HE20-30	4.4	6.0		52	51.5	50.5	49.5	48.5	47	45	42.5	40	37

Mounting dimensions and weight



Motor	Pump model	Size (mm)													Weight (kg)
		L	L1	L2	L3	L4	L5	L6	L7	H	H1	H2	d	D	
Three-phase/ single-phase	HE20-10-1	393	96	216	91	140	135	158	/72	206/224	100	217	10	136	20
	HE20-10	421	140	207	91	180	160	200	/85	216/234	100	217	10	146	20
	HE20-20-2	465	140	226	91	180	160	200	/85	234/252	112	229	10	159	26
	HE20-20	511	140	246	91	180	190	230		265/	112	229	12	192	26
	HE20-30-1	556	140	291	136	180	190	230		265/	112	229	12	192	32
	HE20-30	556	140	291	136	180	190	230		265/	112	229	12	192	40

Operational Performance curve