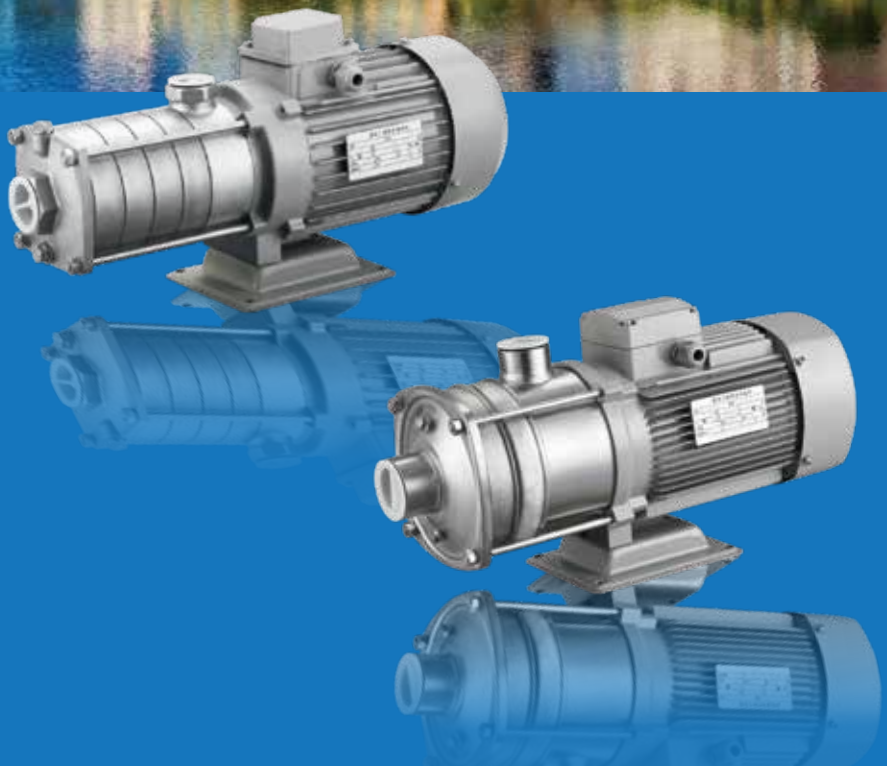
HCP PUMP

HHM/HEM

HORIZONTAL MULTISTAGE CENTRIFUGAL PUMP

50Hz



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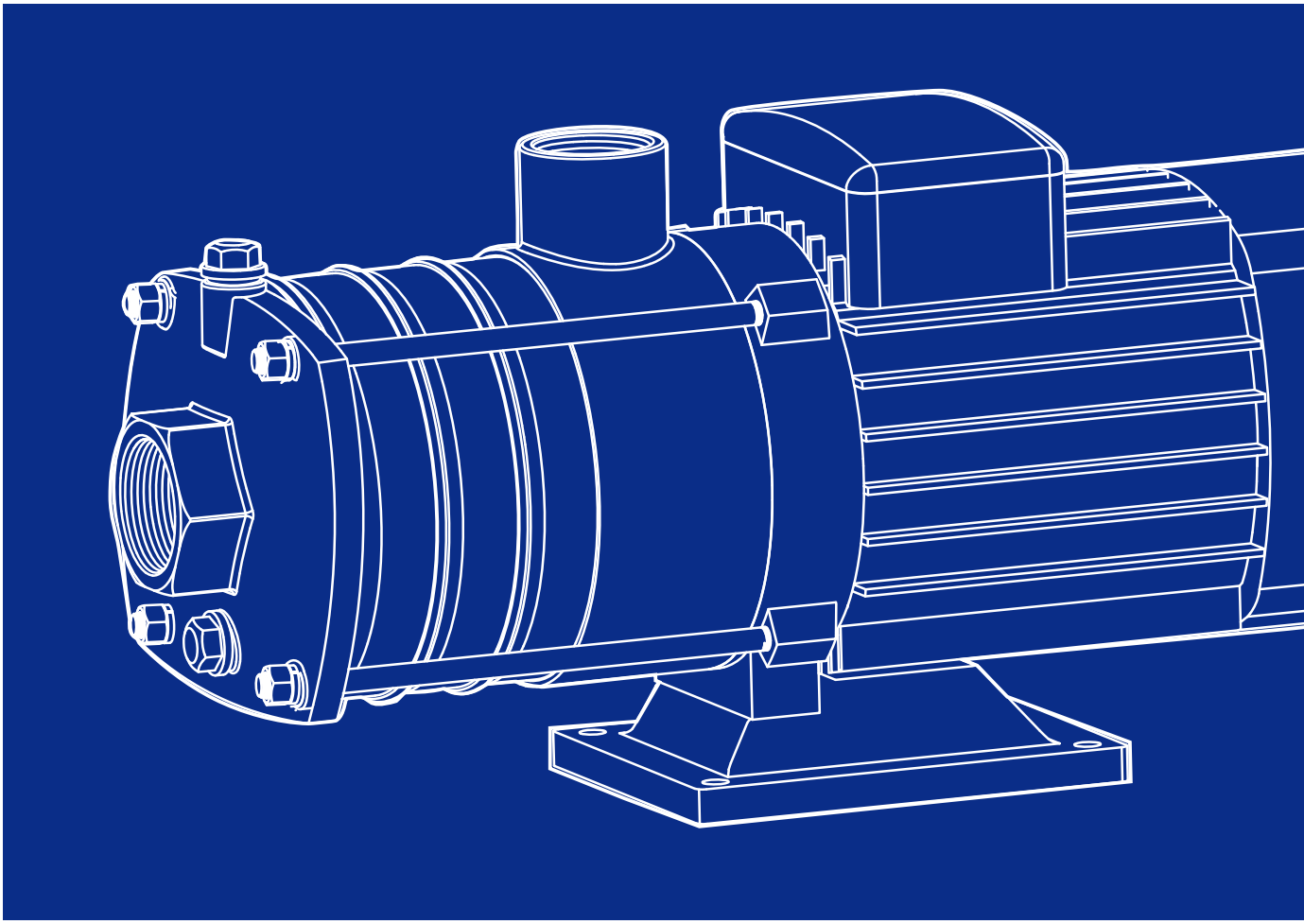
HGPPUMP

HHM/HEM

Horizontal Multistage Centrifugal Pump

- Compact and stable operation
- Configurable with frequency converter and pressure switch



HHM/HEM

HCP PUMP

HORIZONTAL MULTISTAGE CENTRIFUGAL PUMP 50Hz

Introduction

The HHM/HEM series non-self-priming horizontal multistage centrifugal pumps efficiently move liquids using centrifugal force generated by a rotating impeller. The pump's customized motor connects the impeller and guide vane mechanical seal through the motor shaft, all mounted securely on a baseplate for stability.

The HHM/HEM series adopts a pull-back design with an axial thread inlet and radial thread outlet. The impeller design minimizes axial thrust on the motor bearing, extending the motor's lifespan. Differentiated solutions are available to fit specific needs in residential, industrial, and building service applications.

The HHM/HEM series features a pull-rod system that tightly seals the O-ring against the external guide vane, securing it to the motor flange. This design minimizes leaks and improves overall performance, making the pump a reliable choice for long-term use.

Liquid temperature

- Normal temperature pump: -15°C to +70°C
- Hot temperature pump: -15°C to +105°C

Pump operating conditions

- Pumping thin, clean, non-flammable, non-combustible, or non-explosive liquids that do not contain solid particles or fibers.
- Maximum ambient temperature: + 40°C
- Maximum altitude above sea level: 1000 m

Motor

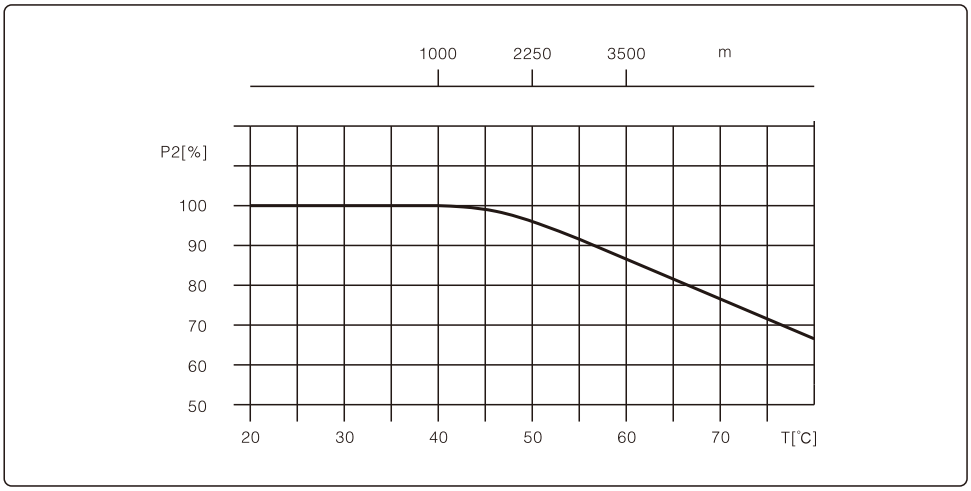
- Totally enclosed, fan-cooled, 2-pole standard motors
- Enclosure class: IP55
- Insulation class: F
- Voltage: 3x220-240/380-415V
  1x220-240V
- Available with single-phase motors(0.37kW-2.2kW)

Performance curves

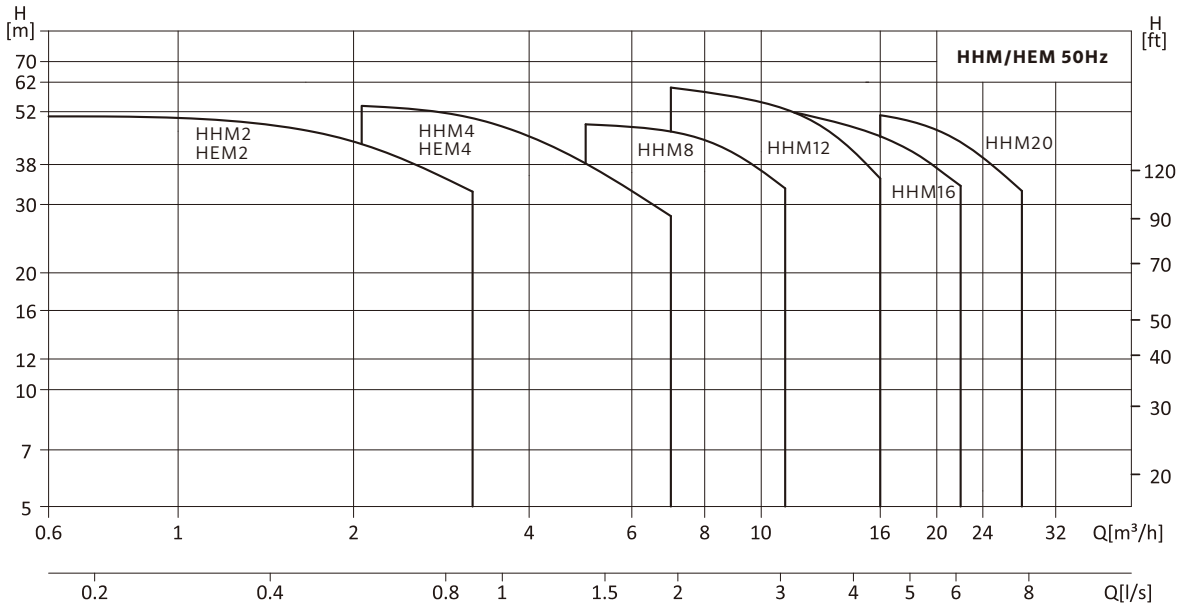
- The motors used for the measurements are based on 2900 rpm or 2950 rpm
- Tolerances to ISO 9906
- Measurements were taken using airless water at a temperature of 20°C
- The curves apply to a kinematic viscosity of 1 mm²/s.
- Select the pump's best efficient operation within the bold curve of the pump performance curve.

Ambient temperature

If the ambient temperature exceeds the 40°C or the pump is installed at an altitude exceeding 1000 m, the motor output power P2 will decrease. In such cases, it necessary to use a motor with a higher-rated output.



Pump performance range



Minimum inlet pressure, NPSH

Cavitation may occur if the following conditions exist during the operation of the water pump:

- The water tank or pool is lower than the water pump inlet.
- High liquid temperature.
- Actual flow significantly greater than rated flow.
- Pressure in the pump is lower than the vaporization pressure of the conveying liquid.

To avoid cavitation, make sure there is a minimum pressure on the inlet side of the pump. The maximum suction range H (m) can be calculated as follows:

H = Pb*10.2-NPSH-Hf-Hv-Hs

Pb = Atmospheric pressure [bar] (Atmospheric pressure can be set to 1bar)

Hf = Net positive suction head (can be read from the maximum the possible flow rate of the pump on the NPSH curve)

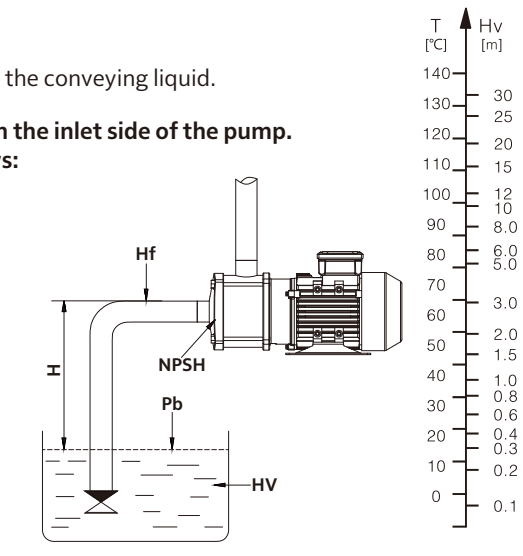
Hf = Pipeline loss at inlet

Hv = Vaporization pressure

Hs = Safety margin = Minimum 0.5m head

If the calculated value of H is positive, the pump can be operated at the maximum suction range H.

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



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

Model specification

HHM2/4/8/12/16/20

HEM2/4

HH M 8 - 20
HE M 2 - 30

- Number of stages 10
- Rated capacity
- Casting segmental design
- Horizontal multistage centrifugal pump

Applications

Water supply
- Water filtration
- Hotel water pressurization
- Industrial water pressurization

Water treatment
- Ultrafiltration system
- Reverse osmosis system
- Distillation system
- Separator
- Swimming pool

Industrial liquid transport
- Cooling and air conditioning system
- Boiler feed water
- Condensing system and cooling tower
- Machine tool cooling and lubrication system

Industrial boosting
- Cleaning system
- High-pressured flushing system
- Firefighting system
- Car cleaning equipment

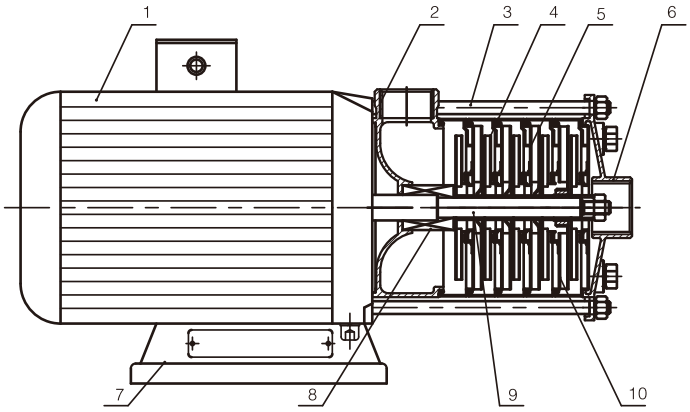
Irrigation
- Regional irrigation
- Sprinkler irrigation
- Drip irrigation
- Greenhouse irrigation

Proudct range introduction

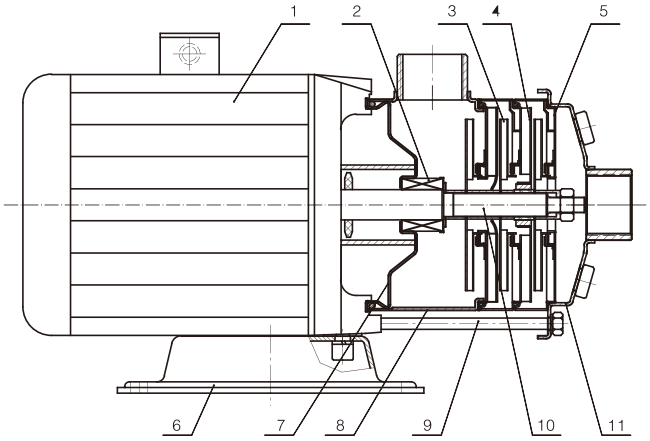
Parameter	HHM/HEM2	HHM/HEM4	HHM8	HHM12	HHM16	HHM20
Rated flow rate [m^3/h]	2	4	8	12	16	20
Rated flow rate [l/s]	0.56	1.1	2.2	3.3	4.4	5.6
Flow rate [m^3/h]	0.6~3.2	1~7	5~11	7~16	8~22	10~28
Flow rate [l/s]	0.17~0.89	0.28~1.9	1.39~3	1.9 ~4.4	2.2~6.1	2.8~7.8
Maximum pressure [bar]	5.3	5.6	5	6	5.3	5.3
Power [kW]	0.37~0.75	0.37~1.1	0.75~2.2	1.2~3	2.2~4	2.2~4.4
Temperature range [℃]	-15~105					
Highest efficiency [%]	46	58	62	63	66	69
Thread connection						
Outlet	Rp1	Rp1	Rp1¼	Rp1½	Rp2	Rp2
Inlet	Rp1	Rp1¼	Rp1½	Rp1½	Rp2	Rp2

Structure

HHM2,4,8,12,16,20



HEM2/4



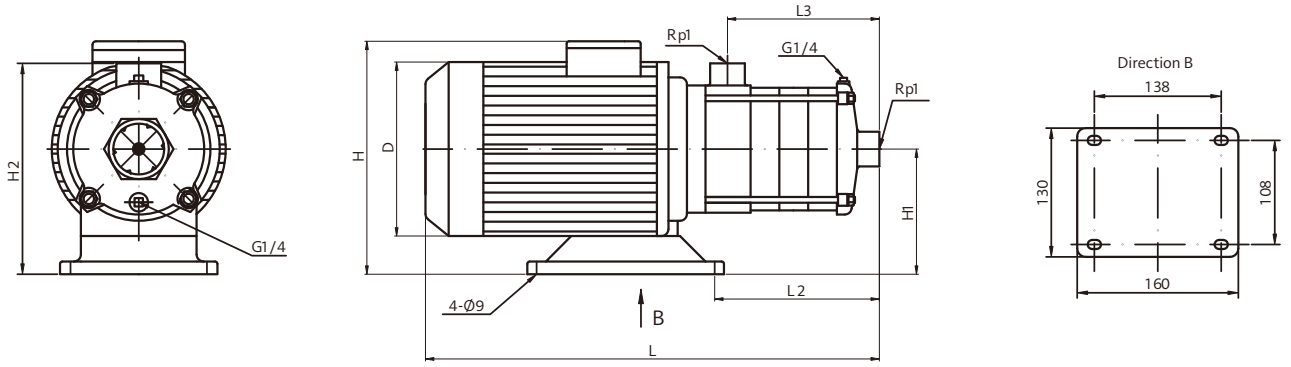
Materials HHM2,4,8,12,16,20/HEM2,4

No.	Spare parts	Material	GB	EN/DIN	AISI/ASTM
1	Motor	/	/	/	/
2	Outlet chamber	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
3	Stay bolt	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	Inlet chamber	Stainless steel	GB/T20878-06Cr19Ni10	EN 10088-1.4301	AISI304
7	Base	Steel	/	/	/
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

Performance data

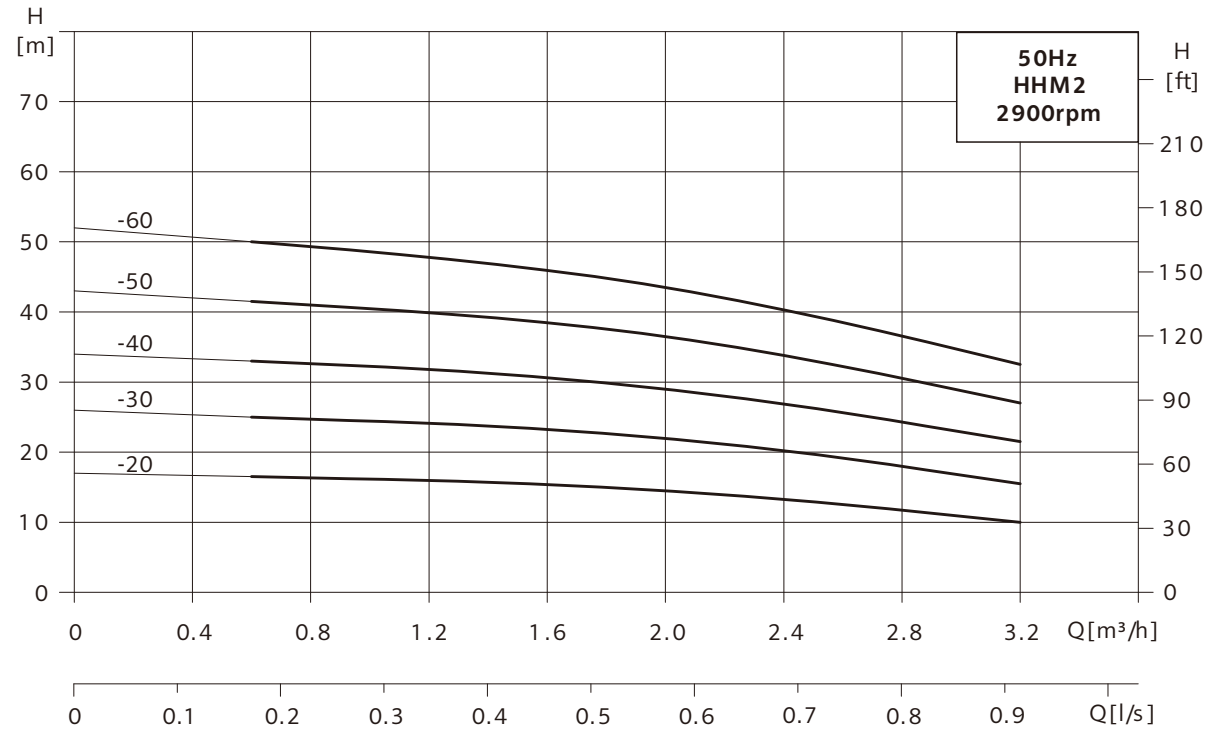
Model	Power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.2
	(kW)	(HP)								
HHM2-20	0.37	0.5	H (m)	16.5	16	15.5	14.5	13	11.5	10
HHM2-30	0.37	0.5		25	24	23	22	20.5	18	15.5
HHM2-40	0.55	0.75		33	31.5	30.5	29	27.5	25	21.5
HHM2-50	0.55	0.75		41.5	40	38.5	36.5	34	31	27
HHM2-60	0.75	1.0		50	48	46	43.5	41	37	32.5

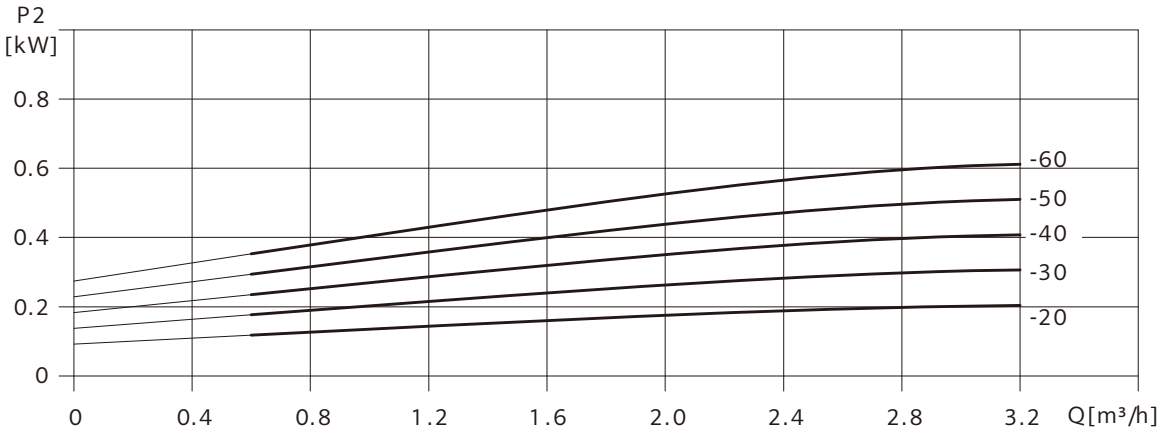
Installation dimensions and weight

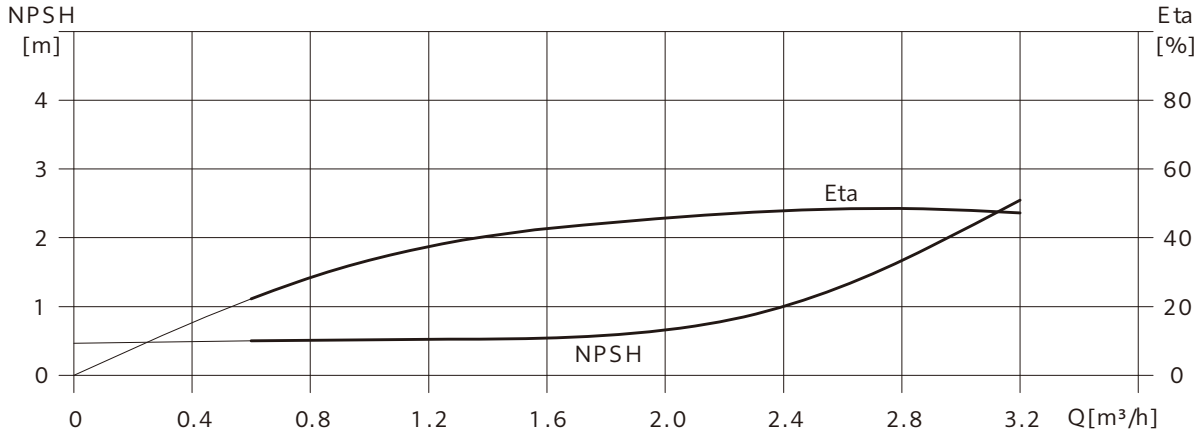


Motor	Model	Dimension(mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HHM2-20	340	90	87	216/234	110	184	136	13
	HHM2-30	358	108	105	216/234	110	184	136	13
	HHM2-40	376	126	123	216/234	110	184	136	14
	HHM2-50	394	144	141	216/234	110	184	136	14
	HHM2-60	412	162	159	216/234	110	184	136	16

Performance curve



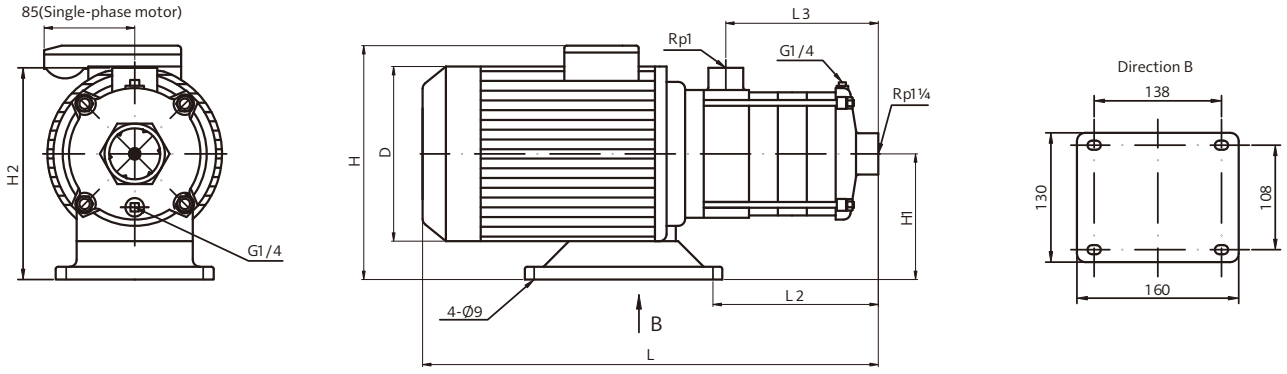




Performance data

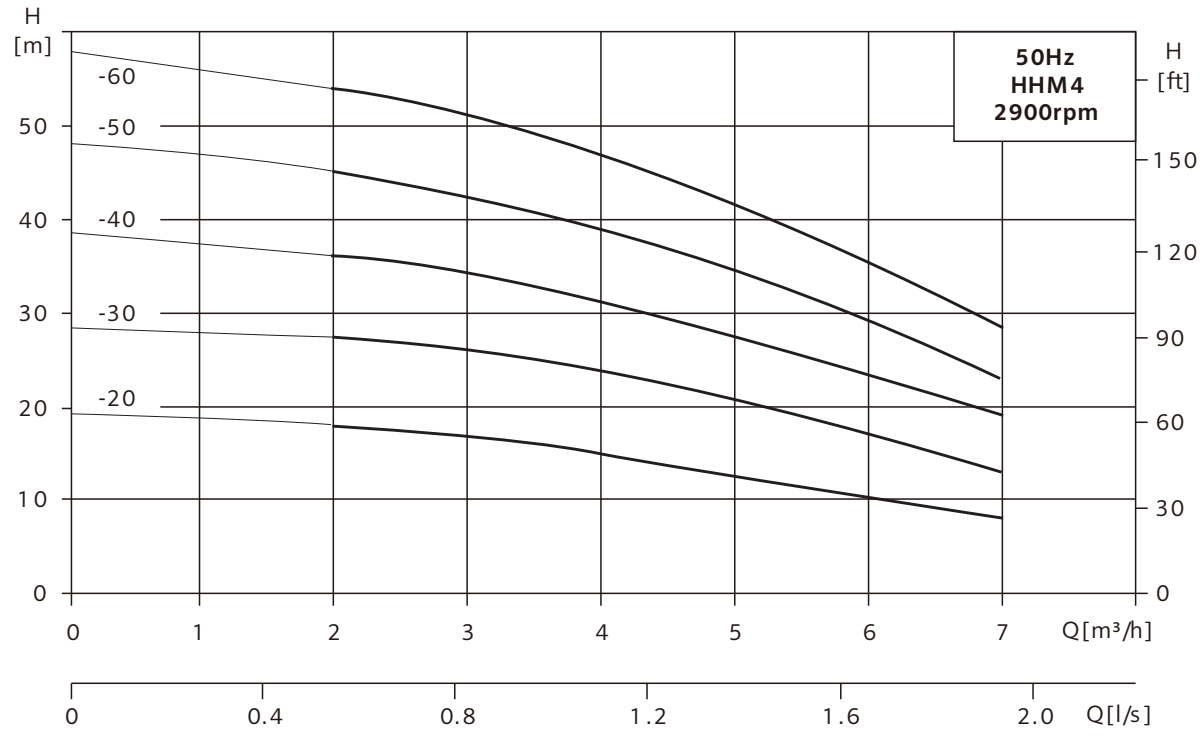
Model	Power		Q (m^3/h)	1	2	3	4	5	6	7
	(kW)	(HP)								
HHM4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	7.5
HHM4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HHM4-40	0.75	1.0		37.5	36	34	31	27	23	19
HHM4-50	1.1	1.5		47	45	42.5	39	34	29	23
HHM4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

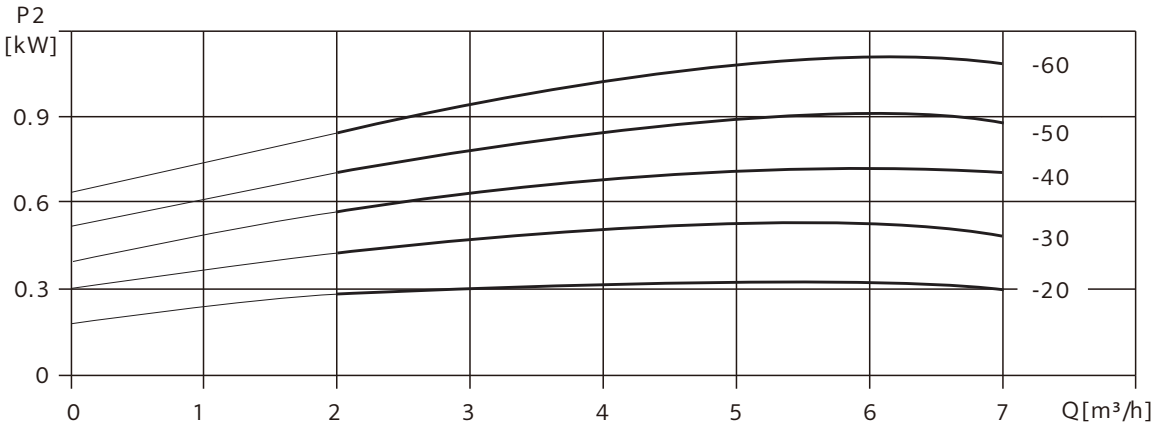
Installation dimensions and weight

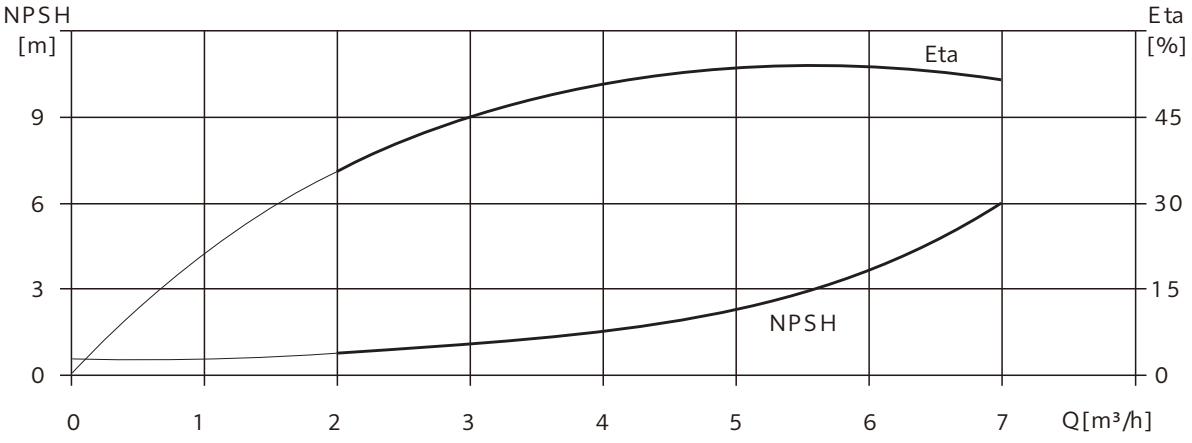


Motor	Model	Dimension(mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HHM4-20	358	108	105	216/234	110	184	136	13
	HHM4-30	385	135	132	216/234	110	184	136	13
	HHM4-40	412	162	159	216/234	110	184	136	14
	HHM4-50	439/472	189	186	216/249	110/118	184/192	136/146	16
	HHM4-60	466/472	216	213	216/249	110/118	184/192	136/146	16

Performance curve



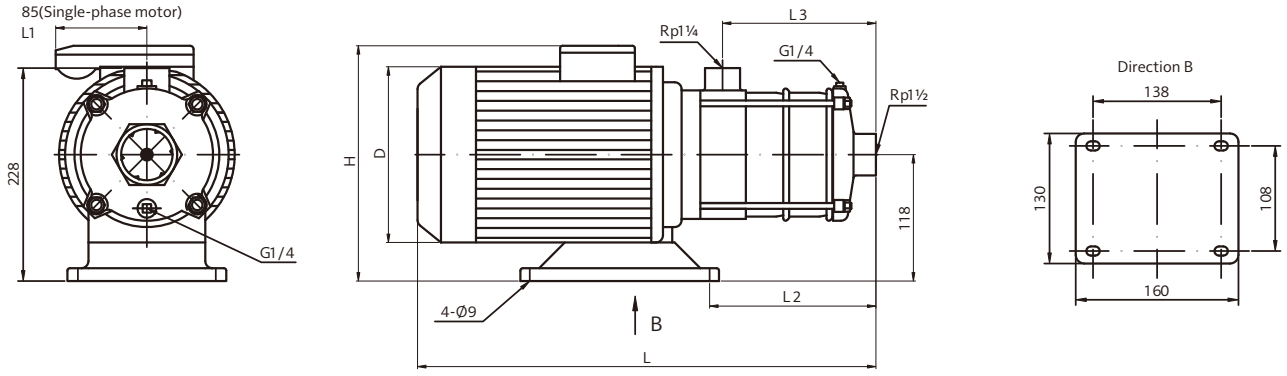




Performance data

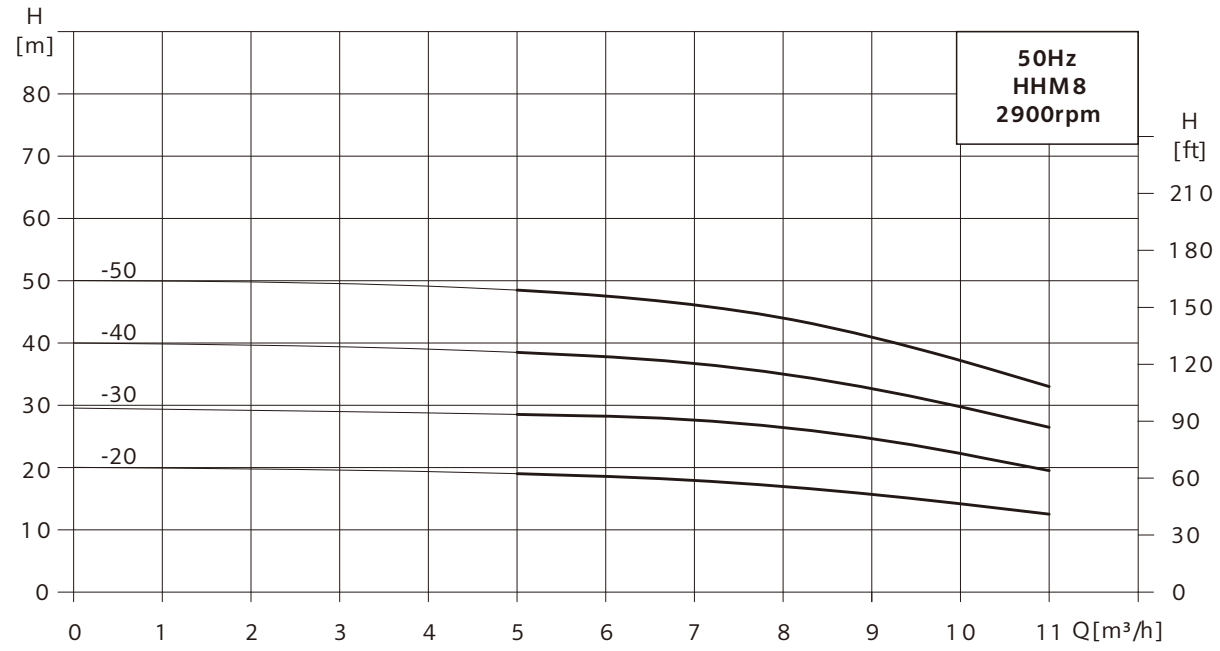
Model	Power		Q (m^3/h)	5	6	7	8	9	10	11
	(kW)	(HP)								
HHM8-20	0.75	1.0	H (m)	19	18.5	18	17	16	14.5	12.5
HHM8-30	1.1	1.5		28.5	28	27.5	26.5	25	22.5	19.5
HHM8-40	1.5	2.0		38.5	37.5	36.5	35	33	30	26.5
HHM8-50	2.2	3.0		48.5	47.5	46	44	41	37.5	33

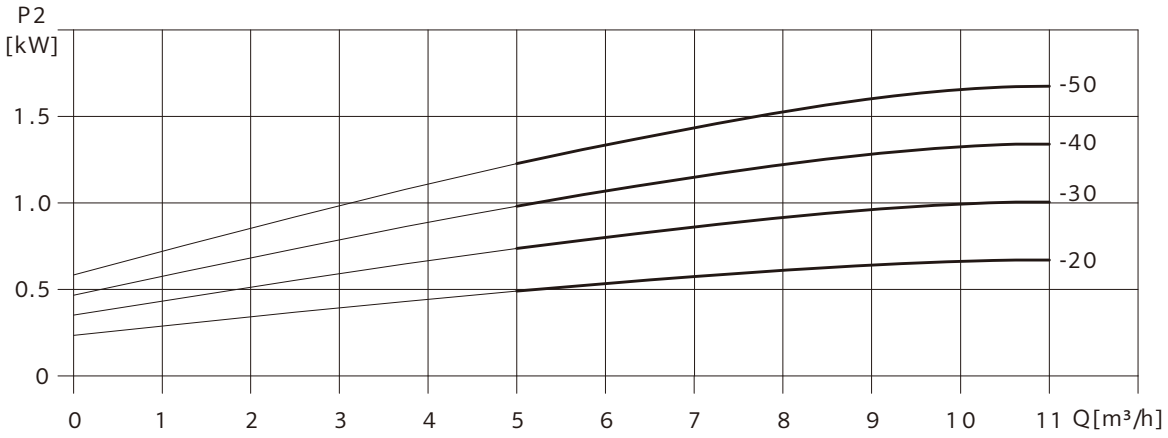
Installation dimensions and weight

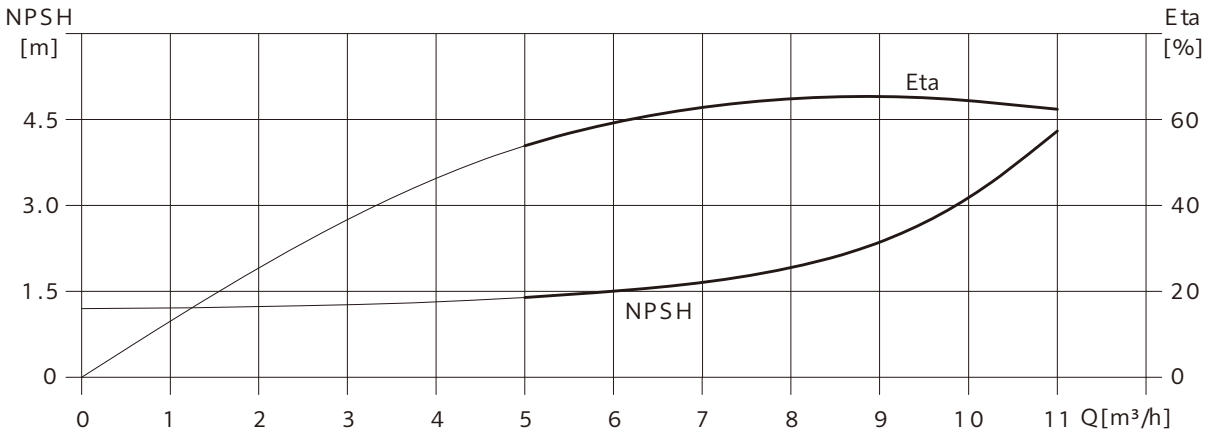


Motor	Model	Dimension(mm)						Weight (kg)
		L	L1	L2	L3	H	D	
3ph/1ph	HHM8-20	383	— /90	130	108	224/242	136	20
	HHM8-30	413/439	— / 90	160	138	224/249	136/146	24
	HHM8-40	473/508	— /97.5	190	168	230/252	146/159	28
	HHM8-50	538	—/97.5	220	198	241/252	159	30

Performance curve



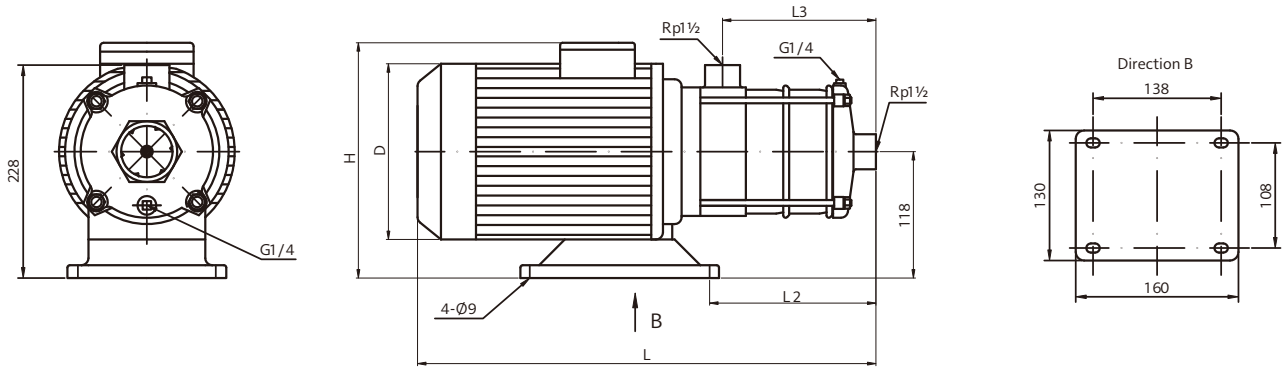




Performance data

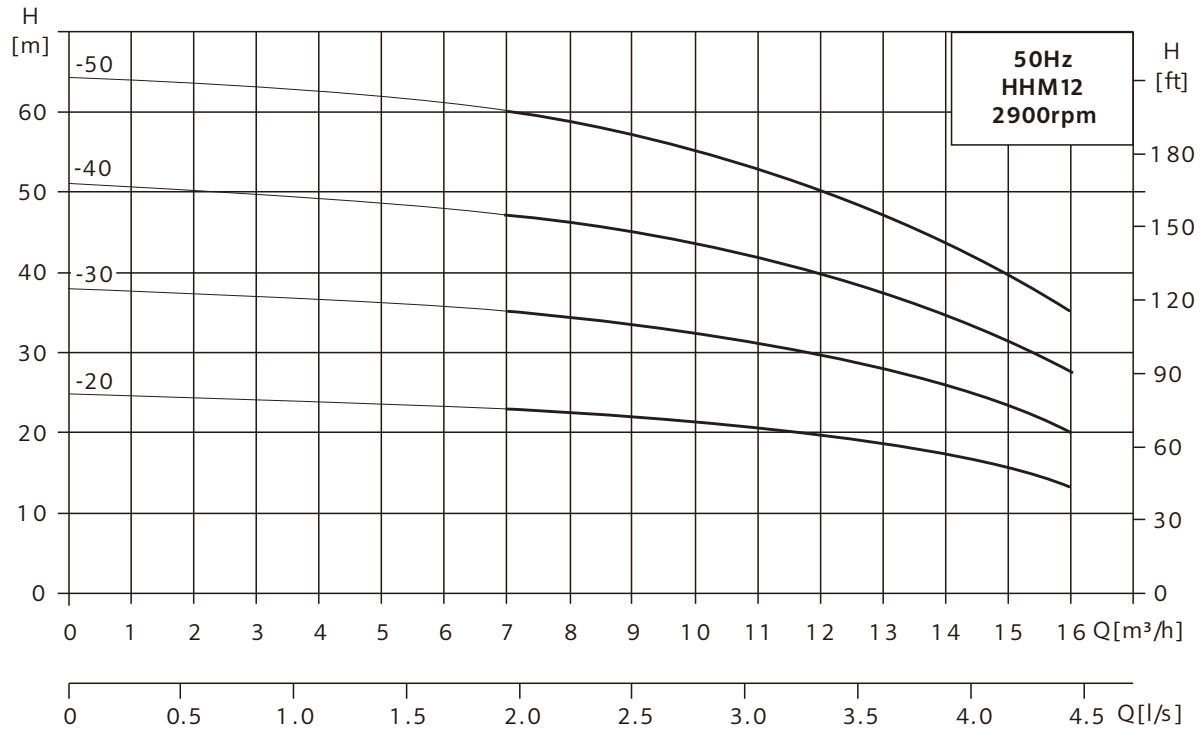
Model	Power		Q (m^3/h)	7	9	11	12	13	15	16
	(kW)	(HP)								
HHM12-20	1.2	1.6	H (m)	23	22	20.5	19.5	18.5	15.5	13
HHM12-30	1.8	2.4		35	33.5	31	29.5	28	23.5	20
HHM12-40	2.4	3.3		47	45	41.5	39.5	37.5	31.5	27.5
HHM12-50	3.0	4.0		60	56.5	52.5	50	47	40	35

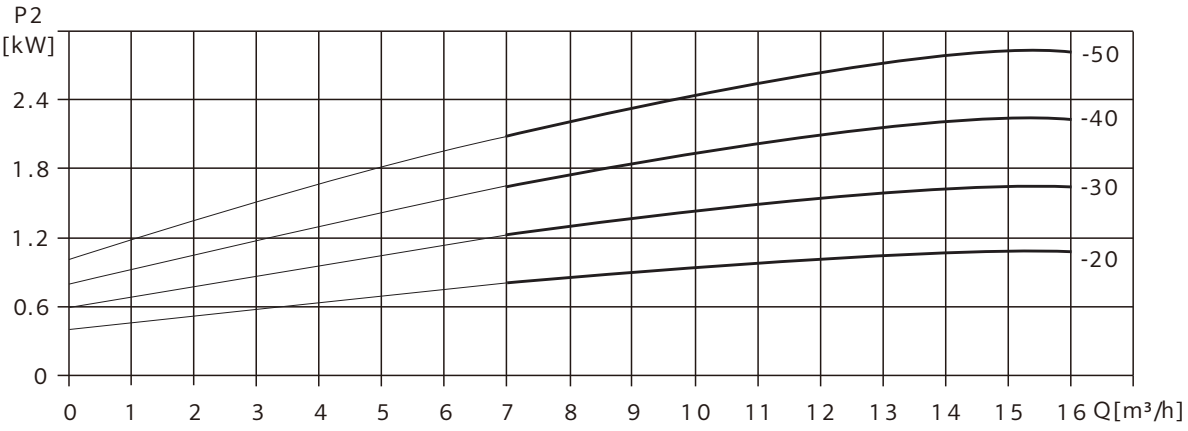
Installation dimensions and weight

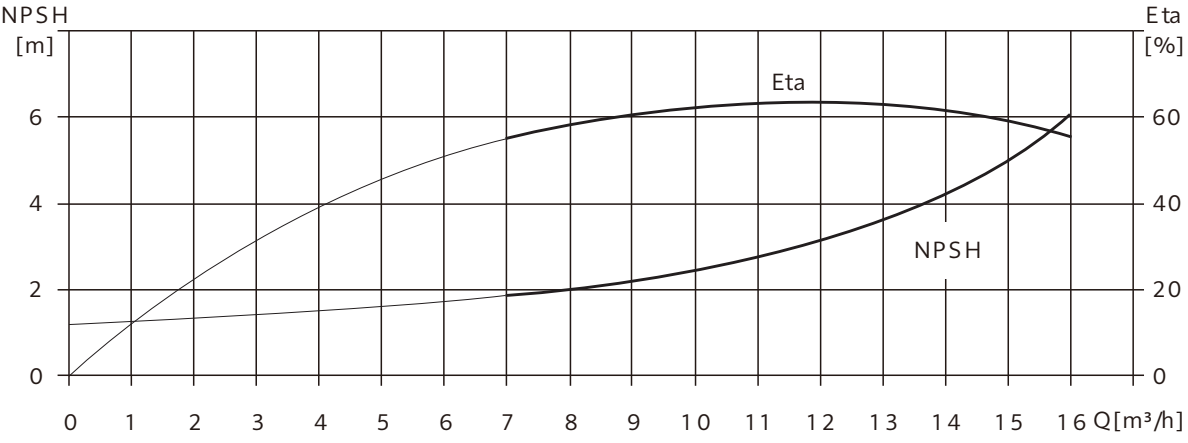


Motor	Model	Dimension(mm)					Weight (kg)
		L	L2	L3	H	D	
3ph/1ph	HHM12-20	413	130	108	230 / 250	146	21
	HHM12-30	443	160	138	230 / 257	146	25
	HHM12-40	508	190	168	241 / 254	159	29
	HHM12-50	538	220	198	241 / 254	159	34

Performance curve



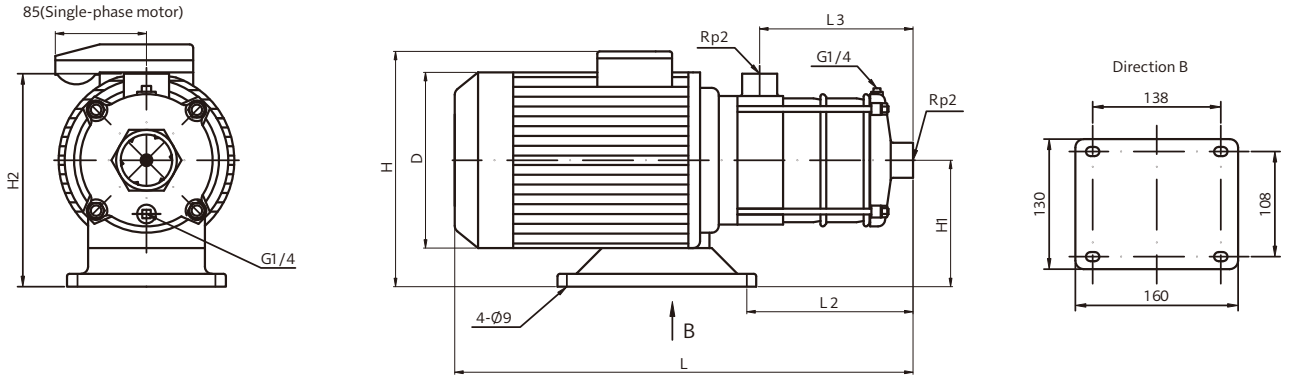




Performance data

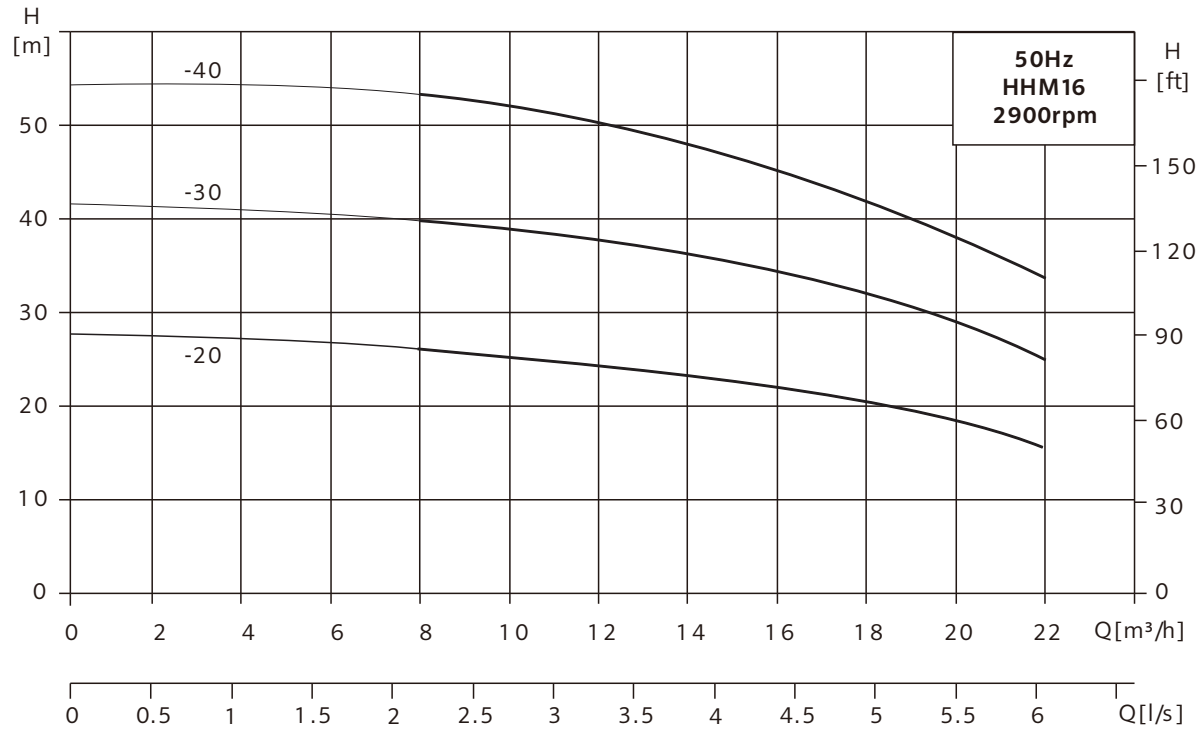
Model	Power		Q (m^3/h)	8	10	12	14	16	18	20	22
	(kW)	(HP)									
HHM16-20	2.2	3	H (m)	26	25	24	23	21.6	20	18	15.5
HHM16-30	3	4		40	39	38	36	34	31.5	29	25
HHM16-40	4	5.5		53.5	52	50	48	45	42	38	33.5

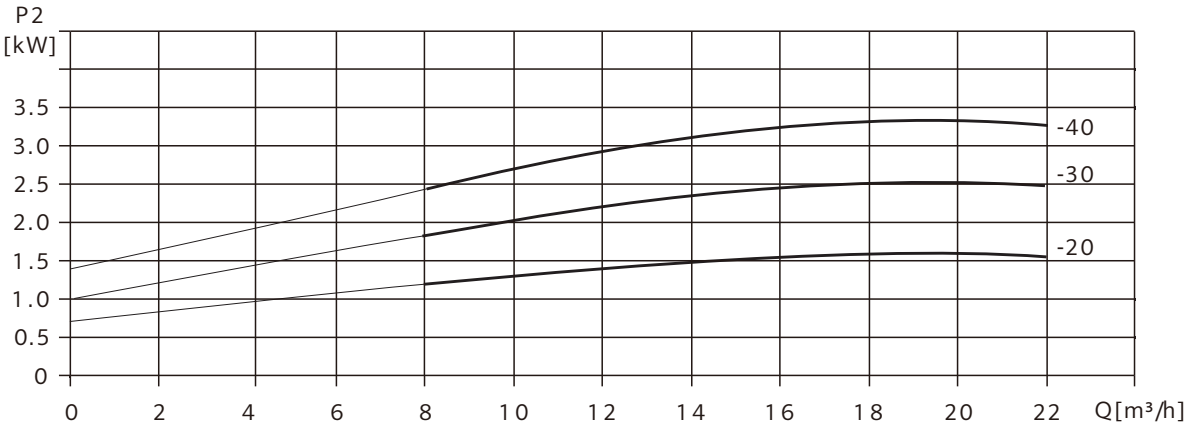
Installation dimensions and weight

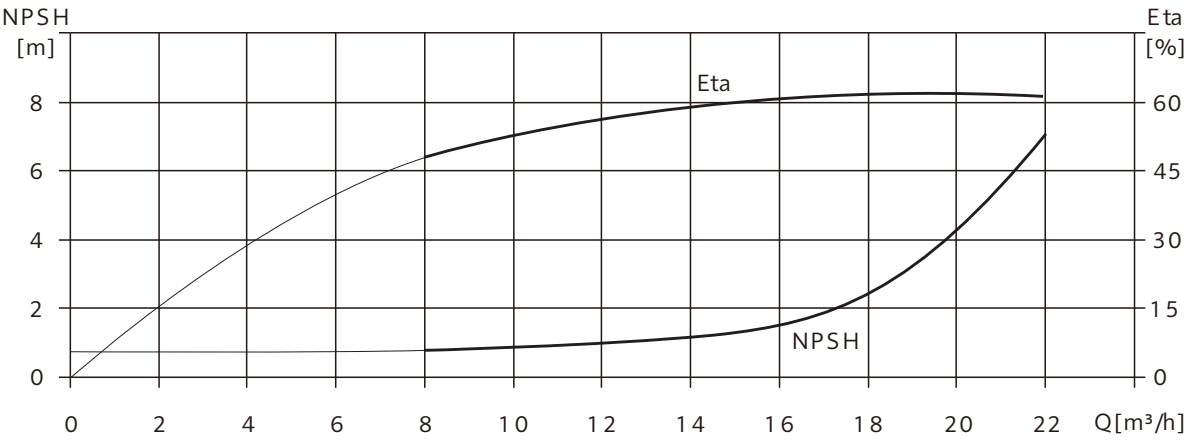


Motor	Model	Dimension(mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HHM16-20	473	155	127	241/252	118	228	159	27
	HHM16-30	518	200	172	241/—	118	228	159	33
	HHM16-40	601	245	217	285/—	130	240	192	40

Performance curve



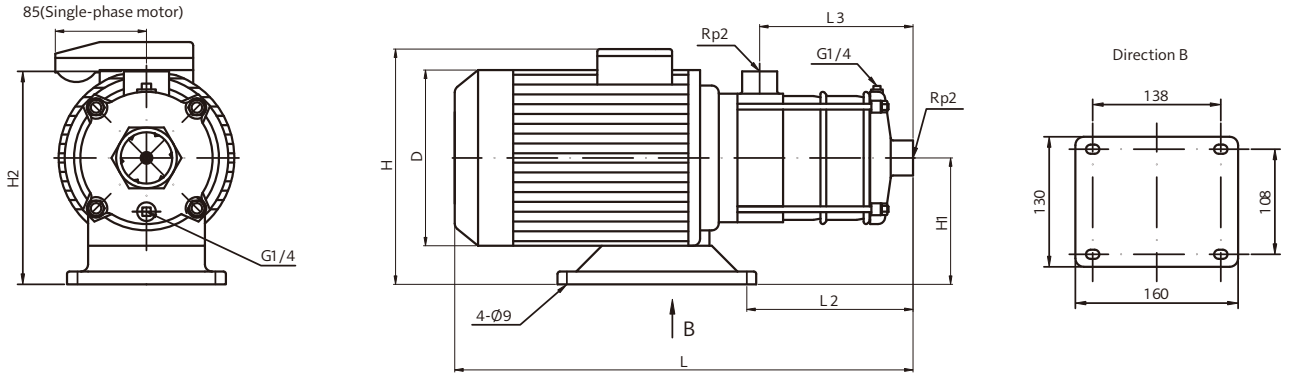




Performance data

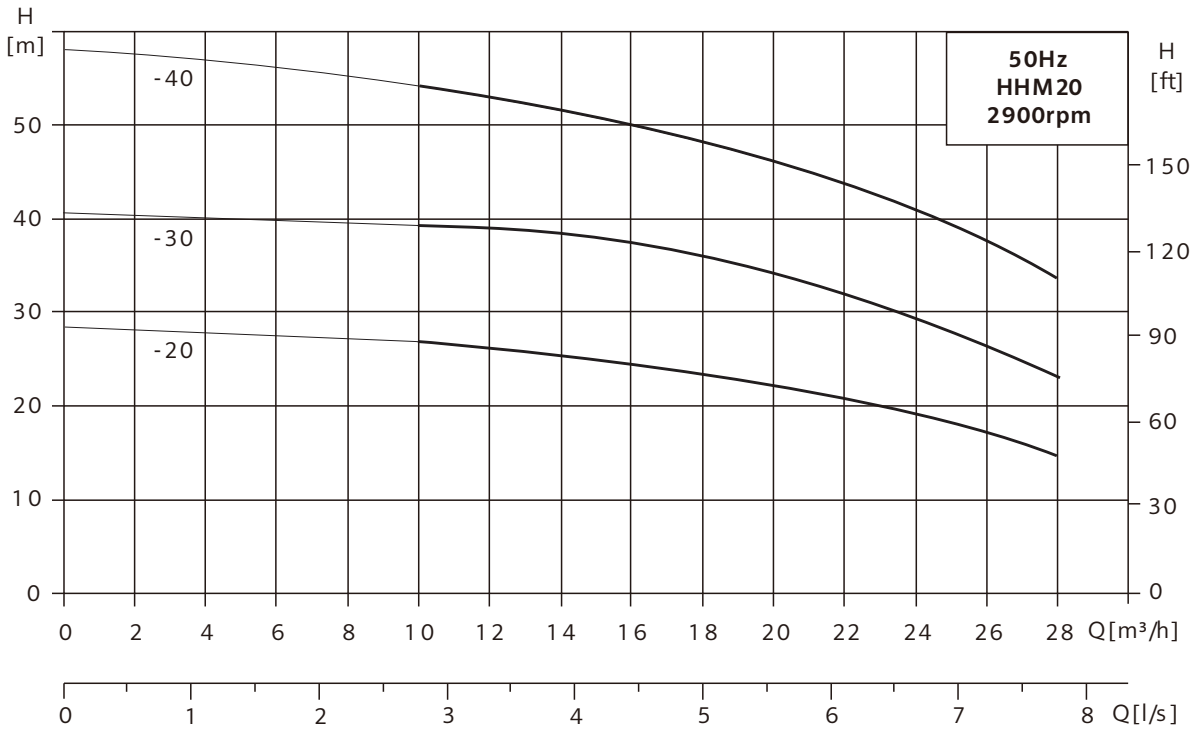
Model	Power		Q (m^3/h)	10	14	16	18	20	22	24	28
	(kW)	(HP)									
HHM20-20	2.2	3	H (m)	27	25.5	25	23.5	22	20.5	18.5	14.5
HHM20-30	4	5.5		39.5	38	37.5	35.5	34	31	29	23
HHM20-40	4.4	6		53	51	50	48.5	46.5	43	40	32.5

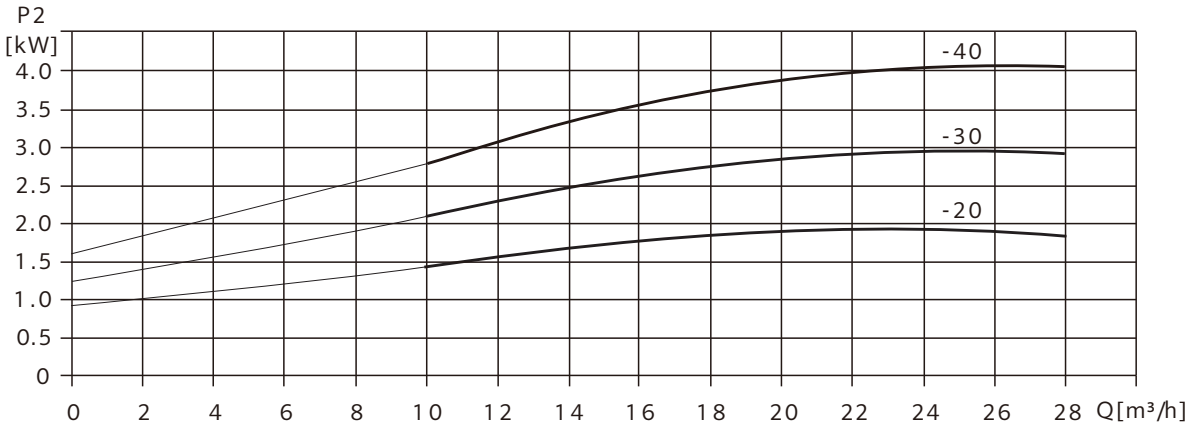
Installation dimensions and weight

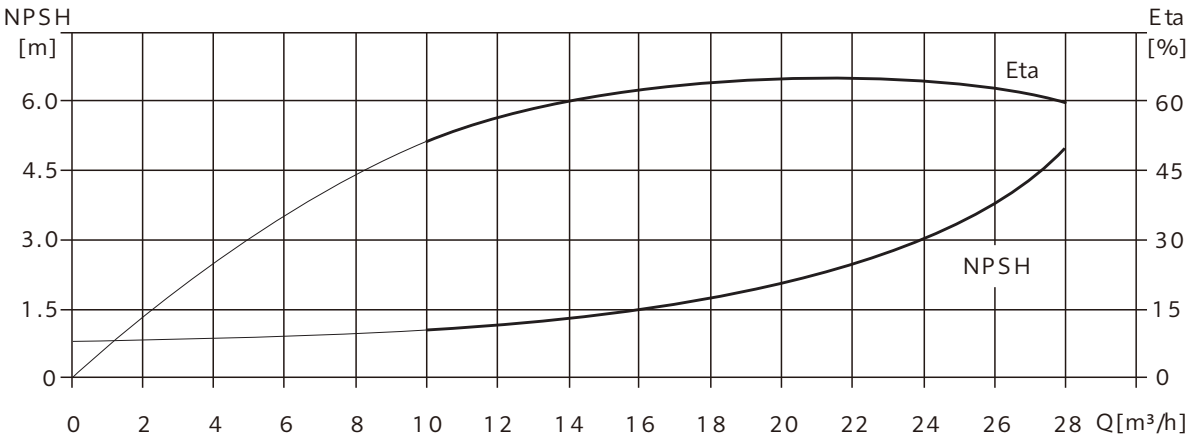


Motor	Model	Dimension(mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HHM20-20	473	155	127	241/252	118	228	159	27
	HHM20-30	556	200	172	285/—	130	240	192	40
	HHM20-40	601	245	217	285/—	130	240	192	44

Performance curve



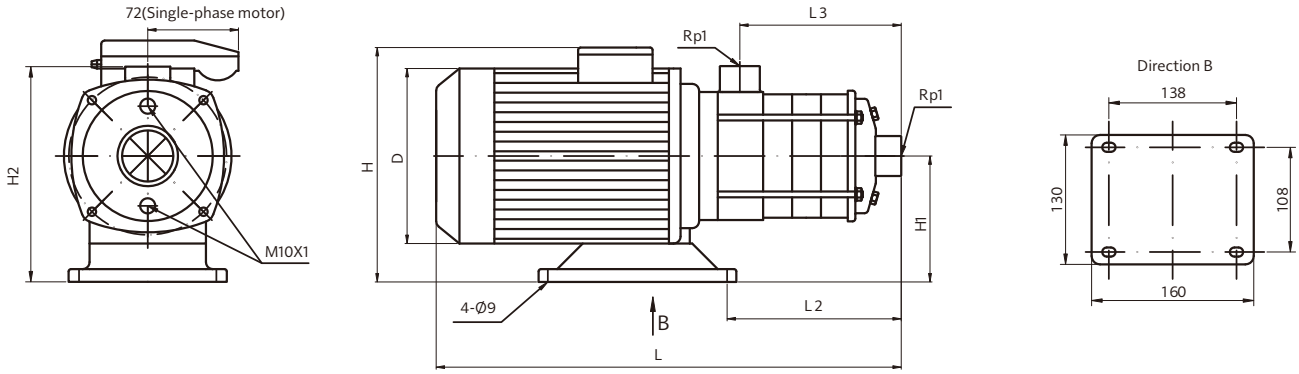




Performance data

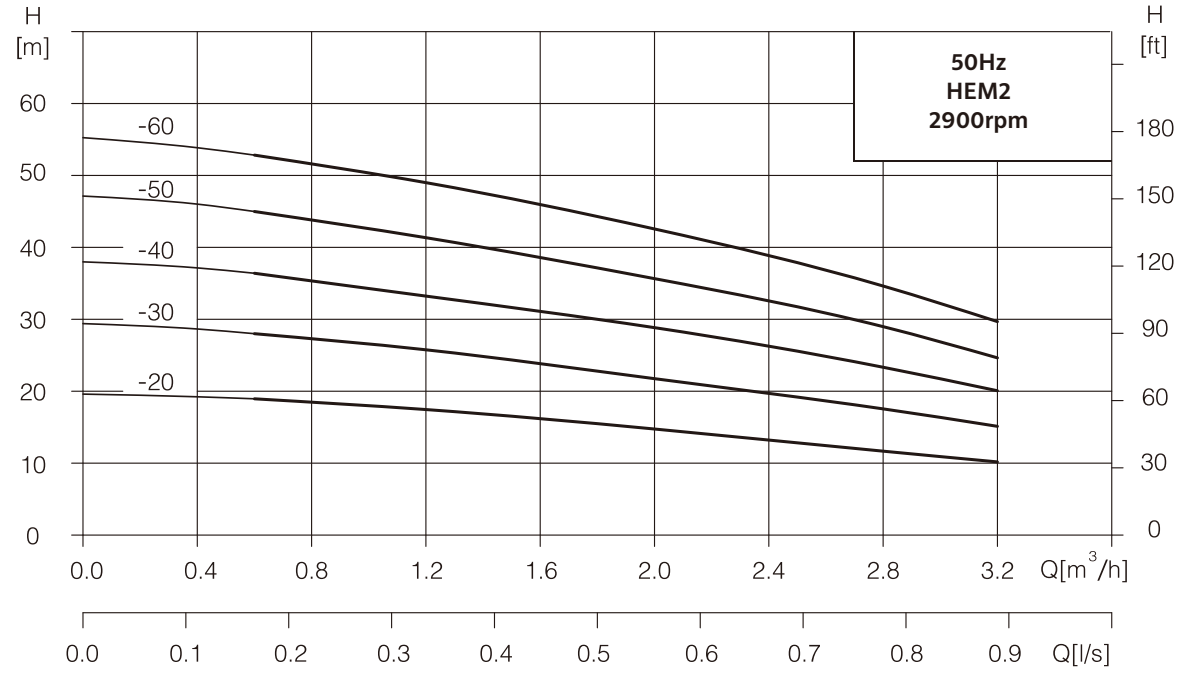
Model	Power		Q (m^3/h)	0.6	1.2	1.6	2	2.4	2.8	3.2
	(kW)	(HP)								
HEM2-20	0.37	0.5	H (m)	18.6	17.6	16	15	13.5	10.6	9.3
HEM2-30	0.37	0.5		27.7	26	24	22	19.5	16.5	13.5
HEM2-40	0.55	0.75		35.7	34	32	29	25.5	23.5	19
HEM2-50	0.55	0.75		45	42	39	36	33	28	24.5
HEM2-60	0.75	1		53	50	47.5	43.5	39	34	29.5

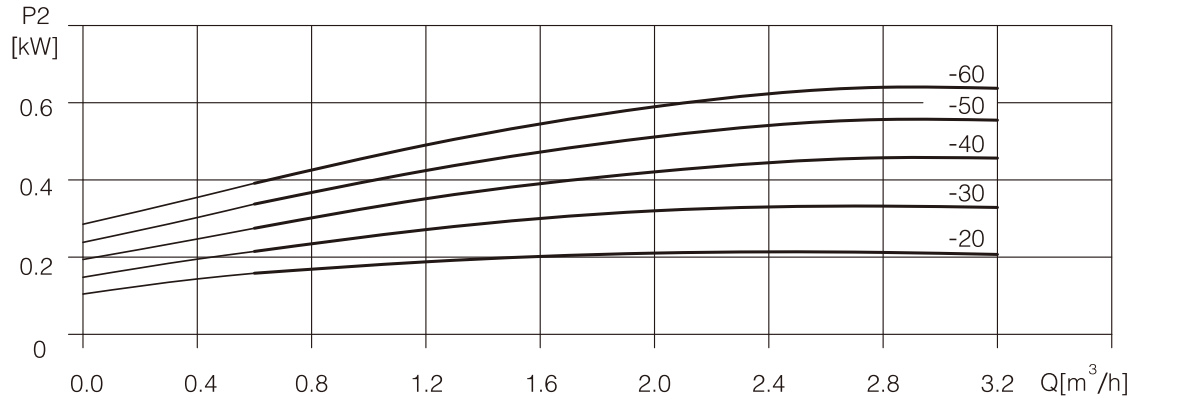
Installation dimensions and weight

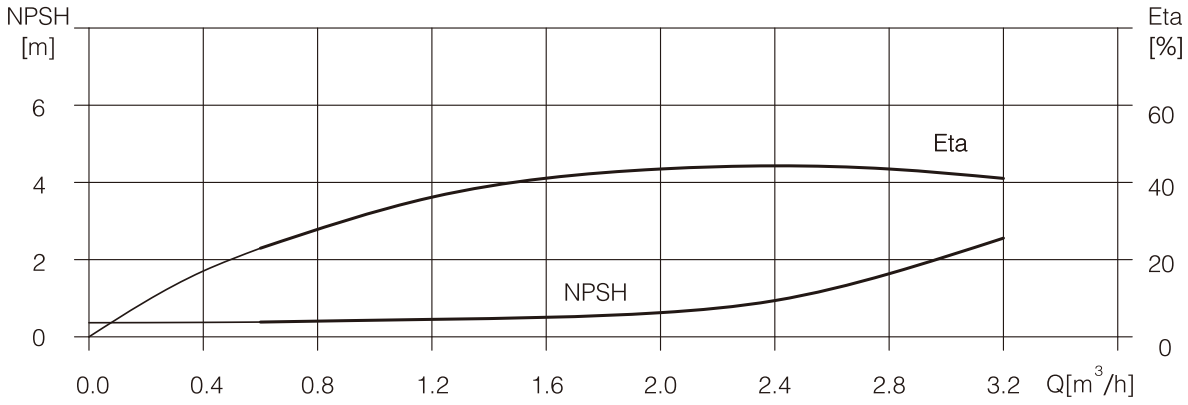


Motor	Model	Dimension (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HEM2-20	329	117	87	198/216	100	179	118	12
	HEM2-30	347	135	105	198/216	100	179	118	12
	HEM2-40	365	153	123	198/216	100	179	118	13
	HEM2-50	383	171	141	198/216	100	179	118	13
	HEM2-60	420	175	159	216/234	110	189	136	14

Performance curve



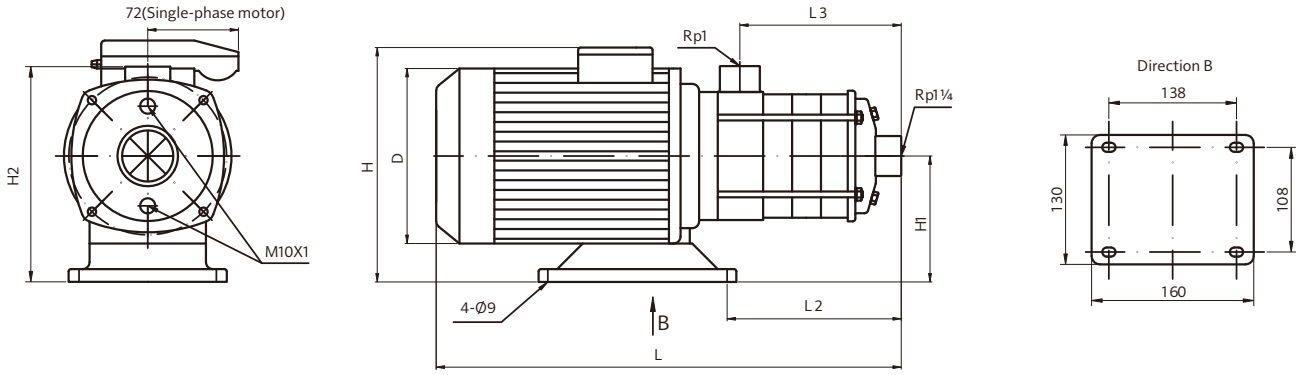




Performance data

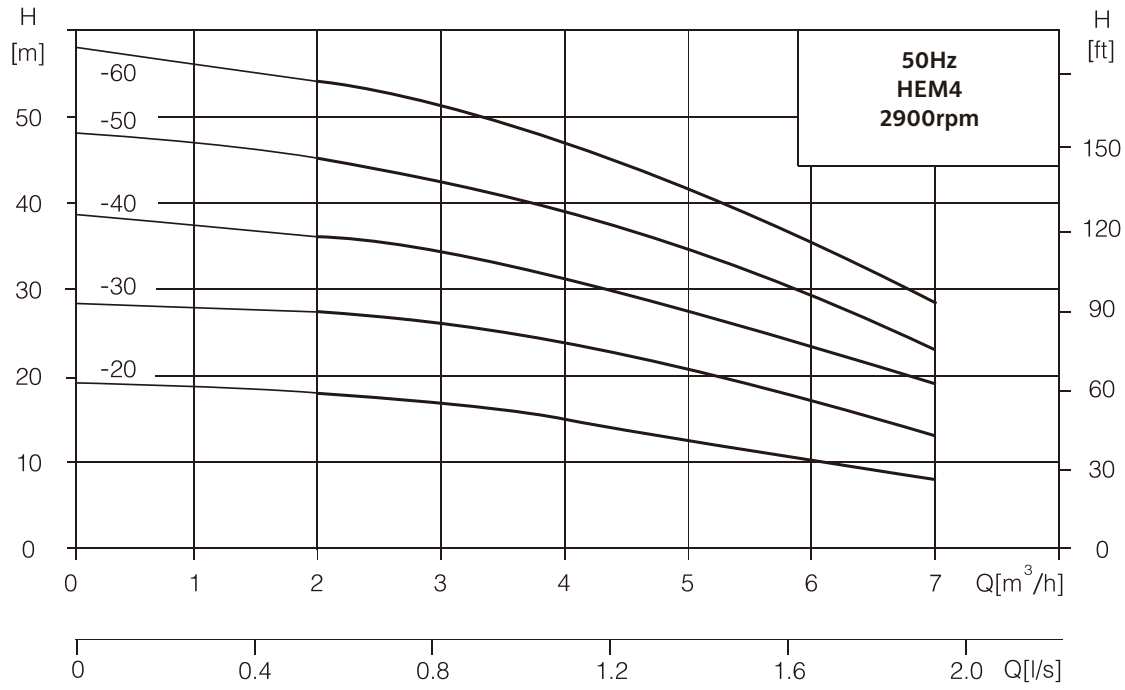
Model	Power		Q (m^3/h)	1	2	3	4	5	6	7
	(kW)	(HP)								
HEM4-20	0.37	0.5	H (m)	19	18	17	15	12.5	10	7.5
HEM4-30	0.55	0.75		28	27	26	23.5	20.5	17	13
HEM4-40	0.75	1		37.5	36	34	31	27	23	19
HEM4-50	1.1	1.5		47	45	42.5	39	34	29	23
HEM4-60	1.1	1.5		56	54	51	47	41.5	35.5	28

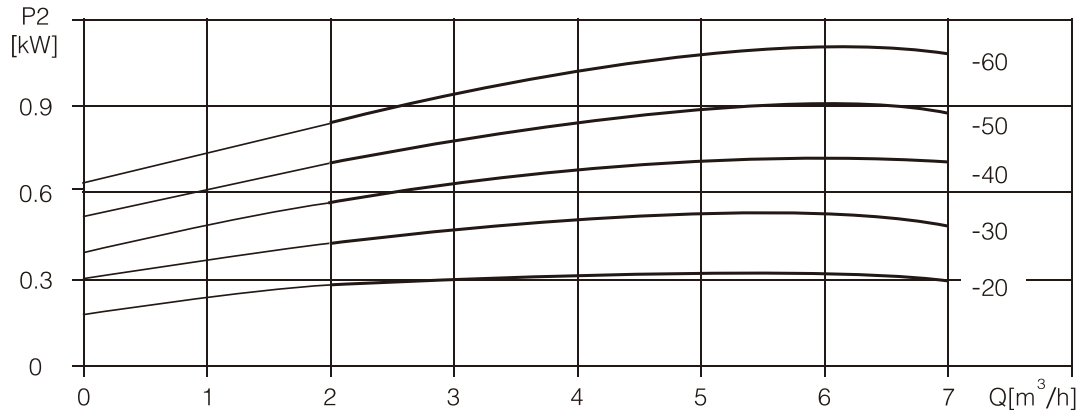
Installation dimensions and weight

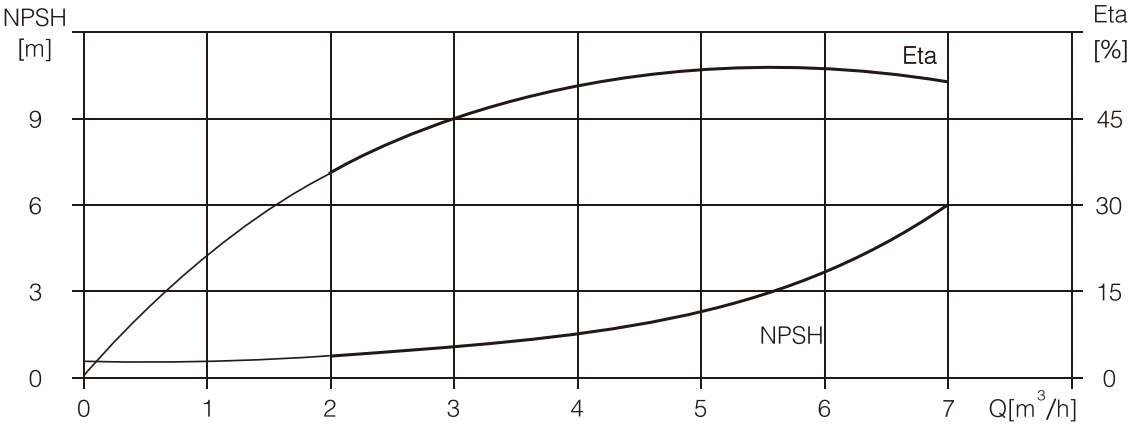


Motor	Model	Dimension (mm)							Weight (kg)
		L	L2	L3	H	H1	H2	D	
3ph/1ph	HEM4-20	340	128	98	198/216	100	179	118	12
	HEM4-30	367	155	125	198/216	100	179	118	12
	HEM4-40	413	168	152	216/234	110	189	136	13
	HEM4-50	440	195	179	216/234	110	189	136	15
	HEM4-60	467	222	206	216/234	110	189	136	15

Performance curve







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