

## CHME

Horizontal Intelligent  
Constant Pressure Variable  
Frequency Pumps





## Company profile

Nanfeng Pump Industry Co.,Ltd (CNP),as a subsidiary of Nanfang Zhongjin Environment Co.,Ltd, was founded in 1991,and listed on Shenzhen Stock Exchange on December 9,2010 with stock code 300145.

In 2019, CNP's annual output exceeded 900,000 units/set with nearly 3 billion sales revenue, continuing to maintain high growth. As a national enterprise technology center, CNP has flagship ultra-high efficient product -new generation CDM (F) light vertical multistage centrifugal pump,  $MEI \geq 0.7$ . Same series high temperature pump products are developed in 2019 to satisfy high temperature applications. All light stainless steel pump product series grow stably. Advanced frequency conversion water supply equipment has been innovated to the 6th generation. Fire pump and diesel engine have obtained UL certification. TD in-line pump, NIS/NISO end suction pump, NSC split casing pump, WQ sewage pump, PQ stainless steel fountain submersible pump, BP silent tube pump, pool pump, non-blocking self-priming sewage pump, metering pump, oil pump and other pump products, can meet various application needs of different fields.

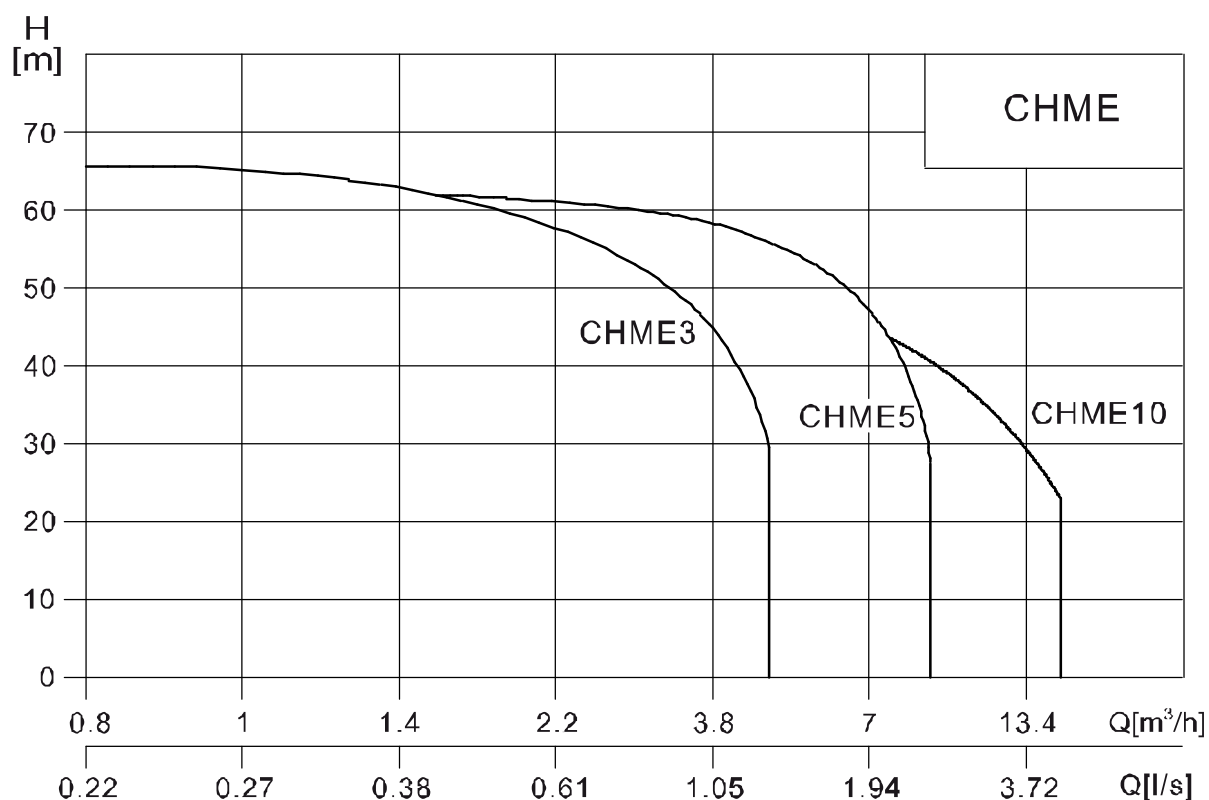
CNP has a complete sales network both in domestic and overseas market,exporting to over 60 countries and regions, maintaining long-term relationship with our clients. CNP pumps have been widely applied in various fields like water treatment, water supply and drainage, HVAC, industrial application, seawater desalination, energy and power etc.

CNP, a green water expert beside you.

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## Performance Range



## Product Range

Model	Features	CHME		
		3	5	10
Rated Flow [m³/h]		3	5	10
Rated Flow [l/s]		0.83	1.39	2.78
Flow Range [m³/h]		0.8 ~ 5.2	1.3 ~ 10	3 ~ 17
Flow Range [l/s]		0.22 ~ 1.44	0.36 ~ 2.78	0.83 ~ 4.72
Motor Efficiency [kW]		0.37 ~ 1.1	0.55 ~ 1.5	1.5 ~ 2.2
Temperature Range [°C]		-15 ~ 105		
Highest Efficiency [%]		57	67	69
Inlet Pipeline / Outlet Pipeline		G1/G1	G1¼/G1	G1½/G1½

## Product Introduction

CHME Series Horizontal Intelligent Constant Pressure Variable Frequency Pump adopts frequency conversion speed regulation technology and automatic control technology. It combines with CHM Non-Self-Priming Light Horizontal Multistage Centrifugal Pump which is high efficient and energy saving. The whole machine is mainly composed of CHM pump, controller, sensor, pressure tank, check valve and axial pressure gauge. It has the characteristics of stable performance, high efficiency, fully automatic intelligent control, low noise, corrosion resistance, with compact structure, beautiful appearance, small size and light weight.

## Motor

TEFC 2-pole motor  
Protection class: Ip55  
Insulation class: F

## Controller

Protection class: Ip55  
Input power: 1×220 V 50/60Hz  
Frequency variable range: 30~60Hz

## Function and Features

### Fully automatic operation:

It can start and stop automatically according to demand, and can automatically adjust speed according to the water amount to ensure constant pressure and energy saving.

### Clean and sanitary:

The flow parts are all made of stainless steel to ensure that the water quality will not be contaminated again.

### Constant pressure:

Keep constant pipeline pressure through Differential Compensation Principle of pressure tank.

### Electrical protection:

The controller has protection against overcurrent, overload, and lack-phase. When the controller detects an electrical fault, an inverter fault signal will appear on the display screen and the pump will be automatically shut down to protect it.

### Self-set pressure:

The pressure can be set by the control panel within the pump performance range.

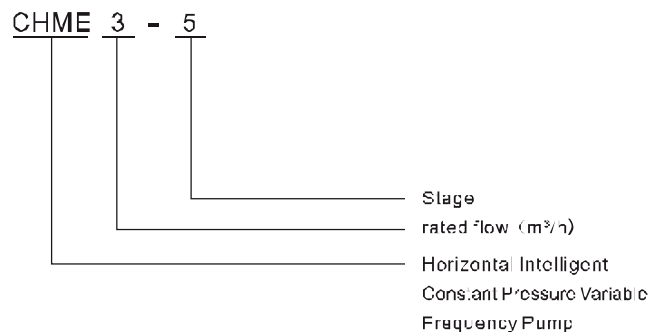
### High efficiency and energy saving:

When the user's water consumption is reduced, the controller drives the motor to run slowly, thereby reducing the actual output power of the pump. Compared with the traditional power frequency motor (constant speed), the power consumption of the pump is greatly reduced. This enables users to save power.

## Working condition

Liquid temperature: For normal type, -15°C~ +70 °C  
For hot water type, -15°C~ +105 °C  
Max. ambient temperature: 40 °C  
Max. working pressure: 10 bar  
pH range: pH5-9

## Model definition



## Application

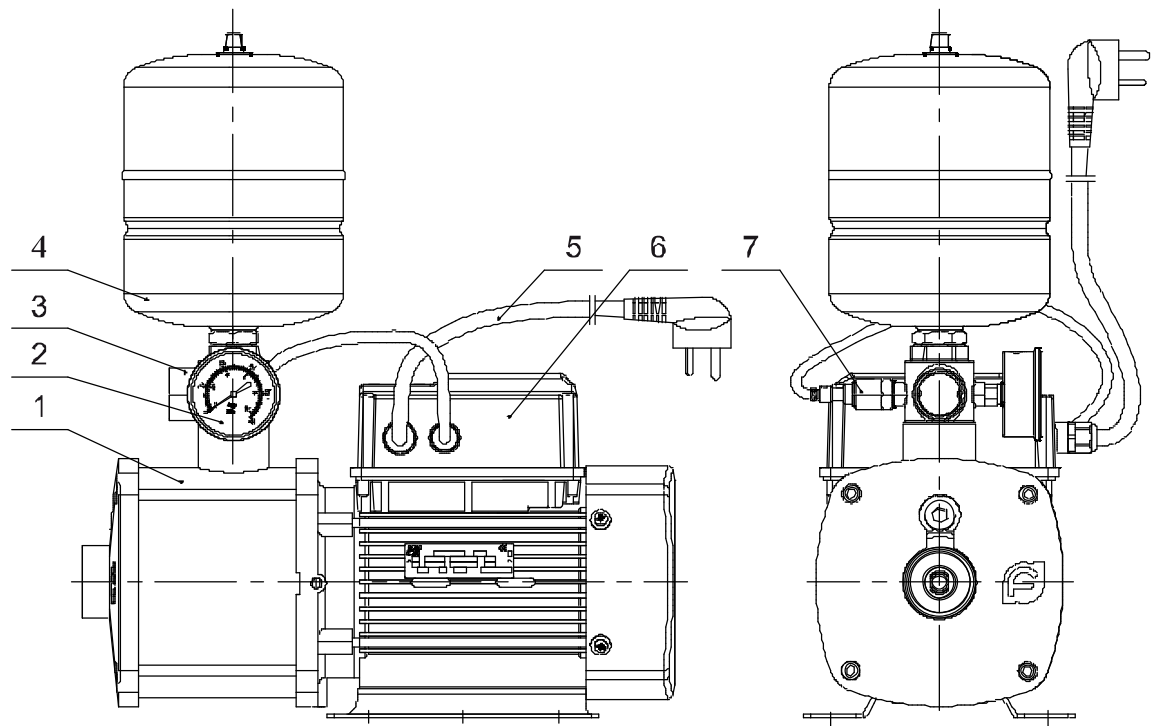
Filtration water system  
Industrial water circulation system  
Cooling water system  
Urban residential home water supply system

## Curve conditions

Following conditions are suitable for the performance curves shown above.

1. All curves are based on measured values under motor speed 3500rpm.
2. Curve tolerance in conformity with ISO9906:2012, Grade 3B.
3. Measurement is done with 20°C air-free water, kinematic viscosity of 1mm<sup>2</sup>/sec.
4. The operation of pump shall refer to the performance region indicated by the thickened curve to prevent overheating due to too small flow rate or overload of motor due to too large flow rate.

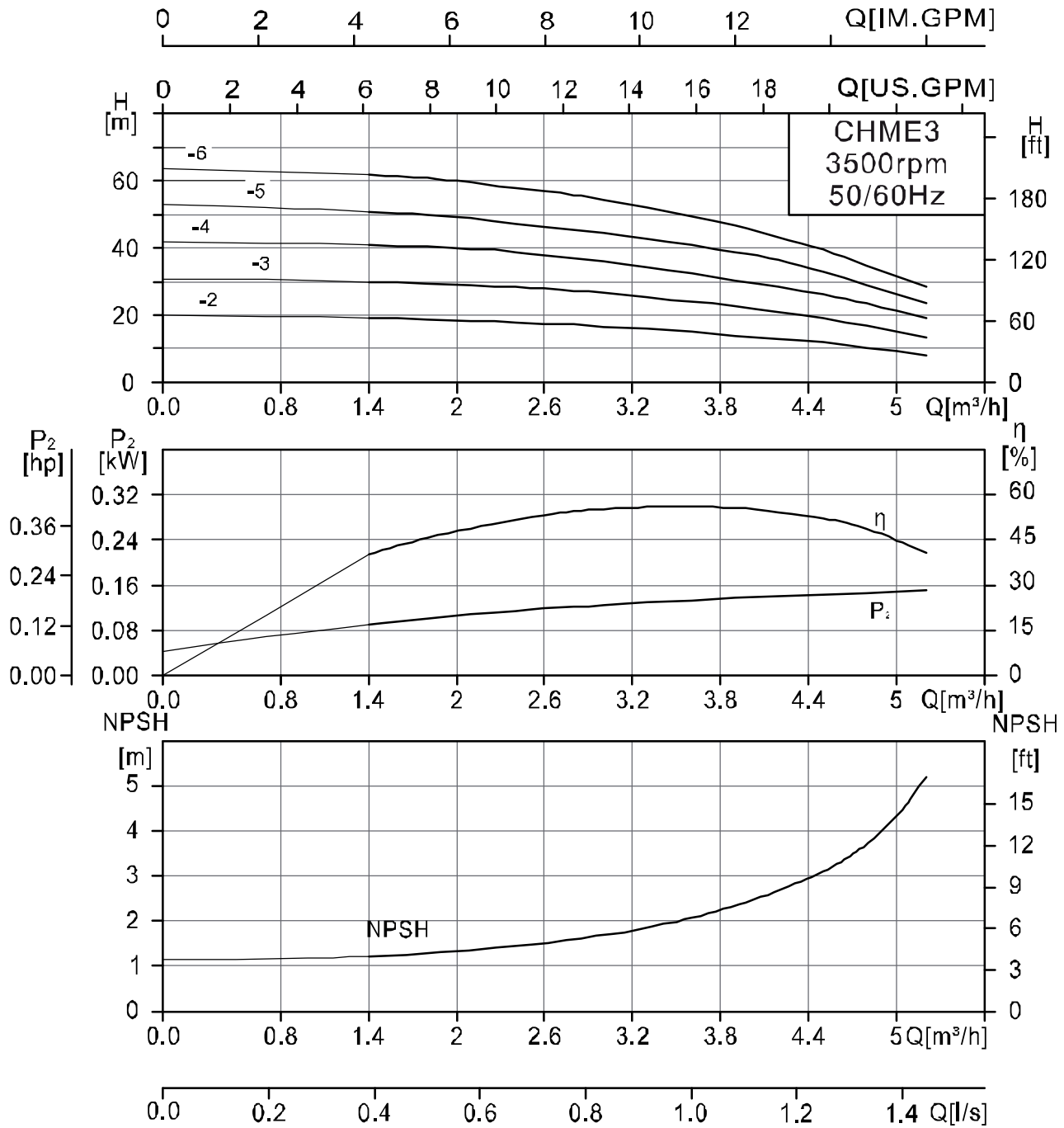
## Layout Drawing



## Component Part List

No.	Part Name	Remark
1	CHM pump	Light horizontal multistage centrifugal pump
2	Axial pressure gauge	0 ~ 1.0MPa
3	Five-way check valve	Stainless Steel (AISI304)
4	Pressure tank	
5	Power cable	3×1.5mm <sup>2</sup> (10A250V)
6	Controller	0.37 ~ 2.2kW
7	Pressure sensor	0 ~ 1.0MPa

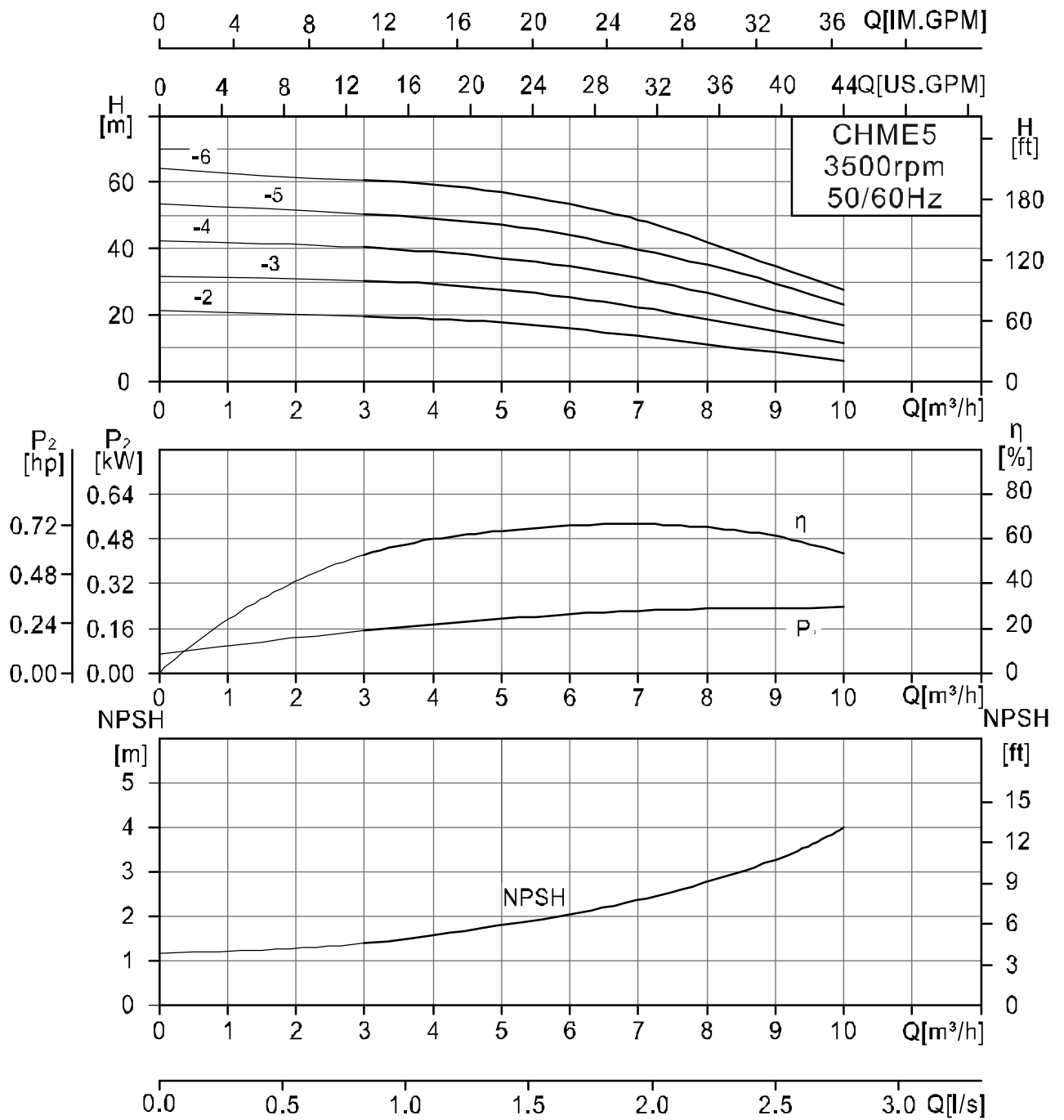
## CHME3 Performance curve



## CHME3 Performance table

Model	Motor		Q (m³/h)	H (m)												
	kW	HP		0	0.8	1.4	2	2.6	3	3.2	3.8	4.4	5	5.2		
CHME3-2	0.37	0.5		20	19.5	19.3	19	18	17.2	16.5	14.9	12.8	9.8	8.5		
CHME3-3	0.55	0.75		31	30.5	30	29.2	28.1	26.5	25.8	23.1	19.8	15.3	13.5		
CHME3-4	0.75	1		42	41.5	40.9	40.1	38.1	35.5	34.3	31.2	27	21.3	19		
CHME3-5	1.1	1.5		53	52.1	51	49.2	46.5	44.2	43.4	39.7	34.2	26.2	23.5		
CHME3-6	1.1	1.5		63.5	62.5	61	58.4	56	53.5	51.9	46.5	39.6	30.8	27.5		

## CHME5 Performance curve

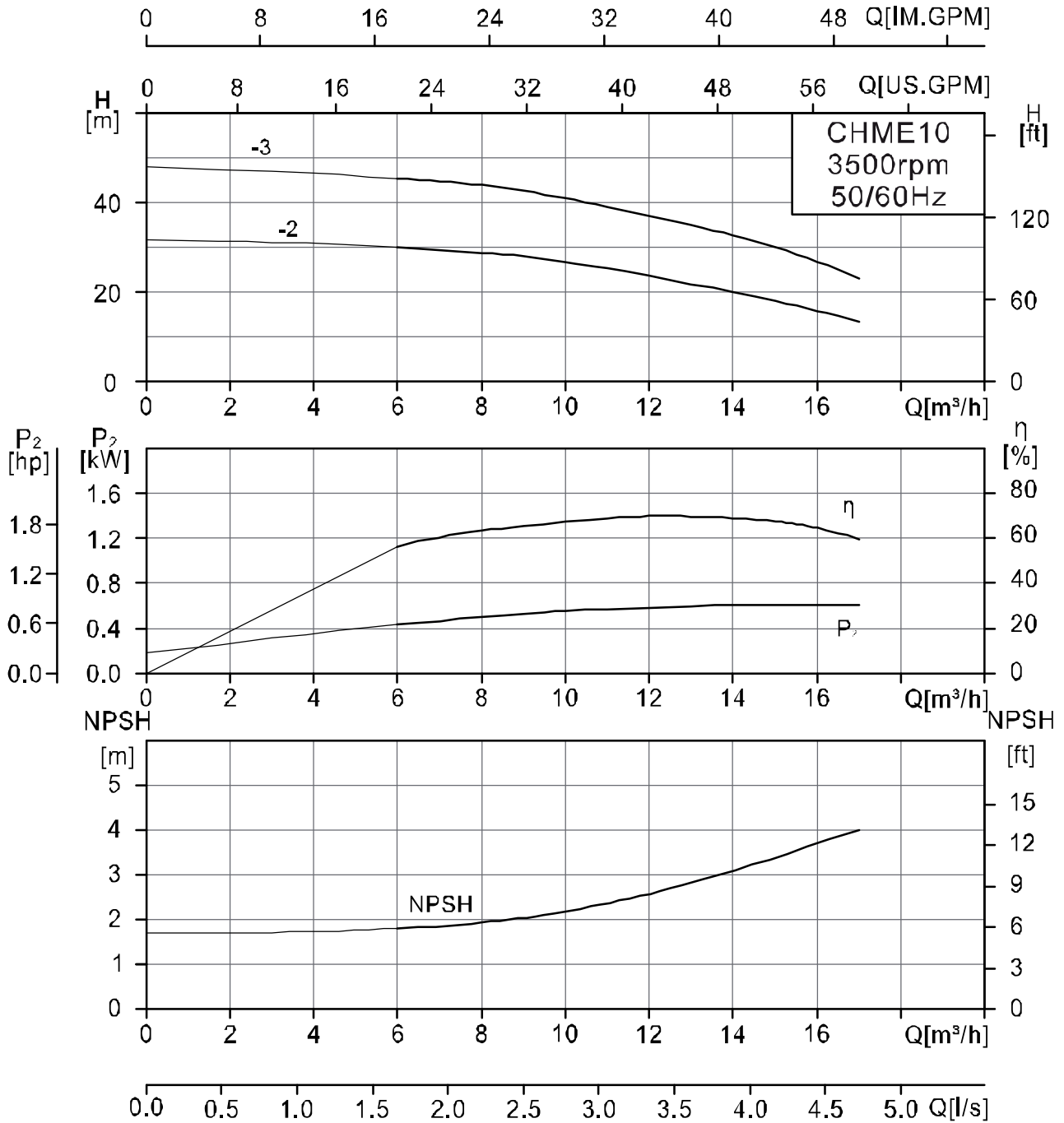


## CHME5 Performance table

Model	Motor		Q (m³/h)	0	1.3	3	4	5	6	7	8	9	10
	kW	HP											
CHME5-2	0.55	0.75	H (m)	21.2	20.3	19.4	18.8	17.7	16	13.5	11	8.6	6.2
CHME5-3	0.75	1		31.8	31.4	30.2	29.3	27.6	25.2	22.3	18.8	15.2	11.5
CHME5-4	1.1	1.5		42.5	41.8	40.3	39	37	34.5	31	26.5	21.5	16.8
CHME5-5	1.5	2		53.3	52.2	50.4	49	47	44	39.8	35	29.5	23
CHME5-6	1.5	2		64.0	62.4	60.5	59.3	57	53.3	48.7	42	34.5	27.5



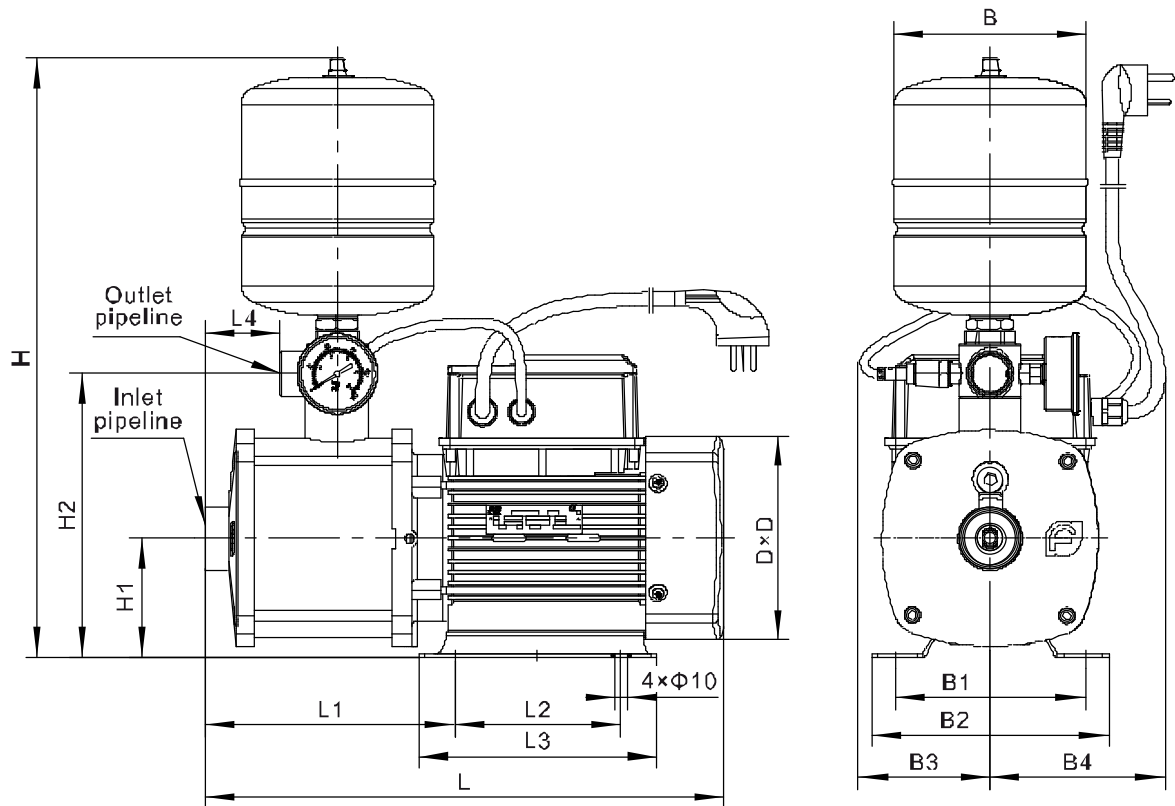
## CHME10 Performance curve



## CHME10 Performance table

Model	Motor		Q (m³/h)	0	3	6	8	10	12	14	16	17
	kW	HP										
CHME10-2	1.5	2	H (m)	32	31.4	30.2	29	27	23.8	20.2	16	13.5
CHME10-3	2.2	3.0		48	47	45.5	44	40.5	36.5	32.5	27	23

## Installation Sketch



## Dimension And Weight

Model	Dimension(mm)														Inlet pipeline/ Outlet pipeline	Weight (kg)
	L	L1	L2	L3	L4	B	B1	B2	B3	B4	H	H1	H2	D		
CHME3-2	328	137	96	150	32	158	125	158	100	105	465	75	165	141	G1/G1	14
CHME3-3	328	137	96	150	32	158	125	158	100	105	465	75	165	141	G1/G1	15
CHME3-4	348	157	96	150	52	158	125	158	100	105	465	75	165	141	G1/G1	16
CHME3-5	401	197	96	160	72	158	125	158	100	115	475	85	175	151	G1/G1	20
CHME3-6	401	197	96	160	92	158	125	158	100	115	475	85	175	151	G1/G1	20
CHME5-2	322	131	96	150	26	158	125	158	100	105	465	75	165	141	G1¼/G1	15
CHME5-3	376	185	96	150	80	158	125	158	100	105	465	75	165	141	G1¼/G1	16
CHME5-4	396	185	96	160	80	158	125	158	100	115	475	85	175	151	G1¼/G1	20
CHME5-5	470	239	96	160	107	158	125	158	100	115	475	85	175	151	G1¼/G1	21
CHME5-6	470	239	96	160	134	158	125	158	100	115	475	85	175	151	G1¼/G1	21
CHME10-2	382	172	96	160	17	200	125	158	108	115	598	100	218	151	G1½/G1½	23
CHME10-3	437	219	140	200	47	200	160	200	108	115	598	100	218	171	G1½/G1½	28





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