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QWC STAINLESS STEEL MAGNETIC DRIVE VORTEX PUMP

Wide Temperature Resistance | Compact Design |
Low Vibration | Ultra-Quiet Operation



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High and Low Temperature Chemical Pump
(-196°C to +400°C)

GUANGDONG QEEHUA INDUSTRY EQUIPMENT CO., LTD.

Vortex Pump for Hot Water and Hot Oil Applications

QWC Stainless Steel Magnetic Drive Vortex Pump

Wide Temperature Resistance

Compact Design

Low Vibration

Ultra-Quiet Operation



Wide Temperature Range
(-120°C to +350°C)



High Head,
Zero Leakage



304 / 316
Stainless Steel
Construction



High Reliability &
Versatile Applications

High and Low Temperature Chemical Pump (-196°C to +400°C)

Stainless Steel Magnetic Drive Vortex Pump Designed for High and Low Temperature Media

The QWC Series magnetic drive vortex pump is constructed of stainless steel, with wetted parts available as standard in 304 or 316.

Featuring a highly durable construction and high-head design, the QWC Series is suitable for a standard wide operating temperature range from -120 °C to +350 °C. Custom configurations are available for temperatures down to -196 °C and up to +400 °C, meeting the requirements of extreme cryogenic and high-temperature operating conditions.

The pump has a standard working pressure of 40 bar, with higher pressure ratings available upon request.



Standard Models Available in SUS304 and SUS316

- Standard models are available in SUS304 and SUS316 stainless steel to suit different applications.
- SUS316 is recommended for food-grade fluids or high-purity chemical solutions, helping to effectively reduce contamination caused by material leaching.



Universal G-Threaded Connection

- Standard G-threaded ports for easy installation.
- Rc-threaded connections is also available upon request for applications requiring enhanced sealing performance.



Customizable Explosion-Proof & Variable-Frequency Motor | IE4 Super Premium Efficiency & IE5 Synchronous Permanent Magnet Motor

- BT4/CT4 explosion-proof motors available for hazardous environments;
- Variable frequency motors support adjustable speed operation;
- IE4/IE5 synchronous permanent magnet motors provide energy-saving solutions with superior efficiency;



Robust Construction for Extreme Conditions

- Wear-resistant impeller and containment shell with advanced surface treatment;
- Pump casing rated up to 40 bar pressure;
- Stainless steel castings verified by 120-hour salt spray testing;
- SmCo permanent magnets ensure reliable operation under extreme temperatures;



High-Pressure Structural Design | Pressure Resistance up to 7 Mpa

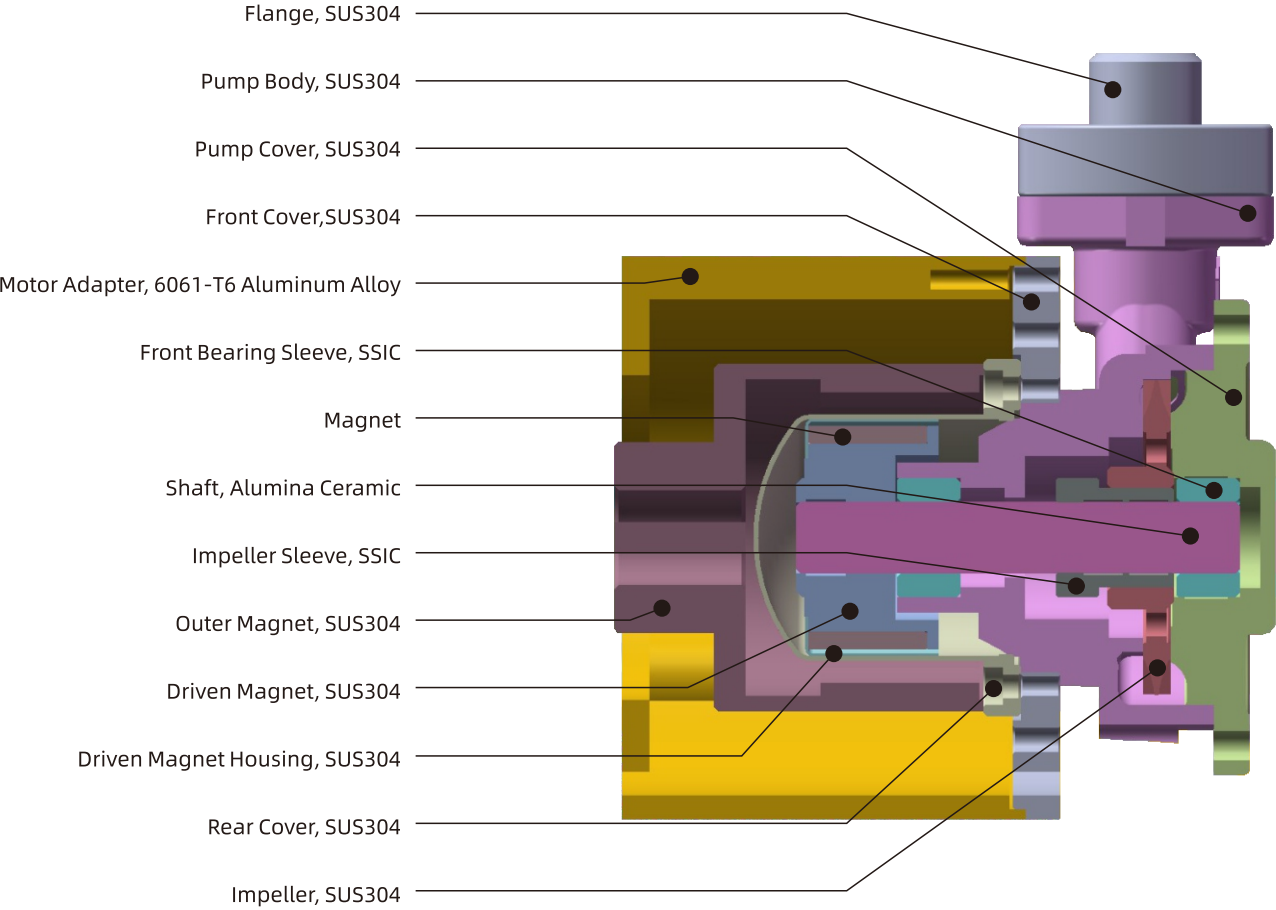
- Vortex impeller design with a standard pressure rating of 40 bar;
- Maximum head up to 84.5 m;
- Customized high-pressure versions available up to 7 MPa, delivering over 200 m head;



Extreme Temperature Performance | -196°C to +400°C

- Optimized motor bearing selection and thermal management design;
- Premium stainless steel construction with precision manufacturing;
- SmCo permanent magnets ensure stable magnetic performance under extreme temperatures;
- Advanced magnetic drive technology enables reliable pumping of cryogenic and high-temperature fluids;





No.	Name	Material	No.	Name	Material
1	Front Cover	SUS304	8	Front Bearing Sleeve	SSIC
2	Pump Cover	SUS304	9	Impeller	SUS304
3	Pump Body	SUS304	10	Impeller Sleeve	SSIC
4	Rear Cover	SUS304	11	Driven Magnet	SUS304
5	Flange	SUS304	12	Driven Magnet Housing	SUS304
6	Motor Adapter	6061-T6 Aluminum Alloy	13	Outer Magnet	SUS304
7	Shaft	Alumina Ceramic			

Note 1
Magnet: high-temperature SmCo permanent magnetic steel
Bearing Sleeve & Shaft: SSIC
Special high and low temperature requirements are available upon customization.

Note 2: The above material list is based on the standard SUS304 configuration as an example.
SUS316 material configuration is also available.



QWC25-17



QWC15-018

QWC

Stainless Steel Magnetic Drive Vortex Pump

- Zero Leakage
- Stainless Steel
- Low Noise
- Low Vibration
- Corrosion Resistant
- High-Temperature Resistant
- Low-Temperature Resistant

Max Head: 84.5 m
Max Flow: 9 m³/h



QWC25-17

QWC Series adopts a seal-less magnetic drive design with no shaft seal, eliminating the risk of leakage. The wetted components are constructed from 304/316 stainless steel, while the magnets are made of special high-temperature samarium cobalt (SmCo) permanent magnets.

The pump delivers stable and reliable operation for over 8,000 hours under extreme temperature fluids ranging from -120°C to +350°C. Customized configurations including explosion-proof motors, variable frequency drive (VFD) motors, and IE5 permanent magnet synchronous motors are available to meet the requirements of applications in pharmaceutical, chemical processing, laboratory equipment, high/low temperature testing, and semiconductor precision temperature control industries.

Features

- Sealless magnetic drive design for zero leakage: Stable operation for more than 8,000 hours under high and low temperature conditions;
- 304/316 stainless steel construction: Stainless steel castings pass a 120-hour salt spray test without rusting;
- Compact size, low vibration, ultra-quiet operation, stable performance, and long service life;
- Impeller and isolation sleeve are treated with a highly wear-resistant surface treatment process for enhanced strength and durability;
- Advanced high-temperature and high-pressure technology: Wide temperature resistance from -120°C to +350°C;
- Customizable options available: Explosion-proof motor, variable-frequency motor, IE4 high-efficiency energy-saving motor, and IE5 synchronous permanent magnet motor;

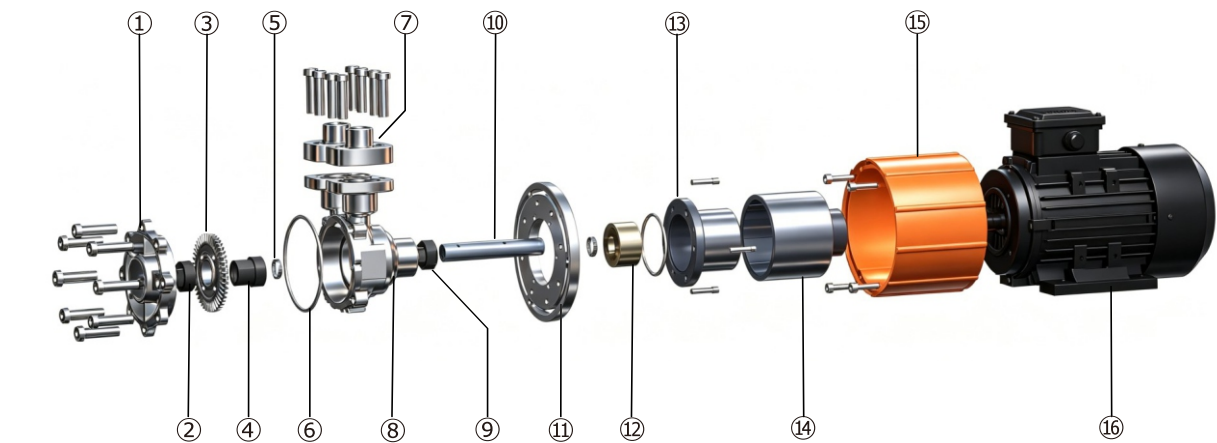
Applications

- Electronic and semiconductor manufacturing processes
- High-temperature mold temperature control systems
- High and low temperature test equipment
- Semiconductor precision temperature control systems
- Chemical processing equipment
- Mold temperature control systems
- Ultrasonic cleaning equipment
- Advanced textile dyeing and finishing equipment
- Skid-mounted systems
- TCU (Temperature Control Unit) systems

Compatible Fluids

- Suitable for transferring clean fluids without particles or fibers, including:
- Water
 - Ethylene Glycol
 - Alcohol
 - Heat Transfer Oil
 - Hydrocarbon Solutions
 - Silicone Oil
 - Refrigerants
 - Gasoline
 - Dyes
 - Chemical Solutions
 - Liquid Nitrogen
 - Electronic Fluorinated Liquids

QWC Exploded View



1. Pump Cover
2. Front Bearing Sleeve
3. Impeller
4. Impeller Sleeve
5. Compensation Ring
6. O-Ring
7. Flange
8. Pump Casing
9. Rear Bearing Sleeve
10. Shaft
11. Front Cover
12. Driven Magnet
13. Rear Cover
14. Outer Magnet
15. Motor Adapter
16. Motor

Model Definition

QWC - 25 - 17 - 5 - S4 - V38 - A - F - A - A - S

- ① Model No.: QWC
- ② Inlet/Outlet Caliber: 15-15 mm; 20-20 mm; 25-25 mm; 32-32 mm
- ③ Power: 018-0.18 kW; 025-0.25 kW; 037-0.37 kW; 05-0.5 kW; 075-0.75 kW; 11-1.1 kW; 17-1.7 kW; 25-2.5 kW; 30-3.0 kW; 40-4.0 kW
- ④ Frequency: 5-50 Hz; 6-60 Hz
- ⑤ Materials of Pump Head:S4-SUS304;S6-SUS316
- ⑥ Voltage: V38-3Ø / 380 V; V41-3Ø / 415 V; V44-3Ø / 440 V; V48-3Ø / 480 V; V32-3Ø / 220 V; V22-1Ø / 220 V
- ⑦ Liquid Specific Gravity: A-1.0-1.2; B-1.3; C-1.4; D-1.5; E-1.6; F-1.7; G-1.8; H-1.9; I-2.0
- ⑧ Connection Type: F- Welded Flange; T- Female Thread
- ⑨ Motor Requirements: A-IE3 Normal Motor; B-IE4 Normal Motor; C-IE5 Normal Motor; D-Variable Frequency Motor; E-IE3, BT4 Ex-Proof Motor; F-IE4, BT4 Ex-Proof Motor; G-IE5, BT4 Ex-Proof Motor; H-IE3, CT4 Ex-Proof Motor; I-IE4, CT4 Ex-Proof Motor; J-IE5, CT4 Ex-Proof Motor; K-Permanent Magnet Variable Frequency Motor; L-BT4 Ex-Proof Variable Frequency Motor; M-CT4 Ex-Proof Variable Frequency Motor
- ⑩ Motor Protection Level: A-IP54; B-IP55; C-IP56; D-IP65
- ⑪ S-Standard; N-Non-Standard

QWC Operating Conditions

Liquid Temperature	Liquid Specific Gravity	Ambient Temperature	Max. Altitude	Max. Pressure
(°C)		(°C)	(m)	(bar)
-120~+350	06~2.0	-50~+70	1000	40

QWC Specification

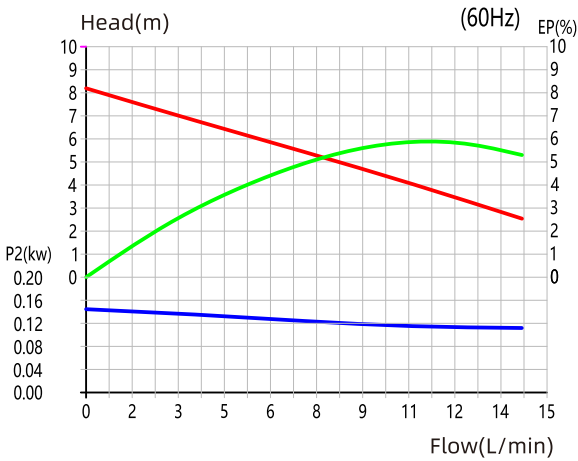
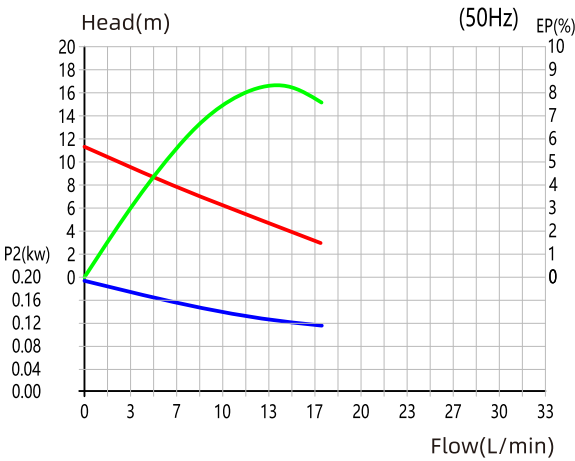
Model	Caliber		Max. Flow				Max. Head		Motor		Net Weight (kg)
	Inlet	Outlet	50 Hz		60 Hz		50 Hz	60 Hz	Power		
	mm	mm	L/min	m³/h	L/min	m³/h			kW	HP	
QWC15-018	15	15	15.0	1	11.3	0.9	11.3	8.2	0.18	0.24	7.5
QWC15-025	15	15	23.3	1.1	22	1.4	22	23	0.25	0.33	9
QWC15-037	15	15	16.7	1.1	23.7	1	23.7	14.6	0.37	0.5	9.3
QWC15-05	15	15	21.7	1.1	27.4	1.3	27.4	33.7	0.5	0.7	9.6
QWC20-075	20	20	48.3	2.9	44.5	2.9	44.5	32.7	0.75	1	15.5
QWC20-11	20	20	56.7	3.2	64.8	3.4	64.8	58.6	1.1	1.5	16.4
QWC25-17	25	25	95.0	5.3	55.7	5.7	55.7	50.2	1.7	2.3	20.5
QWC25-25	25	25	88.3	5.6	56.6	5.3	56.6	63.8	2.5	3.3	25
QWC25-30	25	25	108.3	7.8	65.3	6.5	65.3	51.4	3	4	36.5
QWC32-40	32	32	150.0	9.1	84.5	9	84.5	58.7	4	5.5	37.2

The above performance data is based on clean water at 20°C and normal operating speed. Performance and parameter tolerances are within ±10%. Actual pump performance may vary depending on the specific gravity and density of the liquid being pumped.

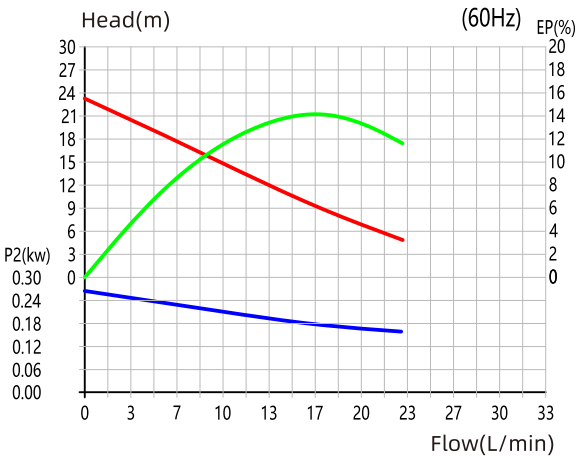
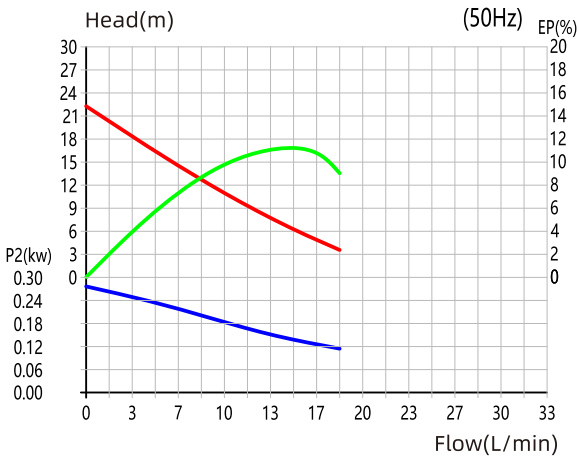
Performance Curve

Head/Flow Efficiency Shaft Power

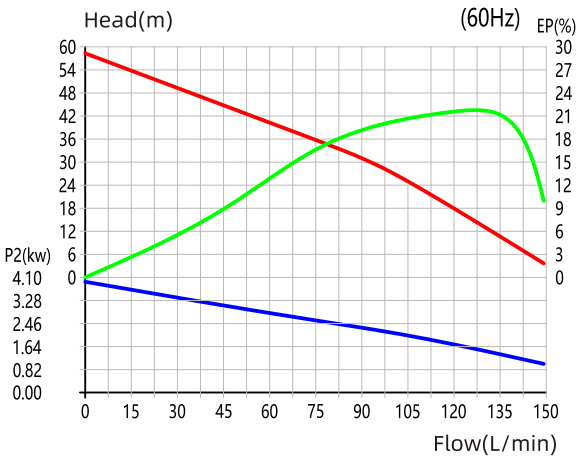
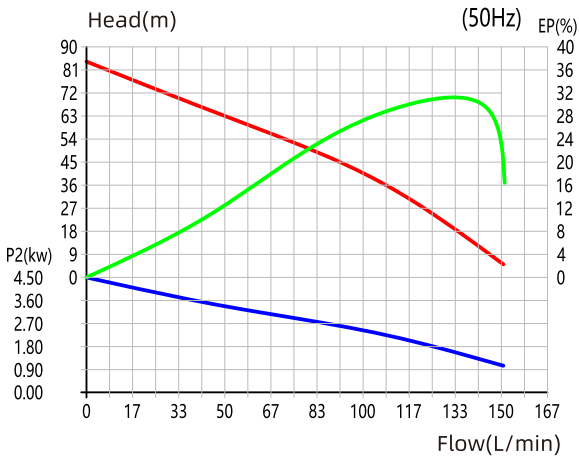
QWC-15-018



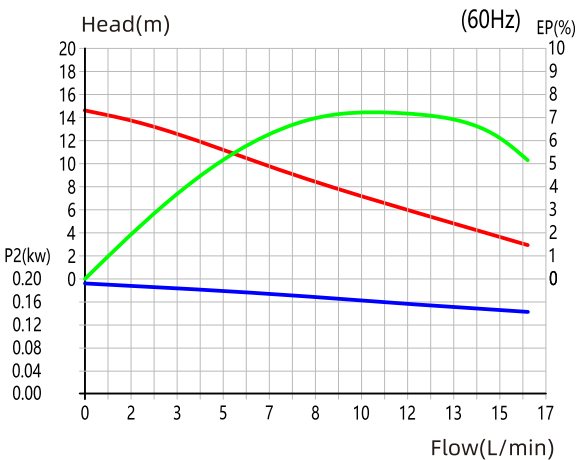
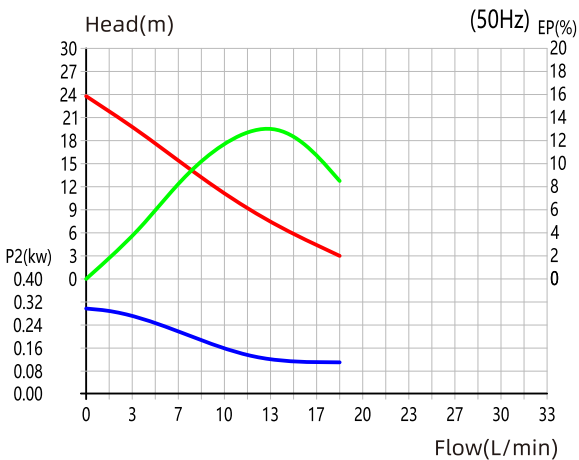
QWC-15-025



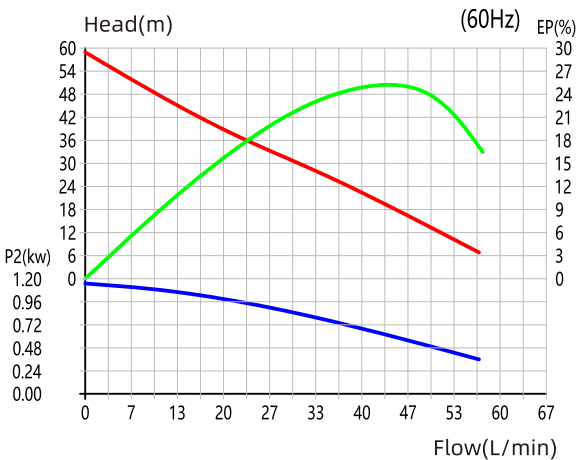
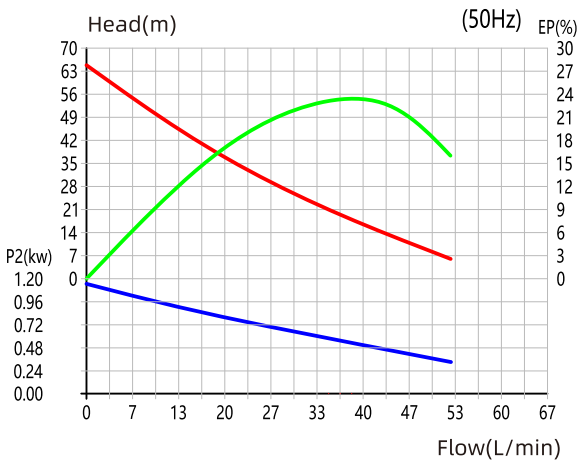
QWC-20-075



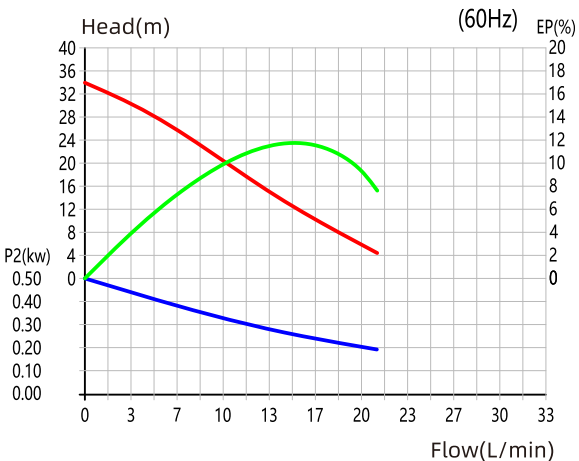
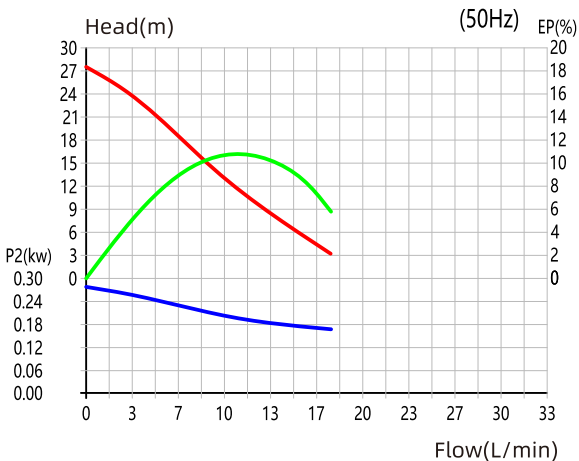
QWC-15-037



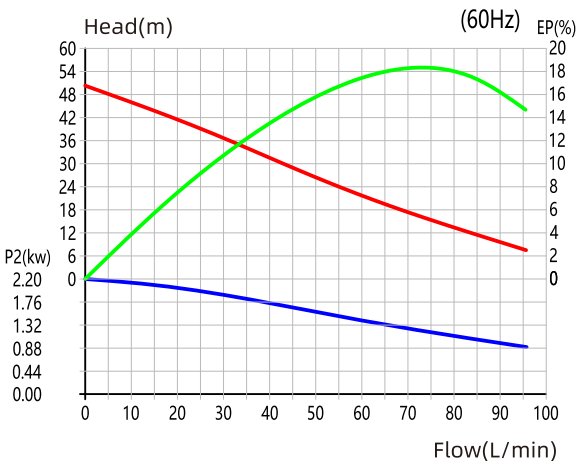
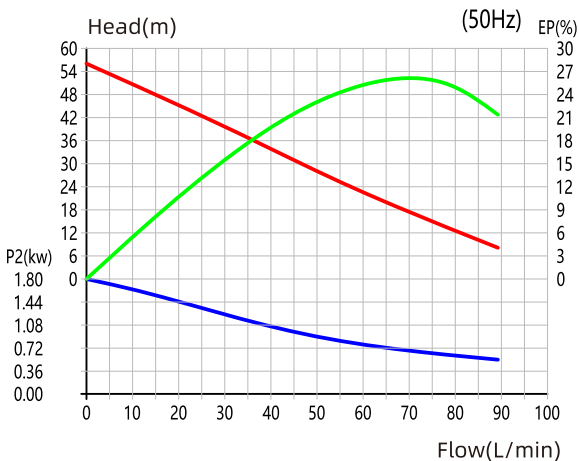
QWC-20-11



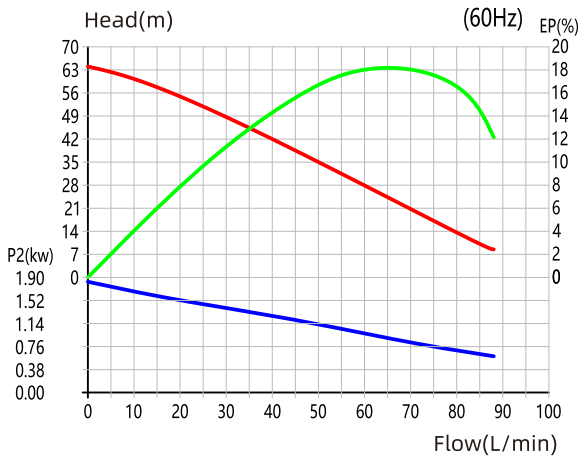
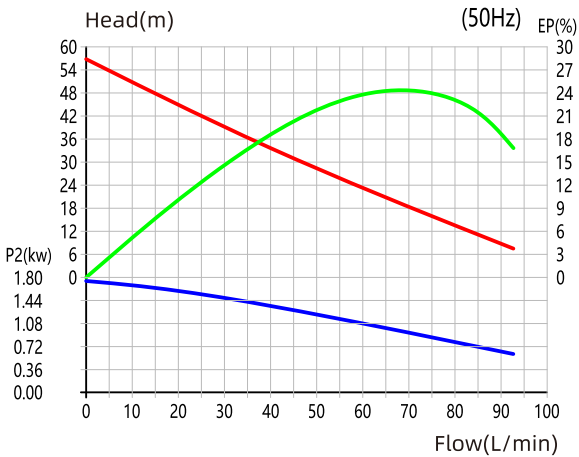
QWC-15-05



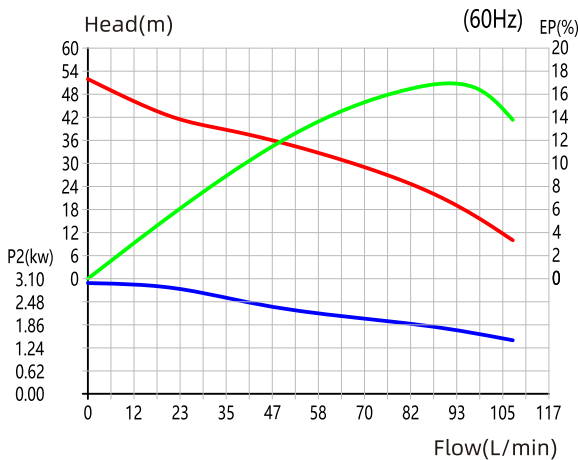
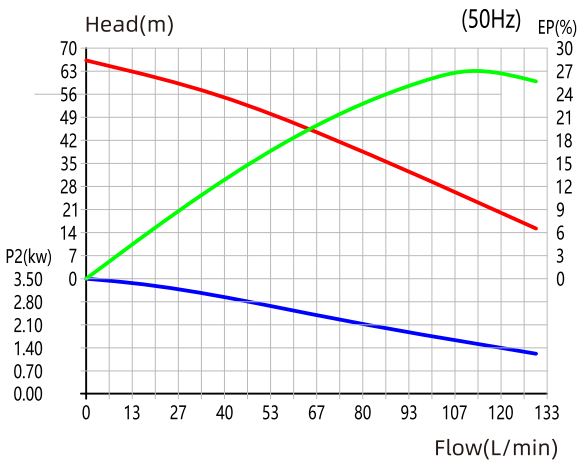
QWC-25-17



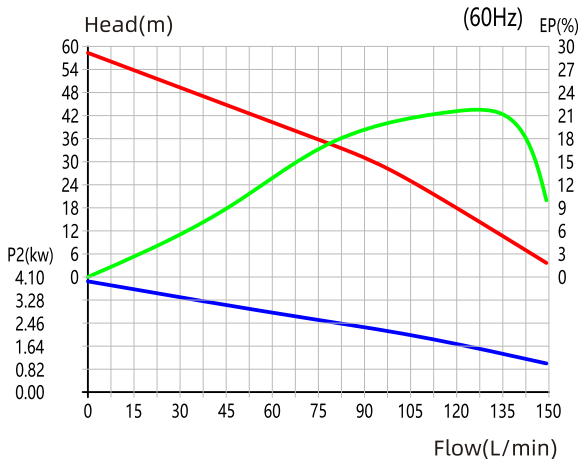
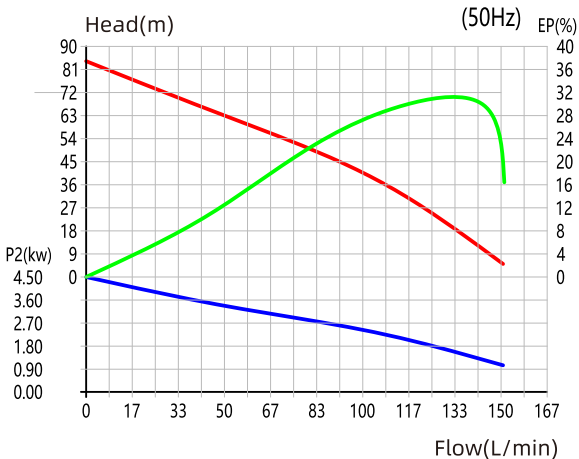
QWC-25-25



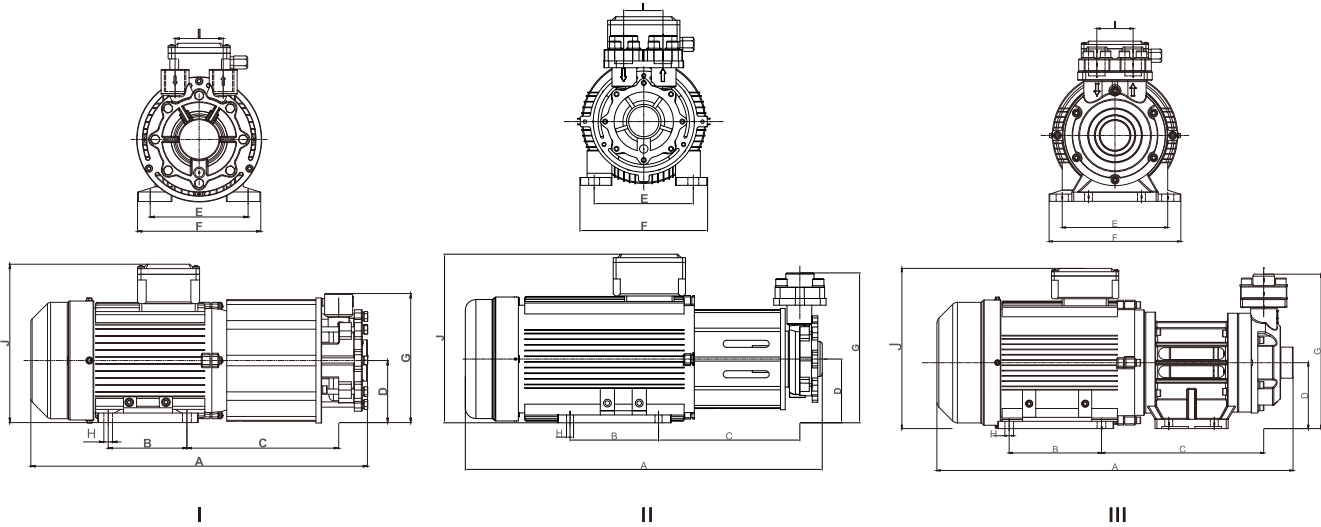
QWC-25-30



QWC-32-40



Dimensional Drawing



Dimension

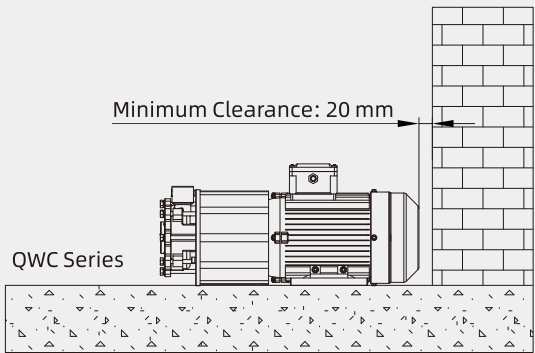
Unit: mm

No.	Model	A	B	C	D	E	F	G	H	I	J
I	QWC15-018	294	71	135	56	90	112	108	4-Ø8	35	138
	QWC15-025	304	80	126	63	100	126	120	4-Ø8	35	162
	QWC15-037	304	80	126	63	100	126	120	4-Ø8	35	162
	QWC15-05	302	80	120	63	100	126	120	4-Ø8	35	162
	QWC20-075	387	90	176	71	111	140	150	4-Ø8	55	182
II	QWC20-11	387	90	176	71	111	140	190	4-Ø8	55	182
	QWC25-17	405	100	181	80	125	158	200	4-Ø10	55	200
	QWC25-25	445	125	186	90	140	175	208	4-Ø10	55	219
III	QWC25-30	536	140	235	101	160	200	238	4-Ø12	55	257
	QWC32-40	556	140	255	101	160	200	238	4-Ø12	55	257

Basic Installation Requirements

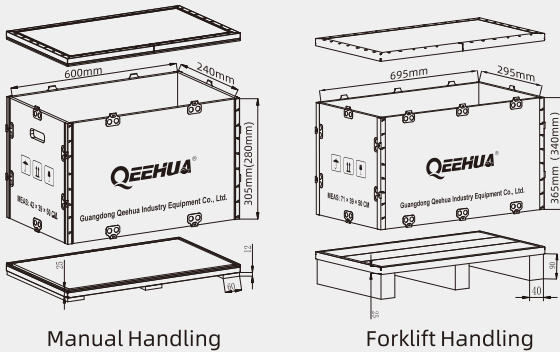
Basic Installation Requirements

Minimum installation distance from the wall



Technical Requirements

1. All wood and panel materials used must comply with international inspection and quarantine standards.
2. The wood surface shall be clean and free from cracks and stains.
3. The load-bearing capacity of the wooden case shall be adjusted according to the pump size.



-196°C to +400°C
Extreme Temperature
Chemical Pumps

Applications: pharmaceutical, chemical, testing equipment,
dyeing and printing, high and low temperature testing,
semiconductor high-precision temperature control



High and Low Temperature Chemical Pump (-196°C to +400°C)

APPLICATION CASE

Our chemical pumps are widely used in chemical, pharmaceutical, semiconductor, medical, automotive, food, energy storage, and freeze-drying applications. Suitable for -196 °C to +400 °C heat exchange systems, fine chemical and pharmaceutical equipment, they have successfully replaced imported products and gained strong market recognition.



Semiconductor 01



TCU Temperature Control Unit 02



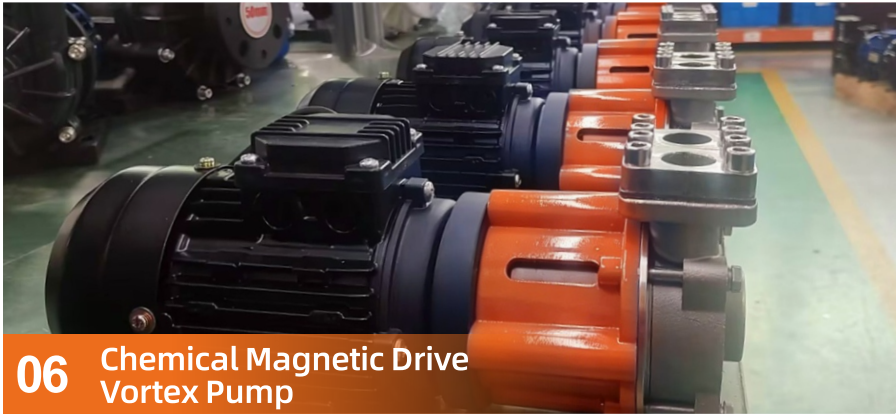
03 Optical Mold Temperature Controller



New Energy Testing 04



05 Hydrogen Production Equipment



06 Chemical Magnetic Drive Vortex Pump



Mining Chemical Dosing Skid 07



New Energy Integrated High and Low Temperature Unit 08

CUSTOMER SERVICE SYSTEM

Pre-Sales
Technical Support



Application
Communication
During Sales



Professional
After-Sales Service



Technical Communication with the Project Management Team | Customer Application Requirement Review | Formulation of Industry Application System Solutions

Project Order Delivery Kickoff | Risk Analysis and Contingency Plan | Execution of the Project Delivery Management Process

Fast-Response and Professional Service | Execution of the Project Initiation Management Process | Installation, Commissioning, Repair and Maintenance Services

SEVEN CORE TECHNOLOGIES |
16 YEARS OF EXPERTISE IN CHEMICAL MAGNETIC
DRIVE PUMPS

01
Magnetic Drive
Centrifugal Pump
Technology

02
Magnetic Drive
Vortex Pump Technology

03
Magnetic Drive
Gear Pump Technology

04
Canned DC / Vortex Pump
Technology

05
Dry-Running Protection
Technology | Liquid Shortage
Dry-Run
Protection Technology

06
Magnet Crack Prevention
and Demagnetization Resistance Technology

07
Ultra-High
Temperature +400°C
Ultra-Low
Temperature -196°C



