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QW SERIES STAINLESS STEEL MECHANICAL VORTEX PUMP

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



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

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GUANGDONG QEEHUA INDUSTRY EQUIPMENT CO., LTD.
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SUBSIDIARY CORPORATION:
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GUANGDONG QEEHUA INDUSTRY EQUIPMENT CO., LTD.

Vortex Pump for Hot Water and Hot Oil Applications

QW Series Stainless Steel Mechanical Vortex Pump

Wide Temperature Resistance

High Head

High Pressure Capability

Compact Design



Wide Temperature Range
(-30°C to +250°C)



High Head,
Zero Leakage



Excellent Weldability,
Easy Installation



High Reliability &
Versatile Applications

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

Stainless Steel Mechanical Vortex Pump Designed for High and Low Temperature Media

The QW stainless steel mechanical 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 QW 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

- The pump head is made of SUS304 stainless steel;
- Eliminating the risk of cracking during welding/fusion welding found in traditional cast iron vortex pumps.



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;



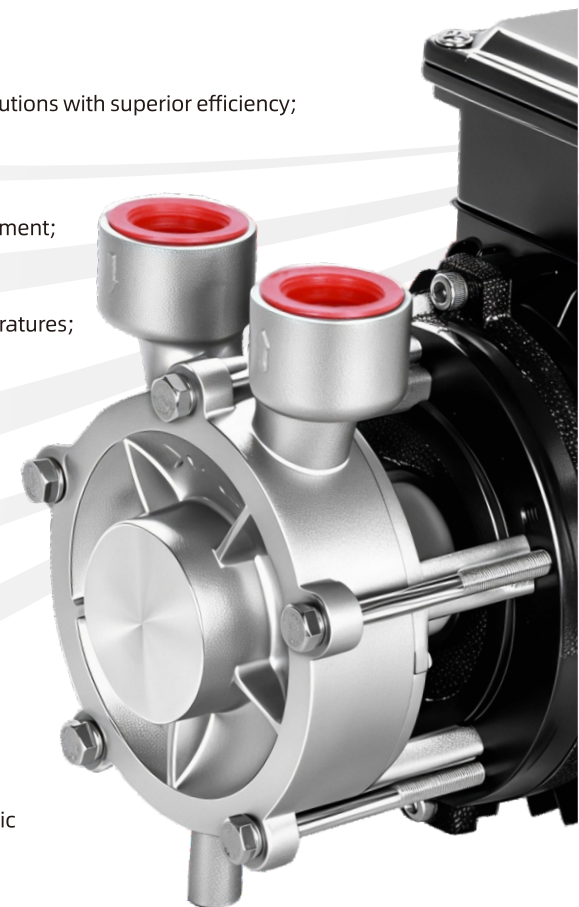
High-Pressure Design for High-Head Hot Water/Hot Oil Pump Applications

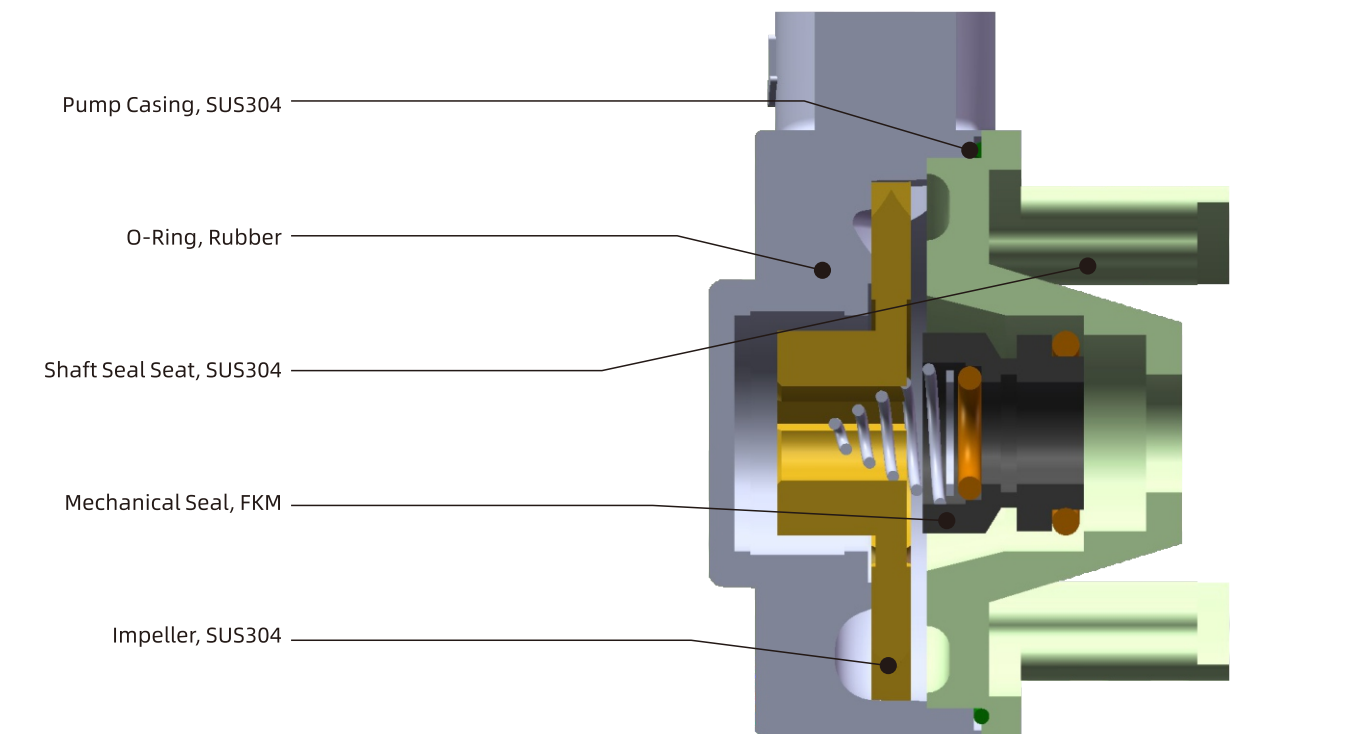
- The QW series features a vortex impeller design, delivering a standard working pressure rating of 20 bar and a maximum head of 60 m;
- Customized models are available with pressure ratings up to 7 Mpa and maximum heads exceeding 200 m;



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	Pump Casing	SUS304	4	Mechanical Seal	FKM
2	O-Ring	Rubber	5	Impeller	SUS304
3	Shaft Seal Seat	SUS304			

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.



QW15-07S (Front View)



QW15-07S (Side View)

QW

Stainless Steel
Mechanical Vortex Pump

Max Head: 92.7 m
Max Flow: 6.6 m³/h



QW15-07S

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

The QW series features a high-head structural design. Its wetted parts are made of 304 stainless steel, and the magnet is made of special high-temperature magnetic steel (samarium cobalt). It can operate stably for over 8,000 hours with high and low temperature media ranging from -30°C to +250°C.

It is widely used in mold temperature control, pharmaceutical sterilization, reactor jacket temperature control, steam boilers, welding machine cooling, testing instruments, boiler water supply, hot water boilers, food processing equipment, and other applications.

Features

- Mechanical Seal Design with Imported Sealing Rings for Reliable Leak-Free Operation;
 - 304 stainless steel construction: Stainless steel castings pass a 120-hour salt spray test without rusting;
 - High head, large flow rate, stable operation, 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 -30°C to +250°C;
 - Customizable options available: Explosion-proof motor, variable-frequency motor, IE4 high-efficiency energy-saving motor, and IE5 synchronous permanent magnet motor;

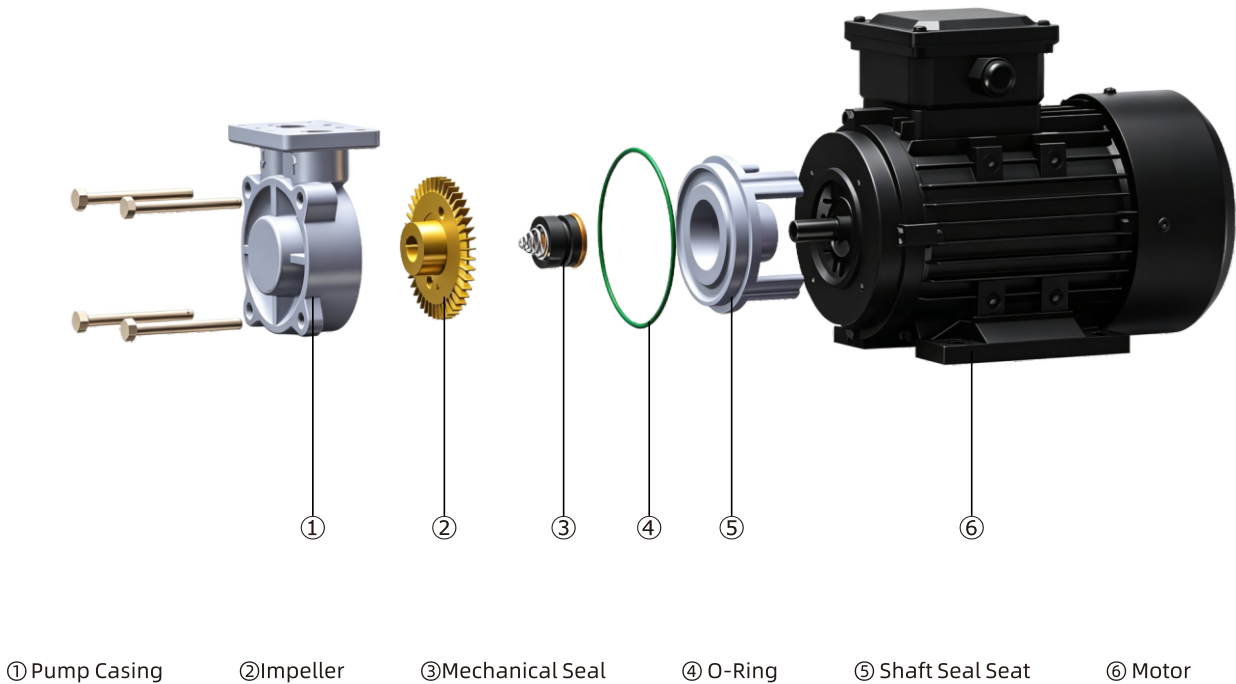
Applications

- Mold temperature control
- Pharmaceutical sterilization
- High and low temperature test equipment
- Reactor jacket temperature control
- Steam boilers
- Welding machine cooling
- Testing instruments
- Boiler water supply
- Hot water boilers
- Food processing equipment

Compatible Fluids

- Boiler hot water
- High-temperature heat transfer oil
- Ethylene glycol
- Silicone oil

QW Exploded View



Model Definition

QW - 25 - 3 - 5 - V38 - F - S4 - A - A - A - S
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

- ① Model No.: QW
- ② Inlet/Outlet Caliber: 15-1/2"; 20-20 mm; 22-3/4"; 25-25 mm
- ③ Power: 07-0.75 HP; 2-2 HP; 3-3 HP
- ④ Frequency: 5-50 Hz; 6-60 Hz
- ⑤ 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
- ⑥ Connection Type: F- Welded Flange; T- Female Thread
- ⑦ Materials of Pump Head:S4-SUS304;S6-SUS316
- ⑧ 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
- ⑨ Motor Requirements: A-IE3 Norma Motor; B-IE4 Normal Motor; C-IE5 Normal Motor; D-Variable Frequeny 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 Frequeny 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

QW Operating Conditions

Liquid Temperature	Liquid Specific Gravity	Ambient Temperature	Max. Altitude	Max. Pressure
(°C)		(°C)	(m)	(bar)
-30~+250	06~2.0	-50~+70	1000	20

QW Specification

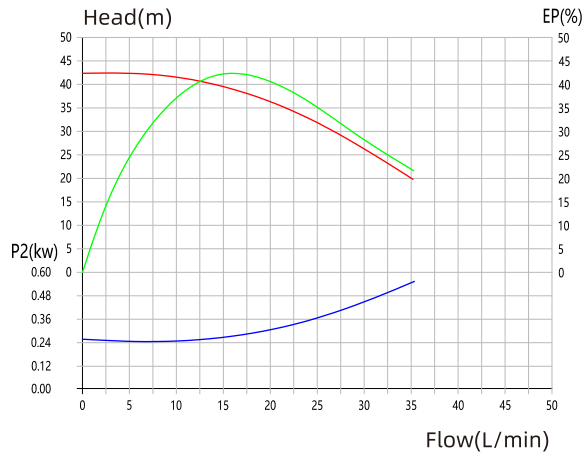
Model	Caliber		Motor			Performance Data		Weight (kg)
	Inlet	Outlet	Voltage (V)	Power		50 Hz		
				HP	kW	Head (m)	Flow (m³/h)	
QW20-07T	DN20	DN20	3-Ø380	0.75	0.55	41.9	2.1	7
QW15-07T	G1/2	G1/2	3-Ø380	0.75	0.55	41.9	2.1	7
QW15-07S	G1/2	G1/2	1-Ø220	0.75	0.55	41.9	2.1	7
QW20-1	DN20	DN20	3-Ø380	1	0.75	83.3	3.6	11
QW20-1T	G3/4	G3/4	3-Ø380	1	0.75	83.3	3.6	11
QW20-1S	G3/4	G3/4	1-Ø220	1	0.75	83.3	3.6	11
QW25-2	DN25	DN25	3-Ø380	2	1.5	69.1	5.4	16
QW25-3	DN25	DN25	3-Ø380	3	2.2	92.7	6.6	20

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.

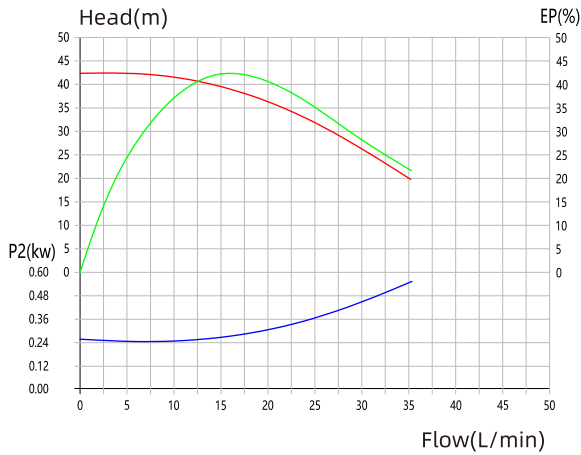
Performance Curve (50 Hz)

Head/Flow Efficiency Shaft Power

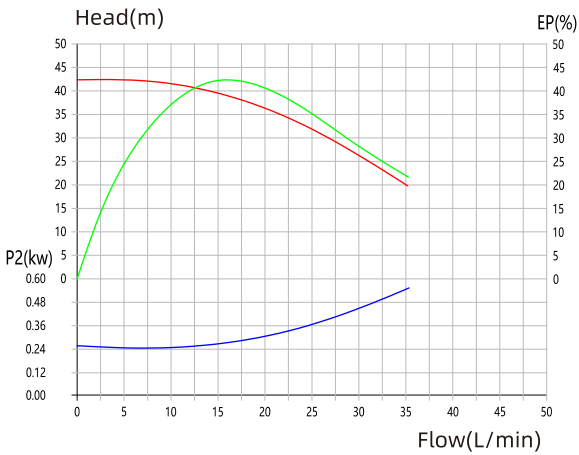
QW20-07T



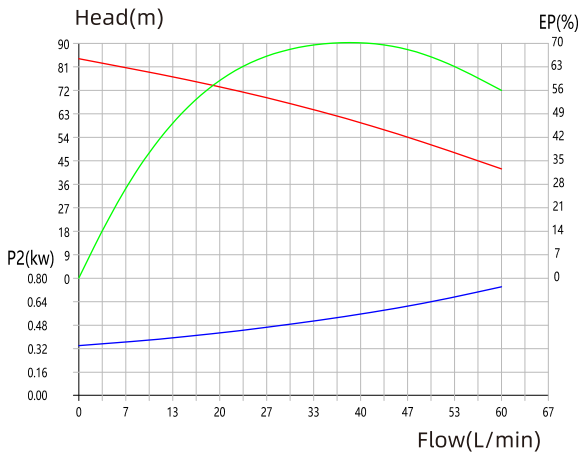
QW15-07T



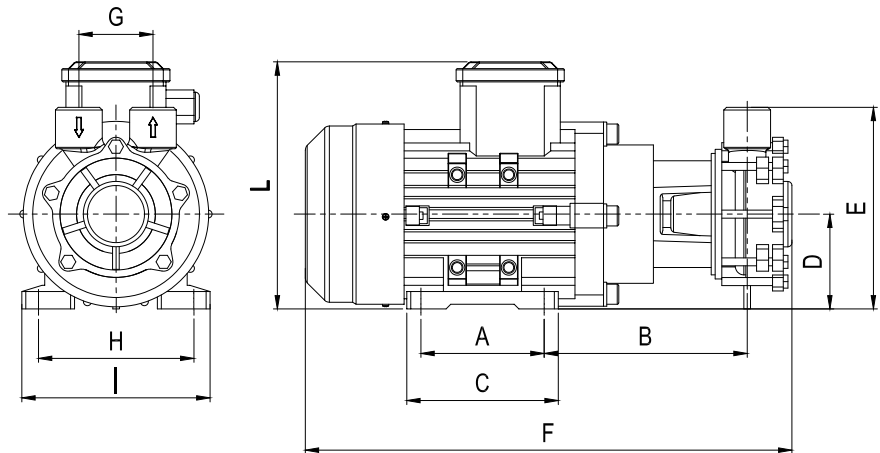
QW15-07S



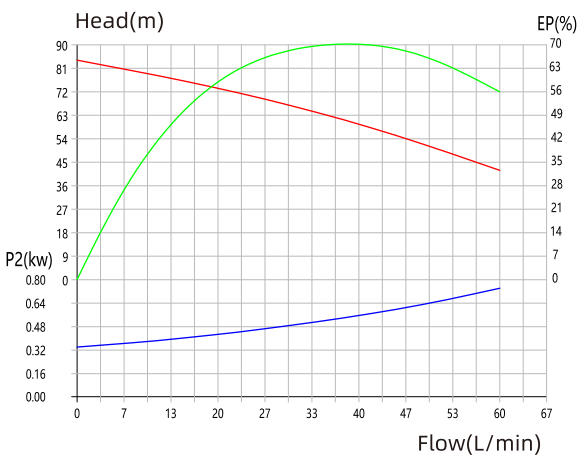
QW20-1



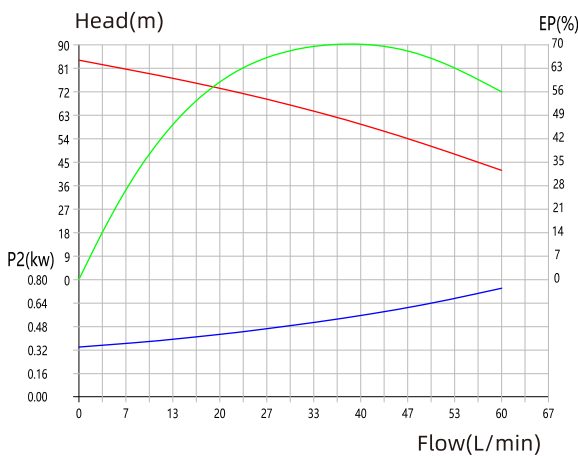
Dimensional Drawing



QW20-1T



QW20-1S



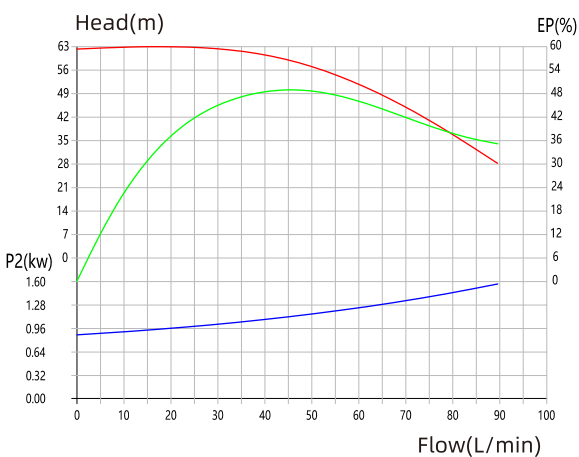
Dimension

Unit: mm										
Model	A	B	C	D	E	F	G	H	I	J
QW-055	90	89	115	71	125	280	35	114	142	181
QW-055S	90	89	115	71	125	280	35	114	142	181
QW-055T	90	89	115	71	125	280	35	114	142	181
QW-075	90	91	115	71	147	287	55	114	142	181
QW-075S	90	91	115	71	145	287	55	114	142	181
QW-075T	90	91	115	71	145	287	55	114	142	181
QW-15	125	105	155	90	175	361	55	140	176	221
QW-22	125	105	155	90	175	361	55	140	176	221

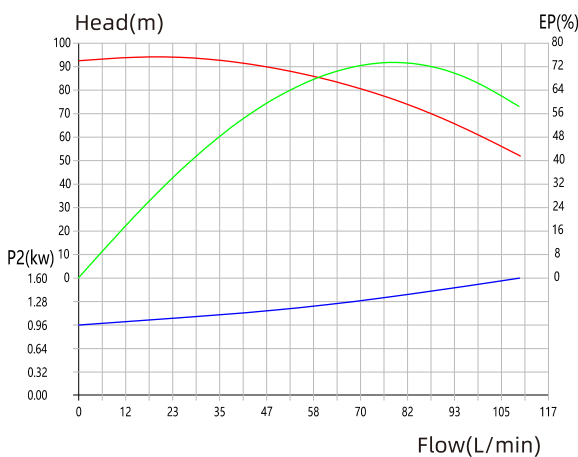
Basic Installation Requirements

Basic Installation Requirements

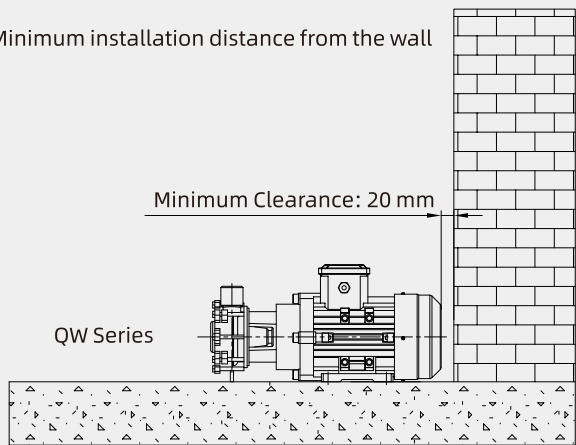
QW25-2



QW25-3

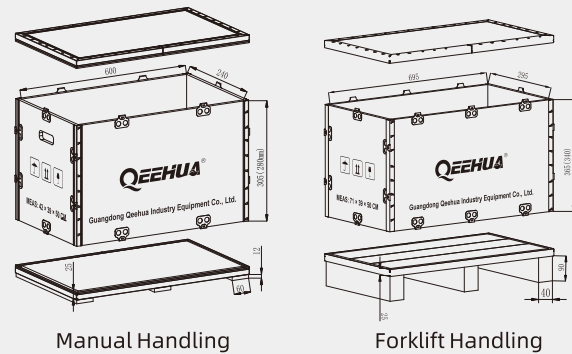


Minimum installation distance from the wall



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

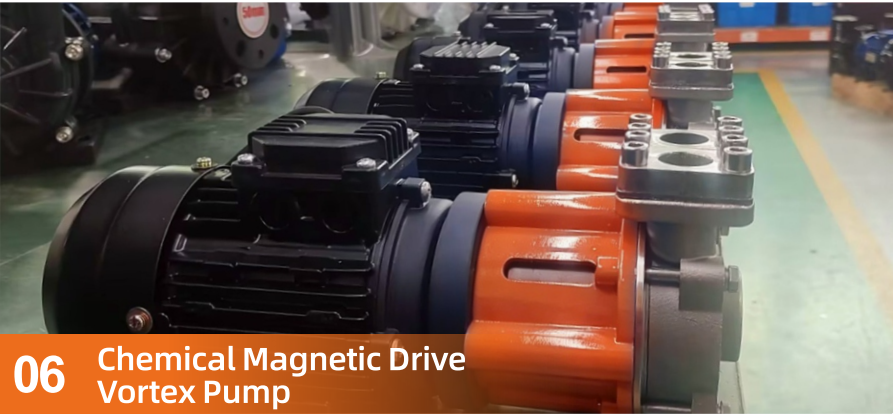
Applications: pharmaceutical, chemical, testing equipment, dyeing and printing, high and low temperature testing, semiconductor high-precision temperature control



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.



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



