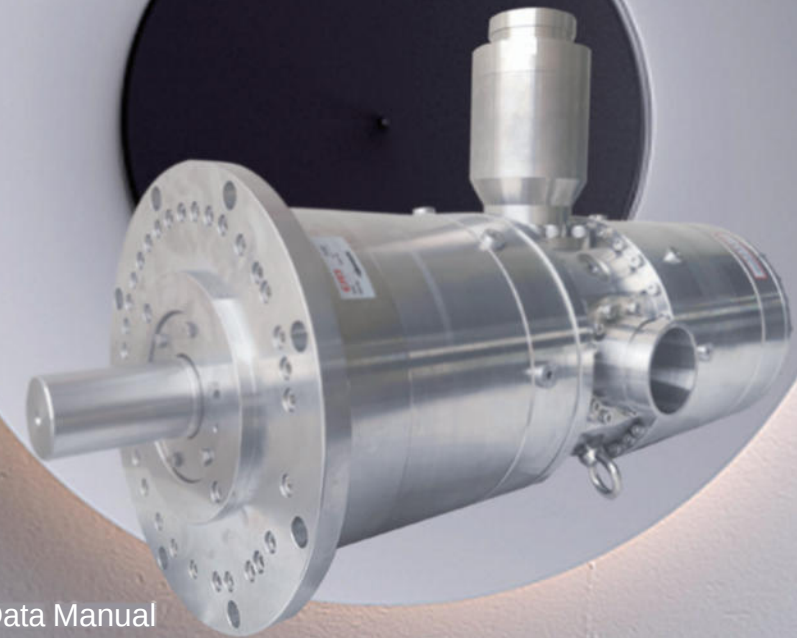


CSP SERIES SEAWATER PUMP

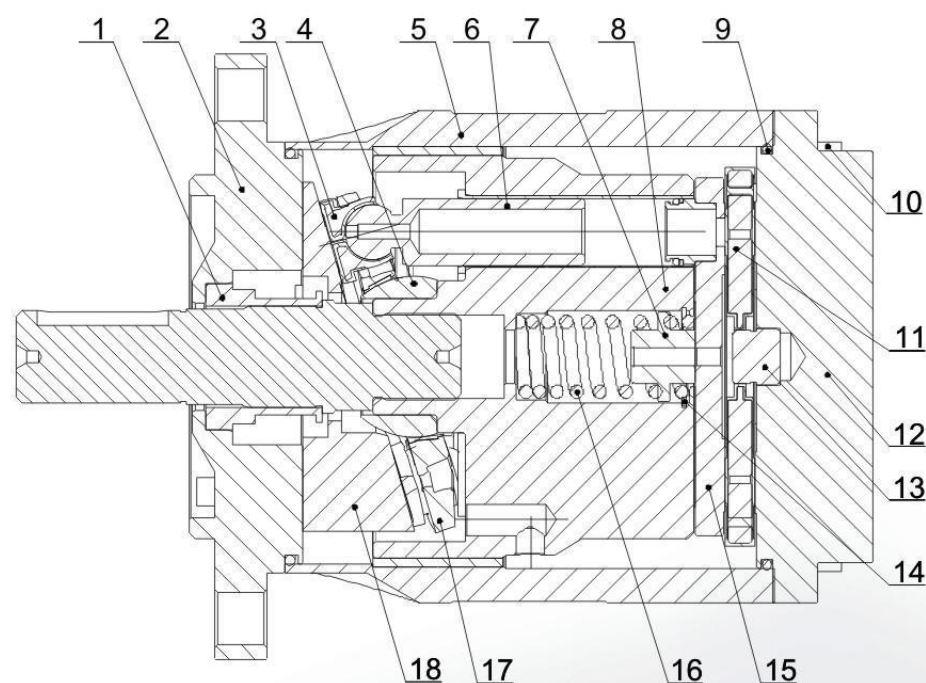


Product Data Manual
2025 Version

Overview

The CSP series high-pressure water pump is specially designed for high-pressure, low-viscosity, and corrosive media environments, such as seawater, industrial circulating water, leachate, urea water solutions, and so on.

The CSP series high-pressure water pump is designed based on the axial piston principle, featuring a compact and lightweight design. It utilizes a self-lubricating design with the fluid medium, resulting in low maintenance requirements while maintaining stable and efficient operation.



- ⊙ 1-Shaft sealing
- ⊙ 2-Mounting flange
- ⊙ 3-Slippers
- ⊙ 4-Retainer ball
- ⊙ 5-Housing
- ⊙ 6-Piston
- ⊙ 7-Spring seat
- ⊙ 8-Cylinder barrel
- ⊙ 9-Back-up ring
- ⊙ 10-Screw
- ⊙ 11-Port plate flange
- ⊙ 12-Port
- ⊙ 13-Pins
- ⊙ 14-Spring ring
- ⊙ 15-Valve plate
- ⊙ 16-Spring
- ⊙ 17-Retainer plate
- ⊙ 18-Swash plate

1. Corrosion Resistance:

All components of the CSP series high-pressure water pumps are made of duplex stainless steel 2205, super duplex steel 2507, and carbon fiber reinforced PEEK, ensuring corrosion resistance.

2. Clean and Environmentally Friendly:

All paired friction pairs are lubricated with water, without any lubricating oil, making them clean and environmentally friendly.

3. Easy Maintenance:

Long maintenance cycles, no preventive maintenance required during the warranty period, and simple maintenance procedures.

4. Small Size and Lightweight:

The volume and weight of CSP series high pressure water pumps are less than one-third of traditional triplex plunger pumps, making them easy to install in small spaces and convenient for maintenance.

5. Low Noise:

The sound level of CSP series high-pressure water pumps does not exceed 80dB(A).

6. High Efficiency and Energy Saving:

The efficiency of CSP series high-pressure water pumps exceeds 90%, while traditional triplex plunger pumps have a total efficiency of less than 80%, making their operation more efficient and compliant with national energy-saving policies.

7. Low Pulsation Flow:

The CSP series high pressure water pump adopts a multi-plunger structure (5, 7, 9 plungers), resulting in a more stable output flow compared to traditional triplex plunger pumps.

Order Part numbers

C	S	P	25	D	-	S	00			
01	02	03	04	05		06	07			

Company Code

01	Company: CRD	C
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Fluid

02	Working medium: S, Seawater	S
----	-----------------------------	---

Product type

03	Series: P, Pump	P
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Output

04	Flow (m³/h) , 25m³/h;	25
----	-----------------------	----

Modify

05	Modify: D, Fourth	D
----	-------------------	---

Material

06	Material : S, Super duplex	S
----	----------------------------	---

Design revision

07	Design serial number	00
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Product specifications

CSP 0.6 series

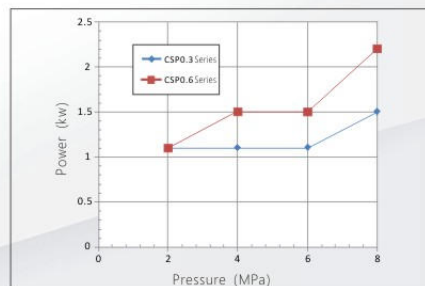
◎ Specifications

PNs		CSP0.3	CSP0.6
Output	ml/r	3.5	6.8
Output flow rate (@ 1450 rpm)	m ³ /h	0.3	0.6
	L/min	4.6	9.1
MIN Pressure(long term)	MPa	2	2
MAX Pressure(long term)	MPa	8	8
MAX RPM	r/min	1800	1800
MIN RPM	r/min	700	700
Flush valve	/	YES	YES
Weight	kg	5.5	5.5

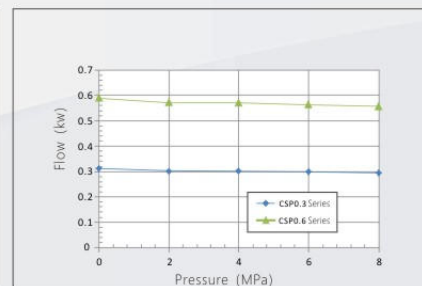
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP0.3	0.3	1500	1.1 kW	1.1 kW	1.1kW	1.5 kW
CSP0.6	0.6	1500	1.1 kW	1.5 kW	1.5 kW	2.2 kW

◎ Performance Curve

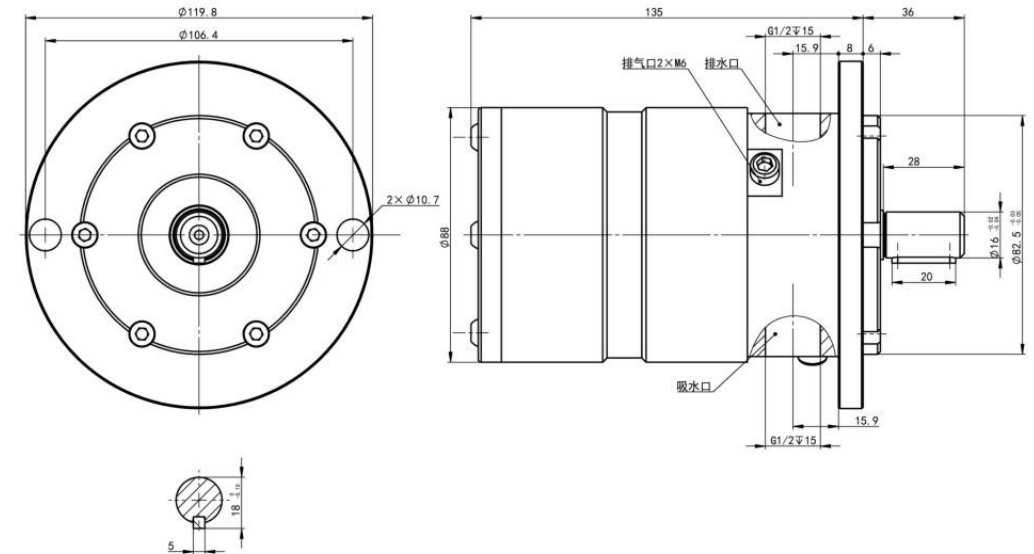
Pressure-Power Curve



Pressure-Flow Curve

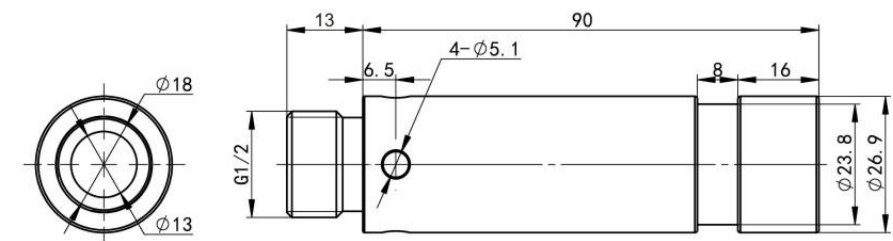


◎ Overall dimensions

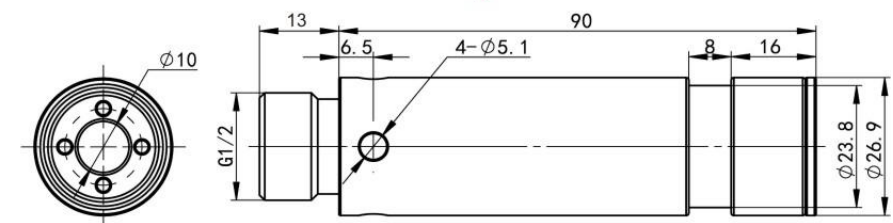


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G1/2-DN20 (φ26.9) joint	duplex stainless steel
Outlet	G1/2-DN20 (φ26.9) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 1.2 series

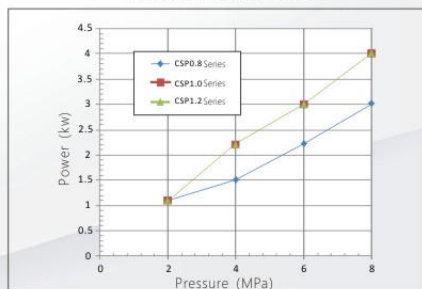
◎ Specifications

PNs		CSP0.8	CSP1.0	CSP1.2
Output	ml/r	10.3	12.6	15.4
Output flow rate (@ 1450 r.p.m)	m ³ /h	0.8	1.0	1.2
	L/min	13.7	16.8	20.6
MIN Pressure(long term)	MPa	2	2	2
MAX Pressure(long term)	MPa	8	8	8
MAX RPM	r/min	1800	1800	1800
MIN RPM	r/min	700	700	700
Flush valve	/	YES	YES	YES
Weight	kg	8.8	8.8	8.8

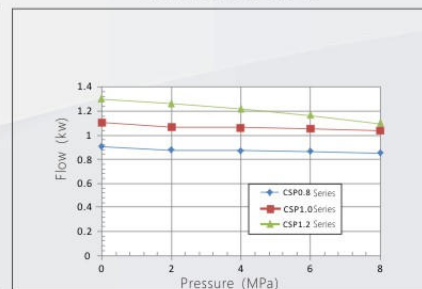
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP0.8	0.8	1500	1.1kW	1.5kW	2.2kW	3kW
CSP1.0	1.0	1500	1.1kW	2.2kW	3kW	4kW
CSP1.2	1.2	1500	1.1kW	2.2kW	3kW	4kW

◎ Performance Curve

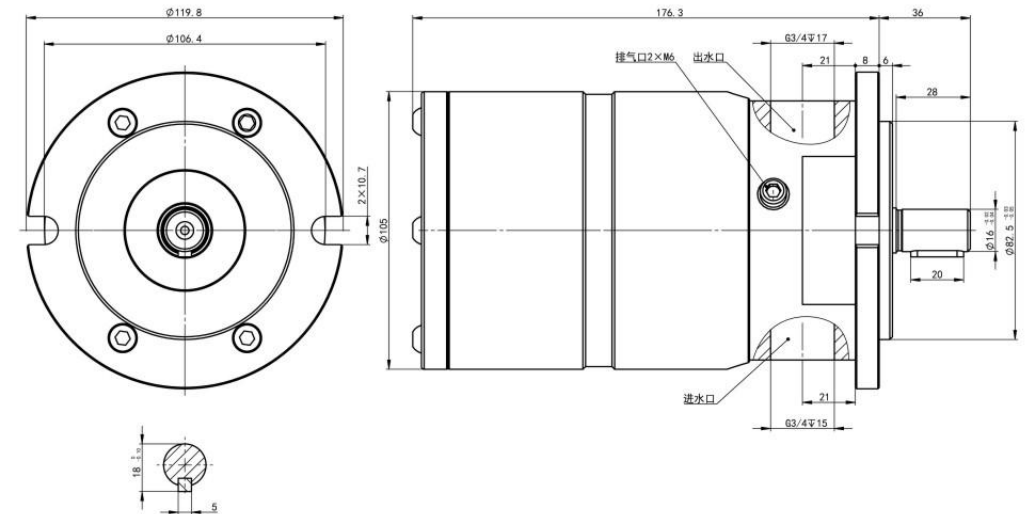
Pressure-Power Curve



Pressure-Flow Curve

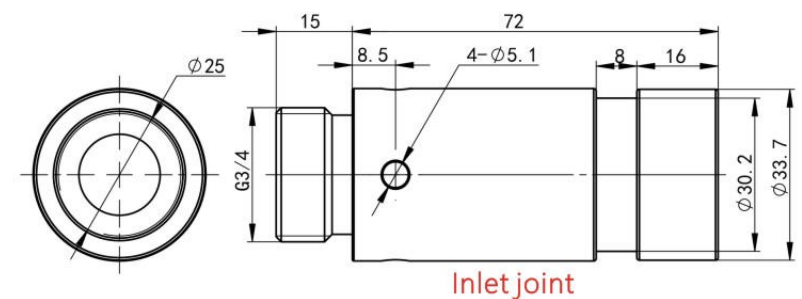


◎ Overall dimensions

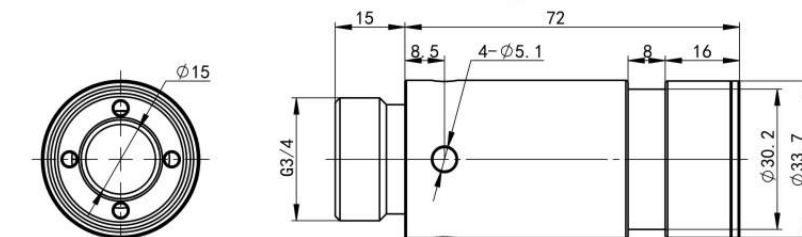


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G3/4-DN25 (φ33.7) joint	duplex stainless steel
Outlet	G3/4-DN25 (φ33.7) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 2.0 series

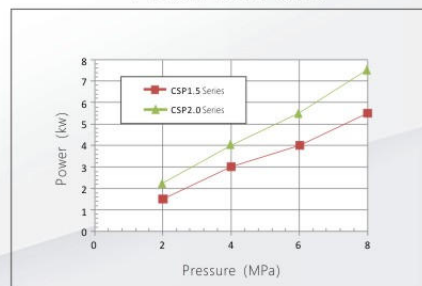
◎ Specifications

PNs		CSP1.5	CSP2.0
Output	ml/r	19.1	23.5
Output flow rate (@ 1450 r p m)	m ³ /h	1.5	2.0
	L/min	25.5	32.5
MIN Pressure(long term)	MPa	2	2
MAX Pressure(long term)	MPa	8	8
MAX RPM	r/min	1800	1800
MIN RPM	r/min	700	700
Flush valve	/	YES	YES
Weight	kg	8.8	8.8

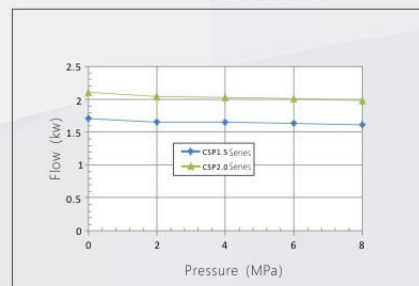
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP1.5	1.5	1500	1.5kW	3kW	4kW	5.5kW
CSP2.0	2.0	1500	2.2kW	4kW	5.5kW	7.5kW

◎ Performance Curve

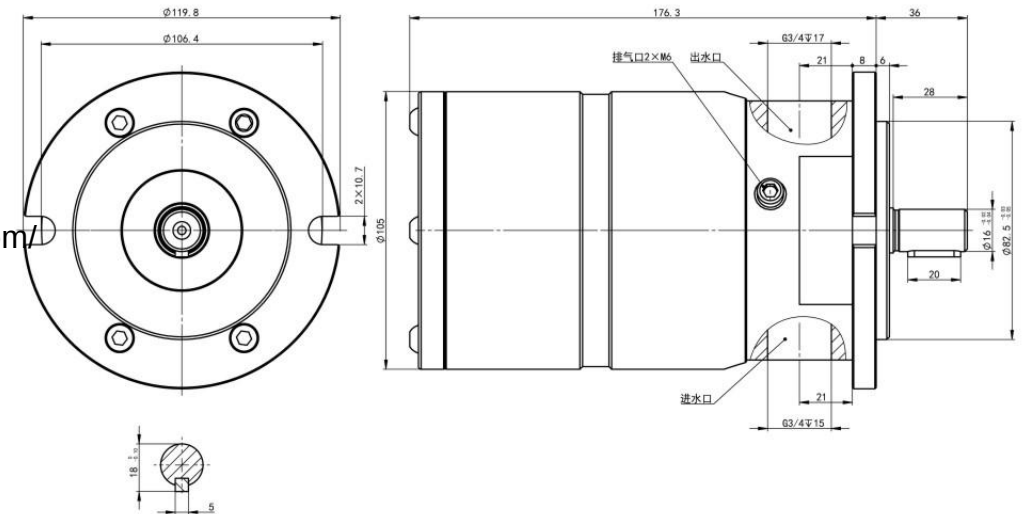
Pressure-Power Curve



Pressure-Flow Curve



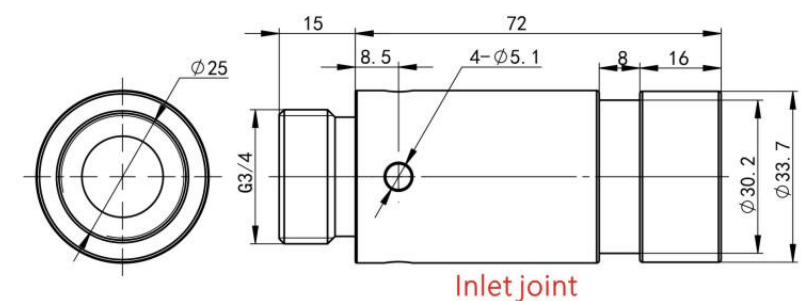
◎ Overall dimensions



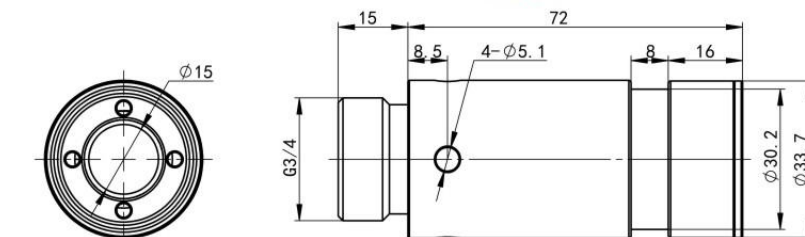
<https://www.dptwx.com/>

◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G3/4-DN25 (φ33.7) joint	duplex stainless steel
Outlet	G3/4-DN25 (φ33.7) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 3.0 series

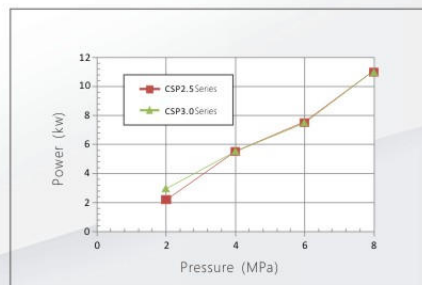
◎ Specifications

PNs		CSP2.5	CSP3.0
Output	ml/r	32.5	37.4
Output flow rate (@ 1450 r p m)	m ³ /h	2.6	3
	L/min	43.3	49.9
MIN Pressure(long term)	MPa	2	2
MAX Pressure(long term)	MPa	8	8
MAX RPM	r/min	1800	1800
MIN RPM	r/min	700	700
Flush valve	/	YES	YES
Weight	kg	18.5	18.5

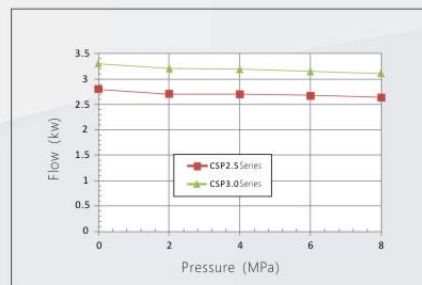
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP2.5	2.5	1500	2.2 kW	5.5kW	7.5kW	11 kW
CSP3.0	3.0	1500	3kW	5.5 kW	7.5 kW	11 kW

◎ Performance Curve

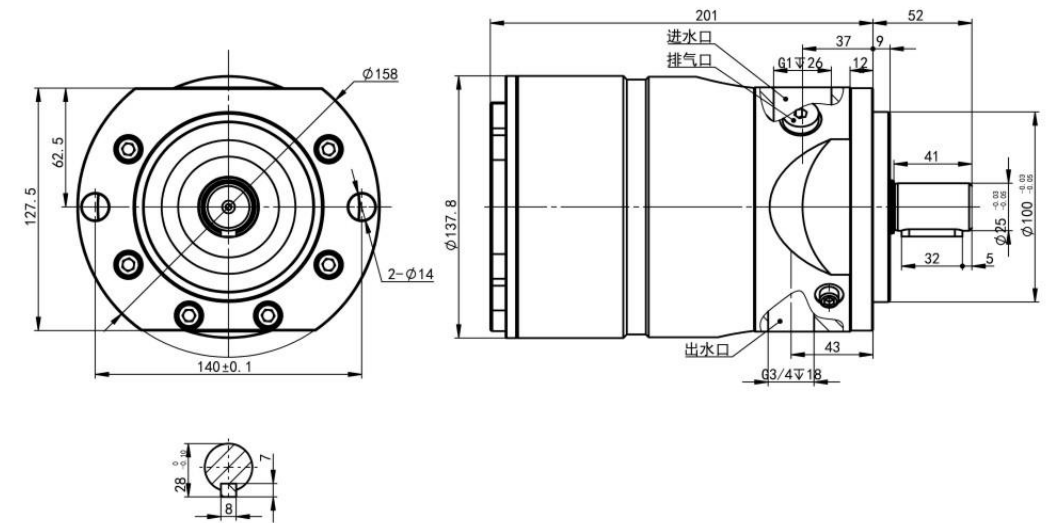
Pressure-Power Curve



Pressure-Flow Curve

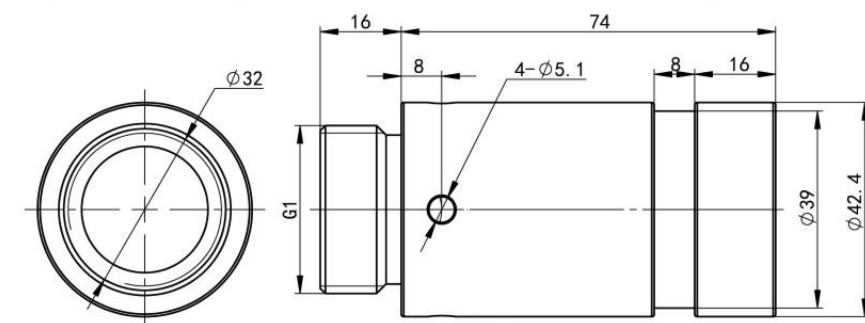


◎ Overall dimensions

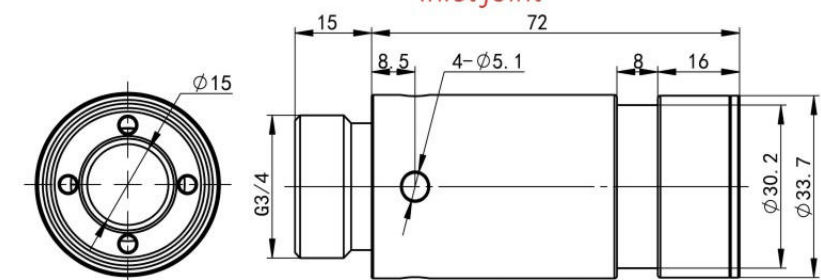


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G1-DN32 (φ42.4) joint	duplex stainless steel
Outlet	G3/4-DN25 (φ33.7) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 6.0 series

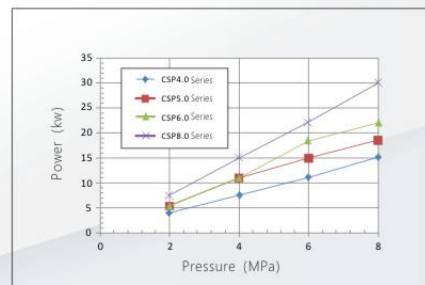
◎ Specifications

PNs		CSP4.0	CSP5.0	CSP6.0	CSP8.0
Output	ml/r	50.9	62.5	75.4	98.3
Output flow rate (@ 1450 r/min)	m ³ /h	4.1	5	6	8
	L/min	67.9	83.4	100.6	131.2
MIN Pressure(long term)	MPa	2	2	2	2
MAX Pressure(long term)	MPa	8	8	8	8
MAX RPM	r/min	1800	1800	1800	1800
MIN RPM	r/min	700	700	700	700
Flush valve	/	YES	YES	YES	YES
Weight	kg	33	33	33	33

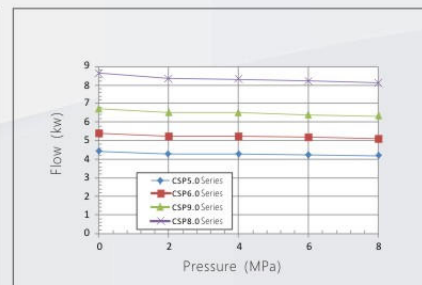
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h	r/min	2MPa	4MPa	6MPa	8MPa
CSP4.0	4.0	1500	4 kW	7.5 kW	11 kW	15 kW
CSP5.0	5.0	1500	5.5 kW	11 kW	15 kW	18.5 kW
CSP6.0	6.0	1500	5.5 kW	11 kW	18.5 kW	22 kW
CSP8.0	8.0	1500	7.5 kW	15 kW	22 kW	30 kW

◎ Performance Curve

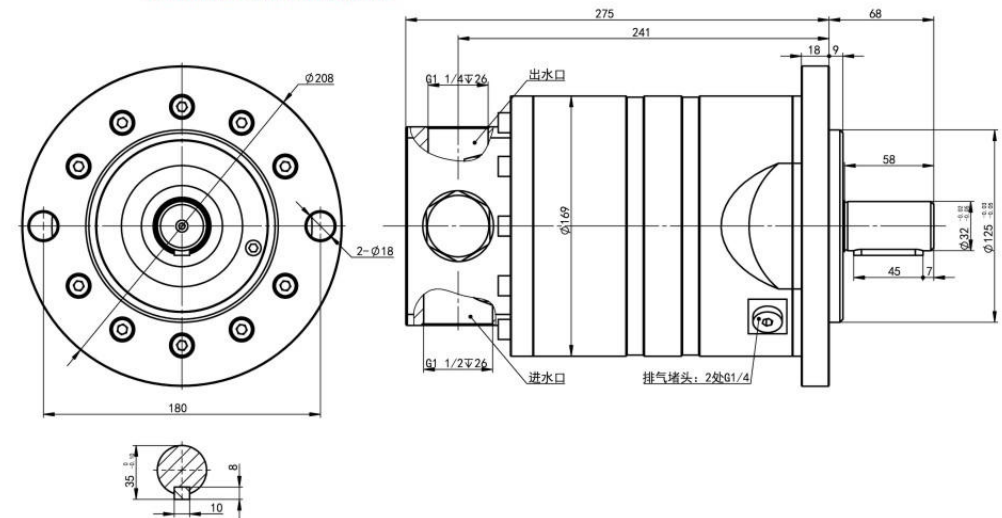
Pressure-Power Curve



Pressure-Flow Curve

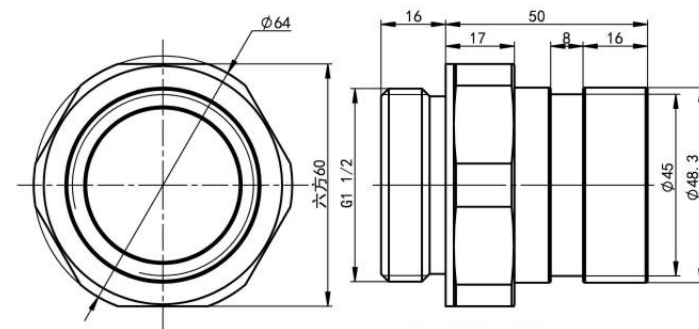


◎ Overall dimensions

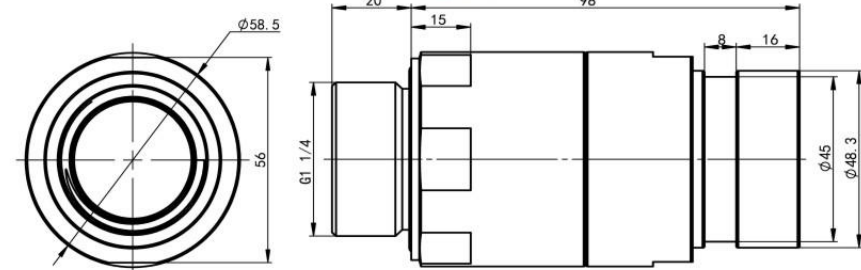


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G1 1/2转-DN40- (φ48.3) joint	duplex stainless steel
Outlet	G1 1/4-DN40 (φ48.3) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 10 series

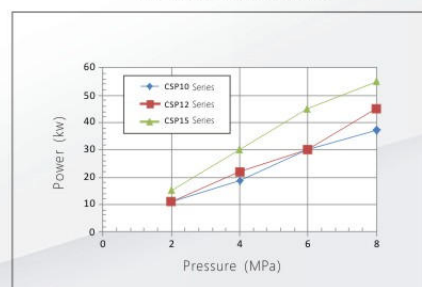
◎ Specifications

PNs		CSP10	CSP12	CSP15
Output	ml/r	127.4	150.3	191.5
Output flow rate (@ 1450 rpm)	m ³ /h	10.2	12	15.3
	L/min	170	200	255
MIN Pressure(long term)	MPa	2	2	2
MAX Pressure(long term)	MPa	8	8	8
MAX RPM	r/min	1800	1800	1800
MIN RPM	r/min	700	700	700
Flush valve	/	YES	YES	YES
Weight	kg	45	45	45

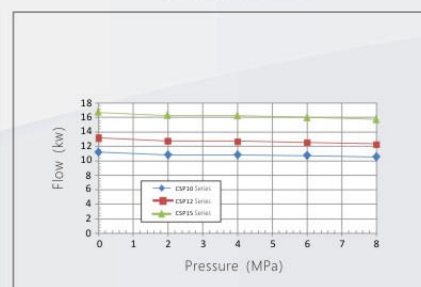
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP10	10.0	1000	11 kW	18.5 kW	30 kW	37 kW
CSP12	12.0	1500	11 kW	22 kW	30 kW	45 kW
CSP15	15.3	1500	15 kW	30 kW	45 kW	55 kW

◎ Performance Curve

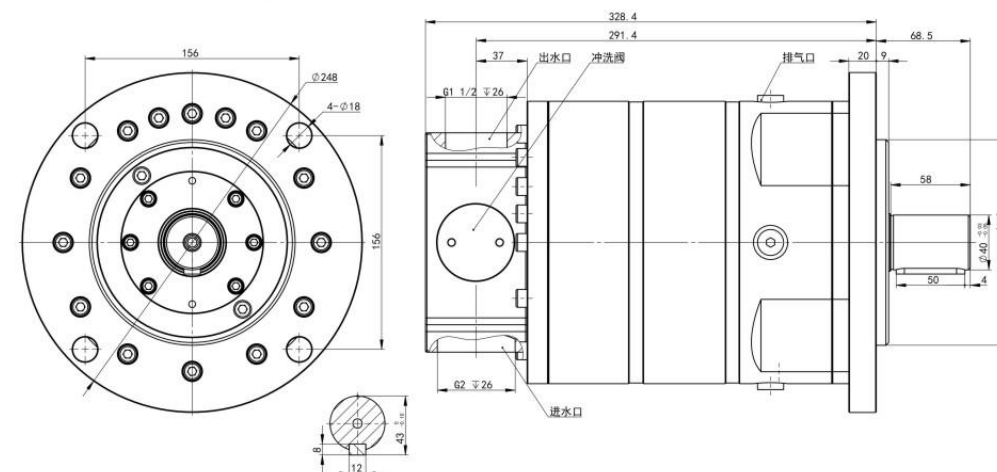
Pressure-Power Curve



Pressure-Flow Curve

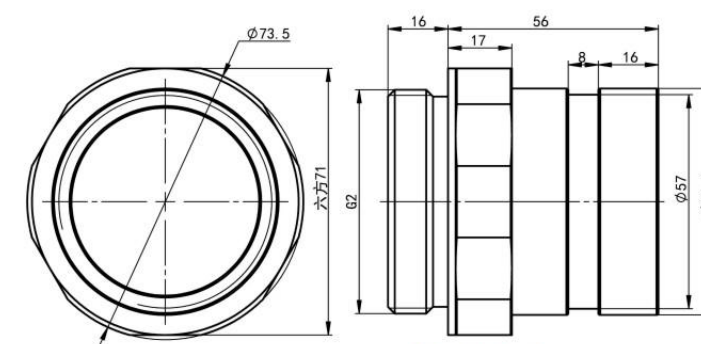


◎ Overall dimensions

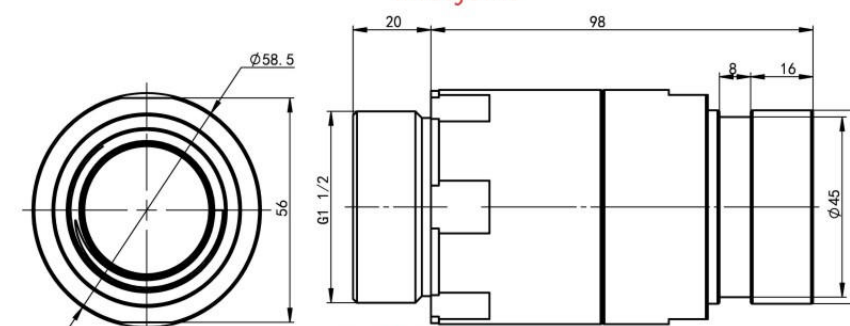


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G2-DN50 (φ60.3) joint	duplex stainless steel
Outlet	G1 1/2-DN40 (φ48.3) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 18 series

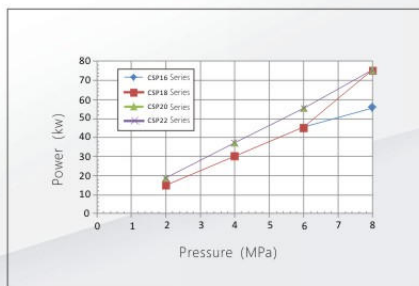
◎ Specifications

PNs		CSP16	CSP18	CSP20	CSP22
Output	ml/r	204.5	230.9	248.8	275.8
Output flow rate (@ 1450 r/min)	m ³ /h	16.4	18.5	20	22
	L/min	272.7	308.1	331.8	367.9
MIN Pressure(long term)	MPa	2	2	2	2
MAX Pressure(long term)	MPa	8	8	8	2
MAX RPM	r/min	1500	1500	1500	1500
MIN RPM	r/min	700	700	700	700
Flush valve	/	YES	YES	YES	YES
Weight	kg	75	75	75	75

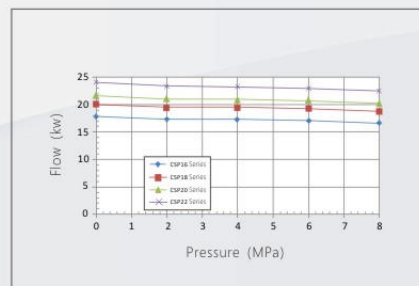
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP16	16.0	1500	15 kW	30 kW	45 kW	55 kW
CSP18	18.0	1500	15 kW	30 kW	45 kW	75 kW
CSP20	20.0	1500	18.5 kW	37 kW	55 kW	75 kW
CSP22	22.0	1500	18.5 kW	37 kW	55 kW	75 kW

◎ Performance Curve

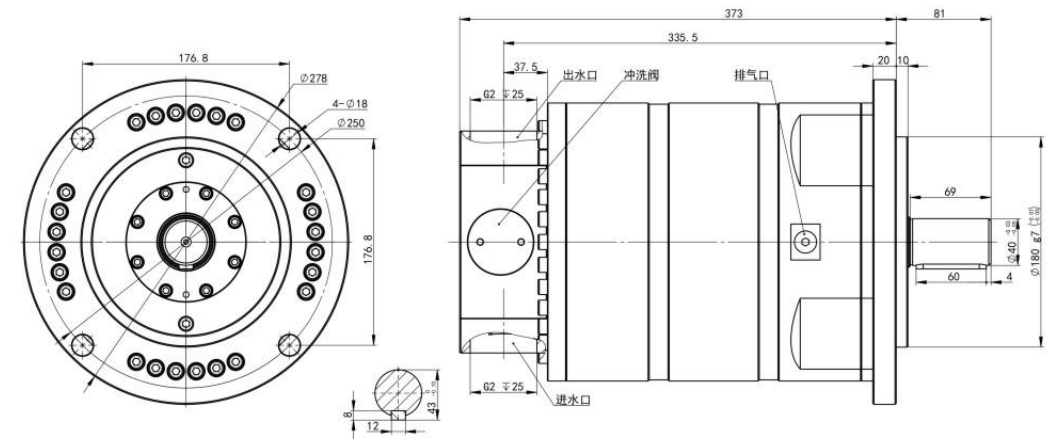
Pressure-Power Curve



Pressure-Flow Curve

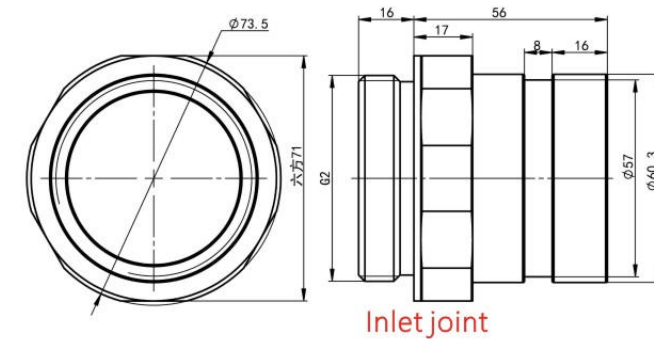


◎ Overall dimensions

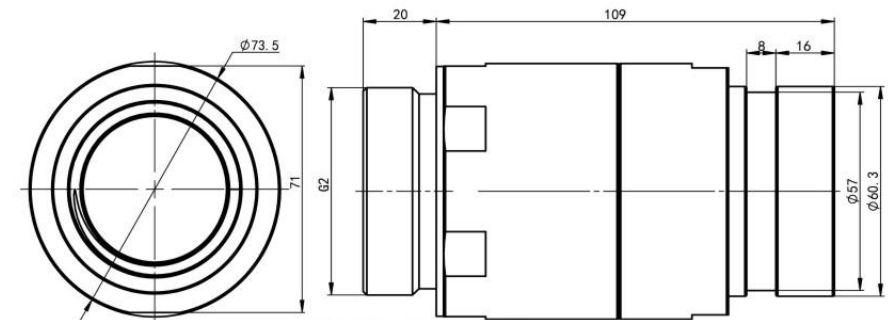


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G2-DN50 (φ60.3) joint	duplex stainless steel
Outlet	G2-DN50- (φ60.3) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 25 series

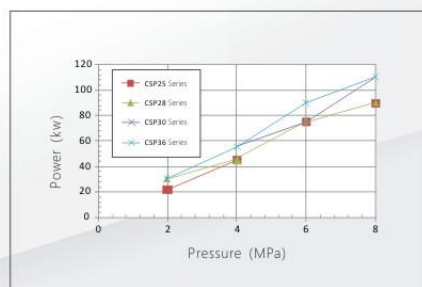
◎ Specifications

PNs		CSP25	CSP28	CSP30	CSP36
Output	ml/r	311.6	352	379	448
Output flow rate (@ 1450 rpm)	m ³ /h	25	28.2	30.3	36
	L/min	415.6	469.4	505.7	597.8
MIN Pressure(long term)	MPa	2	2	2	2
MAX Pressure(long term)	MPa	8	8	8	8
MAX RPM	r/min	1500	1500	1500	1500
MIN RPM	r/min	700	700	700	700
Flush valve	/	YES	YES	YES	YES
Weight	kg	105	105	105	105

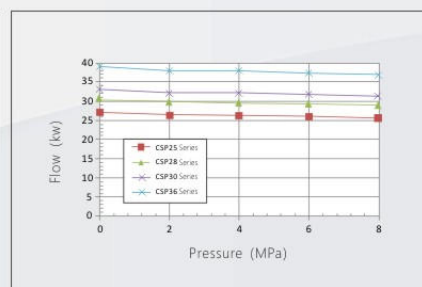
PNs	Flow	Recommended RPM				
	m ³ /h	r/min	2MPa	4MPa	6MPa	8MPa
CSP25	25.0	1500	22 kW	45 kW	75 kW	90 kW
CSP28	28.0	1500	30 kW	45 kW	75 kW	90 kW
CSP30	30.0	1500	30 kW	55 kW	75 kW	110 kW
CSP36	36.0	1500	30 kW	55 kW	90 kW	110 kW

◎ Performance Curve

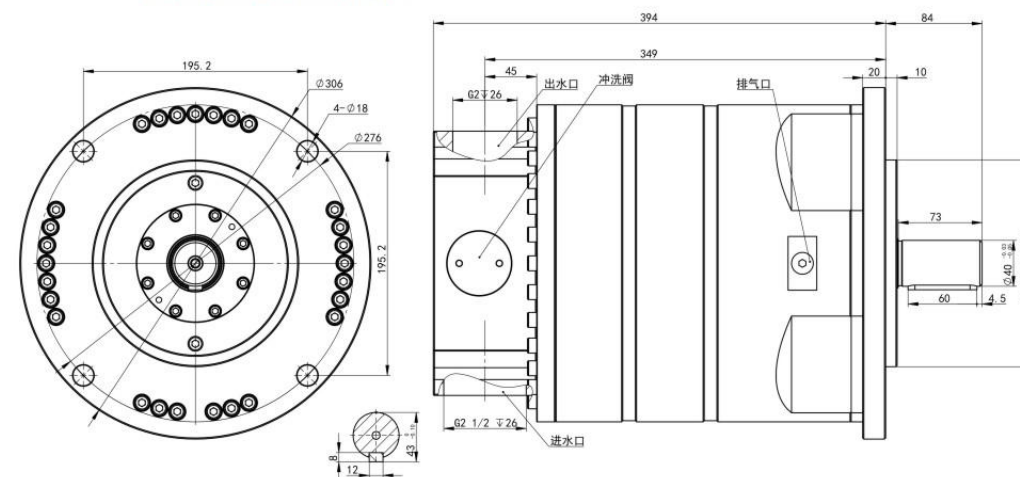
Pressure-Power Curve



Pressure-Flow Curve

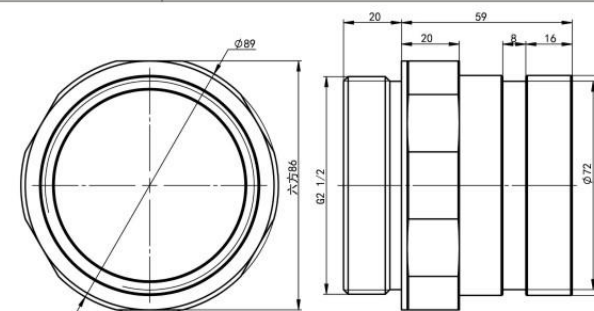


◎ Overall dimensions

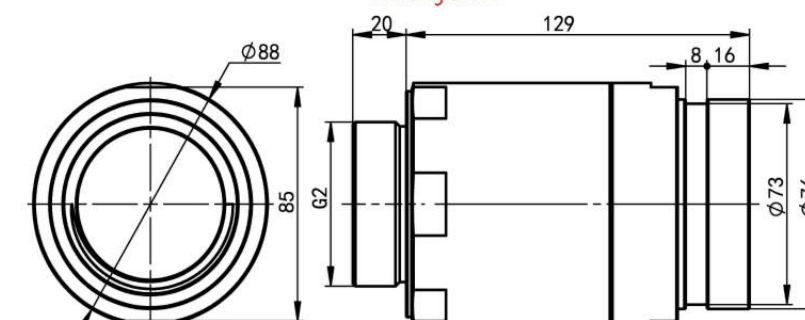


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	G2 1/2-DN65 (ø76.1) joint	duplex stainless steel
Outlet	G2-DN65 (ø76.1) Check valve	



Inlet joint



Outlet check valve

Product specifications

CSP 48 series

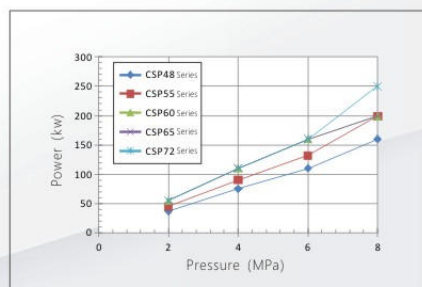
◎ Specifications

PNs		CSP48	CSP55	CSP60	CSP65	CSP72
Output	ml/r	607	703.8	758	813	896
Output flow rate (@ 1450rpm)	m ³ /h	48.9	56.6	60.7	65.1	72
	L/min	814.2	944	1016.8	1090.4	1202
MIN Pressure(long term)	MPa	2	2	2	2	2
MAX Pressure(long term)	MPa	8	8	8	8	8
MAX RPM	r/min	1500	1500	1500	1500	1500
MIN RPM	r/min	700	700	700	700	700
Flush valve	/	YES	YES	YES	YES	YES
Weight	kg	215	215	215	215	215

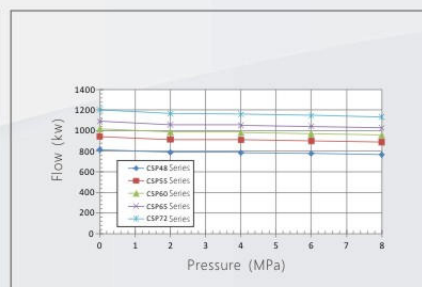
PNs	Flow	Recommended RPM	Motors specs			
	m ³ /h		2MPa	4MPa	6MPa	8MPa
CSP48	48.0	1000	37kW	75kW	110kW	160kW
CSP55	55.0	1500	45kW	90kW	132kW	200kW
CSP60	60.0	1500	55kW	110kW	160kW	200kW
CSP65	65.0	1500	55kW	110kW	160kW	200kW
CSP72	72.0	1500	55kW	110kW	160kW	250kW

◎ Performance Curve

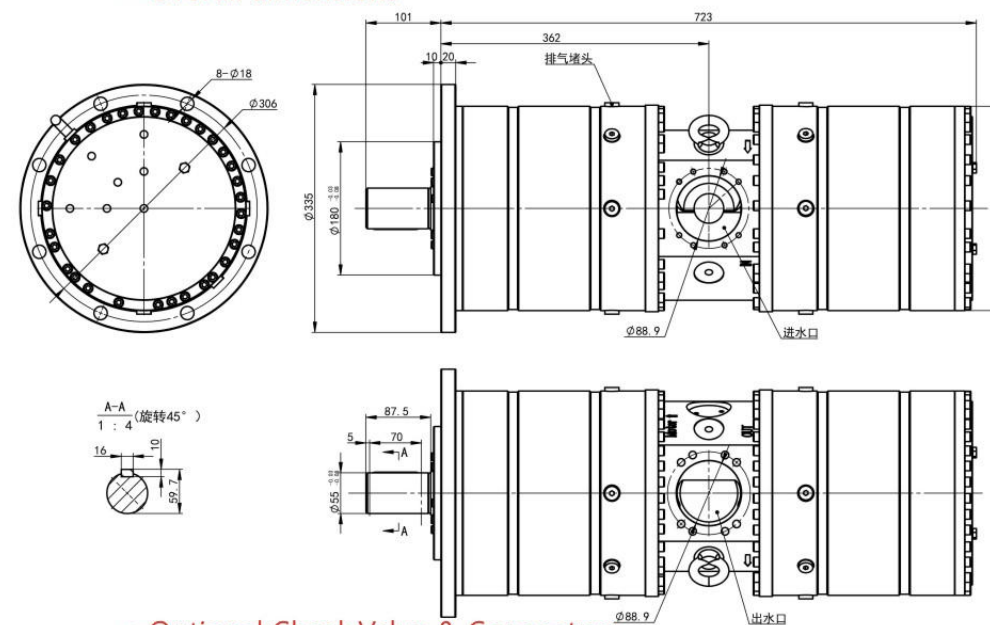
Pressure-Power Curve



Pressure-Flow Curve

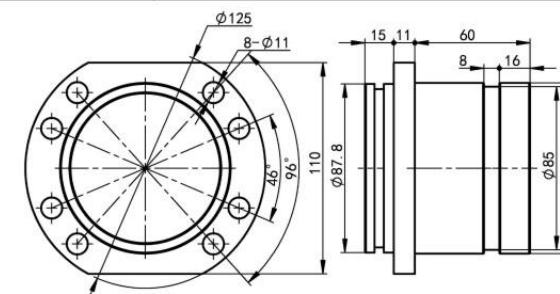


◎ Overall dimensions

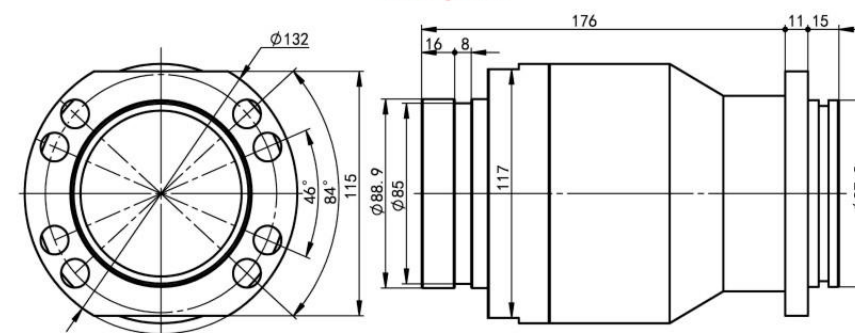


◎ Optional: Check Valve & Connectors

Water Inlet and outlet	Check Valve & Connectors	Material
Inlet	DN80 (φ88.9) joint	duplex stainless steel
Outlet	DN80 (φ88.9) Check valve	



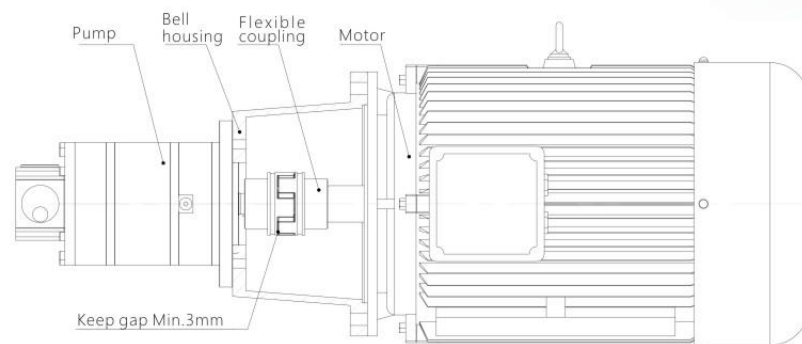
Inlet joint



Outlet check valve

Security and operation

The diagram below illustrates how to assemble a pump and how to connect it to a motor engine. The pump should be connected to other parts of the device via flexible hoses.



Inlet pressure and medium

Inlet MIN pressure	0.5bar	Filter Accuracy	10μm
Inlet MAX pressure	5bar	Filter efficiency	99.90%
Media temprature		3-50°C	
It is recommended to use a precision filter with a filtration ratio of ≥1000* in English.			

Due to the very low viscosity of water, in order to control inter internal leakage rates and improve component performance, the design of the friction pair clearance in CSP series water pumps is very small. Therefore, filtration of the incoming water is crucial for minimizing pump wear.

Assembly and shaft load: It is recommended to use an elastic coupling to connect the motor to the water pump. The forces(axial and radial) acting on the pump shaft will affect its normal operation.

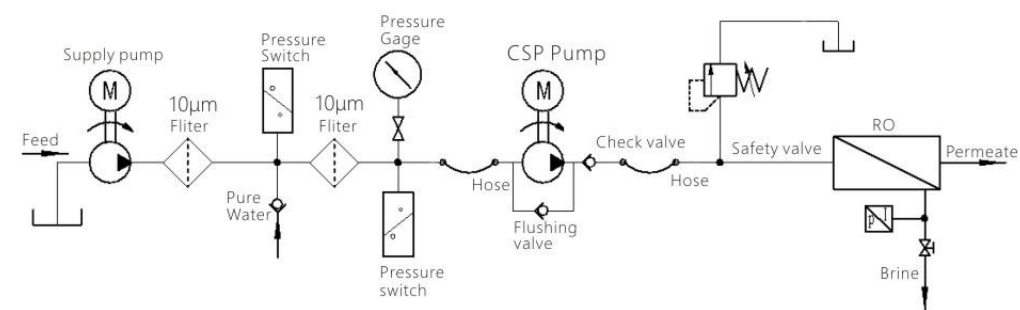
Noise level: Generally, reducing speed also reduces noise. Using flexible hoses can reduce pump o vibration and noise. Since pumps (or pump groups) are usually installed on bell housings or bases, the noise level is determined by the entire assembly.

Factors affecting noise level:

1. Pump speed: Lower speed, lower noise.
2. Pump installation method: Flexible installation, lower noise.
3. Connection of piping: Soft hose connection from pump outlet, lower noise.

Before running:

- ⊗ After connecting the external piping of the water pump, it is essential to flush the filter outlet to the pump inlet pipe to prevent impurities and contaminants from entering the pump's internal parts.
- ⊗ Before the water pump's initial operation, ensure proper venting through the pump body's vent to fill the pump's interior with working fluid.
- ⊗ Before the initial operation, ensure that the water pump's rotation direction matches the markings on the pump body; do not reverse it.
- ⊗ Every time the water pump or piping is disassembled, after emptying the working fluid from the pump's interior, be sure to vent it again before restarting.



1. For ease of system venting and flushing, this CSP series pump is equipped with an integrated flushing valve.
2. Install the inlet filter before the CSP pump.
3. Install a low-pressure control switch between the filter and pump inlet, with the minimum set at 1 bar. When pressure drops below 1 bar, the control switch must be able to shut down the pump.
4. Determine the size specifications of the inlet piping to minimize pressure loss (large flow area, short pipe length, minimize the number of bends/fittings, use fittings with low pressure loss).
5. To eliminate the risk of cavitation, maintain positive pressure at the inlet, between a minimum of 0.5 bar and a maximum of 5 bar.
6. Use flexible hoses to minimize vibration and noise.
7. CSP pumps generate pressure and flow immediately upon startup and are not affected by backpressure, so install a safety valve to prevent damage to the system.

Applications

- ⊗ 1. Fixed/Mobile water hydraulic systems.
- ⊗ 2. Fixed/Mobile high-pressure fine water mist fire extinguishing systems.
- ⊗ 3. Lowering seat/temperature/humidification systems.
- ⊗ 4. High-pressure washing/cleaning systems.
- ⊗ 5. Milli-Q Advantage.
- ⊗ 6. Seawater desalination systems.
- ⊗ 7. Textile industry.
- ⊗ 8. Fountain and misting systems.
- ⊗ 9. Buoyancy adjustment systems.
- ⊗ 10. Industrial wastewater treatment system.