Catalog of cooling fluid connectors

Selection of connector

- The selection of fluid connectors mainly considers the following aspects:
- Working flow rate—Select the equivalent diameter of the fluid connector based on the working flow rate.
- Working pressure—Select the maximum working pressure of the fluid connector based on the system pressure.
- Working temperature—The working temperature of the fluid connector is selected based on the temperature of the working medium and the working environment.
- Working medium—Select the material of the fluid connector based on the working medium and usage environment.
- Flow resistance characteristics—Select the pressure loss of the fluid connector according to the system flow resistance requirements.
- Color—Select the color of the fluid connector based on the inlet and outlet.
- Locking method—Select the locking method for the fluid connector based on the usage environment and installation location.
- Interface code—Select the interface code of the fluid connector for each tail interface based on the installation method.

Precautions

- It is prohibited to use fluid connectors for liquids or gases other than the specified working medium.
- It is prohibited to use beyond the maximum working pressure.
- It is prohibited to use beyond the working temperature.
- It is prohibited to disassemble fluid connectors.
- Installation and use should consider anti loosening measures.
- It is prohibited to use it as a hinge joint.
- It is prohibited to exchange and use products outside of our company.
- The working medium must be a clean fluid filtered through a filter.
- The insertion and extraction pressure shall not exceed the specified value of the product.
- If there is negative pressure inside or when used under vacuum conditions, please contact us.
- When selecting connector materials, electrochemical corrosion must be considered.

CONTENTS

TSA series—Bayonet locking type

Introduction

● Wiht bayonet locking type, achieve locking & disconnection through push-pull rotation, and it is easy to operate connection & disconnection without leakage

● The shell material and coating have strong wear resistance and corrosion resistance

● Interface has anti-pollution and no leakage structure

● Tube or cooling plate can be connected in various forms

● Tail interface can be customized

● Over-pressure protection, TSAX relief socket are recommended

TSA series

TSAX relief socket

Application

TSA series fluid connectors are suitable for airborne, vehicle mounted, shipborne, and ground environments, achieving fast connections between cold plates and pipelines, as well as between pipelines. They are mainly used in liquid cooling systems for aviation electronic equipment, radar equipment, wind power converters, high-performance servers, and supercomputers.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ2 mm~φ20 mm
2	Color	Red/Green/Blue/Yellow
3	Shell material	Aluminium alloy/Stainless steel/Titanium alloy

TSC series—Steel ball locking type

Introduction

- With steel ball locking type, achieved by pushing and pulling to lock and disconnect, convenient for operation
- The shell material and coating have strong wear resistance and corrosion resistance
- Interface has anti-pollution and no leakage structure
- Tube or cooling plate can be connected in various forms
- Tail interface can be customized
- Over-pressure protection, TSCX/H series relief plug or socket are recommended

TSC series

Application

The TSC series fluid connectors are suitable for airborne, vehicle mounted, shipborne, and ground environments, achieving fast connections between cold plates and pipelines, as well as between pipelines. They are mainly used in liquid cooling systems for aviation electronic equipment, radar equipment, wind power converters, high-performance servers, and supercomputers.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ3 mm~φ25 mm
2	Shell material	Aluminium alloy/Stainless steel

TSD/H Series - Large radial blind insertion type

Introduction

● Without locking mechanism, when disconnected, it can achieve automatic sealing to ensure no leakage

● The shell material and coating have strong wear resistance and corrosion resistance

● With a large radial floating function, reducing the requirement for centering accuracy during connection

● Tail interface can be customized

TSD/H series

Application

The TSD/H series fluid connectors are widely used in various liquid cooling systems, mainly for the interior of various liquid cooling chassis and equipment, to achieve fast connection between modules (boards) and chassis.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h
6	Radial floating	±1 mm

Products information

No.	Project	Information
1	Hydraulic diameter	φ3 mm~φ20 mm
2	Shell material	Aluminium alloy/Stainless steel/Titanium alloy

TSF Series - Blind insertion type

Introduction

● Without locking mechanism, connected or disconnected, it can achieve no leakage

● The shell material and coating have strong wear resistance and corrosion resistance

● Interface has anti-pollution and no leakage structure

● With radial floating function

● Tail interface can be customized

● Over-pressure protection, TSFX relief sockets are recommended

TSF series

TSFX series socket

Application

TSF series fluid connectors are suitable for airborne, vehicle mounted, shipborne, and ground environments, enabling fast connection between modules (boards) and chassis. They are mainly used in liquid cooled cooling systems for radar equipment, airborne liquid cooled chassis, and high-performance servers.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ2 mm~φ80 mm
2	Shell material	Aluminium alloy/Stainless steel

TSFP Series - Blind insertion type

Introduction

● Without locking mechanism, connected or disconnected, it can achieve no leakage

● The shell material and coating have strong wear resistance and corrosion resistance

● Interface has anti-pollution and no leakage structure

● With radial floating function

● Tail interface can be customized

TSFP series

Application

TSFP series fluid connectors are suitable for airborne, vehicle mounted, shipborne, and ground environments, enabling fast connection between modules (boards) and chassis. They are mainly used in liquid cooled cooling systems for radar equipment, airborne liquid cooled chassis, and high-performance servers.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ3 mm~φ12 mm
2	Shell material	Aluminium alloy/Stainless steel

TSH series - Press type

Introduction

- With press type locking structure, capable of quick locking and separation with one hand
- Interface has anti-pollution and no leakage structure
- Equipped with color identification (red or blue), it is easy to identify the inlet and outlet
- Tail interface can be customized

TSH series

Application

TSH-3 press type fluid connector is mainly used for connecting water separators and pipeline systems, achieving quick locking and separation, and easy installation and maintenance. Mainly used in environments such as data centers and supercomputers.

Technical performance

No.	Project	Parameter
1	Working temperature	-17℃~+115℃
2	Working pressure	0~13.8 bar
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times

Products information

No.	Project	Information
1	Hydraulic diameter	φ3 mm
2	Color mark	Red/Blue
3	Shell material	Copper alloy

TSK series - Press type

Introduction

- With press type locking structure, capable of quick locking and separation with one hand
- Interface has anti-pollution and no leakage structure
- Equipped with color identification (red or blue), it is easy to identify the inlet and outlet
- Tail interface can be customized

TSK series

Application

TSK series connectors are mainly used in industrial, medical, communication and other fields. Realize fast locking and separation, easy to install and maintain.

Technical performance

No.	Project	Parameter
1	Working temperature	-40℃~+80℃
2	Working pressure	0~8.3 bar
3	Working medium	Antifreeze, purified water, etc
4	Mating cycles	⩾500 times

Products information

No.	Project	Information
1	Hydraulic diameter	φ3 mm~φ12 mm
2	Color mark	Red/Blue
3	Shell material	PPS/ PPSU/ ABS/ Nylon/ Polyethylene

TSN series - Three curved groove locking type

Introduction

●With three groove locking type to achieve fast connection and disconnection

● When disconnected, it can achieve automatic sealing to prevent leakage

●During normal insertion and removal, there will be no leakage of internal liquid

●Optimized internal valve design to achieve maximum flow rate

● The shell material has strong wear resistance and corrosion resistance

TSN series

Application

TSN series fluid connectors are widely used in various liquid cooling systems, mainly for connecting high flow liquid cooling equipment.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~1.5M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ12 mm~φ125 mm
2	Color	Red/Green/Blue/Yellow
3	Shell material	Aluminium alloy/Stainless steel

TSRP series - Thread locking type

Introduction

- Thread locking type, small operating torque
- Interface has anti-pollution and no leakage structure
- Tail interface can be customized

TSRP series

Application

TSRP series fluid connectors are mainly used for connecting liquid cooling components and liquid cooling pipelines in vehicle mounted, shipborne, and airborne cooling systems, achieving rapid conduction and disconnection of liquid cooling channels and transmission of working media. Especially suitable for phase change systems and systems that require pressurized maintenance.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~3.5 M Pa
3	Working medium	Coolant, R134a, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ6 mm~φ12 mm
2	Color	Red/Green/Blue/Yellow
3	Shell material	Aluminium alloy/Stainless steel

TSZ Series - Full flow type

Introduction

● Full flow ball valve structure, with the strongest flow capacity and lowest flow resistance, can meet extremely high flow transmission requirements

● Twisted claw locking structure, small insertion and closing stroke

● Equipped with anti misoperation locking structure design, the locking is safe and reliable, avoiding medium leakage caused by misoperation

● Detachable operating accessories

● Suitable for quick opening and closing of the main inlet and outlet of various fluid circuits

● Tail interface can be customized

TSZ series

Application

TSZ series full flow fluid connector adopts a ball valve structure, and when the flow channel is opened, the interior is a straight pipeline, reducing flow resistance to the lowest level; The male and female heads have a locking structure at the front end, which is locked by relative rotation and connected to the pipeline.

The product has a self sealing function, full flow characteristics, strong flow capacity, low flow resistance, and a locking structure with anti misoperation function to ensure that the flow channel will not be disconnected due to misoperation when the flow channel is connected, resulting in medium leakage. Mainly used for connecting main pipelines in fluid systems.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ20 mm~φ150 mm
2	Shell material	Aluminium alloy/Stainless steel

THA series - Steel ball locking type

Introduction

●Meeting the application scenarios of hydraulic transmission

●With pressure relief function and can be connected under an internal pressure of 30MPa

●The unique anti loosening design of the sealing ring has the ability to withstand high pressure and flow impact

●Adopting straight plug-in steel ball locking, simple connection, and anti misoperation function

THA series

Application

THA series connectors are used in suspension systems, motion systems, and braking systems of various large machinery. Used between pipelines or between pipeline combination plates in hydraulic systems to improve system maintenance convenience and save equipment installation space.

Technical performance

No.	Project	Parameter
1	Working temperature	-40℃~+80℃
2	Working pressure	0~30M Pa
3	Working medium	Coolant, hydraulic oil, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾192 h

Products information

No.	Project	Information
1	Hydraulic diameter	φ6 mm/ φ10 mm
2	Shell material	Stainless steel

TQC series - Claw locking type

Introduction

● The claw locking type, to connect and disconnect by pushing and pulling , easy to operate.

● The shell material and coating have strong wear resistance and corrosion resistance

● Both the insertion and disconnection states can maintain sealing, without leakage.

● Tube or cooling plate can be connected in various forms

● Tail interface can be customized

TQC series

Application

TQC series fluid connectors are suitable for vehicle mounted, shipborne, and ground environments, enabling quick connection between cold plates and pipelines. They are mainly used in liquid cooling and heat dissipation systems for radar equipment, wind power converters, and ground power equipment.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+95℃
2	Working pressure	0~2M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾1000 times
5	Salt spray resistance	⩾96 h

Products information

No.	Project	Information
1	Hydraulic diameter	Φ4 mm/ φ6 mm/ φ8 mm
2	Shell material	Stainless steel

UQD Series - Direct push locking type

Introduction

● With direct push locking structure, capable of quick locking and separation with one hand

● Flat sealing structure, able to maintain sealing in both inserted and disconnected states, without leakage

● Equipped with color identification (red or blue), it is easy to identify the inlet and outlet

● The product has entered Intel's "Liquid Cooling Design Guide" (document number: 612091)

● Tail interface can be customized

UQD series

Application

UQD series fluid connectors are mainly used for the connection between data center rack servers and water dividers, as well as between water dividers and pipeline systems, to achieve fast locking and separation, and are easy to install and maintain. Mainly used in environments such as data centers and supercomputers.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+125℃
2	Working pressure	0~1.6M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾5000 times

Products information

No.	Project	Information
1	Hydraulic diameter	Φ3 mm/ φ5 mm/ φ7 mm/ φ10 mm
2	Color	Red/ Blue
3	Shell material	Aluminium alloy/Stainless steel

UQDB Series - Blind insertion type

Introduction

● Flat leak free sealing structure, able to maintain sealing in both inserted and disconnected states, without leakage

● With radial floating function

● The shell material has strong wear resistance and corrosion resistance

● The series has entered Intel's "Liquid Cooling Design Guide" (document number: 612091)

UQDB series

Application

UQDB series blind plug fluid connector is mainly used in liquid cooled cooling systems such as data centers and supercomputers to achieve fast connection between modules (boards) and chassis, making it easy to install and maintain.

Technical performance

No.	Project	Parameter
1	Working temperature	-55℃~+125℃
2	Working pressure	0~1.6M Pa
3	Working medium	Coolant, deionized water, etc
4	Mating cycles	⩾5000 times

Products information

No.	Project	Information
1	Hydraulic diameter	Φ3 mm/ φ5 mm/ φ7 mm/ φ10 mm
2	Shell material	Aluminium alloy/Stainless steel/Titanium alloy