

Spindle Oil Chiller

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1.What is Spindle Oil Chiller ?

Spindle oil chiller is to ensure the accuracy(may affected by changes of oil temperature) of cnc machine spindle.It cools the hydraulic power pack of the oil by providing a supply of chilled water to circulate and regulate the temperature at a precise value.

The oil chiller performs cooling work under its efficient working parts, such as brazed plate evaporator, scroll compressor, copper tube condenser with aluminum fins condenser, micro temperature controller, safety device, oil pump and oil tank, etc.



Oil Chiller

2.How Does Spindle Oil Chiller Works?

The principle of vaporization and heat absorption of Freon in the evaporator is used for cooling.

When the oil chiller is working, the oil pump pumps oil from the oil tank in the machine to the evaporator of the oil chiller for heat exchange, and the cold oil is cooled from the cold oil.

The oil chiller takes the output and sends it back to the storage tank to mix with the hot oil.

The continuous circulation of oil reduces the temperature of the entire oil tank.

The temperature controller of the oil chiller automatically controls the opening and closing of the unit through the temperature sensor, so that the oil temperature is automatically constant at the set temperature.

3.What Are Types Of Oil Cooler?

There are two types of precision oil cooler : one is Box Type Oil Chiller ,the other is Immersion oil chiller .

Box type oil chiller is built with oil pump and oil tank;

Immersion oil chiller is no built with oil pump and oil tank , it use Stainless steel coil as heat exchange.



Box Type Oil Chiller



Immersion Oil Chiller

Features and Advantages of Oil Chiller :

- Prevent mechanical spindle work due to the temperature rise and affect accuracy;
- Maintain the stability of the processing solution ,and improve the precision and efficiency;
- Stable hydraulic and prevent oil shock;
- Easy operation low noise;corrosion preventing tube obstruction;

4.What Are The Main Components of Box Typ Oil Chiller ?

4.1 Compressor

The compressor is the key mover in Oil Chiller because it produces pressure variations to stir

the refrigerant around.

For 5KW chiller , which is with one unit Panasonic brand compressor, using R410A/R407C refrigerant,this brand compress is with high refrigeration efficiency,low noise ,energy saving,environmental protection and durability,safety and stability.



Panasonic Compressor

4.2 Evaporator

The evaporator is a crucial component of OIL chiller, as it is responsible for extracting heat from the liquid being cooled,it is located between the compressor and the expansion valve. There are three types of evaporators :**304SS stainless steel plate type + Oil Tank as heat exchanger.**



SS Plste + Oil Tank Evaporator

4.3 Oil Pump

The oil pump is designed to increase the pressure and the flow of the chilled oil in a closed space.



Oil Pump

4.4 Condenser

The condenser for oilchiller is equipped with efficient cross-seam fins and female threaded copper tubes for high heat exchange efficiency and good stability. Its function is to cool down the refrigerant steam released from the compressor into a liquid or gas-liquid mixture.



Aluminum fin+fan Condenser

4.5 Controller Panel

Tongwei chillers use precision digital temperature controller, it RS485 communication port, which can do remote monitoring and control. Simple operation, low failure rate, high safety factor, easy installation.



Controller Panel

5.What are the Industrial Applications of Oil Chillers?

You can use the oil chillers in different industrial chilling applications to control the cooling temperatures you want.

Here are some of the industrial applications where you will use the oil chillers.

- CNC Machining Centers
- Inner and Outer Grinding Machine Applications
- Electric Discharge Machine Applications
- Hydraulic Oil Stations and Hydraulic Machinery Applications
- Grinding Machine Applications
- Integrated Machining Applications
- Woodworking Industry
- Broaching Machine
- Hydraulic Machinery

6.Contact Us to Learn More About Our Spindle Oil Chillers

Don't delay in making the best decision for your manufacturing business and your future by increasing your production capabilities with spindle oil chillers. Contact us today for more information on a spindle oil chiller.

Our professional team will help you with any questions you have on our hydraulic oil chiller units. We look forward to hearing from you!



