

Brewery Chillers

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Tongwei Chiller is specialized in manufacturing and supplying industrial-grade process chiller in brewery industry .We offer packaged chillers, Portable Chillers, Glycol Chillers and other water cooling systems that keep the brewing processes cool. Now, we have installed many chillers in breweries where our experience and expertise are meeting the needs of Brewers around the world. Beginning with the construction of package units that were not commercially available, our current Brewery Chillers have been continually refined from their original design by incorporating the best of our client's ideas and suggestions into our own standard chillers.

We can also custom design and manufacture brewing chillers to meet your specific needs.If you need a brewery chiller for a different brewing process? **Contact Us**—we're here to help.



Brewery Process

1.What Are Brewery Chillers ?

Brewery Chillers are a type of process chillers, which are cooling units that utilize propylene glycol (an organic anti-freeze agent) or a mix of propylene glycol and water to extract excess heat from a brewing process and dissipate it in a heat exchanger or cooling system. Brewery chillers provide the close temperature tolerance necessary to produce the highest quality final products.

2.Applications for Chillers in Breweries

Brewery Chiller use process cooling to dissipate heat away from the brewing equipment, so they can operate smoothly and efficiently. Chillers are suited for different kinds of brewing processes, including:

- Wort cooling
- Brite tanks cooling
- Fermenters cooling
- Two-stage heat exchangers cooling

Brewery Chillers are in these beverage industry as:

- Brewing counterflow chiller
- Cold chilling of juice and beer
- Nano Brewery
- Brew House Chiller
- Prepackaging brewery distillery

- Wineries
- Cider mills brewery
- Crash cooling, etc.

3.How Do Brewery Chillers work ?

A brewery chiller effectively dissipate heat from the brewing equipment and maintains the desired temperature for each stage of beer production,which circulates super-cooled glycol around a closed circuit. This closed loop is comprised of tubing that provides a connection to the inlet and outlet section of the Brewery Chiller and the heat exchanger being used for cooling purposes.

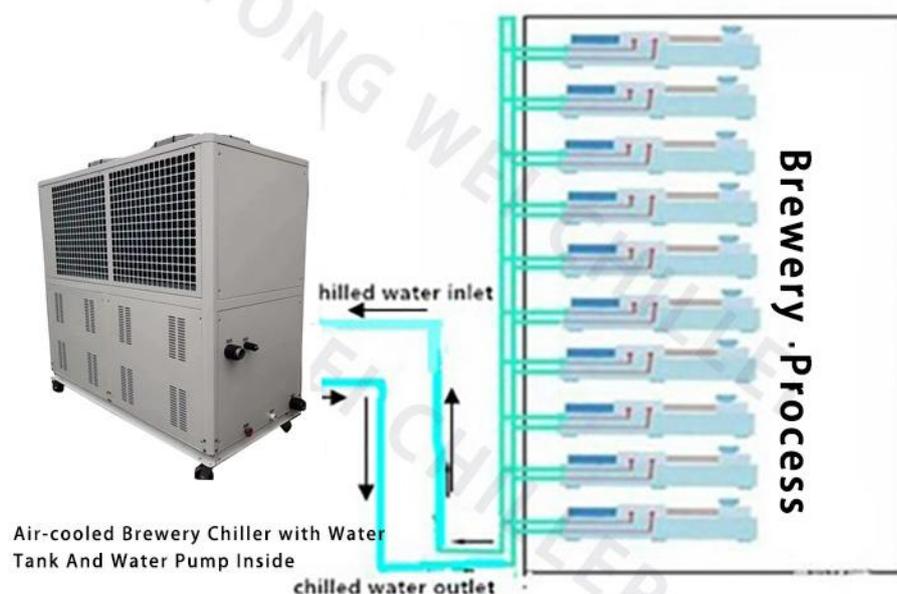
4.What's the Difference Between Air-cooled & Water-cooled Brewery chillers?

There are two types of brewery chiller: one is **air-cooled brewery chiller**,the other is **water-cooled brewery chiller** ;

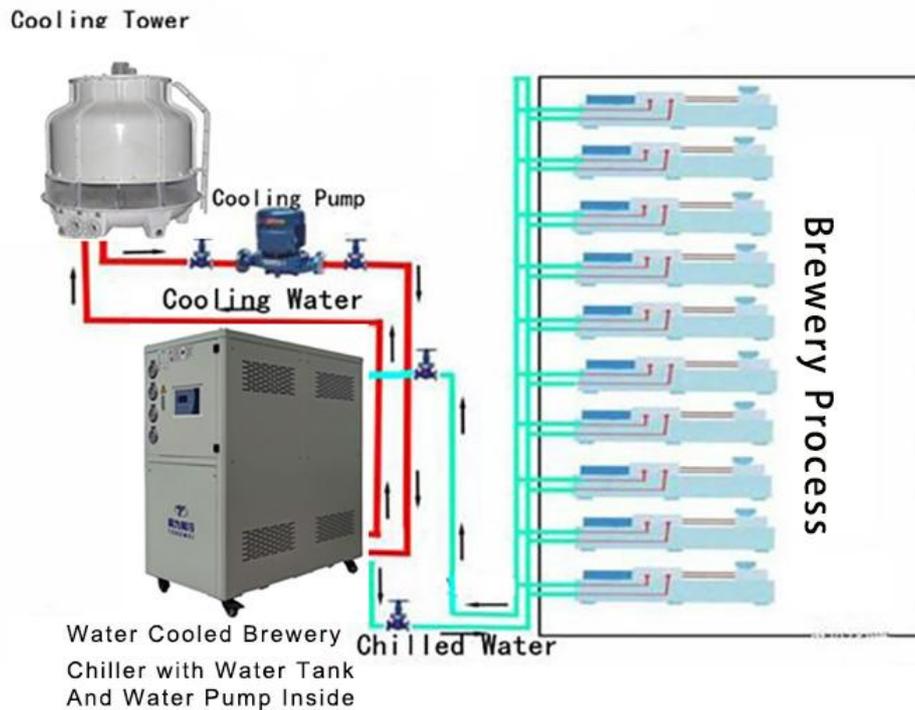
Air-cooled brewery chillers use ambient air to dissipate heat from the brewing processes.

They are energy-efficient, space-saving, and less maintenance that helps save money.

Water-cooled brewery chillers use water from an external water cooling tower to dissipate heat from the brewing processes. These systems are longer lifespan, Relatively quiet, and more consistent cooling performance than the air-cooled brewery chiller.



Air-cooled Brewery Chiller Installation Drawing



Water-cooled Brewery Chiller Installation Drawing

Contact us for helping to choose the best brewery chillers for your brewing processes.

5.What Are the Differences Between Brewery Scroll Chiller and Brewery Screw Chiller?

Brewery Scroll Chiller

- 1/2HP-60HP(2KW-170kw)
- Danfoss/Panasonic Scroll Compressor
- Built with water tank and water pump

Brewery Screw Chiller

- Above 60HP(Above 170KW)
- Hanbell/Bitzer Screw compressor
- Without water tank and water pump



Air-cooled Brewery Scroll Chiller



Air-cooled Brewery Screw Chiller



Water-cooled Brewery Scroll Chiller



Water-cooled Brewery Screw Chiller

6.What Are The Main Components of Brewery Chillers?

6.1 Compressor

The compressor is the key mover in brewery chiller because it produces pressure variations to stir the refrigerant around.

From 1/2HP(1/2 Ton) to 60HP(50Ton) brewery chiller , which is with **Panasonic** or **Danfoss** brand **Scroll compressor** ,

Above 80HP(70 Ton) brewery chiller , which is with **Hanbell** or **Bitzer** brand **Screw compressor** ,

These brand compressors are with high refrigeration efficiency,low noise ,energy saving,environmental protection and durability,safety and stability.



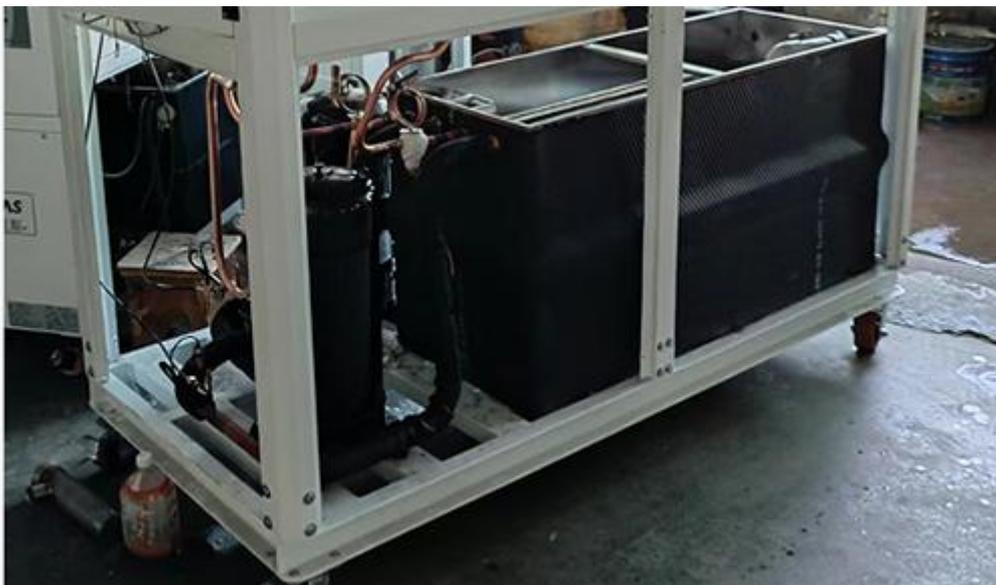
Panasonic Compressor

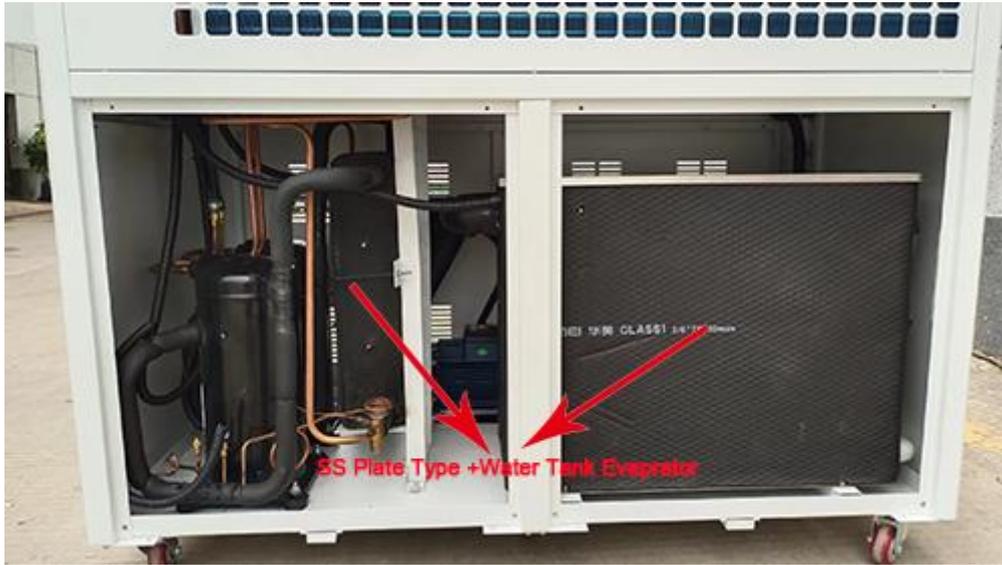


Danfoss Compressor

6.2 Evaporator

The evaporator is a crucial component of air-cooled brewery 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 : **coil in water tank evaporator , shell and tube evaporator, 304SS stainless steel plate type evaporator.**





SS Plate Type+ Water Tank Evaporator



Shell and Tube Evaporator

6.3 Water Pump

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



Water Pump



High Pressure Water Pump

6.4 Condenser

The condenser for air-cooled brewery chiller 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 for air -cooled brewery chiller

The condenser for water-cooled brewery chiller is shell and tube ,with the internal copper tubes employing an outer thread embossing process. This design effectively enhances the heat exchange efficiency between the refrigerant and water during the process. Compared to traditional smooth copper tubes, the outer thread embossing process increases the surface area of the copper tubes, thereby expanding the contact area for heat exchange and improving the thermal conductivity of the condenser. This optimization design allows the condenser of the water-cooled chiller to transfer heat from the refrigerant to the water more rapidly and consistently, enabling the water to carry away the heat.



Shell and tube Condenser for water-cooled brewery chiller

6.5 Controller Panel

Brewery 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

7.How to Choose Right Brewery Chiller for your Brewery Process?

It is very important to select the right Brewery Chiller for brewery application process, if you want proper and durable cooling, please consider below key points:

- Determine the heat load of your brewery application and match it according to your desired model of Brewery Chiller.
- Determine the coolant type, inlet and outlet water temperature, and flow rate that a Brewery Chiller must provide your brewery application.
- The brewery chiller you want install indoor or outdoor?
- Use and inspect performance curves and pump performance curves for the selection of the Brewery Chiller model for your application.

You need air -cooled type brewery chiller or water-cooled type brewery chiller? If you need water-cooled type brewery chiller, which need connect water cooling tower and water cooling pump.

8.How to Size a Brewery Chiller for your Brewery Process?



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When it comes to choosing the right size brewery chiller, we will guide you through the selection process before we begin engineering your solution. We'll factor in several considerations to ensure your brewery chiller helps you produce beer that makes you shine, including:

- Beer volume (bbl), If your application is capable of producing 20 barrels at a time, it means you have a 20 barrel system (bbl).
- Pull-down/crashing loads
- Active fermentation heat load
- Wort heat exchanger secondary heat load
- Brite tank holding load
- Temperature differential.
- Compensation factors for heat loss in pipes, pumps, and other equipment

Leave the brewery chiller size calculations to us! We'll tally the figures we need to recommend the correct the cooling capacity of brewery chiller in KW for optimal performance.

9. Get a Quote on Brewery Chillers Now

As a leading *industrial chiller manufacturer*, we engineer and produce high-quality process chillers compatible with a broad range of industrial processes.

Depending on your needs, we also offer *custom chillers* to ensure that each client receives the industrial chiller best suited to their unique process.

Request a quote now on our brewery chillers or learn about the other *air-cooled chillers* and *water-cooled chillers*.