

## Water chiller

Focusun latest containerized chillers are specially designed for concrete cooling water. It can lower the water temperature from 45°C down to less than 0.5°C. Using evaporative condensers and a 4-stage cooling system, these new containerized chillers are superior to any common one available in the world.

### Standard Execution

- One 20 ft or 40 ft ISO-container, new, painted white, with air-conditioning, light and aluminum floor
- Two or four semi-hermetic compressors
- One evaporative condenser with 2 circuits
- Two high efficiency shell & tube evaporators as water chillers
- One ice bank system – completely in stainless steel
- Stainless steel panel with stainless steel gauges
- Charge with refrigerant
- One water pump through chillers to ice water tank (at site)
- One water recirculation pump for sub-cooling
- Control valve for freezing protection
- Flow control with indication
- Switch & control board with 6 digital temperature indicators for all important temperatures
- Assembly, piping & wiring according to German regulations
- Test and adjustment in our factory



### Requirements on Site

Water (2 bar pressure) and electric power supply, insulated cold water tank (with piping) and 2 strip foundations. Tank is available in containerized version for 57 m<sup>3</sup>.

### Design Conditions

- Maximum air temperature: 60°C
- Wet bulb temperature: 30°C
- Water inlet temperature: 46°C
- Water outlet temperature:  
< 0.5°C or > 4°C
- Voltage: 400 V
- Phases: 3
- Frequency: 50 cycles
- Running hrs of ice water plant: 24 h/day



### Water chilling system features

- Hot-dipped galvanizing evaporative condenser has high efficiency and long service life;
- Bitzer compressor is famous with excellent performance;
- Plate exchanger has meter and operation panels good for observing the whole running;
- Electric control system is very convenient to control machines;
- Four cooling stage system ensures the minimum temperature of water in the water tank;
- Containerized water chillers with compact structure and easy to install;
- Convenient to operate machines with connecting water and electricity;
- Compared with traditional air cooling, it can save 55% energy;
- Water chilling system is the preparation of flake ice making unit in the concrete cooling system.

### Cold water tank

Each water chilling system requires a well-insulated cold water tank. The size depends on the non-production period of the batching plant.

There are 3 different possibilities for installing such a tank:

- The cold water tank is made of concrete and insulated locally – any size possible.
- The cold water tank is made of steel, installed and insulated inside a 20 ft. or a 40-ft. Container.
- The cold water tank is made of steel, installed and insulated inside a steel frame.

In all three cases it is recommendable to install the water chiller on top of the tank for saving space and reducing installation costs.



### Post cooling for concrete

Depending on the design of the dam it might be required to cool the concrete after it has been poured. This is done by pumping cold water through a piping system inside the dam. For this regular containerized water chillers are used. The outlet water temperature from this regular containerized chiller is 5°C, and the returned water temperature will be 10°C.