

Chiller
AIR-CONDITIONING

Functional and innovative air-conditioning solutions

- customer-based product development
- easy to install and service
- can be integrated in various architectonic solutions
- stylish design

Chillquick Eco™ water-cooling system

Chillquick Eco™ Chilled Water Stations

with free cooling

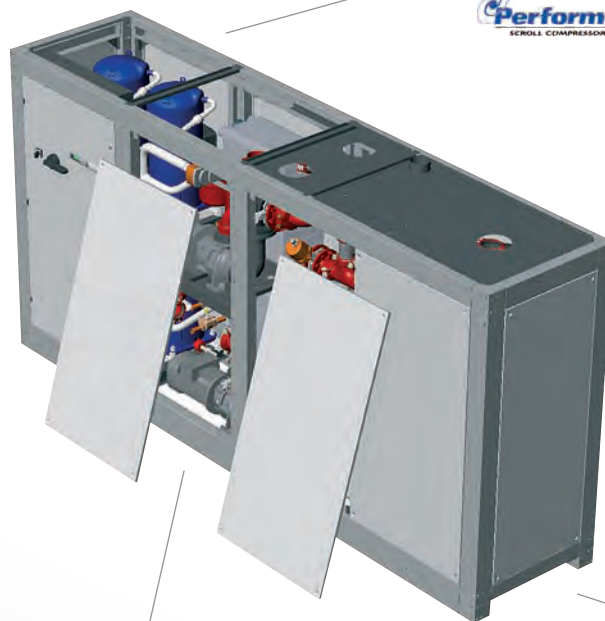
From components to modules, from modules to tested systems:

The cooling power of **Chillquick chilled water stations**, which are manufactured with rotary compressor technology, ranges from 10 to 350 kW. From the viewpoint of the builder, all vital components have been tested with a full-scale test already at the factory. Of the significant components, only dry coolers are located outdoors and all other components in warm indoors. All devices can be provided with two circuits. Devices that have a cooling capacity of over 40 kW are equipped with two circuits as standard delivery.

Varying Water Volume Guarantees Good Efficiency

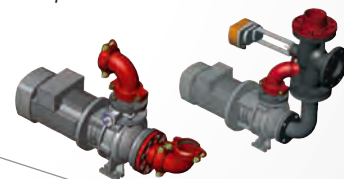
A tank built inside the system gives the machine mass, and secures vibration-free start and operation. The cooling circuit can be run with a pump that is controlled by a frequency converter and a varying water flow. The device's 2-way valves operate faultlessly in the building, because its output and operating circuit have been separated from each other with a water tank. Water tank volumes are 200 l (10 - 40 kW), 400 l (40 - 80 kW), 800 l (85 - 350 kW).

Manufacturing modules

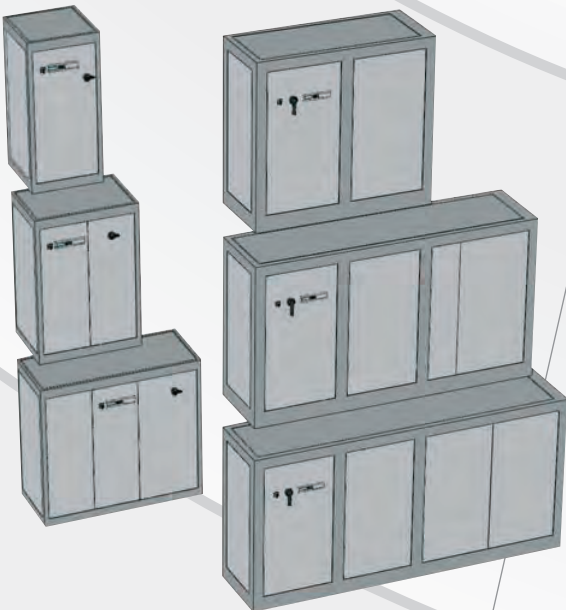


Water tank and heat exchanger module

Pump module



Electronic expansion valve and Smart Key



Smart Key Programming

The Smart Key programming tool has been designed for rapid transfer and collection of data. The tool can be used to download the machine's measurement and fault data. Any fault data can be analyzed by using various files. The programs of the machine can be updated via e-mail to the Smart Key mouse, which is used to input them to the machine.

Electronic Expansion Valves

Each chiller is equipped with an electronic expansion valve. The valve reacts quickly to load variations and thus maintains the superheating temperature constant. Improved lubrication extends the operating life of compressors and eliminates the fear of liquid shocks. The number of steps in the expansion valve indicates the correct amount of refrigerant, which correlates directly with cooling capacity. The electronic expansion valve markedly improves the efficiency of the machines and guarantees uniform quality.



Full-scale test run

Quality and Testing

Quality of the devices is always guaranteed by high-quality components that are tested both separately and together. We have developed advanced testing methods together with the leading equipment suppliers in the industry. Each device is leak tested in two phases: overpressure test with a mixed gas, and rise of negative pressure as a separate test. This system guarantees leakproof joints in accordance with the latest European standards and directives. The devices are filled up with refrigerant gas in full automatic mode according to a pre-programmed logic. The final test is a full-scale test run that the customer can participate in. The test is always summarized in a test report. This test run arrangement can increase the service life of nearly a quarter of all devices.

Leak test and pressure test, vacuum degassing and filling up



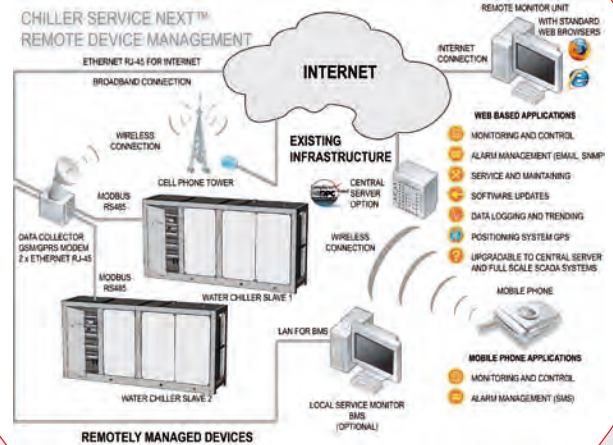
Ecotronic™ Optimization System

The Ecotronic system is designed for controlling dry coolers. The control unit adjusts the rpm of the fans steplessly as a function of outdoor temperature. This enables savings of up to 50 percent in fan and compressor energy compared with old control systems, because our control method utilizes floating condensation temperature.



Service Next™

Service Next is our new service network system. Devices are connected to the system via the Internet, either wirelessly or by wire. With the Service Next system, we can detect any equipment malfunction quickly from our terminal and thus prevent any further damage. The system can also be used to evaluate the need for service in advance.



Interface to Control Systems

- LON
- BACnet
- Carel
- Modbus

Group Controller

Group Controller has been developed for joint operation of several water chillers. At most, this programming logic can control four machines in parallel, by measuring the common cooling load according to a return water sensor. The automatic system equalizes operating times of compressors and authorizes the following machine to start if there is a malfunction.



Measurement of Water Flow over the Evaporator

We have developed a way to measure water volume in all devices in the Chillquick product range. Upon starting, the correct water volume can be adjusted for the machines, which results in the correct evaporation temperature.

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