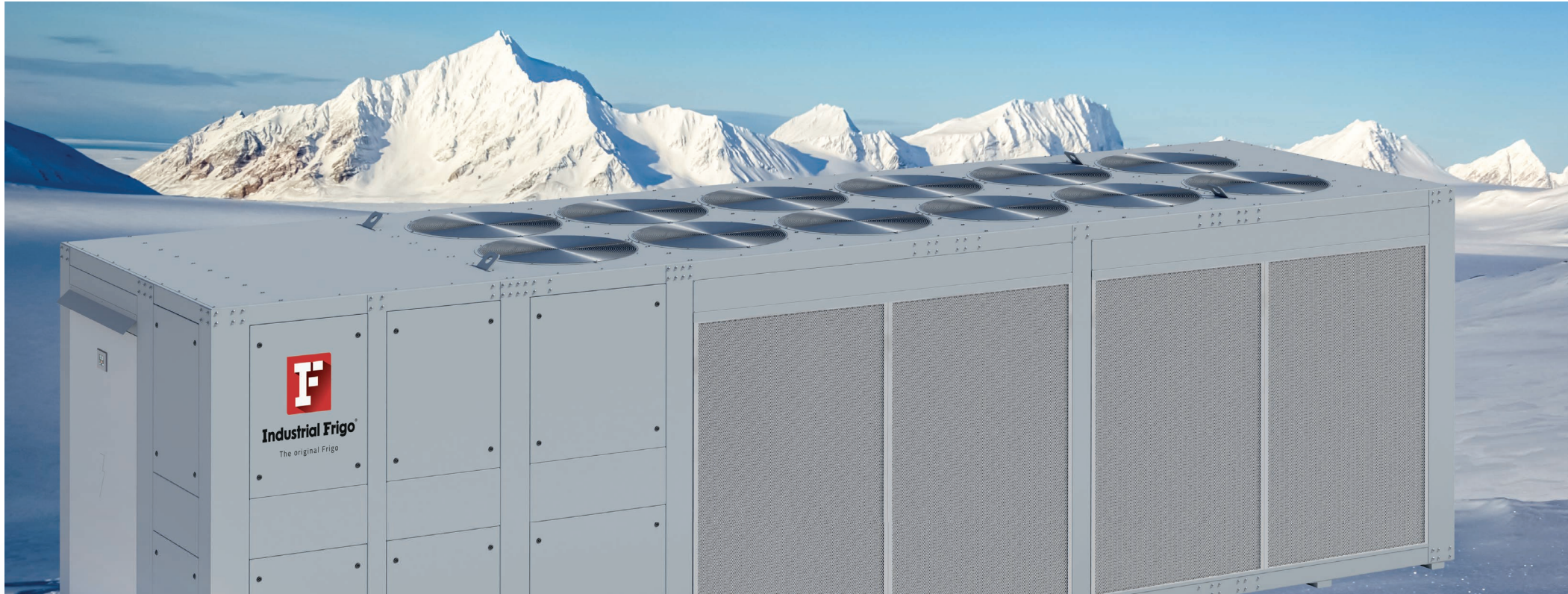




Industrial Frigo®

The original Frigo



ENGLISH

SIRE

ENERGY SAVING INTEGRATED
COOLING SYSTEM



Industrial Frigo was founded in 1970 in Italy, near Lake Garda, thanks to an idea that came from an engineer with a passion for cooling systems. Strong principles and the goal of offering only high-quality products have allowed the company to establish itself as a leader in the creation, design and construction of advanced refrigeration systems.

Thanks to the support of an exceptionally talented team, Industrial Frigo has experienced exponential growth in recent years, conquering ever-wider world markets worldwide and different production to be able to respond to the specifics that the increasing market requires.

Industrial Frigo continues to be a family-run company but today it includes four foreign branches and a sales and service network in over 120 countries. Continuous research and technological development of environmentally friendly solutions are leading the company towards a new era of ecologically sustainable growth and innovation.



All Industrial Frigo products are compliant with **PED directive 2014/68/EU (ex 97/23/CE)**.



The Industrial Frigo corporate management system is certified by the **UNI EN ISO 9001 standard**.



Certification in compliance with standard **EC 303/2008** for the installation, maintenance and repair of equipment containing F-gas.



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SIRE

SIRE is a sophisticated single-temperature process water cooling system with fully automatic built-in freecooling; it can work with ambient temperature from +45 °C to -25 °C.

SIRE is available in the water-cooled version, combining a Free Cooling system that allows for achievement of high performances of the refrigeration cycle and the production of cold water at low costs and with high energy savings in the medium/cold periods.

APPLICATION AREAS



PLASTIC



DIE-CASTING



PACKAGING



PHARMACEUTICAL



AUTOMOTIVE



RUBBER



FOUNDRIES



STEEL WORKING

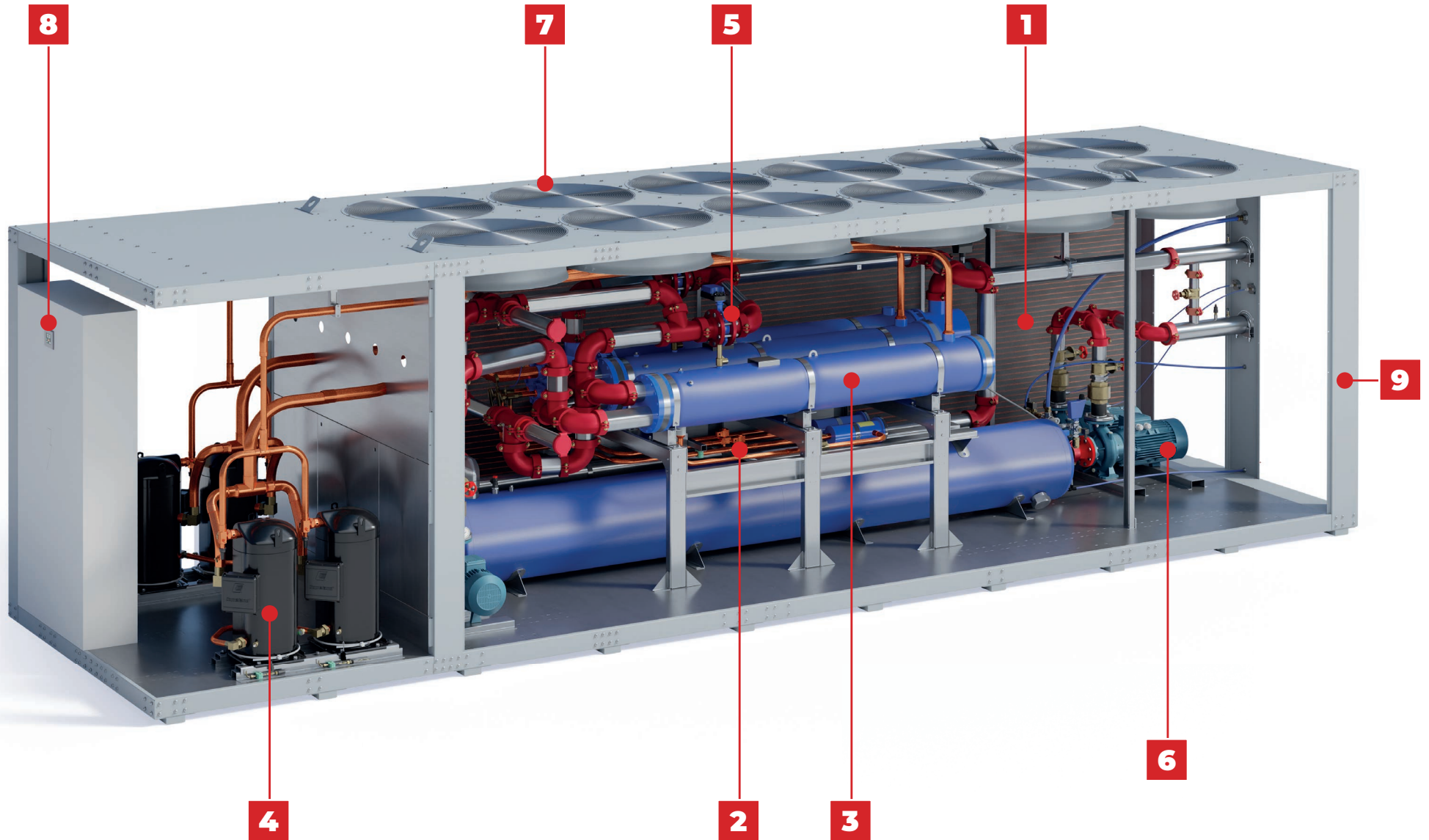


FOOD



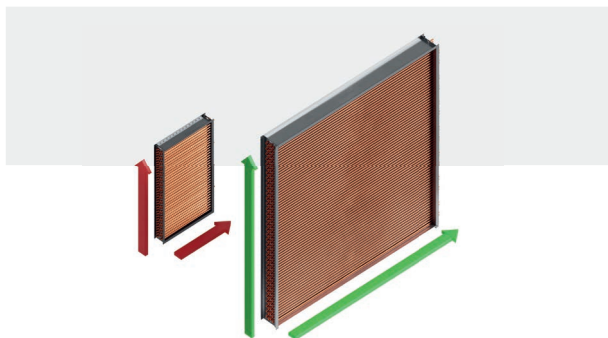
GLASS

TECHNICAL FEATURES



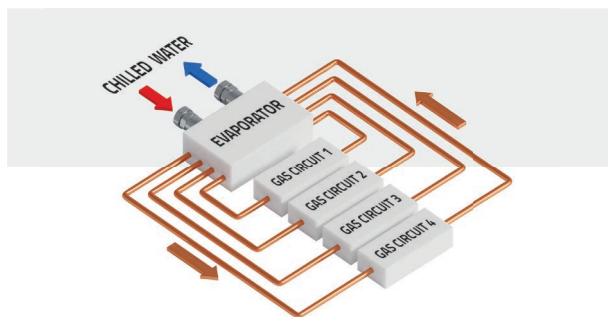
1 $\Delta T = 5\text{ }^{\circ}\text{C}$ HEAT EXCHANGER (DRY CAPACITY)

The finned coil heat exchangers allow to obtain high cooling capacities also in "dry" mode (without adiabatic or enthalpy kit) and with a temperature difference $\Delta T = 5\text{ }^{\circ}\text{C}$ (where the symbol " Δ " is the temperature difference between water outlet and air inlet).



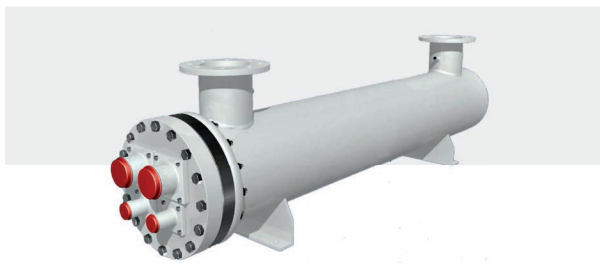
2 INDEPENDENT CIRCUITS

Depending on the size of the machine, these chillers may feature up to 4 independent refrigerating circuits. This ensures continuous refrigerator operation. In addition, the improved capacity to adjust to partial loads optimises efficiency in all operating conditions.



3 SHELL AND TUBES EVAPORATORS AND CONDENSERS

Shell and tubes evaporators and condensers characterized by maximum reliability and strength. The tubes are easy to extract for maintenance and cleaning operations to preserve the high efficiency of the exchangers.



4 HIGH EFFICIENCY SCROLL COMPRESSOR

The use of compressors with orbiting Scroll technology ensures total reliability together with high efficiency levels.



5 AUTOMATIC FREE COOLING KIT

Inside the unit a dedicated free cooling valves allows maximum automatic energy saving.

6 HIGH EFFICIENCY PUMP

Close-coupled centrifugal pump with wide operating range, ensures maximum-efficiency cold water flow rates for utilities.

7 AXIAL FANS

Axial fans for maximum-efficiency and minimum-consumption cooling of the refrigerant gas passing through the finned coils.

8 USER FRIENDLY PLC CONTROLLER

Touch Screen PLC for temperature control and automatic zone management, predisposed for serial connections. Featuring an extremely clear and intuitive user interface which allows the user to display the description of functions and alarms.



9 FRAME PAINTED RAL 7001

The unit is supplied in a steel frame painted with thermosetting powder paint based on resins in the color RAL7001. Formulated with pigments and additives specifically chosen for their high resistance to UV rays and atmospheric agents.

MAIN OPTIONALS

DIFFERENT VERSIONS FOR MAXIMUM INSTALLATION FLEXIBILITY

The refrigeration units are available in the version with internal tank (standard) or for external accumulation (SIREV), to meet the needs of each cooling system.

DIFFERENT REFRIGERANTS

In addition to R407C gas, it is possible to choose units that work with R134a (ECO2 version) or with R513A (ECO3), or with R1234ze (ECO4).

DOUBLE PUMP

Double utility pump, operating with a working pump and a spare pump. The automatic rotation of the pump operation is managed by software to control the wear of the pumps. This solution guarantees maximum reliability for utilities.

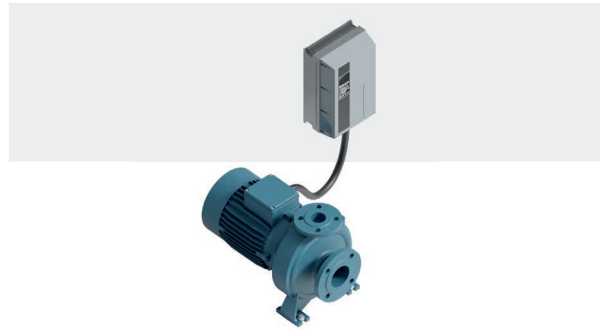


CUSTOM WATER PUMP

Depending on the flow rate and pressure drop requirements of the system, it is possible to choose the most suitable pump from a wide selection.

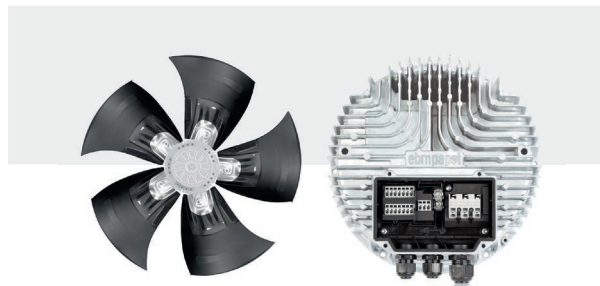
USER PUMP INVERTER

Ideal solution to guarantee maximum system efficiency even with a variable load.



AXIAL EC FANS

The integrated controller optimizes the fan rotation speed guaranteeing, reduced power consumption while retaining the same air flow rate.



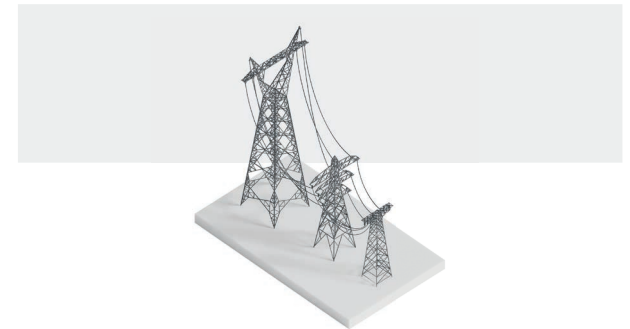
LOW NOISE

Axial fans available with a special diffuser allowing for a considerable reduction in sound pressure compared to the standard version.



SPECIAL VOLTAGE OPTIONS

It is possible to choose the most suitable type of unit power supply (voltage and frequency) from a wide range of possibilities.



STAINLESS STEEL FRAME

As an alternative to the painted version, it is possible to make the frame in AISI 316 steel, ideal for installations in marine environments or where high resistance to aggressive atmospheric agents is required.

ACCESSORIES

REMOTE PANEL

One or more refrigeration units can be controlled by using remote panels.

These can be interfaced via serial link (CANBUS), with touchscreen panels, or via ethernet connection (via IP addressing) using PCs and mobile devices. For maximum system flexibility, other types of protocols can be used, such as PROFIBUS, PROFINET and MODBUS TCP.



GLYCOL FILLER

The automatic glycol filler enables the correct mixture of water and glycol to be replenished inside the refrigeration plant (chiller, dry coolers). The function of the glycol in the system is to prevent water from freezing in the pipes and in the heat exchangers.



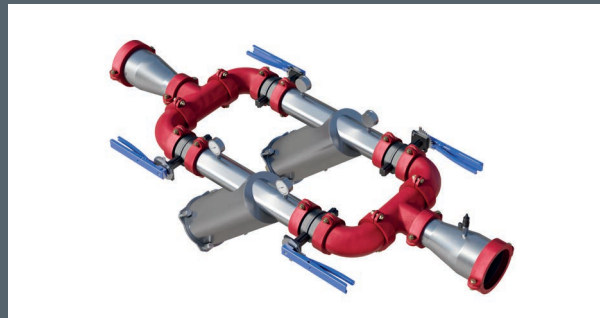
SOFTENERS

These devices are used to reduce water hardness by using special resins capable of ion exchanging. Salt is used to regenerate these resins.



FILTER KIT

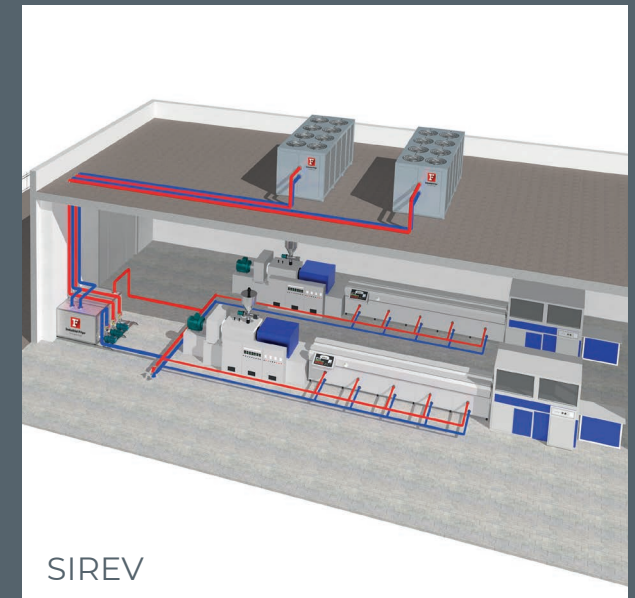
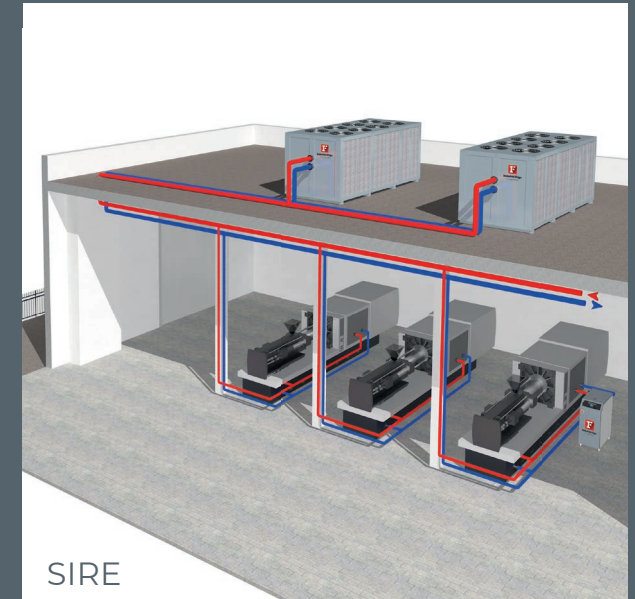
Y-filter kit with body and filtering net in AISI 304 or AISI 316 stainless steel, complete with pressure gauges to check the level of clogging, shut-off valves and bypass valve. Filtration level from 200 to 800 µm.



AUTOMATIC BY PASS

Special device used to control the flow of water inside the circuit. It consists of a two-way motorized valve, a pressure transducer and a control panel.

INSTALLATIONS





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4 SALES AND AFTER-SALE SERVICES
120 LOCAL SUPPORT POINTS