SYSTEMA

HEATING COOLING GREEN ENERGY

FRESCO OK

Cooling of medium and large industrial, commercial, residential and agricultural environments

ZERO EMISSION

ECOLOGICAL SOLUTION

FAST AND EASY INSTALLATION

HIGH AND RAPID THERMAL COMFORT

LOW NOISE IMPACT

LOW MAINTENANCE

LOW RUNNING COSTS

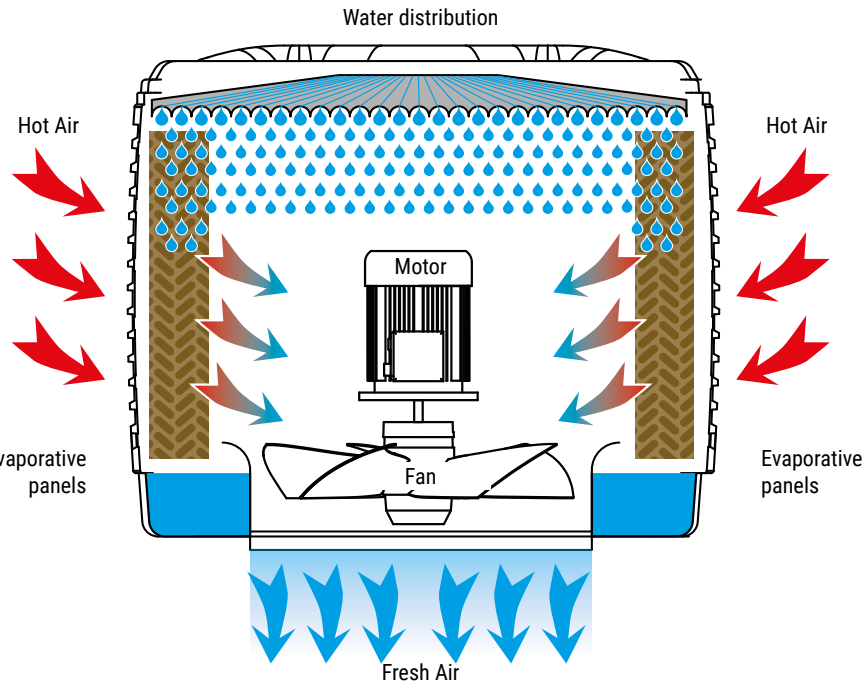
HOW IT WORKS

The **FRESCO OK** Evaporative Cooler is installed outside the rooms it serves; it is equipped with a helicoidal fan, with a high capacity and flow rate, that sucks in air from the surrounding environment by making it pass through special cellulose panels, present on all four sides of the unit; the hot external air, passing through the humid cellulose panels, gives up its heat, thanks to the process of adiabatic evaporation, thus significantly decreasing its temperature and going on to cool the served environment after having been conveyed into it by the fan.

These panels are kept humid by special nozzles, water distributors, which, using a special pump, draw water from a basin at the base of the cooler; the basin is kept full of water thanks to a filling valve connected to the water supply line.

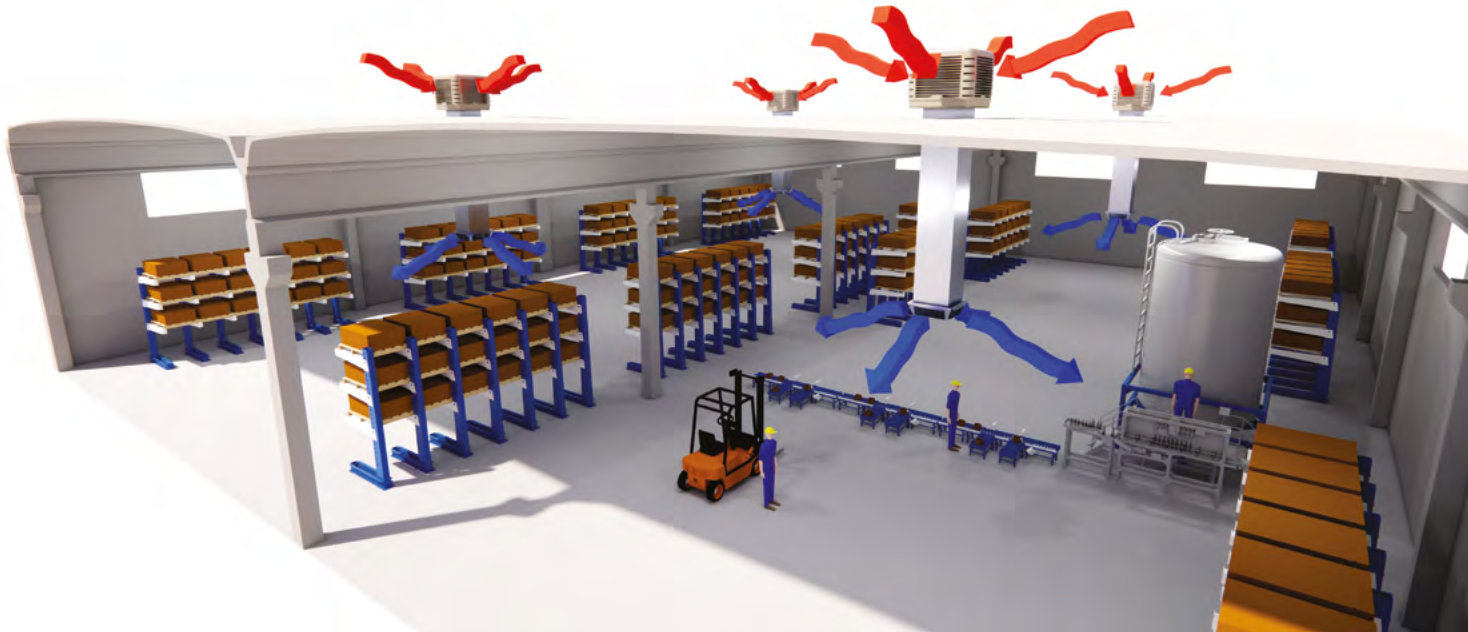
In addition to the humidifying and cooling function, the evaporating panels also have a filtering function that allows large volumes of air exchange generated in the room.

Normally at least 25 volumes per hour of air change is recommended. This allows a significant reduction in odours, dust, and fumes in the environment, all with very low energy consumption and zero harmful emissions.



TEMPERATURE REDUCTION

	PERCENTAGE OF RELATIVE HUMIDITY				
Enviroment Temp.	**30 %**	**40 %**	**50 %**	**60 %**	**70 %**
30 °C	19 °C	21 °C	23 °C	24,5 °C	26 °C
35 °C	22,5 °C	25 °C	27,5 °C	29,5 °C	31 °C
40 °C	26 °C	29 °C	31,5 °C	33,5 °C	35,5 °C
45 °C	30 °C	32,5 °C	35,5 °C	38 °C	40 °C



COMPONENT CHARACTERISTICS

- Low consumption electric fans with automatic or manual variable air flow
- Hydraulic circuit with solenoid valve equipped with level sensor
- Anti-limescale abs water distribution manifolds with proportional opening
- Cellulose evaporating panels with high saturation and heat exchange efficiency
- Automatic water draining
- Periodic self-washing of the entire hydraulic circuit and evaporating panels
- Bracketing and positioning devices
- Range of electronic control panels of the stand alone or by bus type

FIELDS OF APPLICATION

- Ceramic Industry
- Foundries and die casting
- Textile Industry, Industrial Dyeing
- Plastic moulding
- Bookbinding
- Tensostructures
- Steel, aluminium and alloy production
- Factories and logistics
- Breeding
- Mechanical workshops
- Chemical production
- Industrial printing works
- Supermarkets
- Gyms

TECHNICAL DATA

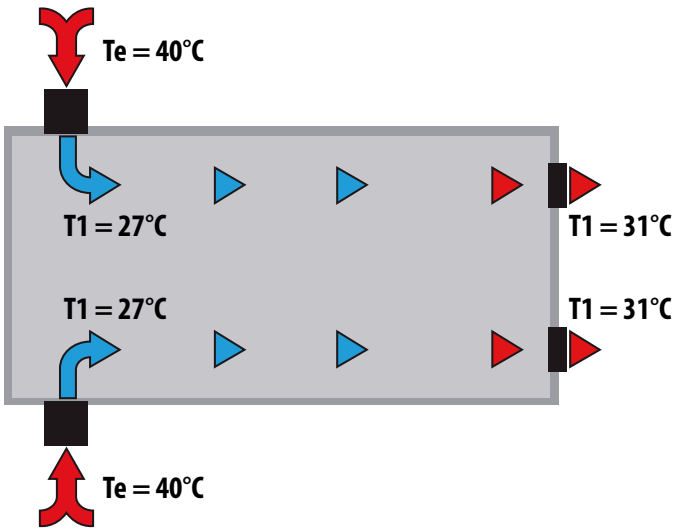
MODELS		FR 18AP3	FR 30AP2
Air displacement	m^3/h	18.000	30.000
Fan type		HELICOIDAL	HELICOIDAL
No. Fan speed	N°	3	2
Electrical power supply	V/Hz	230/50	400/50
Electrical power	W	1.100	3.000
Average water consumption	l/h	45-50	75-80
Dimensions (WxDxH)	mm	1100 x 1100 x 950	1340 x 1340 x 1200
Net weight	kg	78	110
Air outlet plenum (WxD)	mm	650 x 650	900 x 900

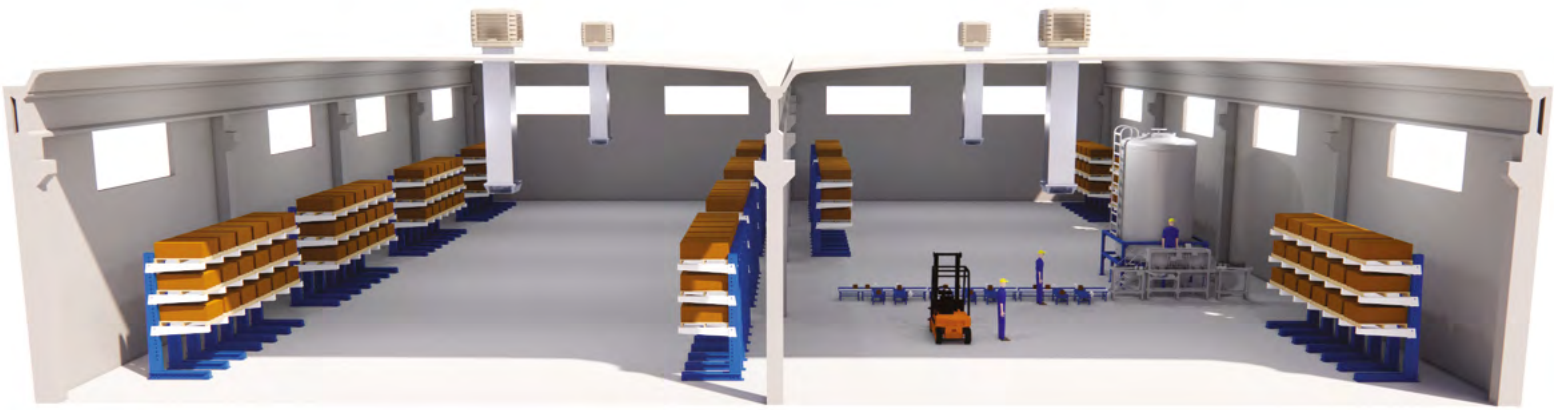
INSTALLATION

FRESCO OK can be easily installed outside buildings to be cooled, on roofs or walls.

It requires only a simple electrical and hydraulic connection, the air outlet is prepared with a suitable plenum for connection to a duct with a single or multi-duct diffuser, suitable for the distribution of fresh air in the room.

In the sizing phase of the cooling system, attention must be paid to the correct evacuation of all the air injected into the room, evaluating the existing openings as well as the relative pressure drops, to optimise distribution in the case of zone cooling and also to avoid hygronic saturation phenomena.





ELECTRONIC CONTROL

All models are equipped with the new electronic control that allows the temperature and humidity to be adjusted automatically and other features such as:

- Manual and automatic adjustable air speed and flow rate
- Operation timer
- Adjustable cellulose panel washing cycles (PAD)
- Digital display
- Automatic emptying (programmable)
- Pre-washing: washes and humidifies the PADs before starting the fan
- In addition to the basic cooling functions, it also has a ventilation-only function

CONTROL PANEL FOR A SINGLE UNIT

Cod. 13CEQU0034

Recommended for controlling 1 single cooler.

Controls 1 cooler, is powered in 230 V directly from the power panel installed on the machine.

Complete with: Electronic humidity and temperature probe, Temperature programming timer, Humidity control, Water drainage system, PAD washing and drying, Setting and modulation of air flow rate in cooling and ventilation.

Maximum distance 25 metres from Fresco OK.

CONTROL PANEL FOR A SINGLE ZONE WITH UP TO 5 UNITS

SYS5 for a single zone up to 5 Fresco Ok

Cod. 13CEQU0044

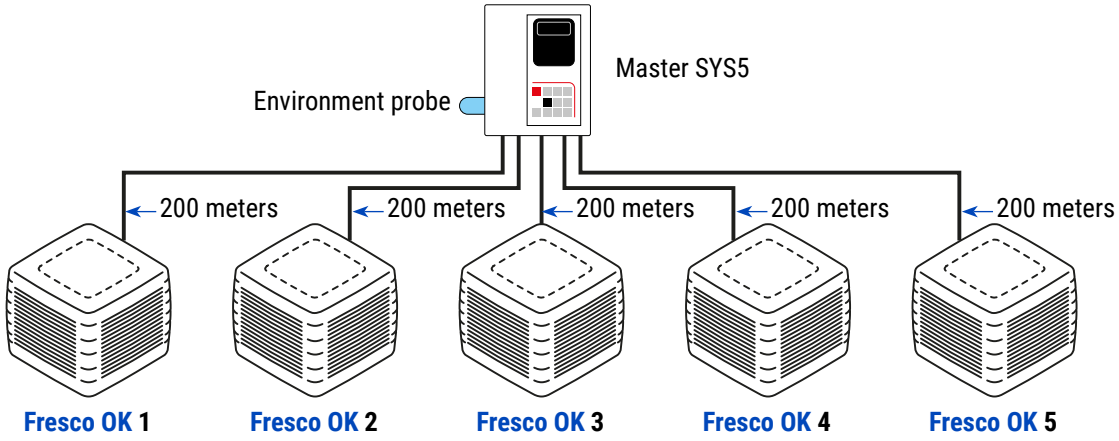
Recommended for use in systems with up to 5 coolers.

Master SYS5 controls up to 5 coolers, for 1 climatic zone, is powered at 220 V and dialogues with the on-board board.

Complete with: Electronic humidity and temperature probe, Temperature programming timer, Humidity control, Water drainage system, PAD washing and drying, Air flow rate setting and modulation in cooling and ventilation.

The maximum distance between panel and Fresco Ok is 200 metres. In this way, the entire multi-machine system works as a single cooler programmed in the various functions.

Example cooling system with Fresco OK controlled by SYS5



CENTRALISED CONTROL SYS830/850 MASTER SWITCHBOARD

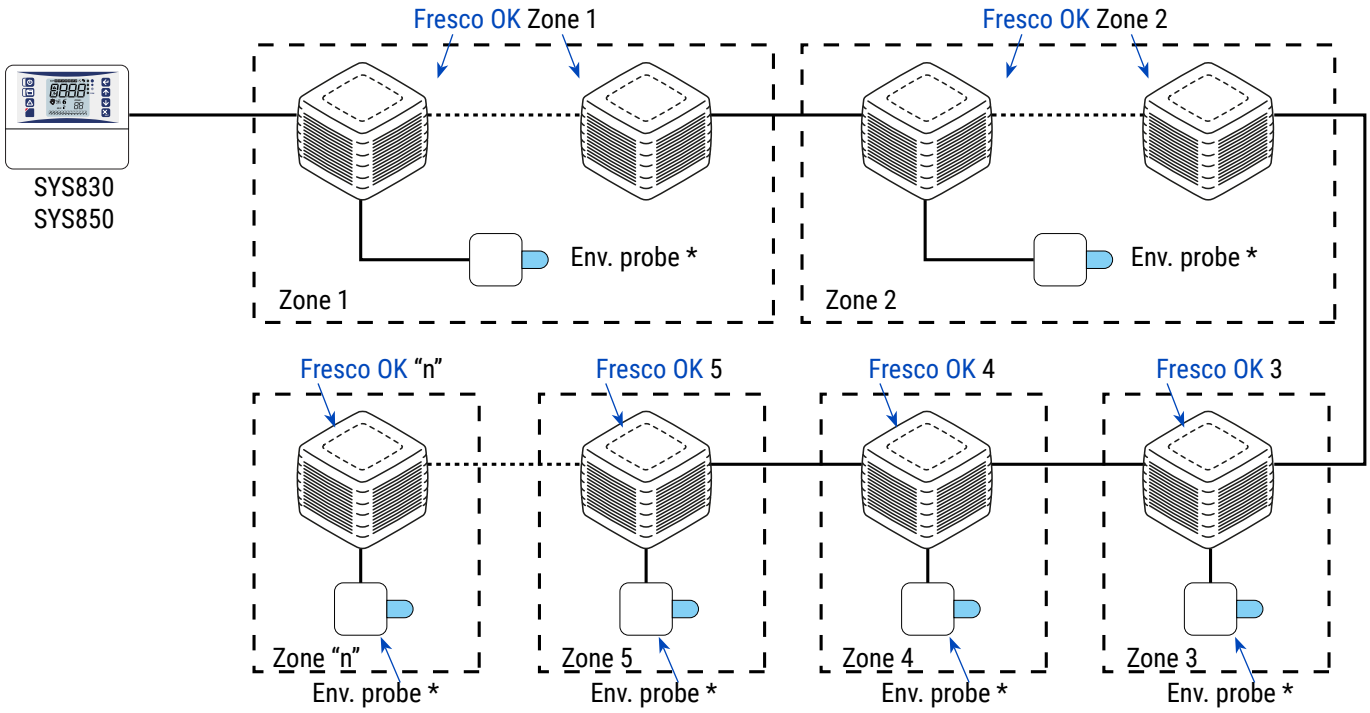
SYS850 controls up to 30 coolers and SYS830 controls up to 16 coolers

Use for centralised management on systems with more than 5 coolers.

Both panels are programmable for each zone in the functions of: Programmable Timer, Temperature Control, Humidity Control, Water Drainage System, PAD Washing and Drying, Setting and modulation of air flow rate in cooling and ventilation.

Maximum distance between switchboard and all cooler connection lines is 1000 metres.

Example cooling system of 2 to several zones with Fresco OK controlled by SYS830/SYS850



Environmental temperature and humidity probe

To be installed for each climate zone on centralised management systems in combination with SYS830/SYS850 control panels

Cod. 13CESO0001

ACCESSORIES

Rooftop Air Extractors

Wall-mounted air extractors

Contact Systema S.p.A. technical department for technical support and sales offer.

GENERAL FEATURES

The **FRESCO OK** Evaporative Cooler is a simple concept product, designed to cool medium to large industrial, commercial, sports, agricultural environments, at low investment cost and with low operating consumption.

It reduces the ambient air temperature by exchanging and filtering it in large quantities.

It can be used in various sectors: industry, tertiary, commerce, sports, agriculture, livestock, etc.

The operation of the Evaporative Cooler is based on the natural principle of the adiabatic air saturation process: the external air, sucked in by a fan, passes through filters and special cellulose honeycomb panels wet with water, and gives up part of its heat during the natural process of water evaporation, resulting in a marked drop in temperature, so that it comes out ready to cool the environment in which it is diffused.

With **FRESCO OK** we have designed a simple and effective cooling system that is ecological and environmentally friendly.

ADVANTAGES

- **REFRESHES AND FILTERS THE AMBIENT AIR.**
- **LOW INVESTMENT COST.**
- **IMPROVES WORKER WELL-BEING and company productivity.**
- **ECONOMICAL in energy costs during operation.**
- **ECOLOGICAL WITH ZERO EMISSIONS, as there are no refrigerant gases for the cooling cycle but only water.**
- **MAINTAINS AND STABILISES ENVIRONMENTAL TEMPERATURE for the benefit of heat perishable goods.**
- **IMPROVES ENVIRONMENTAL HYGIENE, cleans the air of odours, dust, fumes and heat generated by machinery or process cycles, thanks to an air exchange of up to 25 times per hour.**
- **LOW NOISE in operation.**
- **Ventilation-only operation in less hot periods.**
- **CENTRALISED ZONED MANAGEMENT in different areas of the environment up to 1000 metres.**

SYSTEMA

HEATING COOLING GREEN ENERGY

Productive plant in Padua

"We learn from nature how to design simple and effective solutions"

Since 1986, Systema S.p.A. is one of the leader companies in Italy and Europe in designing, developing and producing devices for the heating and conditioning in industrial and commercial buildings.

There has been always in Systema's Research and Development department where high investments have been made, since the beginning, for the creation of an internal laboratory who could design and offer highly innovative products that can satisfy and anticipate all the requests coming from the market. In this field Systema works together with important Italian, European and extra-European laboratories and university departments. A cooperation which leads to the concept of innovative and visionary products and solutions and to the obtaining of several international patents.

Systema S.p.A. differs from competitors because can offer a complete range of products that goes from commercial and industrial heating with radiant and hot air solutions, to conditioning with absorption chillers, electric heat pumps and evaporative adiabatic coolers and with a specific focus on the agricultural and breeding farms products for heating (both heaters and radiant systems) and conditioning with adiabatic coolers. This range has been conceived looking for environmental-friendly products with the lowest energy consumption.

Managing such a large range of products is not easy but, also in this field, Systema S.p.A. has been always different with an internal and external organization that guarantees high quality services through an extensive commercial network made of highly qualified technical salesmen, an internal organization of customer service with experience in designing and consultancies well aware of all the required standards and rules and a massive after sales structure both internal and external that Systema keeps regularly update in order to have technicians who are always very well prepared.

The work of these structures is greatly facilitated by Systema S.p.A.'s production facilities, which are made up of the highest quality standards and production processes that are technologically advanced and constantly modernised. The united work of those responsible for production, procurement and quality allows Systema S.p.A. to make available to its commercial structure products and systems that are of high quality, reliable and made in full compliance with the most advanced standards.

Systema S.p.A. is able to supply its sales organisation with products and systems of high quality and reliability and manufactured in full compliance with the most advanced standards.

The productive plant in Poland

Systema S.p.A. has thus managed, over the years, to gain a strong international presence which sees it active in markets all over the world, carrying forward the flag of top quality Made in Italy and achieving leadership positions in many countries. A strategic decision was taken by Systema S.p.A. to create Systema Polska, which is able to provide a highly qualified, high quality production force and a commercial structure, in synergy with that of Systema S.p.A., which is able to present and improve the commercial penetration of Systema products in markets such as Poland and neighbouring countries.

The synergies put in place have greatly facilitated the growth of the services offered to the market, services made up of a very high level of attention to the customer, who in Systema finds not only a business partner but also a highly qualified technical consultancy service that goes hand in hand with reliable after-sales services that are always ready to quickly resolve any problems reported by the customers themselves.

Systema: focus on the future by interpreting the present...

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