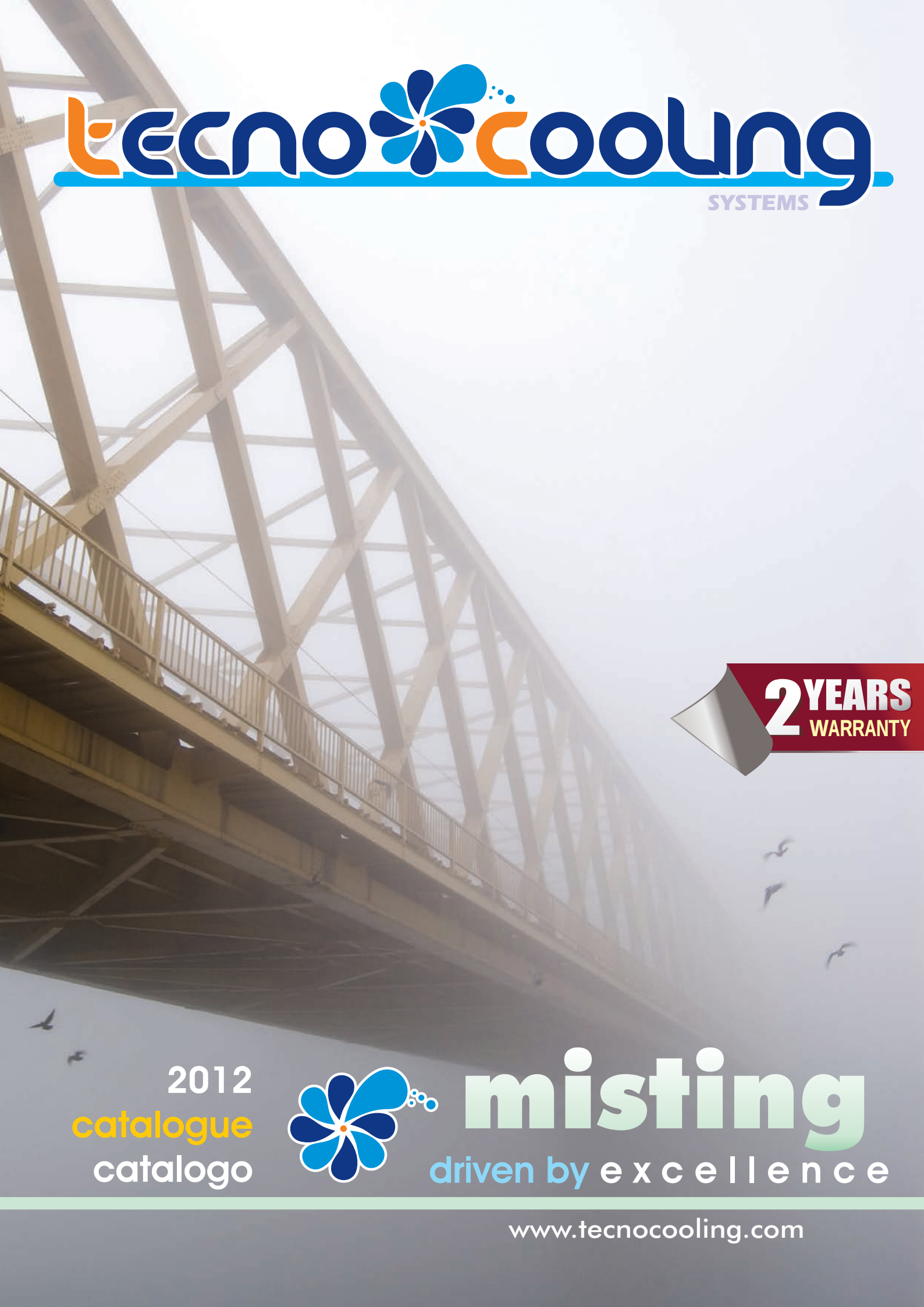
tecnocooling
SYSTEMS
2 YEARS
WARRANTY
2012
catalogue
catalogo
misting
driven by excellence
www.tecnocooling.com

TecnoCooling

world leader in misting systems equipment manufacturing

TecnoCooling offers now the widest range of misting solutions on the market. We are engaged every day to study innovative products that allow us to be your first choice in the world of misting.

Company profile

Milan metro station - Metropolitana Milano
(world's largest public mist-cooling system)

Put our thirty-year High Pressure experience to work for you.

We project and manufacture misting systems to suit every application, by using the best components and materials to guarantee long life running systems without troubles, weatherproof setting and with high performances. This is our daily work.

We are the sole company, who can provide fully and directly the production of FOG modules, which are the heart of each cooling system, from the design of hydraulic components on up to the manufacturing of patented anti-drip nozzles.

TecnoCooling systems are very efficient, with nearly costless maintenance, asking for low energy consumption and servicing.

Our results demonstrate our quality level.

** Pump first maintenance is carried after 2000 working hours*
** Two years warranty on all items (details on www.tecnocooling.com)*
** Spare parts sold from 2005 to date: 1% of turnover*

Our extremely versatile and modular solutions allow to build an entire misting system easily, saving on installation and planning costs.

TecnoCooling is one of the world's largest misting pumps and accessories manufacturers with distribution agreements across five continents.

The group's wide portfolio of brands includes TecnoMec, TecnoCooling, MecPump, EC Tubi, Emilvapor, TecnoSpares.
We are specialized in manufacturing of high pressure pumps, cleaning equipment, fittings, tubing, parts and accessories.
In the year ended 31 December 2010, we reported group revenue of EUR/€ 5.5 million. It actually employs 32 workers over two factories located in Reggio Emilia, Italy.

Quality control comes first.

Being a manufacturer we have full control on engineering and production. Stress test and double testing on a real misting pipeline is performed on all pumps delivered to our customers.

Quick delivery is our mission.

We keep a large stock of spare parts and most common fittings and equipment are available for immediate delivery. Orders are processed within 24H, so that 90% of orders are shipped in 2 days.

Full support, you will never be left alone.

Our staff is at your service to assist you in planning your installations for every application. Training courses, aftersale service and quick servicing are our strenghts.

Index

TECNOCOOLING Systems
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IL RAFFRESCAMENTO EVAPORATIVO

Quando una leggera brezza di vento ci sfiora la pelle avvertiamo una sensazione di fresco. L'aria fa evaporare le particelle di acqua presenti sulla nostra pelle per mezzo del calore fornito dal nostro corpo. Questo fenomeno si chiama raffrescamento per evaporazione o "adiabatico".

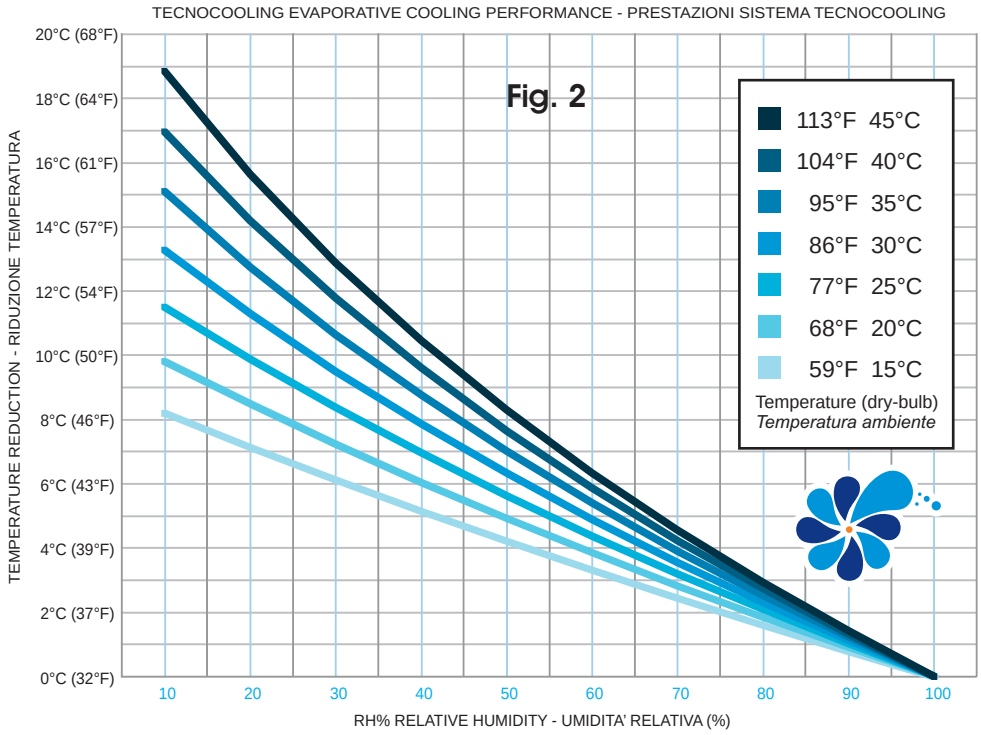
Pressurizzando l'acqua per mezzo di una pompa ad alta pressione, attraverso i nostri ugelli nebulizzatori brevettati, siamo in grado di creare una una nebbia ultra fine composta da milioni di goccioline della dimensione media inferiore ai 10 micron.
Queste goccioline ultra fini, evaporando, assorbono rapidamente l'energia (calore) presente nell'ambiente circostante e diventano vapor acqueo (gas). L'energia (calore) impiegata nella trasformazione dell'acqua in gas è sottratta all'ambiente, determinado così un abbassamento di temperatura dell'aria.

Millions of less than 10 microns droplets sprayed by our fog nozzle.
Milioni di microgoccioline del diametro di 10 microns, spruzzate dal ns. ugello nebulizzatore.

COOLING PRINCIPLE

Evaporative cooling is responsible for the chill you feel when a breeze strikes your skin. The air evaporates the water on your skin, with your body heat providing the energy.

By forcing water, by means of a high pressure pump, through our specially designed misting nozzles, we create a fog of ultra fine water droplets with an average size of less than 10 microns.
These tiny water droplets quickly absorb the energy (heat) present in the environment and evaporate, becoming water vapor (gas). The energy (heat) used to change the water to gas is eliminated from the environment, hence the air is cooled.



Relative humidity is the amount of moisture in the air compared to the amount of moisture the air could absorb at the same temperature, is a crucial factor in determining cooling potential. The lower the relative humidity, the more water can be vaporized, and the more heat can be removed.
Evaporative Cooling can be used effectively in most geographical locations. This is because when temperatures reach their peak during the day, humidity is normally at its lowest point.

L'Umidita Relativa *è la quantità di acqua presente nell'aria comparata con l'ammontare di acqua che l'aria è in grado di assorbire alla stessa temperatura ed è un fattore determinate per il potenziale di raffrescamento. Minore è l'Umidità Relativa, maggior quantità d'acqua può essere vaporizzata e di conseguenza può essere eliminata una maggior quantità di calore. Il raffrescamento mediante nebulizzazione può essere impiegato in modo efficiente nella maggior parte delle aree geografiche. Ciò è dovuto al fatto che quando le temperature raggiungono il loro picco durante il giorno, l'umidità si trova normalmente al livello più basso.*

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PERCHE' TecnoCooling E' LA SCELTA MIGLIORE

Le funzionalità "TIME" e "BPS" fanno la differenza

TIME: reduced water consumption
TIME: riduce il consumo di acqua

Le pompe in versione TIME sono dotate di un timer digitale in grado di gestire diverse funzioni, tra cui la principale è la possibilità di controllare la quantità di micronebulizzazione erogata, impostando la durata di cicli di PAUSA e LAVORO. Questo consente di risparmiare una grande quantità di acqua senza compromettere le prestazioni del sistema.
Durante il ciclo di PAUSA la pompa rimane in funzione. Il sistema «BPS» esegue il ricircolo dell'acqua non più erogata, tramite una vasca di accumulo, consentendo il raffreddamento 30 volte più efficiente di una normale pompa ad alta pressione. Le pompe standard infatti se temporizzate con accensione/spegnimento del motore, surriscaldanoo velocemente, la ventola di raffreddamento del motore si ferma e l'acqua non raffredda più la pompa. La tenuta delle guarnizioni e di altre parti meccaniche viene così compromessa.
Le pompe TecnoCooling dotate di sistema BPS assicurano una lunga durata e minor manutenzione, inoltre il raffreddamento della pompa aumenta l'effetto raffrescante e le prestazioni del motore, risparmiando energia.

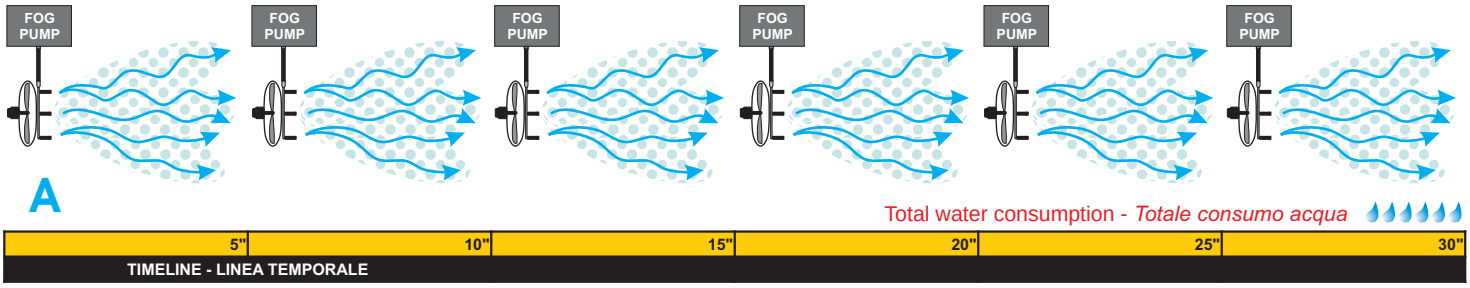
WHY TecnoCooling PUMPS ARE THE BEST CHOICE

"TIME" and "BPS" features make the difference

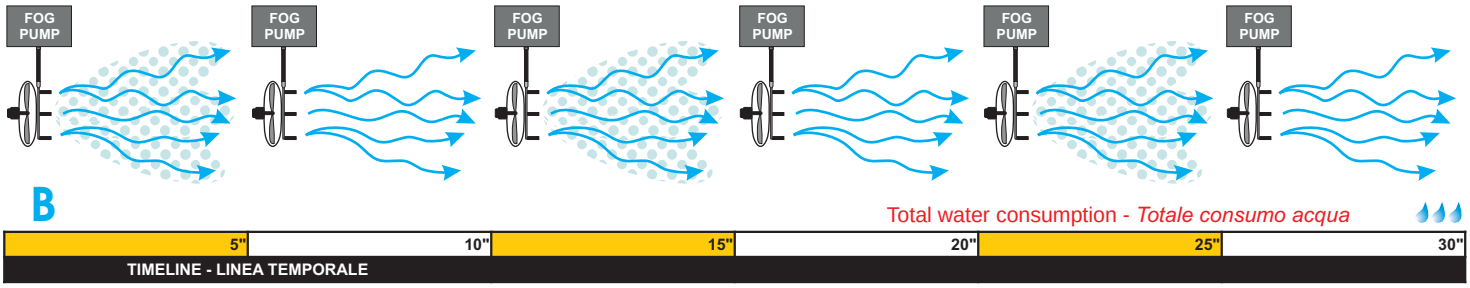
TIME
Energy Saver Timer

TIME version pumps are supplied with a digital timer that allows to control the amount of misting by programming a timer and setting the duration of ON and OFF spraying cycles.
This allows to save a great amount of water without loosing evaporative cooling performance.
During the OFF cycle the pump does not stop. The «BPS» system starts recycling the water to an external tank providing a 30 times more efficient pump cooling than a standard H.P. pump. Standard pumps, if switched ON/OFF (by cutting electrical power to the motor), overheat very quickly, the motor fan stops and water does not cool the pump: this causes dramatic seals and other mechanical parts damage after few weeks.TecnoCooling pumps equipped with BPS assure long lifetime and less maintenace, furthermore a cold running pump increases cooling effect and motor perfomance, saving energy.

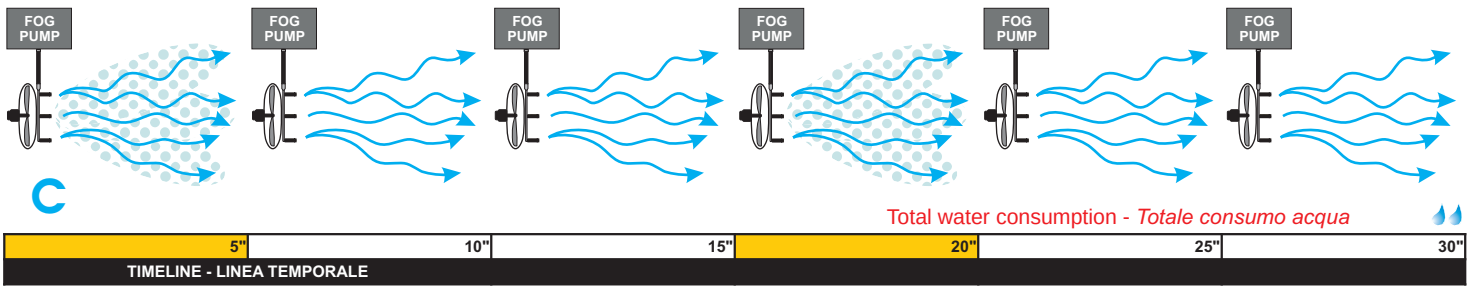
A) "TIME" version pump with **CONTINUOUS** mode setting - *Pompa versione "TIME" con* ***funzionamento in continuo***



B) "TIME" version pump with **5" ON / 5" OFF** mode setting - *Pompa versione "TIME" con funzionamento* **5" ON / 5" OFF**



C) "TIME" version pump with **5" ON / 10" OFF** mode setting - *Pompa versione "TIME" con funzionamento* **5" ON / 10" OFF**



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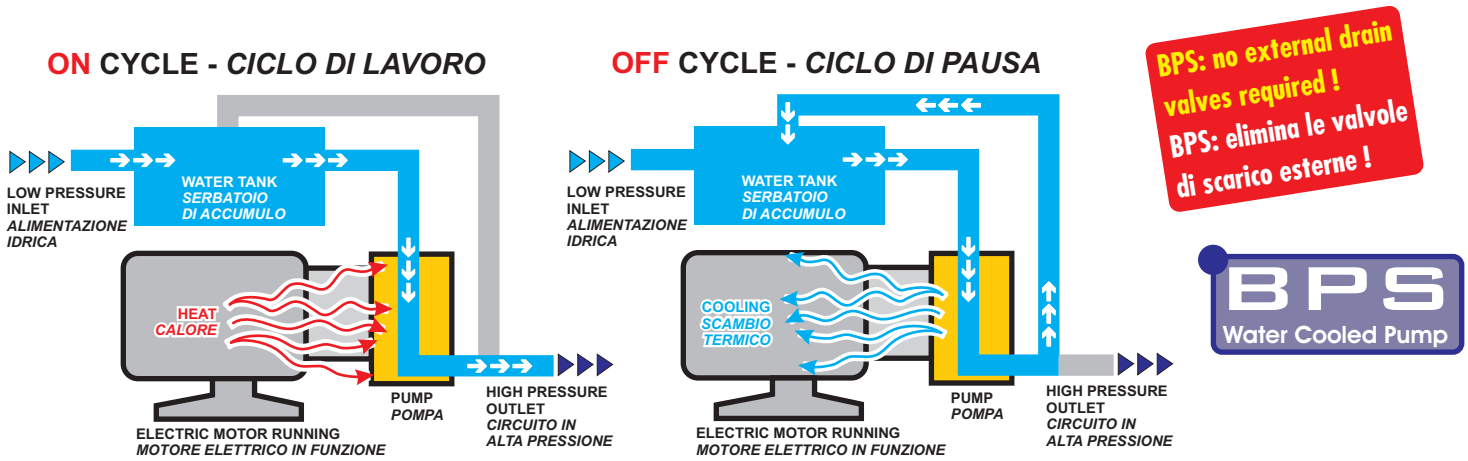
PERCHE' LE POMPE TecnoCooling SONO LA SCELTA MIGLIORE

Le funzionalità "BPS", "QES" e "LSP" assicurano affidabilità nel tempo

Le pompe con sistema di ricircolo BPS sono dotate di una vasca di accumulo che consente il ricircolo dell'acqua esternamente alla testata della pompa. Questo consente di miscelare acqua fredda proveniente dalla rete a quella più calda (il calore è trasferito dal motore alla pompa e di conseguenza all'acqua) proveniente dal by-pass della pompa.
Si tratta quindi un sistema che permette di tenere sotto controllo la temperatura di esercizio della macchina assicurando affidabilità nel tempo e minor manutenzione. Le pompe dotate di sistema «BPS» riducono in modo consistente l'accumulo di calcare sulle valvole ed ugelli dovuto alle alte temperature e mantengono in efficienza il motore proteggendolo dal surriscaldamento. Il sistema BPS elimina inoltre la necessità di uno scarico esterno in quanto alla fine di ogni ciclo di lavoro l'acqua dell'impianto viene drenata internamente alla macchina.
I motori elettrici QES e LSP operano in modo più silenzioso ed efficiente, sono più affidabili ed offrono una migliore performance rispetto ai loro predecessori. Grazie al livello di rumorosità ridotto, questi motori sono particolarmente adatti per applicazioni dove la bassa rumorosità di funzionamento gioca un ruolo importante. Per i clienti questo significa: minore consumo di energia e conseguente minore costo di esercizio. La minore generazione di calore rende il motore adatto per applicazioni ad uso intensivo.



TECNOCOOLING BPS WORKING PRINCIPLE - SCHEMA DI FUNZIONAMENTO SISTEMA BPS TECNOCOOLING

WHY TecnoCooling PUMPS ARE THE BEST CHOICE

"BPS", "QES" and "LSP" features assure longer life and reliability

BPS equipped pumps are supplied with an external by-pass water tank that allows external recycling of water coming from pump head. This allows to mix cold water coming from water supply to warm water (heated by motor) coming from pump by-pass. BPS system keeps pump temperature under control assuring reliability and less servicing. By avoiding very high temperatures, the BPS prevents motor overheating and it improves pump efficiency by reducing scale deposits on valves and nozzles. Furthermore, BPS acts as an automatic drainage system: fog system pipeline is always drained into the internal water tank when the pump is switched off, no external drain valves are required.

QES and LSP electric motor operates more quietly and efficiently, it is more reliable and offers better performance than its predecessor. Thanks to its low noise level, this motor is best suitable for applications where low noise and smooth operation play an important role. For the customer this means less energy consumption and thus lower costs. Moreover, less overheating allows better performances of motors in heavy duty applications.

QES
Quiet Engine System

LSP
Low Speed Motor

LSP: we are the first manufacturer of a less than 55dB noise level Fog pumps
LSP: siamo il primo produttore di pompe per micronebulizzazione operanti a meno di 55dB

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EFFICIENZA E FLESSIBILITA' CON IL NUOVO SISTEMA "VAR"

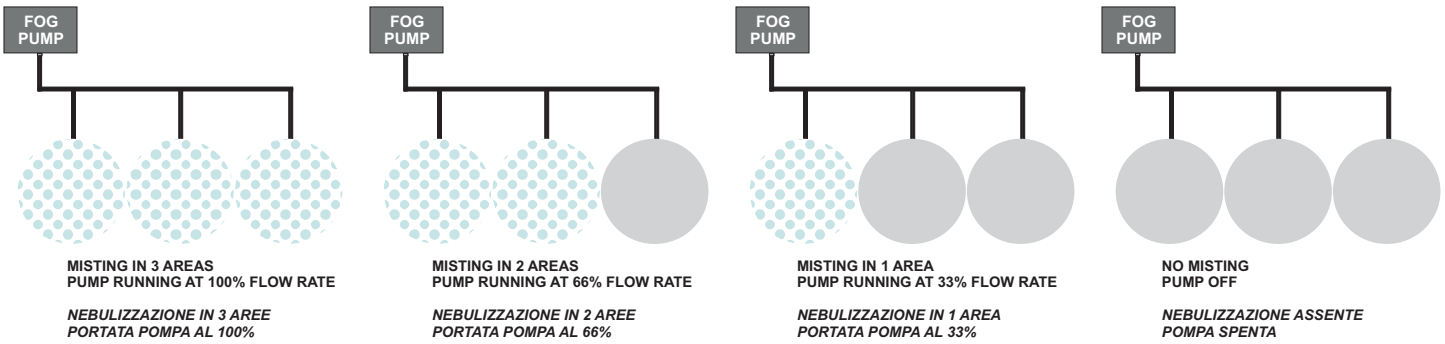
La funzionalità "VAR" consente di gestire più settori in maniera indipendente

La funzionalità «VAR» è un nuovo sistema di gestione elettronica integrato a bordo delle pompa. Le nuove pompe serie «VAR» permettono di semplificare installazioni particolari ove è necessario gestire in maniera indipendente diversi settori. L'elettronica di bordo rileva in tempo reale la pressione di esercizio mantenendola costante e regola automaticamente la potenza e la portata della pompa adeguandole automaticamente al numero di ugelli in funzione. Diventa così possibile parzializzare l'impianto in più settori che possono essere gestiti in modo indipendente ed automatico. Il sistema «VAR» è inoltre in grado di rilevare eventuali anomalie sull'impianto e di conseguenza disattivarsi automaticamente.

EFFICIENCY AND FLEXIBILITY WITH THE NEW "VAR" SYSTEM

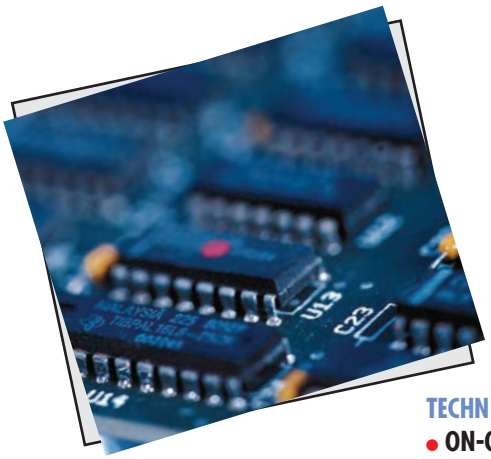
"VAR" functionality lets you manage multiple areas independently

'VAR' functionality is a new integrated electronic management system. The new pump series 'VAR' would allow for any particular installations where it is needed to manage different areas independently.
The system checks working pressure in real time, and it keeps it constant. It also automatically adjusts the power and the pump flow to match the number of spraying nozzles. It becomes possible to divide the plant in several areas that can be managed independently and automatically.
'VAR' system is also able to detect any faults in the misting system and when needed it automatically turns it off.



VAR
Variable Flow Rate

VAR: many misting areas with one pump !
VAR: più settori con una sola pompa !



CARATTERISTICHE TECNICHE

- interruttore ON/OFF
- temporizzatore ciclico digitale
- inverter da 1.5 kW monofase-trifase - soft start
- basso livello di emissioni acustiche
- variazione automatica della portata
- possibilità di gestire settori di nebulizzazione indipendenti
- spegnimento automatico se tutte le linee sono chiuse
- spegnimento automatico per mancanza acqua
- spegnimento automatico in caso di perdita e guasti alle tubazioni
- accensione automatica quando almeno una linea viene aperta
- spegnimento automatico se il motore surriscalda

TECHNICAL FEATURES

- ON-OFF switch
- cyclic digital timer
- equipped with 1.5 kW single-ph to three-ph inverter - soft start
- low noise
- automatic variable flow rate
- can operate several nozzle lines
- automatic switch-off if all line are closed
- automatic switch-off if dry running is detected
- automatic switch-off if no pressure (leakage) is detected
- automatic switch-on if at least one line is opened
- automatic switch-off if motor overheats

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CLIMATIZZAZIONE INDUSTRIALE

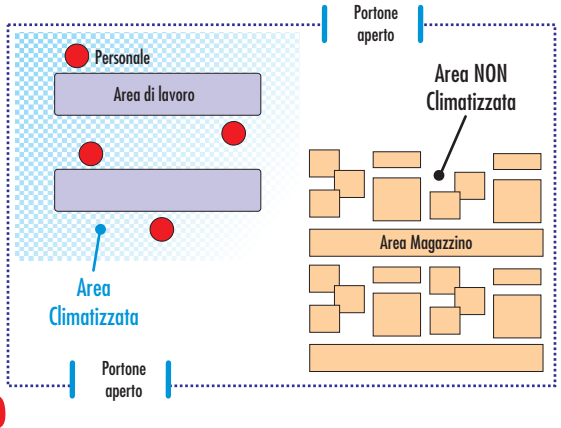
I sistemi TecnoCooling vengono utilizzati con enormi vantaggi per la climatizzazione di grandi ambienti grazie alle elevate prestazioni ed ai consumi ridotti.

La climatizzazione industriale di grandi ambienti, compresi quelli che operano con portoni e finestroni aperti per esigenze produttive, risultava fino a ieri impossibile con i normali sistemi.
Oggi invece la micronebulizzazione distribuita per mezzo dei sistemi Fog TecnoCooling rappresenta la soluzione ideale per raffrescare aree di grandi dimensioni (capannoni industriali, garage, officine) o per dissipare le forti emissioni di calore derivanti da processi industriali (fonderie, macchinari). E' inoltre possibile combinare l'effetto di riduzione della temperatura con il controllo dell'umidità per incrementare la produttività in specifici settori (carta, legno, tessile).

L'acqua nebulizzata dal sistema è polverizzata da speciali ugelli brevettati in grado di generare goccioline finissime, delle dimensioni inferiori a 10 micron, che vengono assorbite immediatamente dall'aria senza bagnare oggetti e superfici sottostanti. I risultati sono notevoli: costi contenuti di installazione e di esercizio, efficacia immediata, localizzazione del raffrescamento solo nelle aree d'interesse, possibilità di installazione in aree chiuse, semiaperte ed all'aperto.

LOCALIZZAZIONE = RISPARMIO

I sistemi TecnoCooling consentono di localizzare il raffrescamento dove serve, senza necessariamente climatizzare l'intero ambiente.



Abbattimento temperatura immediato.

VANTAGGI

I benefici derivanti dall'impiego di sistemi di micronebulizzazione per il raffrescamento industriale sono considerevoli:

- **Aumento della produttività complessiva del personale**
- **Climatizzazione localizzata nelle aree di interesse**
- **Controllo di polveri, gas, fumi ed altre emissioni nocive**
- **Riduzione immediata della temperatura**
- **Costi di installazione ridotti del 75%**
- **Notevole risparmio energetico**
- **Manutenzione facile ed economica**
- **Riduzione dello stress da calore (Legge 626 Art.33)**

COSTI CONTENUTI

Importante aspetto della micronebulizzazione sono i costi altamente contenuti se paragonati ai tradizionali sistemi di climatizzazione industriale.
I costi energetici sono estremamente bassi e le installazioni semplici e veloci visto che i sistemi vengono forniti in KIT modulari, con distribuzione mediante tubazioni flessibili e raccordi ad innesto rapido.
I sistemi TecnoCooling sono progettati per operare a basso costo di esercizio e con interventi di manutenzione minimi.

Costi minimi d'esercizio.

meno Kw meno Manutenzione

La convenienza c'è e si vede subito.

Comparazione tra sistemi tradizionali di climatizzazione indutriale e sistema TecnoCooling (valori esemplificativi)

Tipologia sistema	Costo impianto	Ore Installazione	Potenza elettrica assorbita a regime	Costo annuo manutenzione	Volt	Funzionamento a portoni aperti
Adiabatico tradizionale	**	24	6 Kw	**	380	NO
Scambio termico	*****	36	40 Kw	***	380	NO
TecnoCooling	*	8	2 Kw	*	230	SI

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INDUSTRIAL COOLING

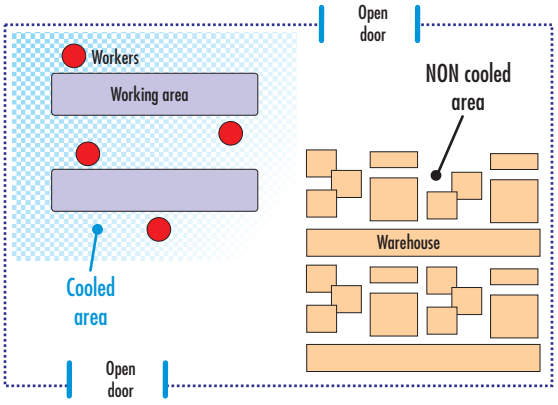
TecnoCooling systems are installed with enormous advantages for air-conditioning of large indoor areas due to high benefits and reduced energy consumption.

Air conditioning of large industrial warehouses, including those which need to operate with open doors and windows, was until now impossible with conventional systems.
Today, however, TecnoCooling misting systems becomes ideal for cooling large areas (industrial sheds, garages, workshops) or to dissipate high heat emissions from industrial processes (foundries, machinery). Cooling effect can also be combined with humidity control to increase productivity in specific industries (paper, wood, textiles).

Water is sprayed under pressure by special patented nozzles capable of generating very fine droplets, of less than 10 microns, which are immediately absorbed by the air without wetting surfaces and objects below. The results are significant: low cost of installation and operation, immediately effective, cooling effect is located only in areas of interest, possibility of installation in an enclosed, semi-open and open environment.

LOCALIZATION = SAVINGS

It is possible to locate the cooling effect where needed, without necessarily cover the whole area, saving on installation costs.



Immediate cooling effect.

ADVANTEGES

Benefits arising from the use of misting systems for industrial cooling are considerable:

- **Increase overall productivity of your staff**
- **Air conditioning in localized areas of interest**
- **Control of dust, gases, fumes and other harmful emissions**
- **Immediate temperature reduction**
- **Installation costs reduced by 75%**
- **Considerable energy savings**
- **Easy and cheap maintenance**
- **Reduction of heat stress (see EC rules)**

MINUMUM COSTS

Important aspect of misting systems are highly limited costs if compared to traditional industrial air conditioning.
Installation is easy and fast since systems are supplied in modular kit, with polyamide tubing and quick couplings.
TecnoCooling systems are designed to operate at low running cost and requires minimum maintenance requirements.

Minimum operating costs.

less Kw less Maintenence

The convenience you can see immediately.

Comparison between traditional industrial air conditioning systems and TecnoCooling mist cooling (example values)

System type	System cost	Installation time (hours)	Electric power consumption	Maintenance costs	Volt	Performance with open doors
Traditional adiabatic	**	24	6 Kw	**	380	BAD
Heat exchange	*****	36	40 Kw	***	380	BAD
TecnoCooling	*	8	2 Kw	*	230	GOOD

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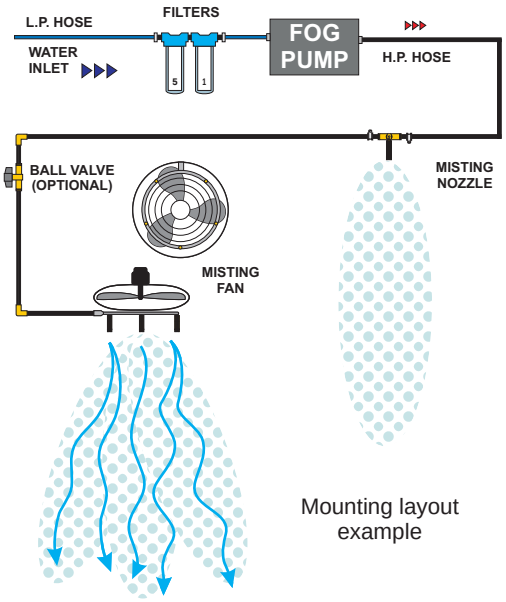
MISTING AND LIVESTOCK

Birds and animals, like humans, are happier and more productive when comfortable. Misting reduces heat stress and increase productivity.

Misting provides heat stress relief for all categories of **poultry**. Mortality is dramatically reduced. Stress-free broilers continue to eat and grow. Layers produce more eggs. Breeders are more active and produce higher quality eggs.
In the **hog** world, misting increases the farrowing sow's appetite, which improves milk production. This, in turn, boosts the litter weight at weaning, increases the size of future litters and allows the sow to go back into heat quicker. Cool conditions increase sex drive and sperm count, as well as sexual development.
Cattle are also subject to heat stress. This condition can affect milk production, weight gain and breeding cycles. The misted cow is the contented cow is the productive cow.
Mother Nature has an unpleasant way of telling humans and **horses** to slow down when working in extreme heat, and if those warnings go ignored for too long, disaster can result. But races and heats and rounds and shows are held in all kinds of weather, and if we want our horses to do their best while competing in the heat, then we have to do our best to condition and acclimate them to withstand high temperatures.



Mounting layout example

MINIMAL OPERATING COSTS

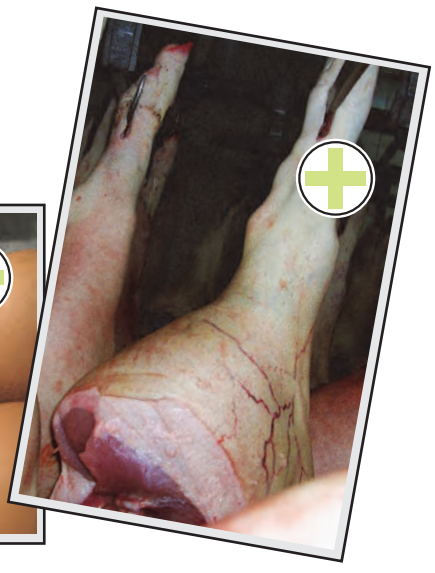
Easy installation, minimum maintenance and low energy consumption. There are many proven cost-effective uses for evaporative cooling that make it the preferred choice. The installation and operating cost of EuroCooling systems can be much lower than traditional air conditioning.

"The system cools the inhabitants without creating a wet environment."

MORE Weight
MORE Health
MORE Milk
MORE Meat
MORE Eggs

BENEFITS

- **Increases egg, milk, and meat production**
- **Reduces animal heat stress**
- **Extends breeding period and growth rate**
- **Results in cleaner, drier surroundings**
- **Dust suppression**
- **Odor control**
- **Reduces water and energy consumption**



Comparison to phase-change (standard) air conditioning

Less expensive to install
Estimated cost for installation is 1/8 to 1/2 that of refrigerated air conditioning

Less expensive to operate
Estimated cost of operation is 1/4 that of refrigerated air. Power consumption is limited to the fan and water pump vs. compressors, pumps, and blowers.

Fresh air
The constant stream of air from intake to vent through the building freshens the air in the building.

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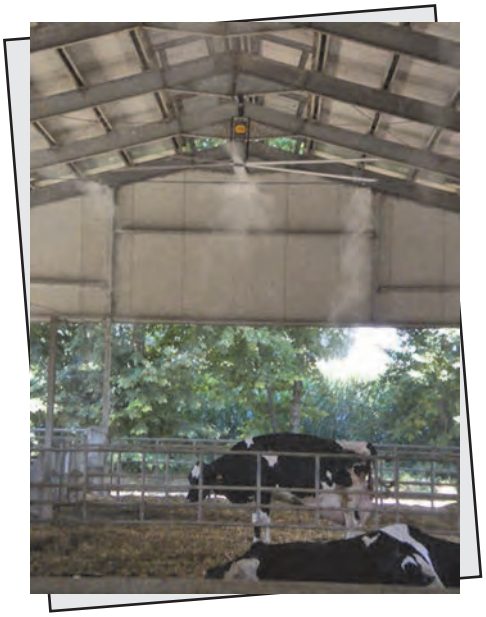
MISTING AND DAIRY COWS

Cattle without water misting have a physiological and behavioral stress response to heat which negatively affect on behavior, physiology, performance, and carcass traits.

Studies have found that at temperatures as low as 79°F, dairy cows will begin to cut feed intake and lose body weight. Milk production falls. Reproductive performance, health, and lactational performance are affected. Heat stress will continue to affect performance even in the cooler months ahead. High yielding cows are most susceptible to heat stress. All of this quickly impacts your pocket book!

The degree of heat stress suffered by the cow will depend on the combination of environmental conditions - air temperature, relative humidity, air movement, and radiation from the sun. Dairymen use shades, fans, and ample fresh drinking water to help herds beat the heat; but often shade and ventilation are just not enough. In southern states, where heat and humidity are more severe, dairymen have also used sprinklers to provide added cooling effects.

Research has shown that intermittent misting in combination with shade and forced air movement is a very effective method of cooling diary cows, thereby reducing the production losses experienced during hot humid weather conditions. By using a high pressure, misting nozzles, enough water can be applied to fully cool the cows to the hide. The water is then allowed to evaporate, which pulls heat from the air and the animal, just like sweating. Increased air movement provided by fans, makes this system most efficient.



These results indicate that cooling cows with water applied through either a mist or spray can increase milk production if the system is installed properly. Overall, the combination of mister and fan cooling system provided the best choice in several studies, because water use and waste-waterrunoff were reduced compared tostandard spray system.

MILK YIELD +4kg/day
kg/head/day

Effects of ventilation and misting on behaviour of dairy cattle in the season in south Italy

Published by the American Society of Agricultural and Biological Engineers, St. Joseph, Michigan www.asabe.org Citation: Pp. 303-311 in Fifth International Dairy Housing Proceedings of the 29-31 January 2003 Conference (Fort Worth, Texas USA) 701P0203. Authors: F. Calegari, L. Calamari and E. Frazzi

This research evaluated the effectiveness of the ventilation and misting equipment on three farms with Italian Friesian cows in the South of Italy. This research was carried out in the hotter period (May - September) during two consecutive years.

At each farm there were two homogeneous groups of animals with respect to production, number of calving and lactation phase The first group was raised in a pen with environmental conditioning system limited to the feeding area and carried out with the use of ventilation and misting (FM). The second group, which was the control group (C), was not conditioned. The microclimatic parameters (temperature and relative humidity) were recorded continuously at each farm by electronic probes which were put at animal height and connected to a data logger. Weekly individual measurements were performed on milk yield and behaviour observing the animals in different areas two times a day. The difference in milk yield between C and FM group ranged between 1-3 kg/head/day and, in the hottest period, ranged between 2-4 kg/head/day. Animal behaviour changed as the climatic conditions varied. On average, in the conditioned pen, we noticed higher values in the rate of standing animals in the feeding area (18.6 % in FM vs. 12.9% in C) and lower values in the rate of lying animals in the resting area (31.3% in FM vs. 34.0% in C). These results show the value of the treatment with the use of ventilation and misting of water.

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MISTING AND SWINE

When the hot weather hits, eating a big meal is the last thing on anyone's mind. With temperatures in the 30s and 40s, pigs are probably too busy dreaming of a distant mud puddle to worry about their next meal.

The growth performance of animals is often affected by extreme environmental conditions. In the case of swine, generally a cold environment will increase feed intake as the pig strives tomaintain body temperature, while warmer environments mayreduce growth, increase body maintenance demands, and sub-ject the animal to environmental stress.

All animals have a thermoneutral zone, the range of temperatures at which they are most comfortable and their body temperature remains constant. Summertime temperatures often exceed the thermoneutral zone for pigs. Since air conditioning is much too expensive to be a practical consideration, spraying pigs with water is one option that can help to reduce stress.

Past research has proven that high environmental temperatures (>25°C) adversely affect feed intake and subsequent performance. As temperatures rise, physiological changes in the pig also occur, including increases in rectal temperatures, respiration rates and pulse rates. Appreciating the physiological response of the pig at high temperatures provides additional insight into ways to minimize misting, and therefore water usage. Researchers theorize that misting may only be necessary during those events that are most likely to raise the pig's body temperature, like during a meal.

Misting has proven to be an effective method to reduce heat stress during peak summertime temperatures in swine facilities. Using misting or sprinkling to wet down pigs directly improves evaporative cooling efficiency since the process occurs at the skin's surface, rather than trying to cool down the pig indirectly by cooling the air. Think of how much cooler it feels when you step out of a pool on a breezy day. The same concept applies to evaporative cooling for pigs.

Researchers in have clearly demonstrated that it is essential to consider both the physiology of the pig as well as the housing constraints when using misting as a strategy to improve performance during hot weather. They assessed the impact of synchronizing misting and meals on feed intake and meal duration. The experiment studied eighteen 70 kg crossbred grower-finisher pigs (all barrows) for 30 days to observe the effect that misting, synchronized with meals, had on performance.

Three misting strategies were compared: 1) misting just prior to a meal, 2) misting between meals and 3) no misting. The air was held at 30°C and 50% relative humidity. The assessment was based on two variables, feed intake and meal duration.
The results are summarized in Table 1.

Treatment	Feed intake (Kg)	Meal duration (h)
No mist	0,623	0.233 = 14 min.
Prior to meal	0,701	0.263 = 16 min.
Between meals	0,619	0.210 = 13 min.

Table 1.
Effect of misting on feed intake and meal duration of grower-finisher pigs.

CONSIDERATIONS

Pigs misted just prior to a meal had significantly greater feed intake (13%) and ate significantly longer (19%) compared to the pigs on the other treatments. The effects appear to be the result of cooling the pig, therefore reducing the temperature spike that normally occurs during an activity, such as a meal.
This moderation of the body temperature seems to allow the pig to eat for a greater length of time before thermoregulatory controls restrict the meal duration and, as a result, the amount consumed.
While the short length of the present experiment did not allow an assessment of the whole grow-finish phase, the researchers suggested that increased feed intake should benefit growth performance over the long term.

FEED INTAKE +13%
Better Growth Performace

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MISTING AND POULTRY

Dealing with summertime heat is a great challenge for poultry Under conditions of severe heat stress, poultry will have a reduced growth rate, decreased feed intake, poor feed conversion, decreased egg production, reduced hatchability rate, reduced egg shell quality, reduced egg size and reduced internal egg quality. Additionally, heat stress can cause increased mortality.

Dealing with summertime heat is a great challenge for poultry. All types and ages of poultry are susceptible to heat stress, but older poultry face a bigger risk. As poultry get older, they increase in size as well as insulation (feathering). This makes it harder for them to dissipate heat.

The most obvious sign of heat stress in poultry is panting. Poultry do not have sweat glands that can cool their skin, so instead they must use evaporation from their throat and respiratory system as a means of cooling themselves.

Panting takes a lot of energy which, in turn, generates an appreciable amount of body heat for poultry.

Ultimately, if poultry are not relieved of heat stress, their body temperature can continue to rise and increase the possibility of mortality. Fortunately there are several things you can do to help your home poultry flock handle heat stress.

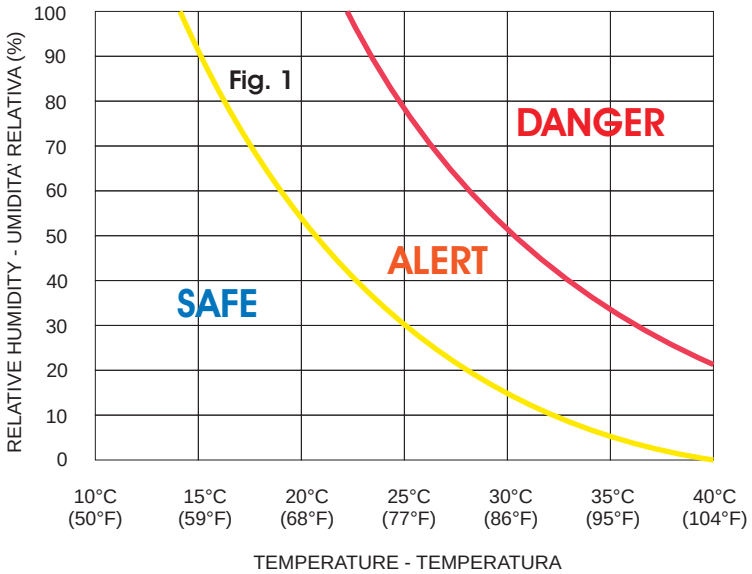

Fig 1. *Thermal comfort zones.*

Effects of thermal stress on birds

Birds are able to regulate their body temperature by controlling heat loss through:

- *their skin and feather cover*
- *evaporation by panting*

This ability to thermoregulate is compromised if the birds are confined in close proximity to one another. This reduces their ability to lose heat by radiation, convection and conduction. Additionally, their ability to lose heat by evaporation is reduced if there is a high humidity. If the birds' ability to lose heat is reduced, their body temperature will rise and they will suffer from thermal stress, dehydration and exhaustion.
This compromises their welfare and can lead to a reduction in meat quality by causing:

- *alteration to the acid-base balance*
- *alteration to hydration state*
- *fatigue and depletion of energy reserves including liver and muscle glycogen loss*

Ultimately, **if body temperature rises by 4ºC or more, the bird will die**.

Placing poultry in a well-ventilated area will help reduce the incidence of heat stress. In addition, a misting/ fogging system can be used in a well-ventilated area to help the birds cool themselves.

BIRD LOSS -99%
Due to high temperatures

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GREENHOUSE AND GARDEN CENTER

TecnoCooling systems are used with enormous advantages to keep the right climate inside greenhouses of any dimension.

Misting systems (or Fog systems) play an important role in the greenhouse climatic control. TecnoCooling systems are also used with enormous advantages to keep the right temperature and humidity in the environment, under conditions of forced or natural ventilation.

In summertime the quick evaporation of the fog will cool the greenhouse due to the principle of evaporative cooling, meanwhile it humidifies the environment in case of low relative humidity.

During the wintertime the system keeps the correct humidity rate preventing the dehydration of the crops caused by heating systems.

The environment produced by our system is appropriate for the most delicate crops (ex. the growing of young seedings, the cultivation of tropical plants and in bloom plants) where it is not possible to use traditional spraying methods like standard spraying.

TecnoCooling fog system works on a pressure of 1000 PSI (70 Bar) and it is designed to produce water droplets smaller than 5-10 microns diameter that, for theirs dwarfish size remains suspended in the air for a long time producing the fog effect.

A modern fogging system that is an ideal way to apply nutrients, fertilizers etc and a perfect way to create the perfect environment.

Typically all growers have the problem of low humidity and high temperatures.
Serious problems occur when the humidity in the greenhouse environment drops below 30% RH. Plants will suffer and typically slow or halt the growing process.

In fact, many greenhouses in arid conditions close down for the summer months until ambient temperatures will reduce to an acceptable level.

BENEFITS

The consequential benefits from the implement of fog systems In greenhouses can be resumed as follows:

- **Increased general productivity of the greenhouse**
- **Speeds up plants growth**
- **Keeping of constant humidity levels**
- **Less humidity need**
- **The correct micro-climate in any season**
- **Lower water consumption for the irrigation**
- **Less shading needed**
- **Growing of a reproduction plants stock in the greenhouse**
- **Suitable for chemical spreading (fertilizers, insecticides)**

TOTAL CONTROL

TecnoCooling systems also supply any electronically controlled task thanks to special devices like thermostats, hygrostats and remote timers.

LOW COST SYSTEMS

Very low cost of our systems are an important aspect of misting in greenhouse, if compared to other solutions for the climate control.
The energy costs are low, simple and fast installations, considering that the systems are supplied in various solutions or D-I-Y Kits, or by the simple solutions of quick couplings.
TecnoCooling systems are designed to operate with very low costs and with a minimum maintenance.

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WINE CELLARS

TecnoCooling systems are used with enormous advantages, to keep the right humidity and temperature levels inside wine cellars.

Wine cellars during the whole year or in some periods don't reach a good humidity level and are subject to various problems. A low humidity level is the main factor that causes natural evaporation of wine with the consequent loss of quality and money, not only for the product time and manpower due to the consequent essential re-filling of wine into barrels. Moreover wood barrels are subject to dehydration of their external board structure which compromises the quality and efficiency in same time.

TecnoCooling fog systems resolve naturally and in economic way, all these problems by regulating the humidity in the wine cellars and keeps its temperature. The water sprayed by the system is atomized by special patented nozzles able to produce thin droplets of a diameter smaller than 5-10 microns, which are immediately absorbed by the air without wetting things and underlying on surfaces.
The results are notable: barrels are kept efficient for longer, preserving the quality of the wood, allowing an excellent production and preventing the natural evaporation of the product.
They allow such a costs saving that the system refunds the investment in few months.

Barriques must be stored in a place protected from draughts and light. Optimal humidity level oscillates among 65% and the 85%.
Under 65%, the risk of dehydration of barrels is very high while over the 85% they could develop fungus and moulds.
A humidity level among 80% and 85% allows to reduce dramatically the "wine loss".

The entire structure of barrels takes advantage from a right humidity level.
To prevent any risk of barrel dehydration and opening of their joints during the storage, it is recommended to avoid the airflow and the excessive ventilation in the wine cellars.
With the right humidity level the barriques will feel "ease"!

ADVANTEGES

Benefits from the implement of fog systems in wine cellars are considerable:

- **Increased general productivity of the wine cellar**
- **Keeping of constant humidity levels**
- **Eliminates the dehydration of wood barrels**
- **It prevents the natural evaporation of the wine**
- **It reduces the costs of manpower of periodic refilling**
- **It helps to keep the right temperature**
- **It is economic if compared to other solutions**

A modern fog system required by winemakers who desire a greater return both in quantity and in quality for premium wines aged in wood barrels.

TOTAL CONTROL

TecnoCooling systems also supply several electronically controlled task thanks to special devices like thermostats, hygrostats and remote timers. In this way it is possible to keep the desired environment, during the whole day, independently from the external climatic conditions.

LOW COST SYSTEMS

Very low cost of our systems are an important aspect of misting in wine cellars, if compared to other solutions for the climate control.
The energy costs are low, simple and fast installations. Systems are supplied in various solutions or in D-I-Y Kits, with the simple solutions of quick couplings. TecnoCooling systems are designed to operate with very low costs and with a minimum maintenance.

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TEXTILE INDUSTRY

Like many other industries textiles processes can also obtain significant benefits from the environmental control system with a TecnoCooling humidification system.

The yarns, until the transformation in tissue, must balance their own moisture and that contained in the surrounding air.
A lack of moisture in the air is unpleasantly noticeable.
Non air-conditioned factories or with a different humidification system frequently encounter production difficulties during embroidery, weaving and spinning yarns due to breakage and high static electricity levels.
The American Institute of Textile Technology found that wool, by increasing relative humidity from 60 to 70% during storage and processing, shows a 15% increase of its elasticity, which drastically reduces breakage during processing. Adjusting humidity levels with a TecnoCooling misting system increases the tensile strength of all natural fibers, removes static electricity improving the workability of the yarns and fibers, controls the suspended residual and improves comfort of work areas.

STATIC ELECTRICITY

It is well known in the textile industry that the relative humidity, and hence the moisture regain (content) of textile fiber plays a very important role int the reduction of static electricity.
Virtually all textile fibers, when completely dry, have very high electrical resistances. However, as the relative humidity increases, the fibers absorb moisture and their electrical resistance decreases with a consequent reduction electrostatic charges generation.

HUMIDITY AND YARN PROPERTIES

Water is an important part of yarns weight.
About 7% of dry cotton weight is made by water, in a dry synthetic yarn such as Nylon it is 2-3%.
The specific weight of wool is made by water up to 18%.

DUST CONTROL

With our humidification systems it is possible to reduce the problem of suspended particulate.
When the air is humidified, the yarn and so the dust absorb much moisture, this means increasing the weight of the dust particles, preventing them from spreading easily.

ADIABATIC COOLING

Textile industry can also benefit from the cooling effect provided by our high-pressure humidification system. The mist water droplets are quickly absorbed by the air, evaporation lowers summer temperatures and the result is a natural cooling system.

WORK ENVIRONMENT

The problem of dry air is found especially during winter months when heating systems are used in working areas. The environment also affects our well-being and a work environment with dry air can cause several problems:

- **Dry nose and eyes, burning irritation, pain**
- **Danger of infection, dry nostrils are very sensitive**
- **Creates headache after light dehydration**
- **Enhances evaporation and suspension of solvents, paints and glues**
- **High concentration of airborne dust**
- **Static Electricity**
- **Affects processing, without noticing it, because of frequent stoppages for repeated failure or manufacturing problems, work stress is increased**

The right humidity level, usually between 55% and 70% RH offers as a result a better product quality with minimum downtime and production waste, increasing profits.

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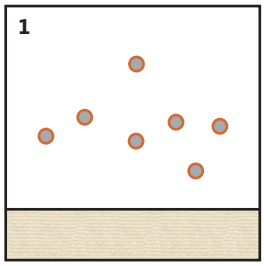
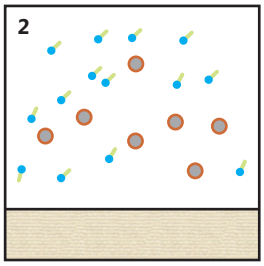
L'ABBATTIMENTO DELLE POLVERI

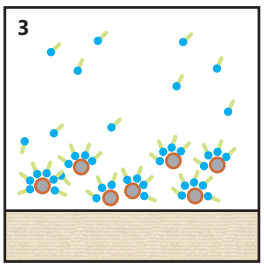
I sistemi di nebulizzazione rappresentano una soluzione estremamente efficace nella soppressione e abbattimento delle polveri sospese e nella filtrazione dell'aria.

L'utilizzo di sistemi di nebulizzazione ad alta pressione per risolvere il problema dell'abbattimento delle polveri sospese generate dalla movimentazione di materiale sfuso o comunque dall'attività di produzione industriale in genere, rappresenta la soluzione ideale per spazi aperti o di grandi dimensioni.
I sistemi di nebulizzazione TecnoCooling producono un'alta concentrazione di goccioline nebulizzate da 10 micron (con la possibilità in casi particolari di addizionare un tensioattivo) che hanno la capacità di attrarre e sopprimere le particelle di polvere PM10 e più piccole.
I liquidi tensioattivi rivestono istantaneamente le particelle di polvere sospese, aumentandone la massa e facendole precipitare istantaneamente.
Il sistema può rimuovere efficacemente particelle di polveri respirabili da 0,1 a 1000 micron, la polvere circondata da una densa nebbia ha poche possibilità di fuga.
A differenza di alcune tecniche di abbattimento delle polveri che richiedono un adeguamento dell'impianto di lavorazione e risultano nel complesso molto onerose e poco duttili, i sistemi di nebulizzazione TecnoCooling grazie alla struttura modulare permettono un installazione molto semplice.

I sistemi vengono utilizzati negli impianti di verniciatura, nelle cave, nelle miniere, sulle macchine da frantumazione, sui punti di caduta ai nastri di trasferimento del materiale, al carico camion, nello scarico tramogge, per l' abbattimento di polveri prodotte da acciaierie, dai cementifici, nei punti di carico e scarico navi, nei punti di stoccaggio di minerali, rocce, carbone, negli impianti di riciclaggio e trasformazione di inerti.
I nebulizzatori verranno dislocati in prossimità di quei tratti dove i materiali sono in caduta libera e hanno la maggiore diffusione e superficie apparente.







Il processo di abbattimento polveri
Dust suppression process

Polveri presenti naturalmente nell'ambiente o come conseguenza di processi produttivi.

Airborne particulates that are naturally exist in the environment or resulting from production processes.

Milioni di goccioline ultra piccole vengono atomizzate nell'ambiente.

Millions of ultra thin water droplets are atomized in the environment.

Le goccioline si raggruppano intorno alle polveri, abbattendole.

Droplets capture dusts particles, driving them to the ground.

VANTAGGI

- Il sistema è dimensionato ed adattato su misura ad ogni particolare situazione in base alla configurazione del punto di emissione, alla tipologia di macchina da trattare, alla quantità ed alla qualità della polvere prodotta. La semplicità e le dimensioni ridotte di ugelli e linee, permettono un'istallazione agevole in prossimità delle macchine da trattare.
- Il montaggio è semplice e non richiede progettazione né permessi particolari di istallazione. Durante questa fase l'impianto da trattare non deve essere fermato né deve essere modificato.
- Il suo funzionamento completamente automatizzato non necessita di una particolare attenzione ed inoltre, in caso di arresto del processo di produzione, la fuoriuscita di nebulizzazione viene interrotta con un conseguente risparmio.
- Per la loro particolare conformazione, gli ugelli di nebulizzazione sono completamente ripulibili.
- Gli interventi di manutenzione sono estremamente limitati e i componenti del dispositivo non sono soggetti a particolari usure.
- E' possibile trattare piazzali e cumuli di stoccaggio.
- Il prodotto tensioattivo è biodegradabile.
- I quantitativi di acqua necessari per l'abbattimento sono ridotti e l'umidità residua contenuta al termine del trattamento nel materiale è del tutto relativa.

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DUST SUPPRESSION

TecnoCooling misting systems provide with extremely effective solutions to airborne dust suppression and air filtration.

High pressure misting systems are the most appropriate solution for outdoor and indoor small and large areas, to suppress dust generated by materials handling or manufacturing processes in general.
TecnoCooling Misting systems create a high concentration of ultra thin water droplets with an average diameter of 10 microns (with the possibility to add surfactants in some cases), having the ability to capture and suppress PM10 and smaller particles.
Surfactants instantly blanket suspended dust particles, increasing their weight and driving them to the ground.

Misting system helps removing effectively 0,1-1000 micron breathable dust particles: dust agglomerated in thick mist has few way of escape!
Thanks to their modular structure, TecnoCooling systems allow a very easy installation, unlike some other dust control technologies that require upgrading the production sites and consequently resulting expensive in costs and poorly flexible on the whole.

Misting systems are installed in painting units, quarries, mines, stone crushers, gravity flow places to conveying belts, truck yard ramps, hoppers unloading, suppression of dust produced by steel mills and cement factories, ships loading and unloading points, ores, rocks and coal storages, recycling plants and inert processing.
Units will be placed near materials gravity drop places, where the concentration of fugitive dust particles is larger in diffusion and in surface.

BENEFITS

- TecnoCooling misting system is customized and modular, as regards every particular situation, according to: the configuration of the emission point, the typology of the machinery to treat, the quantity and quality of dust produced. Easiness and small–sized nozzles and tubing allow an easy-to-handle mounting near machinery to treat.
- Mounting is easy and does not require neither special planner projects nor permits. While mounting a system, industrial plants do not require to be neither stopped nor modified.
- The working is completely automatic and does not need any special attention. Furthermore, in the event of production process stop, TecnoCooling misting system is interrupted with resulting saving.
- Due to their special design, nozzles can be fully cleaned.
- Maintenance is minimum and unit components are not subjects to particular wear.
- It is possible to treat yards and heap storages.
- Surfactant is biodegradable.
- The required quantity of water used in dust suppression is low and the residual humidity on materials at the end of the process is quite null.

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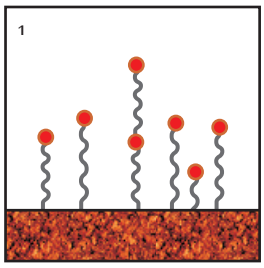
IL CONTROLLO DEGLI ODORI

I sistemi di nebulizzazione TecnoCooling sono lo strumento ideale per il trattamento e il controllo degli odori in grandi ambienti, nel settore industriale e commerciale.

I sistemi sono efficaci su rifiuti sia solidi che liquidi e la neutralizzazione degli odori può prevedere l'atomizzazione di neutralizzanti chimici (per bloccare la percezione dell'odore), di assorbitori di odori (che modificano i composti che causano gli odori) o di neutralizzanti completamente naturali che cambiano il processo decompositivo ed impediscono la formazione di odori con un'azione biodegradante.

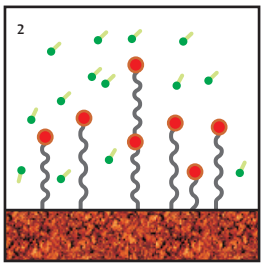
E' possibile operare in grandi spazi all'aperto e circondare con la linea di nebulizzazione l'intera area della discarica rifiuti oppure internamente agli edifici per lo smistamento dei rifiuti, nei depuratori di acque putride, negli allevamenti di animali, industria chimica, raffinerie petrolchimiche.



Il processo di controlo degli odori
Odor control process

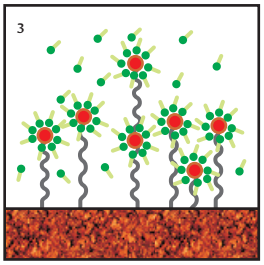
Odori presenti nell'ambiente causati da processi biologici o chimici.

Environmental odors as a result of chemical or biological processes.



Milioni di goccioline ultra piccole vengono atomizzate nell'ambiente.

Millions of ultra thin water droplets are atomized in the environment.



Le goccioline del neutralizzatore si raggruppano intorno al gas odoroso, eliminandolo.

The neutralizer droplets gather around the gas odor, eliminating it.

VANTAGGI

I vantaggi sono i costi altamente contenuti confronto ad altre alternative per il controllo degli odori.
I costi energetici sono bassi e le installazioni molto veloci visto che i sistemi vengono forniti in varie soluzioni, o premontati oppure con le semplici soluzioni di raccordi ad innesto rapido.

POMPE SERIE 'KEM': LA SOLUZIONE SPECIFICA

I nuovi moduli pompanti serie KEM rappresentano una soluzione specifica per il settore della bonifica e trattamento degli odori.
I materiali a contatto con i fluidi sono particolarmente resistenti all'usura e alla corrosione, quindi adatti per il lavoro in condizioni di massima sollecitazione.
Consultate il nostro catalogo per i dettagli tecnici.

I NEUTRALIZZANTI NATURALI

I neutralizzanti naturali sono prodotti derivati completamente da estratti di oli essenziali ed estratti vegetali, non sono profumi o agenti mascheranti ma prodotti che una volta nebulizzati in prossimità dei gas odorosi, li assorbe e li biodegrada o li trasforma in residui non odorosi.
Sono prodotti che rispettano l'ambiente, non tossici, non inquinanti, non infiammabili, non corrosivi, biodegradabili. Sono composti da elementi comunemente usati anche nelle industrie alimentari e di cosmesi.

Il sistema per la diffusione dei neutralizzatori di odore, è costituito da un gruppo pompa ad alta pressione che pressurizza la soluzione a 70 bar di pressione, che viene spinta in una linea di nebulizzazione che può essere realizzata o con tubi in Noxide o con le versatili tubazioni in Polyamide e diffusa nell' aria attraverso gli ugelli brevettati.
La soluzione liberata sotto forma di nebbia finissima con goccioline nell' ordine di 10 micron di diametro, rimangono sospese nell' aria per poi volatilizzarsi senza creare bagnato o gocciolamento rendendo il sistema molto efficiente.
Il risultato è un funzionamento con manutenzione minima in grado di atomizzare gocce micronizzate uniformemente per eliminare gli odori anche negli ambienti più difficili.
Le molecole del neutralizzante eliminano all' istante e permanentemente i residui odorosi nell' aria interessata.

TECNOCOOLING Systems
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ODOUR CONTROL

TecnoCooling misting systems are the best tool for odour treatment and odour control in large areas, for industrial and commercial applications.

Our systems are effective on both solid and liquid waste and the process involves the atomization of neutralizing chemicals (to block the odor perception), odour absorbers (which modify the compounds that cause odors) or completely natural bio-neutralizers that modify the natural decomposition and prevent the formation of odour by means of biodegrading action.

It is possible to operate in large outdoors and surround with the misting sprayers the entire landfill area or inside buildings where waste treatment processes occur, water treatment plants, livestocks, chemical industry, petrochemical refineries.

BENEFITS

The advantages are the low costs if compared to other odour control systems based on water atomization.
Energy costs are very low and the installation is very fast considering that the systems are supplied in various solutions, or pre-assembled with simple quick couplers.

NATURAL ODOUR DESTRUCTIVE REAGENTS

Odour desctructive reagents are completely natural extracts of plants (essential oils and similar), these are not perfumes or masking agents but products that once sprayed close to odorous gases, absorb them and transforms them into biodegradable or non-odorous compounds. These products are environmentally friendly, non-toxic, non-polluting, non-flammable, non corrosive, biodegradable. They consist of elements also commonly used in food and cosmetics industry.

The system for the spreading of odor neutralizers, consists of a high pressure pump that pressurizes the liquid solution at 70 bar pressure, which is pushed by a Polyamide or Noxide tubing, and sprayed in the environment by patented mist nozzles.
Reagents in the form of thin mist with 10 microns diameter droplets, remain suspended in the air and then evaporate without wetting or dripping, making the system very efficient.
Neutralizer's molecules combines physically with the odour molecules and destroys them completely.

'KEM' PUMPS: THE SPECIFIC SOLUTION

The new 'KEM' pumps are a specific solution to clean up and odour treatment. Pump materials in contact with fluids are particularly resistant to wear and corrosion and thus suitable to work in conditions of maximum stress. The result is no blockages and droplets at an uniform size to suppress odours even in the most challenging environments. Check our catalog for technical features.

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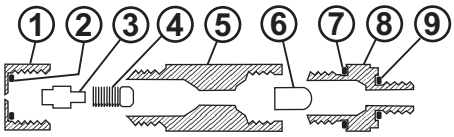
UGELLI NEBULIZZATORI e ACCESSORI
CLEANABLE NOZZLES and ACCESSORIES



HCN 10/24" Ugello ripulibile Noxide/acciaio inossidabile - HCN 10/24" type Noxide/S.Steel Nozzle
Testata e deflettore estraibile in acciaio inox per assicurare un ottima pulizia
With Stainless Steel head and impeller plate, which is able to be taken apart for cleaning
Con valvola antigoccia e filtro da 25 micron - With anti-drip check valve and 25 micron filter

Cod.	Item No.	Orifice	Anti-drip type	
TC130159		0.15mm	EPDM	55
TC130209		0.20mm	EPDM	55
TC130309		0.30mm	EPDM	55
TC130409		0.40mm	EPDM	55
TC130509		0.50mm	EPDM	55

NOXIDE
Oxidation-Acids
Resistive coating

NEW

HCN 10/24" Ugello ripulibile completamente in acciaio inossidabile - HCN 10/24" type Stainless Nozzle
Testata e deflettore estraibile in acciaio inox per assicurare un ottima pulizia
With Stainless Steel head and impeller plate, which is able to be taken apart for cleaning
Con valvola antigoccia e filtro da 25 micron - With anti-drip check valve and 25 micron filter

Cod.	Item No.	Orifice	Anti-drip type	
TC140159		0.15mm	Viton	55
TC140209		0.20mm	Viton	55
TC140309		0.30mm	Viton	55
TC140409		0.40mm	Viton	55
TC140509		0.50mm	Viton	55

S.STEEL
Oxidation-Acids
Resistive metal

NEW

HCN Testina ugello in acciaio inossidabile - HCN type Stainless Steel Nozzle head ONLY
Con deflettore estraibile in acciaio inossidabile per assicurare un ottima pulizia - Senza valvola antigoccia
With stainless impeller plate, which is able to be taken apart for cleaning - Without anti-drip check valve

Cod.	Item No.	Orifice	Anti-drip type
TC240151		0.15mm	---
TC240201		0.20mm	---
TC240301		0.30mm	---
TC240401		0.40mm	---
TC240501		0.50mm	---

S.STEEL
Oxidation-Acids
Resistive metal

NEW

HCN spare parts - Parti di ricambio per ugelli serie HCN

Cod.	Item No.
TC200007	Molla calibrata x sistema antigoccia ugello - Antidrip nozzle spring
TC200010	O-Ring 10/24" NBR - O-Ring 10/24"
TC200012	Nozzle head O-Ring EPDM - O-Ring testina ugello

1-Testina 2- O-Ring 3-Pistoncino antigoccia 4-Molla antigoccia 5-Corpo 6-Filtro 7-O-Ring 8-Corpo 9-O-ring
1-Head 2-O-Ring 3-Anti-drip piston 4-Anti-drip spring 5-Body 6-Filter 7-O-Ring 8-Body 9-O-ring

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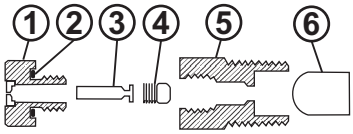
UGELLI NEBULIZZATORI e ACCESSORI
CLEANABLE NOZZLES and ACCESSORIES



TCN 1/8" NPT Ugello ripulibile Noxide/Inox - TCN 1/8" NPT type Noxide/S.Steel Nozzle
Con deflettore estraibile in acciaio inossidabile per assicurare un ottima pulizia
With stainless impeller plate, which is able to be taken apart for cleaning
Con valvola antigoccia e filtro da 60 micron - With anti-drip check valve and 60 micron filter

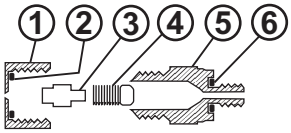
Cod.	Item No.	Orifice	Anti-drip type	
EC730154		0.15mm	EPDM	55
EC730204		0.20mm	EPDM	55
EC730304		0.30mm	EPDM	55
EC730404		0.40mm	EPDM	55
EC730504		0.50mm	EPDM	55

NOXIDE
Oxidation-Acids
Resistive coating

TCN 1/8" NPT Ugello ripulibile completamente in acciaio inox - TCN 1/8" NPT type S.Steel Nozzle
Con deflettore estraibile in acciaio inossidabile per assicurare un ottima pulizia
With stainless impeller plate, which is able to be taken apart for cleaning
Con valvola antigoccia e filtro da 60 micron - With anti-drip check valve and 60 micron filter

Cod.	Item No.	Orifice	Anti-drip type	
EC740154		0.15mm	Viton	55
EC740204		0.20mm	Viton	55
EC740304		0.30mm	Viton	55
EC740404		0.40mm	Viton	55
EC740504		0.50mm	Viton	55

S.STEEL
Oxidation-Acids
Resistive metal



UCN 10/24" Ugello ripulibile noxide/acciaio inossidabile - UCN 10/24" type Noxide/S.Steel Nozzle
Con deflettore estraibile e lavabile in acciaio inox - Con valvola antigoccia
With Stainless Steel impeller plate, which is able to be taken apart for cleaning - Anti-drip check valve
Senza filtro SERIE ECONOMY - Without filter - ECONOMY SERIES

Cod.	Item No.	Orifice	Anti-drip type	
TC030152		0.15mm	EPDM	55
TC030202		0.20mm	EPDM	55
TC030302		0.30mm	EPDM	55

NOXIDE
Oxidation-Acids
Resistive coating

NEW

Tappo esclusione ugello in ottone nichelato - Nickel-plated brass Nozzle Plug

Cod.	Item No.	Description
EC080007		*Brass Nozzle Plug
		*Filettatura - Thread No.: 10/24unc/2A

Tappo esclusione ugello in acciaio inox - S.Steel Nozzle Plug

Cod.	Item No.	Description
EC060007		*Stainless Steel Nozzle Plug
		*Filettatura - Thread No.: 10/24unc/2A

1-Testina 2-O-Ring 3-Pistoncino antigoccia 4-Molla antigoccia 5-Corpo 6-Filtro / 6-O-Ring
1-Head 2-O-ring 3-Anti-drip piston 4-Anti-drip spring 5-Body 6-Filter / 6-O-Ring

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Raccordi 3/8" ad innesto rapido e tubi linea POLYAMMIDE

Standard 3/8" Push-In fittings and tubing for POLYAMMIDE line

	Cod.	Description
	EC300001	Raccordo portaugello ad innesto 3/8" con 1 foro 10/24" 3/8" Fitting for nozzle 10/24"
	EC300002	Raccordo portaugelli per 2 ugelli da 10/24"ad innesto 3/8" 3/8" Fitting for 2 nozzles 10/24"
	EC300003	Raccordo unione ad innesto 3/8" 3/8" tube coupling
	EC300013	Raccordo portaugello ad innesto di fine linea 3/8" End Fitting for 1 nozzle
	EC300004	Raccordo a Tee ad innesto 3/8" 3/8" T Fitting
	EC300005	Raccordo curva 90 ad innesto 3/8" 3/8" L Fitting
	EC300026	Raccordo inizio 3/8" tubo x 1/4" BSP 1/4" BSP male connector for 3/8" tube
	EC300010	Adattatore Tubo-Ugello tubo 3/8"-ugello 10/24" 3/8" tube to nozzle adaptor
	EC300009	Tappo di fine linea da 3/8" 3/8" end plug
	EC400009	Valvola a sfera di intercettazione con raccordi innesto 3/8 " - 80 bar On/Off slip lock Valve - 1150 psi

NOXIDE
Oxidation-Acids
Resistive coating

	Cod.	Description
	EC400021	Tubo alta pressione PA-RIGID 3/8" in rotolo 25 mt. - BIANCO 3/8" nylon tubing in coil form 25 mt. PA-RIGID - WHITE
	EC400022	Tubo alta pressione PA-RIGID pretagliata 80 cm - BIANCO 80 cm length nylon straight tubing 3/8" PA-RIGID - WHITE
	EC400027	Graffa fissatubo da 3/8"in acciaio con guarnizione BIANCA Clamp for 3/8" tubing WHITE
	EC400001	Tubo alta pressione PA-RIGID 3/8" in rotolo 25 mt. - NERO 3/8" nylon tubing in coil form 25 mt. PA-RIGID - BLACK
	EC400004	Tubo alta pressione PA-RIGID 3/8" in rotolo 50 mt. - NERO 3/8" nylon tubing in coil form 50 mt. PA-RIGID - BLACK
	EC400003	Tubo alta pressione PA-RIGID 3/8" in rotolo 100 mt. - NERO 3/8" nylon tubing in coil form 100 mt. PA-RIGID - BLACK
	EC400002	Tubo alta pressione PA-RIGID pretagliata 80 cm - NERO 80 cm length nylon straight tubing 3/8" PA-RIGID - BLACK
	EC400007	Graffa fissatubo da 3/8"in acciaio con guarnizione - NERA Clamp for 3/8" tubing - BLACK
	EC400010	Pinza tagliatubi in metallo per tubi fino a 1/2" High quality tubing cutter

- 3/8" tubing = Ø 9,52 mm
- Pressione nominale - Operating pressure: 100 bar (1450 psi)
- Pressione max. consentita - Max allowed pressure: 130 bar (1890 psi)
- Max. misting line lenght - Lunghezza massima linea: 90 m (300 Ft)
- Max. flow rate - Portata massima linea: 11 l/min (2.9 Gpm)

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ACCESSORI e RICAMBI
ACCESSORIES and SPARE PARTS

	Cod.	Description
	**EC309002**	Connettore per bobina elettrovalvola tipo C1 Solenoid coil plug C1 version
	**EC309006**	Connettore per bobina elettrovalvola tipo C4 Solenoid coil plug C4 version
	**EC309007**	Elettrovalvola alta pressione NC High pressure solenoid valve NC F1/4" F1/4 230V50Hz 80 BAR
	**EC309005**	Elettrovalvola alta pressione NC High pressure solenoid valve NC F3/8" F3/8" 230V50Hz 100 BAR
	**EC309004**	Elettrovalvola alta pressione NA High pressure solenoid valve NO F1/4" F1/4" 230V50Hz 60 BAR
	**EC309001**	Elettrovalvola bassa pressione NC Low pressure solenoid valve NC F3/8" F3/8" 230V50Hz 16 BAR
	**EC309022**	Elettrovalvola alta pressione NC High pressure solenoid valve NC F1/4" F1/4 24V AC 80 BAR
	**EC309021**	Elettrovalvola alta pressione NC High pressure solenoid valve NC F3/8" F3/8" 24V AC 100 BAR

	Cod.	Description
	**EC309020**	Valvola di non ritorno inox Stainless steel check valve F 1/4" F 1/4" 400 BAR
	**EC309003**	Pressostato inverso con Reset 230V 50Hz F 3/8" Pressure switch 230V 50Hz F 3/8"
	**EC500009**	Sistema filtrante alta pressione 1/4"F x 1/4"F High pressure filter 1/4"F x 1/4"F
	**EC400030**	Tubo flessibile 1/4" A.P. 8 m High pressure hose 1/4" 8 m F22X1,5 F1/4" brass / ottone
	**EC400031**	Tubo flessibile 3/16" A.P. 2,5 m High pressure hose 3/16" 2.5 m F1/4" F1/4" brass / ottone
	**EC309010**	Timer ciclico ON/OFF digitale Digital ON/OFF cyclic timer 230-115V 50-60Hz

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LINEA VENTILAZIONE
MIST COOLING FANS

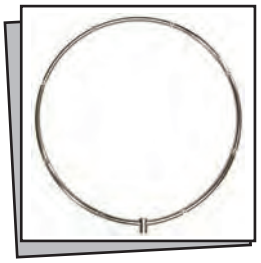
La ventilazione come diffusore per la nebulizzazione diventa un elemento indispensabile per sistemi in ambienti interni o semi-aperti, per locali pubblici quali bar, discoteche o ristoranti, per il noleggio o le grandi manifestazioni.

Ghiera portaugelli 4 fori d.32 cm - Misting ring 4 Holes d.32 cm

Cod.	Item No.	Descrizione	Description
EC600003	Ring 4	Ghiera portaugelli in acciaio inox 316 con 4 manicotti saldati filettatura 10/24" diam. 32 cm. per ventilatori da 45 cm con innesto F 1/4"	Aisi 316 s.steel misting ring 4 holes thread 10/24" dia. 32 cm. suitable for 45cm fans F 1/4" hose connection

Ghiera portaugelli 5 fori d.40 cm - Misting ring 5 Holes d.40 cm

Cod.	Item No.	Descrizione	Description
EC600004	Ring 5	Ghiera portaugelli in acciaio inox 316 con 5 manicotti saldati filettatura 10/24" diam. 40 cm. per ventilatori da 60 cm con innesto F 1/4"	Aisi 316 s.steel misting ring 5 holes thread 10/24" dia. 40 cm. suitable for 60cm fans F 1/4" hose connection



Ghiera portaugelli 8 fori d.47 cm - Misting ring 8 Holes d.47 cm

Cod.	Item No.	Descrizione	Description
EC600005	Ring 8-47	Ghiera portaugelli in acciaio inox 316 con 8 manicotti saldati filettatura 10/24" diam. 47 cm - per ventilatori 60-100 cm con innesto F 1/4"	Aisi 316 s.steel misting ring 8 holes thread 10/24" dia. 47 cm - suitable 60-100 cm. fans F 1/4" hose connection

Ghiera portaugelli 8 fori d.80 cm - Misting ring 8 Holes d.80 cm

Cod.	Item No.	Descrizione	Description
EC600006	Ring 8-80	Ghiera portaugelli in acciaio inox 316 con 8 manicotti saldati filettatura 10/24" diam. 80 cm - per ventilatori 100-140 cm con innesto F 1/4"	Aisi 316 s.steel misting ring 8 holes thread 10/24" dia. 80 cm - suitable FOR 100-140 cm. fans F 1/4" hose connection

Misting fans are the best solution for open areas, to provide air flow and cooling with the best efficiency. The two integrated systems, ventilation and misting, together ensure the best result against the high levels of relative humidity in the hot seasons.

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LINEA VENTILAZIONE
MIST COOLING FANS

La fusione tra ventilazione e nebulizzazione offre la soluzione più potente ed il migliore risultato per il sistema di rinfrescamento specialmente in caso di alti livelli di umidità relativa.

Ventilatore industriale per montaggio a parete - Heavy duty Wall Mounting fan

Cod.	Descrizione	Description
EC600051	EC600051 - 230V 50Hz	EC600051 - 230V 50Hz
	Ventilatore assiale 45 cm a 3 velocità	3 speed axial mist cooling fan - dia. 45 cm
	montaggio a parete con staffa di fissaggio	wall mounting - standard bracket included
	con brandeggio 90°	90° luffing
	adatto per uso interno (motore ventilato)	suitable for indoor use (open type motor)
	Velocità aria 200 m/min	Air speed 200 mt/min
	Portata 6.400 m3/h	Air flow 6,400 m3/h
	Emissione acustica: 43 dB(A)	Background noise level: 43 dB(A)
	Potenza: 75W (0.34 A)	Power: 75W (0.34 Amps)

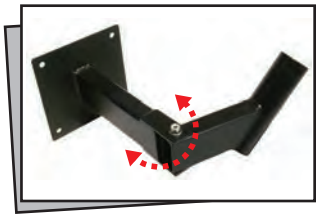
NEW

NEW! Disponibili dall'estate 2012

NEW! Available from summer 2012

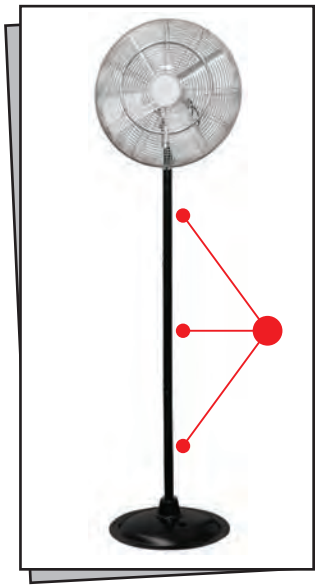
Ventilatore industriale per montaggio a parete - Heavy duty Wall Mounting fan

Cod.	Descrizione	Description
EC600001	EC600001 - 230V 50Hz	EC600001 - 230V 50Hz
	Ventilatore assiale 60 cm a 3 velocità	3 speed axial mist cooling fan - dia. 60 cm
	montaggio a parete con staffa di fissaggio	wall mounting - standard bracket included
	con brandeggio 90°	90° luffing
	Velocità aria 507 mt/min	Air speed 507 mt/min
	Portata 12.500 m3/h	Air flow 12,500 m3/h
	Emissione acustica: 42.2 dB(A)	Background noise level: 42.2 dB(A)
	Potenza: 167W (0.72 A)	Power: 167W (0.72 Amps)



Staffa orientabile per ventilatore EC600001 - Adjustable Tilting Wall Mount Bracket for EC600001 fan

Cod.	Descrizione	Description
EC600008	Staffa per montaggio a parete	Wall mount bracket
	con braccio orientabile di 180°	with 180° adjustable arm
	adatta al posizionamento in angolo	suitable for angle mounting



Piedistallo in 3 pz. per ventilatore EC600001 - 3 pcs. pedestal for EC600001 fan

Cod.	Descrizione - Description
EC600002	In 3 pz. - Altezza massima 175 cm.
	3 pcs. max. height 175 cm.

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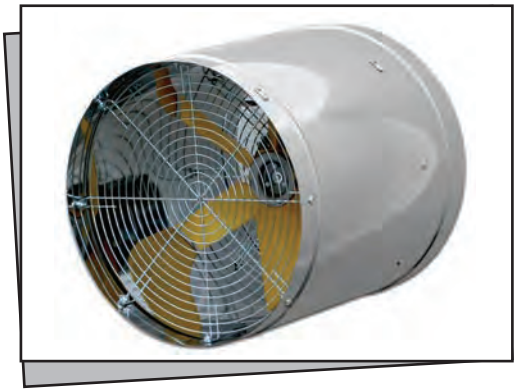
LINEA VENTILAZIONE
MIST COOLING FANS

Per la climatizzazione di grandi ambienti, i sistemi di nebulizzazione industriali offrono enormi vantaggi grazie alle elevate prestazioni ed ai consumi ridotti, se paragonati ai sistemi tradizionali.

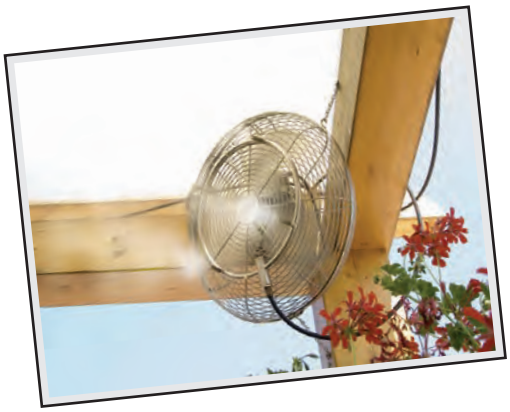
Ventilatore industriale a sospensione - Heavy duty Hanger fan

Cod.	Descrizione	Description
EC600050	EC600050 - 230V 50Hz	EC600050 - 230V 50Hz
	Ventilatore assiale 45 cm a 3 velocità	3 speed axial mist cooling fan - dia. 45 cm
	per montaggio in sospensione	roof mountig - non-osclillating
	senza oscillazione con accessori per fissaggio	mounting accessories included
	Velocità aria 200 mt/min	Air speed 200 mt/min
	Portata 6.500 m3/h	Air flow 6,500 m3/h
	Emissione acustica: 42.2 dB(A)	Background noise level: 42.2 dB(A)
	Potenza: 75W (0.34 A)	Power: 75W (0.34 Amps)



Ventilatore industriale a sospensione - Heavy duty Hanger fan

Cod.	Descrizione	Description
TC600140	TC600140 - 400V 50Hz	TC600140 - 400V 50Hz
	Ventilatore tubolare 47 cm	47 cm drum fan
	per montaggio in sospensione	roof mountig - non-osclillating
	in acciaio inox, pale in plastica	s.steel body - plastic blades
	Velocità aria 300 m/min	Air speed 300 m/min
	Portata 7000 m3/h	Air flow 7000 m3/h
	Emissione acustica: 56 dB(A)	Background noise level: 56 dB(A)
	Potenza: 250W (0.6 A) - 960 RPM	Power: 250W (0.6 Amps) - 960 RPM



Heavy duty misting fans offer great benefits in industrial indoor cooling thanks to high performances and low energy consumption, if compared to standard air conditioning systems.

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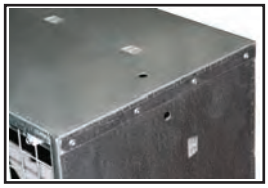
LINEA VENTILAZIONE
MIST COOLING FANS

Industrial and farm installations
Installazioni industriali ed allevamenti

Housing detail
Dettaglio del telaio

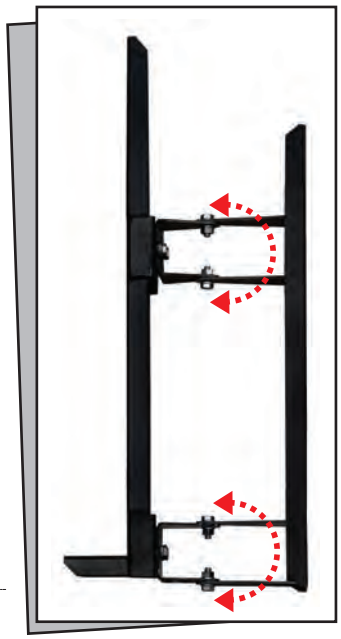


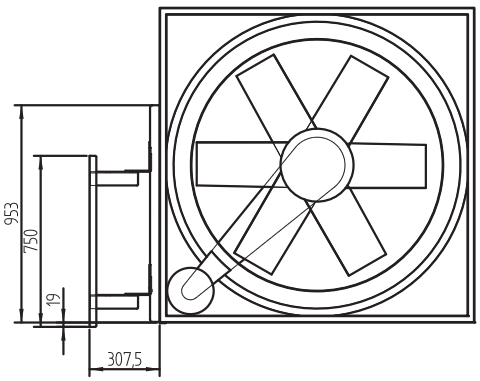
Staffa fissaggio ventilatore industriale
Wall mount bracket for box fan

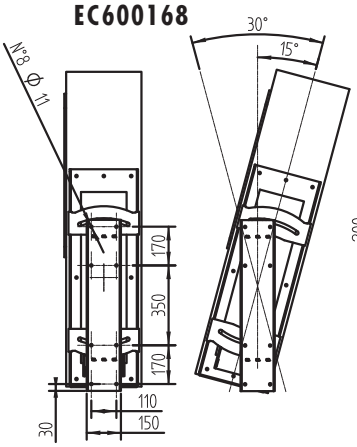
Descrizione
Description

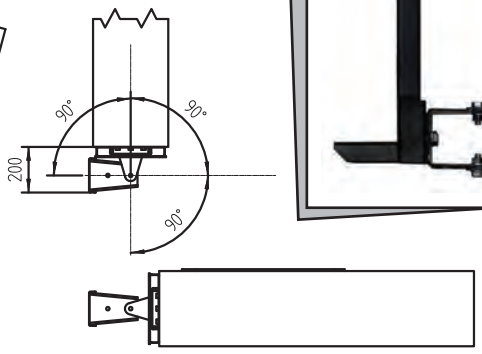
Staffa per montaggio a parete ventilatore industriale con supporto orientabile di 180° ed inclinabile.
Wall mount bracket for box fan with 180° adjustable arm and tilting.

Cod.
EC600168









TECNOCOOLING Systems
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EUROJET

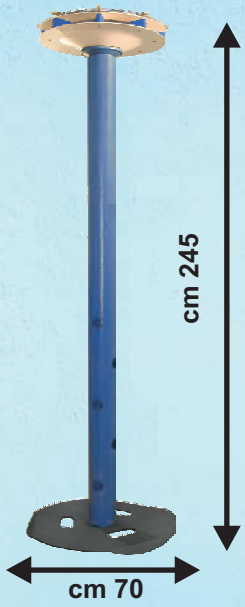
A revolutionary cooling and humidification system for large outdoor and indoor areas.

Eurojet has been developed and realized by technical experts and industrial designers to guarantee the best cooling of outdoor areas in hot ambient temperatures and excellent humidification for industrial applications.

The system is combination of ventilation and fogging.
Eurojet systems operate by the physical principle of evaporative cooling, creating a thin fog.
Double filtered 1 - 5 micron water is pressurized at 70 bar and distributed along pressure pipes, then sprayed through special patented high pressure nozzles as an extra thin mist.
Billions of smaller than 10 micron droplets will refresh the atmosphere.

This fog in ambient hot air will dry off, lowering heat, reducing temperature of even 10 - 15 °C of ambient temperature.

Eurojet is a noiseless system, italian design, efficient and elegant which matches with the most modern architecture designs.



TECHNICAL FEATURES

- **Fan:** Radial 360
- **Voltage:** 230V
- **Current:** 50/60 Hz
- **Flow rate:** 530 m3/h
- **Speed:** 1410 RPM
- **Power:** 55 Watt
- **Dimensions:** 560 mm x180 mm (EC600061)
- **Dimensions:** 700 mm x2450 mm (EC600062)
- **Nozzle qty.:** 8
- **Area coverage:** 35 m2
- **Material:** Aluminum

Aluminium epossidyc painted column

USES

Amusement parks, playgrounds, coffeeshops, bars, open air restaurants, hotels, recreation parks, shopping centers, sport resorts, golf clubs, zoos, pools, concerts discoteques, parties, cerimonies...
Humidification system for wine cellars, textile industry, food industry and many other applications.

Eurojet can be installed on a column or hanging up to the ceiling

Code Codice	Description Descrizione	Price Prezzo € Euro
EC600061	EUROJET ceiling mist fan	-
EC600062	EUROJET mist fan with 245 cm. pedestal	-

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PREMIUM series

for systems from 4 up to 75 fogging nozzles

These professional high pressure pumps offer the best solution for small and medium fogging systems with flow rates from 0,6 up to 6 liters/min. driven by single-phase motors.

High quality components ensure a long lasting operation.

Premium Series are designed to satisfy all requirements in small and economical misting systems, with same performances and quality standards of a heavy-duty professional high pressure pump.

Premium

Dimensions: l. 400 w. 300 h. 270 mm
Weight: 20 Kg.

TECHNICAL FEATURES

- professional high pressure pump
- operating pressure: 70 bar
- 3 ceramic pistons, brass head
- pressure regulating valve, built-in by pass,
- glycerine filled pressure gauge
- in line mounted solenoid valve 230V-50Hz
- industrial electrical motor with thermal overload 230V 1450 RPM, 2.2 HP air cooled
- ON-OFF switch
- pressure switch to prevent dry running
- weather proof painted steel cover and frame on antivibrating rubber feet
- manufactured in compliance with CE regulations
- noise level: 60 dB(A) (average)

QES Quiet Engine System

QES: units supplied with QES low noise motors (Quiet Engine System) are peculiarly preferred in resorts, swimming pools, bars, restaurants, hotels, where noise may disturb your guests.

Premium 1450 rpm										
Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli * Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307025	70	1000	0,6	0.16	440	2.5	1450	230	4 - 7	-
EC307020	70	1000	1	0.26	550	2.8	1450	230	8 - 12	-
EC307021	70	1000	2	0.53	680	3.1	1450	230	15 - 25	-
EC307022	70	1000	3	0.78	815	3.7	1450	230	25 - 40	-
EC307023	70	1000	4	1.06	900	4.1	1450	230	40 - 50	-
EC307024	70	1000	6	1.59	1250	5.7	1450	230	50 - 75	-

* 0.20 mm / 0.008" Nozzles

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PREMIUM "TIME" series

for systems from 4 up to 75 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 1 up to 6 l/min with single phase electric motor.
All the components used in Premium series include high quality and best materials assuring troubleless operation and long durability. Our built-in digital timer offers full control of the efficiency of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
This pump is suitable for small and medium humidification systems thanks to the special programming of the built-in timer that allows you to set work cycles in seconds and pause cycles in minutes.
QES electrical motors assure the full efficiency with lowest power consumption and low noise operation.
Heavy-duty pumps at most competitive prices.

Premium Time

Dimensions: l. 490 w. 410 h. 300 mm
Weight: 22-25 Kg according to model

TECHNICAL FEATURES

- professional high pressure pump, brass head
- working pressure 70 bar
- 3 heavy duty ceramic coated plungers
- pressure regulating valve, built-in bypass
- glycerin filled pressure gauge
- 1 in line mounted solenoid valve 230V-50Hz
- 1 solenoid drain valve 230V-50Hz
- heavy duty industrial motor, single phase 2.0 HP, 1450 RPM, self ventilated
- thermal overload protection
- ON-OFF switch
- 3 functions cyclic digital timer
- wheatherproof steel skid cover on antivibration rubber feet
- S.STEEL housing on request (optional)
- manufactured in compliance with CE regulations
- noise level: 60 dB(A) (average)

Default Timer settings:
- WORK: seconds
- PAUSE: minutes (motor OFF)

The best solution for humidification!

QES: units supplied with QES low noise motors (Quiet Engine System) are peculiarly preferred in resorts, swimming pools, bars, restaurants, hotels, where noise may disturb your guests.

TIME: all units supplied with digital timer allow to modulate the operation of the system, regulating the mist spray according to day–night cycles and therefore saving energy and water, obtaining an optimal ambient temperature.

Premium-Time 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli* Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307041	70	1000	1	0.26	550	2.8	1450	230	8 - 12	-
EC307042	70	1000	2	0.53	680	3.1	1450	230	15 - 25	-
EC307043	70	1000	3	0.78	815	3.7	1450	230	25 - 40	-
EC307044	70	1000	4	1.06	900	4.1	1450	230	40 - 50	-
EC307045	70	1000	6	1.59	1250	5.7	1450	230	50 - 75	-

* 0.20 mm / 0.008" Nozzles

TIME Energy Saver Timer

QES Quiet Engine System

TECNOCOOLING Systems
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EVOLUTION series

for systems from 4 up to 75 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 0,6 up to 6 l./min. with single phase electric motor.

All the components used in Evolution range include high quality and best components assuring troubleless operation and long durability.

Our patented BPS cooling system prevents overheating and allows pump heavy-duty operation.

Evolution

Dimensions: l. 490 w. 410 h. 300 mm
Weight: 22 - 25 Kg according to model

TECHNICAL FEATURES

- professional high pressure pump, brass head
- working pressure 70 bar
- 3 heavy duty ceramic coated plungers
- variable flow rate, built-in bypass
- safety valve
- glycerin filled pressure gauge
- in line mounted solenoid valve 230V-50Hz
- heavy duty industrial motor, single phase 2,0 HP, 1450 RPM, self ventilated
- thermal overload protection
- ON-OFF switch
- pressure switch to protect pump against dry running
- wheatherproof steel skid cover on anti-vibration rubber feet
- manufactured in compliance with CE regulations
- noise level: 60 dB(A) (average)

QES: units supplied with QES low noise motors (Quiet Engine System) are peculiarly preferred in resorts, swimming pools, bars, restaurants, hotels, where noise may disturb your guests.

BPS: all units are equipped with By-Pass System (built-in by-pass valve), recirculating the water inside the pump, preventing from pump overheat. Fog systems driven by BPS fog pumps do not require any drain valves to empty the pipe so that no water is wasted on the ground.

Evolution 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli * Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307037	70	1000	0,6	0.16	440	2.5	1450	230	4 - 7	-
EC307036	70	1000	1	0.26	550	2.8	1450	230	8 - 12	-
EC307030	70	1000	2,5	0.66	720	3.3	1450	230	20 - 30	-
EC307038	70	1000	3	0.78	815	3.7	1450	230	30 - 40	-
EC307031	70	1000	4	1.06	900	4.1	1450	230	40 - 50	-
EC307032	70	1000	6	1.59	1250	5.7	1450	230	50 - 75	-

QES Quiet Engine System

BPS Water Cooled Pump

* 0.20 mm / 0.008" Nozzles

TECNOCOOLING Systems
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EVOLUTION "TIME" series

for systems from 4 up to 75 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 0.6 up to 6 l/min with single phase electric motor.
All the components used in Evolution series include high quality and best materials assuring troubleless operation and long durability. Our built-in digital timer offers full control of the efficiency of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
QES electrical motors assure the full efficiency with lowest power consumption and low noise operation. QES units are the best solution for applications where noise is a matter of disturb.
Heavy-duty pumps at most competitive prices.

Evolution Time

Dimensions: l. 490 w. 410 h. 300 mm
Weight: 22-25 Kg according to model

TECHNICAL FEATURES

- professional high pressure pump, brass head
- working pressure 70 bar
- 3 heavy duty ceramic coated plungers
- variable flow rate, built-in bypass
- safety valve
- glycerin filled pressure gauge
- 2 in line mounted solenoid 230V-50Hz
- heavy duty industrial motor, single phase 2,0 HP, 1450 RPM, self ventilated
- thermal overload protection
- ON-OFF switch
- 3 functions cyclic digital timer
- pressure switch to protect pump against dry running
- wheatherproof steel skid cover on anti-vibration rubber feet
- manufactured in compliance with CE regulations
- noise level: 60 dB(A) (average)

QES: units supplied with QES low noise motors (Quiet Engine System) are peculiarly preferred in resorts, swimming pools, bars, restaurants, hotels, where noise may disturb your guests.

TIME: all units supplied with digital timer allow to modulate the operation of the system, regulating the mist spray according to day–night cycles and therefore saving energy and water, obtaining an optimal ambient temperature.

BPS: all units are equipped with By-Pass System (built-in by-pass valve), recirculating the water inside the pump, preventing from pump overheat. Fog systems driven by BPS fog pumps do not require any drain valves to empty the pipe so that no water is wasted on the ground.

Evolution-Time 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli* Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307057	70	1000	0,6	0.16	440	2.5	1450	230	4 - 7	-
EC307056	70	1000	1	0.26	550	2.8	1450	230	8 - 12	-
EC307050	70	1000	2,5	0.66	720	3.3	1450	230	20 - 30	-
EC307058	70	1000	3	0.78	815	3.7	1450	230	30 - 40	-
EC307051	70	1000	4	1.06	900	4.1	1450	230	40 - 50	-
EC307052	70	1000	6	1.59	1250	5.7	1450	230	50 - 75	-

* 0.20 mm / 0.008" Nozzles

TIME Energy Saver Timer

QES Quiet Engine System

BPS Water Cooled Pump

TECNOCOOLING Systems
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EVOLUTION "TIME" KEM series

for systems from 4 up to 75 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems for **dust and odor suppression** or **sanitizing by chemicals spreading**.
Pump parts are made by oxidation resistive materials like **Nickel, Brass, Stainless Steel, Alluminium, Viton**, assuring troubleless operation and long durability. Our **built-in digital timer** offers full control of the efficiency of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70%.
QES electrical motors assure the full efficiency with lowest power consumption and low noise operation. QES units are the best solution for applications where noise is a matter of disturb.
Flow rates ranging from 0,6 to 6 l/min, single-phase electric motor.

Evolution Time KEM

Dimensions: l. 490 w. 410 h. 300 mm
Weight: 22-25 Kg according to model

TECHNICAL FEATURES

- professional high pressure pump, nickel head
- Viton® seals
- 3 heavy duty ceramic coated plungers
- working pressure 70 bar
- variable flow rate, built-in bypass
- safety valve
- glycerin filled pressure gauge
- 2 in line mounted solenoid 230V-50Hz
- heavy duty industrial motor, single phase 2.0 HP, 1450 RPM, self ventilated
- ON-OFF switch and thermal overload protection
- 3 functions programmable cyclic digital timer
- wheatherproof steel skid cover on antivibration rubber feet
- pressure switch to protect pump against dry running
- manufactured in compliance with CE regulations
- noise level: 60 dB(A) (average)

Oxidation/Chemical resistive:
- NICKEL pump head
- VITON seals

The best in DUST & ODOR suppression

QES: units supplied with QES low noise motors (Quiet Engine System) are peculiarly preferred in resorts, swimming pools, bars, restaurants, hotels, where noise may disturb your guests.

TIME: all units supplied with digital timer allow to modulate the operation of the system, regulating the mist spray according to day–night cycles and therefore saving energy and water, obtaining an optimal ambient temperature.

BPS: all units are equipped with By-Pass System (built-in by-pass valve), recirculating the water inside the pump, preventing from pump overheat. Fog systems driven by BPS fog pumps do not require any drain valves to empty the pipe so that no water is wasted on the ground.

Evolution-Time 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli * Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC308057	70	1000	0,6	0.16	440	2.0	1450	230	4 - 7	-
EC308056	70	1000	1	0.26	550	2.5	1450	230	8 - 12	-
EC308050	70	1000	2,5	0.66	720	3.3	1450	230	20 - 30	-
EC308058	70	1000	3	0.78	815	3.7	1450	230	30 - 40	-
EC308051	70	1000	4	1.06	900	4.1	1450	230	40 - 50	-
EC308052	70	1000	6	1.59	1250	5.7	1450	230	50 - 75	-

* Ugelli da 0.20 mm (0.008" Nozzles)

TIME Energy Saver Timer

QES Quiet Engine System

BPS Water Cooled Pump

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PROFESSIONAL series

for systems from 75 up to 150 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 8 up to 12 liters/min. with single-phase or three-phase electric motor.
All the components used in professional range include high quality and best materials assuring troubleless operation and long durability.
Our built-in digital cyclic timer ("Time" versions only) offers the full control of the fogging system by direct adjustment of the frequence of mist spray, increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
Our patented BPS cooling system prevents overheating and allows pump heavy-duty operation.

Professional Time HW

Professional HW

TECHNICAL FEATURES

- **triplex high pressure crankshaft pump**
- **3 ceramic plungers, brass head**
- **working pressure: 70 bar**
- **pressure regulating valve, built-in bypass**
- **safety valve**
- **glycerin filled pressure gauge**
- **in line mounted solenoid valve 230V-50Hz**
- **heavy duty industrial motor with thermal overload single-phase 230V or three-phase 400V, 3.0 HP, 1450 RPM, self ventilated**
- **ON-OFF switch**
- **cyclic digital timer (Professional Time HW only)**
- **pressure switch to protect pump against dry running**
- **weatherproof steel skid cover on antivibration rubber feet**
- **manufactured in compliance with CE regulations**

Dimensions: l. 525 w. 450 h. 310 mm
Weight: 35- 40 Kg according to model

TIME: all units supplied with digital timer allow to modulate the operation of the system, regulating the mist spray according to day–night cycles and therefore saving energy and water, obtaining an optimal ambient temperature.

BPS: all units are equipped with By-Pass System (built-in by-pass valve), recirculating the water inside the pump, preventing from pump overheat. Fog systems driven by BPS fog pumps do not require any drain valves to empty the pipe so that no water is wasted on the ground.

Professional HW 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli * Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307133	70	1000	8	2.11	1800	8.6	1450	230	75 - 100	-
EC307134	70	1000	10	2.64	2050	10.6	1450	230	100 - 125	-
EC307135	70	1000	12	3.17	2200	5.8	1450	400	125 - 150	-

Professional TIME HW 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli * Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307153	70	1000	8	2.11	1800	8.6	1450	230	75 - 100	-
EC307154	70	1000	10	2.64	2050	10.6	1450	230	100 - 125	-
EC307155	70	1000	12	3.17	2200	5.8	1450	400	125 - 150	-

BPS Water Cooled Pump

TIME Energy Saver Timer

* Ugelli da 0.20 mm (0.008" Nozzles)

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Gruppi pompa serie GM-FOG

per sistemi da 150 a 260 ugelli nebulizzatori

Questa serie di pompe professionali rappresenta la soluzione ideale per la realizzazione di grandi sistemi di nebulizzazione con portate da 15 a 21 l./min, con motore elettrico trifase.
Il temporizzatore ciclico digitale, integrato sulle versioni "Time" permette di dosare l'intensità dell'effetto nebulizzante gestendo al meglio il rendimento dell'impianto con notevoli benefici sui consumi e risparmi fino al 70%. Sistemi di ottima qualità e alta tecnologia ai prezzi più competitivi.

GM-Fog

Dimensioni : l. 850 x p. 410 x h. 510 mm
Peso: 80 - 90 Kg. in base al modello

Dimensions: l. 850 w. 410 h. 510 mm
Weight: 80- 90 Kg. according to model

GM-FOG series

for systems from 150 up to 260 fogging nozzles

These series of professional high pressure pumps are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 15 up to 21 l./min. with three-phase electric motor.
Our built-in digital cyclic timer ("Time" versions only) offers the full efficiency control of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
Best quality at most competitive prices.

CARATTERISTICHE TECNICHE

- gruppo pompa professionale con testata ottone
- meccanismo a 3 pistoni con rivestimento ceramico ad alta resistenza
- accoppiamento pompa-motore con giunto elastico
- pressione di lavoro: 70 bar
- sistema a portata variabile con elettrovalvola e by-pass interno (BPS)
- valvola di sicurezza
- manometro in glicerina
- elettrovalvola alta pressione in linea, 230V-50Hz (GM-FOG Time)
- motore industriale trifase 5.5-7.5 HP, a 1450 RPM autoventilato
- protezione termica
- interruttore ON/OFF
- temporizzatore ciclico digitale (GM-FOG Time)
- sensore di livello per prevenzione da funzionamento a secco
- carter chiuso in acciaio inox
- costruito in conformità alle normative CE

TECHNICAL FEATURES

- triplex high pressure heavy-duty crankshaft pump
- 3 ceramic plungers, brass head
- bride with flexible coupling
- working pressure: 70 bar
- pressure regulating valve, built-in bypass with solenoid valve (BPS)
- safety valve
- glycerin filled pressure gauge
- in line mounted high pressure solenoid valve 230V-50Hz
- heavy duty industrial motor with thermal overload three-phase 5.5-7.5 HP, 1450 RPM, self ventilated
- ON-OFF switch
- cyclic digital timer (GM-FOG Time)
- pressure switch to protect pump against dry running
- weatherproof s.steel skid cover on antivibration rubber feet
- manufactured in compliance with CE regulations

GM-FOG 1450 rpm

Code / Codice	Pressure / Pressione		Output / Portata		Power / Potenza		RPM	Volt	Ugelli * / Nozzles *	Price / Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307015	70	1000	15	3.96	2100	5.5	1450	400	150 - 190	-
EC307017	70	1000	18	4.75	2660	7.0	1450	400	190 - 230	-
EC307018	70	1000	21	5.54	3250	8.5	1450	400	230 - 260	-

GM-FOG TIME 1450 rpm

Code / Codice	Pressure / Pressione		Output / Portata		Power / Potenza		RPM	Volt	Ugelli * / Nozzles *	Price / Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC307077	70	1000	15	3.96	2100	5.5	1450	400	150 - 190	-
EC307078	70	1000	18	4.75	2660	7.0	1450	400	190 - 230	-
EC307079	70	1000	21	5.54	3250	8.5	1450	400	230 - 260	-

S.Steel frame/cover
Carter in acciaio Inox

BPS Water Cooled Pump

TIME Energy Saver Timer

* Ugelli da 0.20 mm (0.008" Nozzles)

TECNOCOOLING Systems
Via Canale 114 Loc. Villalunga - 42013 CASALGRANDE (RE) - ITALY
Tel. 0039 0522840805 Fax. 0039 0522849962 - www.tecnocooling.com - E-Mail: info@tecnocooling.com

Serie EVOLUTION TIME "LSP"

per sistemi da 5 a 30 ugelli nebulizzatori

Questa serie di **pompe professionali** rappresenta la soluzione ideale per la realizzazione di sistemi di nebulizzazione con portata fino a 2,5 l./min, con **alimentazione elettrica monofase**.
Il **temporizzatore ciclico digitale**, integrato sulle versioni "Time" permette di dosare l'intensità dell'effetto nebulizzante gestendo al meglio il rendimento dell'impianto con notevoli benefici sui consumi e risparmi fino al 70%. Il sistema LSP con **motore a 700 giri/min** consente un range di portata da 0,6 a 2,5 l/min, **minor usura e rumorosità ridotta** ai minimi livelli.


Evolution Time LSP

EVOLUTION TIME "LSP" series

for systems from 5 up to 30 fogging nozzles

These series of **professional high pressure pumps** are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates up to 2.5 l./min. with **single-phase power supply**.
Our built-in **digital cyclic timer** ("Time" versions only) offers the full efficiency control of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
LSP system with 700 RPMS motor allows **very low noise** and **longer pump lifetime**.

Dimensioni - Dimensions:
l. 490 x p. 410 x h. 300 mm
Peso - Weight:
25 - 28 Kg. in base al modello
25 - 28 Kg. according to model

BPS Water Cooled Pump

LSP Low Speed Motor

TIME Energy Saver Timer

CARATTERISTICHE TECNICHE

- gruppo pompa professionale con testata ottone
- pressione di lavoro: 70 bar
- meccanismo a 3 pistoni con rivestimento ceramico ad alta resistenza
- sistema a portata variabile con elettrovalvola e by-pass interno (BPS)
- valvola di sicurezza
- manometro in glicerina
- elettrovalvola alta pressione in linea, 230V-50Hz
- motore industriale trifase 2,0 HP, 700 RPM autoventilato
- protezione termica
- interruttore ON/OFF
- temporizzatore ciclico digitale a 3 funzioni
- pressostato salva macchina per prevenzione da funzionamento a secco
- inverter da 1.5 kW monofase-trifase - Soft start
- carter chiuso in metallo weatherproof con piedi antivibrazione in gomma
- costruito in conformità alle normative CE
- basso livello di rumososità: 50 dB(A)

TECHNICAL FEATURES

- professional high pressure pump, brass head
- working pressure 70 bar
- 3 heavy duty ceramic coated plungers
- pressure regulating valve, built-in bypass with solenoid valve (BPS)
- safety valve
- glycerin filled pressure gauge
- in line mounted high pressure solenoid valve 230V-50Hz
- heavy duty el. motor, three phase 2.0 HP, 700 RPM, self ventilated
- thermal overload protection
- ON-OFF switch
- 3 functions cyclic digital timer
- pressure switch to protect pump against dry running
- equipped with 1.5 kW single-ph to three-ph inverter - Soft start
- wheatherproof steel skid cover on antivibration rubber feet
- manufactured in compliance with CE regulations
- noise level: 50 dB(A) (average)

Evolution TIME LSP 700 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli* Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC308086	70	1000	2.5	0.66	720	3.3	700	230	5 - 30	-

* Ugelli da 0.20 mm (0.008" Nozzles)

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Serie EVOLUTION TIME "VAR"

per sistemi da 10 a 60 ugelli nebulizzatori

Questa serie di **pompe professionali** rappresenta la soluzione ideale per la realizzazione di sistemi di nebulizzazione con portate da 1 a 5 litri/min, con **alimentazione elettrica monofase**.
Il **temporizzatore ciclico digitale**, integrato sulle versioni "Time" permette di dosare l'intensità dell'effetto nebulizzante gestendo al meglio il rendimento dell'impianto con notevoli benefici sui consumi e risparmi fino al 70%. Il sistema di **variazione automatica della portata** permette di gestire linee di nebulizzazione indipendenti.

Evolution Time VAR

EVOLUTION TIME "VAR" series

for systems from 10 up to 60 fogging nozzles

These series of **professional high pressure pumps** are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 1 up to 5 liters/min. with **single-phase power supply**.
Our built-in **digital cyclic timer** ("Time" versions only) offers the full efficiency control of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
Variable-speed motor allow to build independent misting lines/areas.

Dimensioni - Dimensions:
l. 650 x p. 440 x h. 340 mm
Peso - Weight:
30 - 35 Kg. in base al modello
30 - 35 Kg. according to model

BPS Water Cooled Pump

VAR Variable Flow Rate

TIME Energy Saver Timer

CARATTERISTICHE TECNICHE

- gruppo pompa professionale con testata ottone
- meccanismo a 3 pistoni con rivestimento ceramico ad alta resistenza
- pressione di lavoro: 70 bar
- by-pass con riciclo e scarico linea interno (BPS)
- valvola di sicurezza
- manometro in glicerina
- elettrovalvola alta pressione in linea, 230V-50Hz
- motore industriale trifase 2 HP, a 300-1450 RPM ventilato
- protezione termica
- interruttore ON/OFF
- temporizzatore ciclico digitale
- carter chiuso in metallo weatherproof con piedi antivibrazione in gomma
- inverter da 1.5 kW monofase-trifase - Soft start
- basso livello di emissioni acustiche
- variazione automatica della portata
- possibilità di gestire settori di nebulizzazione indipendenti
- spegnimento automatico se tutte le linee sono chiuse
- spegnimento automatico per mancanza acqua
- spegnimento automatico in caso di perdita e guasti alle tubazioni
- accensione automatica quando almeno una linea viene aperta
- spegnimento automatico se il motore surriscalda
- costruita in conformità alle normative CE

TECHNICAL FEATURES

- heavy-duty high pressure pump
- 3 ceramic plungers, brass head
- working pressure: 70 bar
- built-in bypass and drain with water tank (BPS)
- safety valve
- glycerin filled pressure gauge
- in line mounted high pressure solenoid valve 230V-50Hz
- heavy duty ventilated industrial motor three-phase 2 HP, 300-1450 RPM
- ON-OFF switch
- cyclic digital timer
- weatherproof s.steel skid cover on antivibration rubber feet
- equipped with 1.5 kW single-ph to three-ph inverter - Soft start
- low noise
- automatic variable flow rate
- can operate several nozzle lines
- automatic switch-off if all line are closed
- automatic switch-off if dry running is detected
- automatic switch-off if no pressure (leakage) is detected
- automatic switch-on if at least one line is opened
- automatic switch-off if motor overheats
- manufactured in compliance with CE regulations

EVOLUTION TIME VAR 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Max. Power Potenza max.		RPM	Volt	Ugelli* Nozzles *	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC308085	70	1000	1-5	0.2-1.3	1000	5	1450	230	10 - 60	-

* Ugelli da 0.20 mm (0.008" Nozzles)

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Gruppi pompa serie GM-FOG VAR

per sistemi da 75 a 230 ugelli nebulizzatori

Questa serie di **pompe professionali** rappresenta la soluzione ideale per la realizzazione di grandi sistemi di nebulizzazione con portate da 15 a 18 l./min, con **motore elettrico trifase**.
Il **temporizzatore ciclico digitale**, integrato sulle versioni "Time" permette di dosare l'intensità dell'effetto nebulizzante gestendo al meglio il rendimento dell'impianto con notevoli benefici sui consumi e risparmi fino al 70%. Il sistema di **variazione automatica della portata** permette di gestire settori di nebulizzazione indipendenti.

GM-Fog VAR

GM-FOG VAR series

for systems from 75 up to 230 fogging nozzles

These series of **professional high pressure pumps** are the suitable solution with high quality and safety standard for all requirements to build professional misting systems with flow rates ranging from 15 up to 18 l./min. with **three-phase electric motor**.
Our built-in **digital cyclic timer** ("Time" versions only) offers the full efficiency control of the fogging system by direct adjustment of the frequency of mist spray increasing the advantages on water and energy consumption with savings up to 70% if compared to standard systems.
Variable speed motor allow to build independent misting lines/areas.

Dimensioni - Dimensions:
l. 850 x p. 410 x h. 510 mm
Peso - Weight:
80 - 90 Kg. in base al modello
80 - 90 Kg. according to model

BPS Water Cooled Pump

VAR Variable Flow Rate

TIME Energy Saver Timer

CARATTERISTICHE TECNICHE

- gruppo pompa professionale con testata ottone
- meccanismo a 3 pistoni con rivestimento ceramico ad alta resistenza
- accoppiamento pompa-motore con giunto elastico
- pressione di lavoro: 70 bar
- sistema a portata variabile con elettrovalvola e by-pass interno (BPS)
- valvola di sicurezza
- manometro in glicerina
- motore industriale trifase 4.0-5.5 HP, a 500-1450 RPM ventilato
- protezione termica
- interruttore ON/OFF
- temporizzatore ciclico digitale
- carter chiuso in acciaio inox
- inverter trifase con soft start
- basso livello di emissioni acustiche
- variazione automatica della portata
- possibilità di gestire settori di nebulizzazione indipendenti
- spegnimento automatico se tutte le linee sono chiuse
- spegnimento automatico per mancanza acqua
- spegnimento automatico in caso di perdita e guasti alle tubazioni
- accensione automatica quando almeno una linea viene aperta
- spegnimento automatico se il motore surriscalda
- risparmio energetico (potenza proporzionale alla portata)
- bassa usura della pompa (riduzione RPM)
- riempimento automatico della linee (timer OFF fino al riempimento)
- costruita in conformità alle normative CE

TECHNICAL FEATURES

- triplex high pressure heavy-duty crankshaft pump
- 3 ceramic plungers, brass head
- bride with flexible coupling
- working pressure: 70 bar
- pressure regulating valve, built-in bypass with solenoid valve (BPS)
- safety valve
- glycerin filled pressure gauge
- heavy duty ventilated industrial motor three-phase 4.0-5.5 HP, 500-1450 RPM
- ON-OFF switch
- cyclic digital timer
- weatherproof s.steel skid cover on antivibration rubber feet
- equipped with three-ph inverter with soft start
- low noise
- automatic variable flow rate
- can operate several nozzle lines
- automatic switch-off if all line are closed
- automatic switch-off if water supply is missing
- automatic switch-off if no pressure (leakage) is detected
- automatic switch-on if at least one line is opened
- automatic switch-off if motor overheats
- energy saving (absorbed power is proportional to water flow)
- longer pump life (lower RPM)
- automatic filling of pipelines (timer OFF until lines are refilled)
- manufactured in compliance with CE regulations

GM-FOG TIME VAR 1450 rpm

Code Codice	Pressure Pressione		Output Portata		Power Potenza		RPM	Volt	Ugelli* Nozzles*	Price Prezzo
	Bar	psi	l/min	gpm	W	Ah	N° giri/1'	50Hz	Min/Max	€ Euro
EC308080	70	1000	3 - 15	0.8-3.9	2100	5.5	1450	400	40 - 190	-
EC308081	70	1000	5 - 18	1.3-4.7	2660	7.0	1450	400	65 - 230	-

* Ugelli da 0.20 mm (0.008" Nozzles)

S.Steel frame/cover
Carter in acciaio Inox

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GRUPPO FILTRANTE ANTIBATTERICO e ACCESSORI
ANTIBACTERIAL FILTERS KIT and ACCESSORIES

Kit gruppo filtri ANTIBATTERICO con accessori e manometro 3x 9" 1/2 cartucce 5+1+0.005 micron IN 3/4F - OUT 10 mm

3x 9"x1/2 ANTIBACTERIAL Filters KIT with accessories and pressure gauge 5+1+0.005 micron cartridges IN 3/4F - OUT 10mm

Cod.
EC500007

EC509000 Cartuccia filtrante antibatterica 9" 0.005 micron

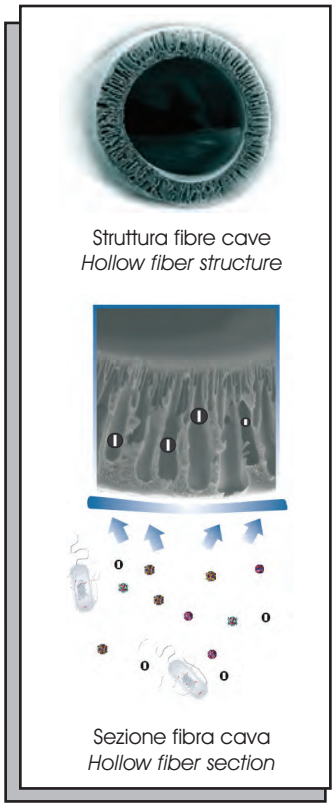
Antibacterial filter cartridge 9" 0.005 micron

FILTRO ANTIBATTERICO 0.005 MICRON

Questa cartuccia ultrafiltrante assicura una protezione completa contro batteri, virus ed endotossine contenute nell'acqua, impedendo il contrarre malattie come Legionella e Salmonella.
Grazie alla ultrafiltrazione delle fibre a membrana cava sviluppate per applicazioni mediche, impedisce a qualsiasi sostanza con peso molecolare superiore ai 15K daltons di penetrare attraverso le membrane. Batteri, virus ed endotossine non riescono ad oltrepassare questa barriera grazie e due meccanismi: uno basato sulla funzione di setaccio dei pori (grazie alla configurazione spugnosa) ed uno basato sulla capacità di assorbimento propria delle membrane. Nota: è obbligatoria la prefiltrazione a 1 micron.

ANTIBACTERIAL 0.005 MICRON FILTER CARTRIDGE

This ultrafilter ensure a complete protection against bacteria, virus and endotoxins in the water, avoiding the contraction of diseases like Legionella and Salmonella.
Thanks to the hollow fiber ultrafiltration membrane developed for medical applications, it prevents all substances with a molecular weight higher than 15K daltons crossing over the membrane. Bacteria, viruses and endotoxins cannot pass the membrane barrier due to two mechanisms: one based on the sieving of the pores thanks to the sponge-like configuration and one on the adsorption capability of the membrane itself.
Note: 1 microns prefiltration is mandatory.



Struttura fibre cave
Hollow fiber structure

Sezione fibra cava
Hollow fiber section

Batteri/Bacteria (P.Diminuta)	10 Log
Virus (PhiX-174)	8 Log
Endotossine/Endotoxins (EU/ml)	5 Log

Retention capacity - Riduzione Log

100% A PROVA DI LEGIONELLA

- **Protezione completa contro batteri, virus, endotossine**
- **Testato clinicamente dal Dipartimento di Igiene Universitario**
- **Garantisce protezione durevole anche con portate elevate**
- **Facile installazione**
- **Protezione totale: filtrazione a 0.005 micron**

100% LEGIONELLA-PROOF

- **Whole protection against bacteriae, virus, endotoxins in the water**
- **Clinically tested by Hygiene Department of Italian University**
- **Guarantees long-lasting protection also with high flows**
- **Easy set-up**
- **Total protection: filtration 0.005 micron**

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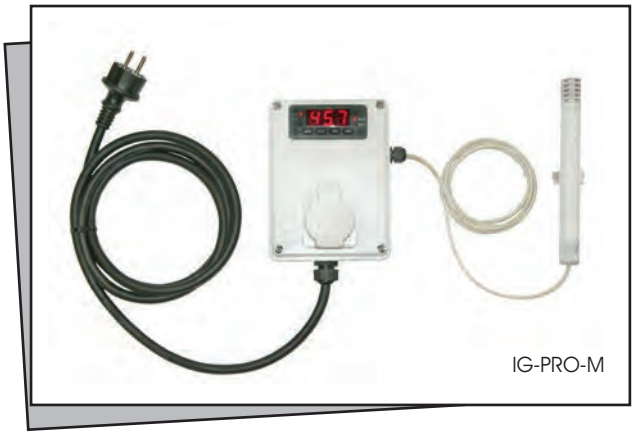
STRUMENTI di CONTROLLO
CONTROL DEVICES


IG-PRO-M

Igrostato digitale - Presa femmina + cavo spina Schuko 2 m. - Sonda professionale
Humidity regulator - Female socket + Schuko el. cable 2 m. lenght - Professional transducer

Cod.	Item No.	Working Range	V-Hz	A
EC100001	#IG-PRO-M	from 5 to 95 % r.H.	230-50	8

IG-PRO series humidity regulators are designed to control TecnoCooling pumps (single-phase or three-phase, max. 8 A). It is possible to adjust the desired humidity level by means of a digital display. The step of adjustment is 0,1 or 1%RH. Regulator is available in wall-mount plastic box. Regulator contains a microprocessor based control circuitry and an external humidity sensor in a protection cover.
Computerized design ensures maximum long term stability and temperature compensation of the humidity sensor.
State-of-the-art digital sensor ensures excellent calibration long term stability, inertia against water and condensation.

IG-PRO-T

Igrostato digitale - Presa femmina + cavo el. 2 m. - Sonda professionale
Humidity regulator - Female socket + Electric cable 2 m. lenght - Professional transducer

Cod.	Item No.	Working Range	V-Hz	A
EC100008	#IG-PRO-T	from 5 to 95 % r.H.	400-50	8

Gli igrostati digitali serie IG-PRO consentono il controllo dei moduli pompa TecnoCooling, monofase o trifase fino ad 8 A.
E' possibile regolare il livello di umidità desiderato mediante un display digitale. Consente di intervenire con step di regolazione di 0,1 o 1%RH. L'igrostato è disponibile in box di plastica per fissaggio a parete. La componentistica è basata su un controllo a microprocessore ed una sonda esterna professionale ad alta sensibilità. L'elettronica digitale assicura la massima stabilità nel tempo e la compensazione di temperatura del sensore di umidità.
Il sensore digitale ad alta precisione assicura un'eccellente calibrazione, stabilità e resistenza in presenza di acqua e condensa.




IG-EASY

Igrostato digitale - Presa femmina + spina Schuko - Sonda integrata
Humidity regulator - Female socket + Schuko plug - Built-in transducer

Cod.	Item No.	Working Range
EC100002	#IG-EASY	from 10 to 90 % r.H.

V-Hz	A
230-50	2

Ideale per piccole serre, celle frigorifere, laboratori. Intervallo di regolazione 1%RH. Adatto per pompe con assorbimento max. 2 A.

Suitable for small greenhouses, cold rooms, workshops.
Adjustment step 1%RH. Suitable for small pumps up to 2 A.

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STRUMENTI di CONTROLLO
CONTROL DEVICES

IGTM-PRO-M

Igrostato e termostato digitale - Presa femmina + cavo con spina Schuko 2 m.
Sonde professionali (Temperatura: PT100 Umidità: sonda ad elevata sensibilità, risposta in 30s)
Humidity and temperature regulator - Female socket + Schuko el. cable 2 m. lenght
Professional transducers (Temperature: PT100 HR%: High sensitive 30s reponse probe)

Cod.	Item No.	Working Range	V-Hz	A
EC100009	#IGTM.PRO.M	from 5 to 95 % r.H. from -50 to 200 C	230-50	8

IGTM-PRO series humidity and temperature regulators are designed to control TecnoCooling pumps (single-phase, max. 8 A). It is possible to adjust the desired humidity level or temperature by means of a digital display. The step of adjustment is 0,1 or 1%RH and °C/°F. Regulator is complete with transducers.
IGTM-PRO è un controller che integra funzioni di igrostato e termostato, adatto al controllo delle pompe TecnoCooling (monofase, max. 8 A). La regolazione dell'umidità e temperatura desiderati sono effettuati tramite display digitale con risoluzione 0,1 o 1 RH% e °C/°F. L'apparecchio è fornito completo di sonde.

T.EXT

Timer digitale 230V 50Hz esterno presa Schuko con cavo 2,3 m + spina.
Programmazione ciclica con tempi ON/OFF indipendenti da 1 a 99 minuti.
External digital timer 230V 50Hz Schuko plug+pin with 2.3 m el. cable.
Independent ON/OFF cycles programming from1 up to 99 minutes.

Cod.	Item No.	Working Range	V-Hz	A
EC100003	#T.EXT	1 - 99 min.	230-50	8


P.VAR

Programmatore parametri Inverter pompe VAR.
Consente la modifica dei parametri preimpostati sulle pompe a portata veriabile serie VAR.
Parameters controller for VAR pumps Inverter.
It allows to modify default parameters on VAR pumps.

Cod.	Item No.
EC100007	#P.VAR

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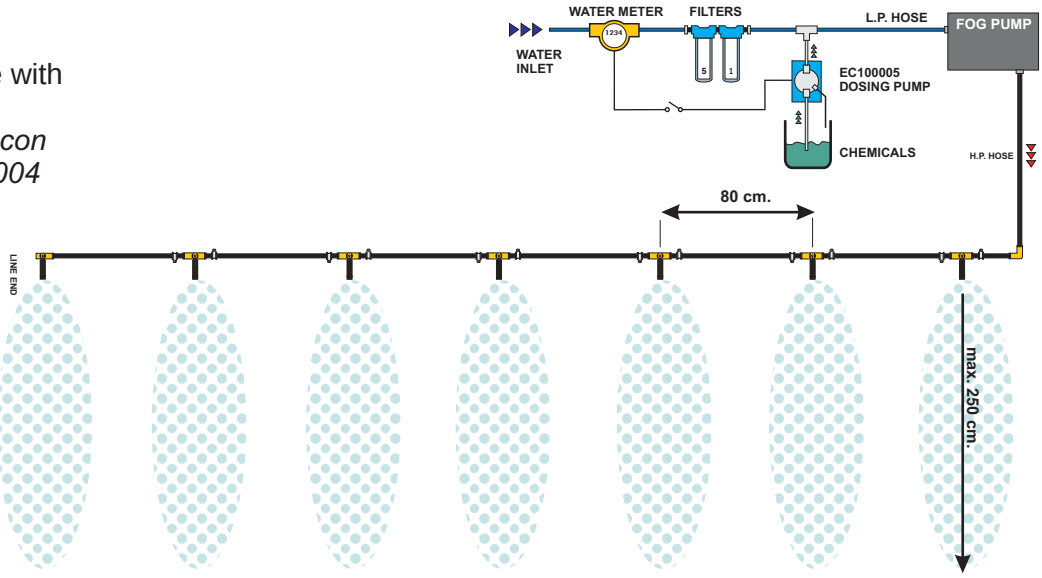
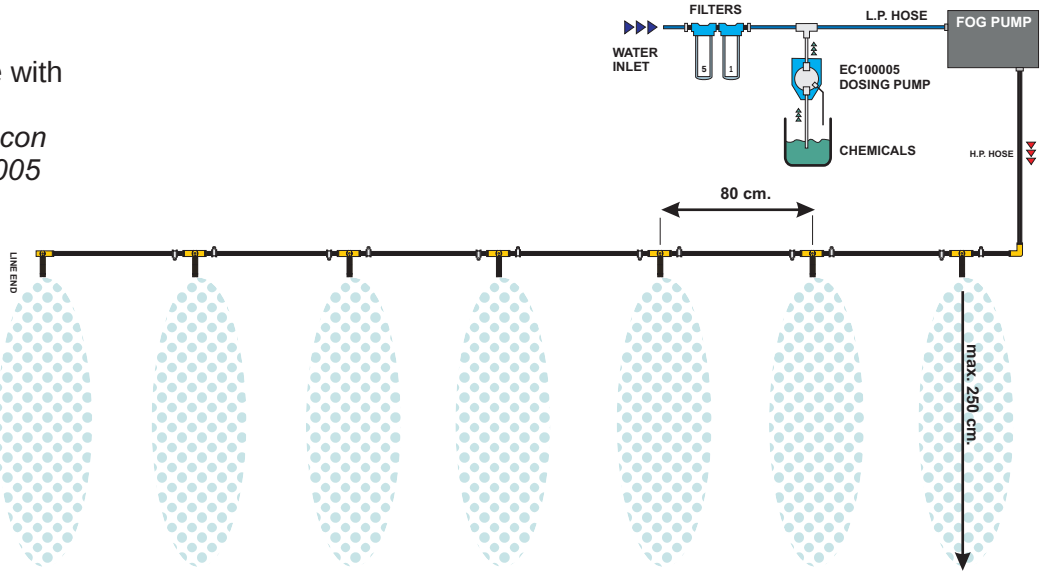
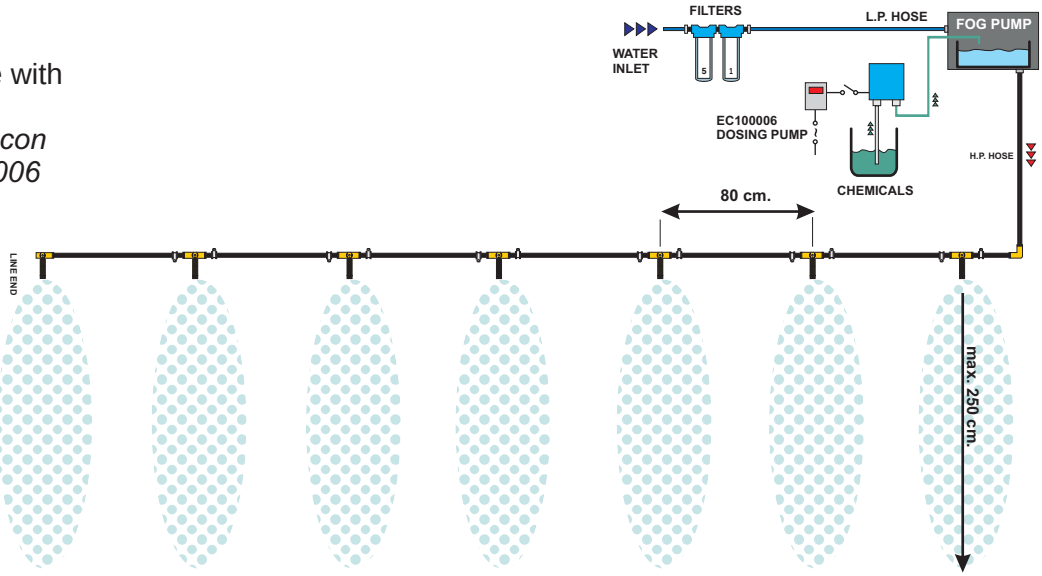
Mounting layout example with EC100004 dosing pump
Esempio di installazione con pompa dosatrice EC100004



Mounting layout example with EC100005 dosing pump
Esempio di installazione con pompa dosatrice EC100005



Mounting layout example with EC100006 dosing pump
Esempio di installazione con pompa dosatrice EC100006



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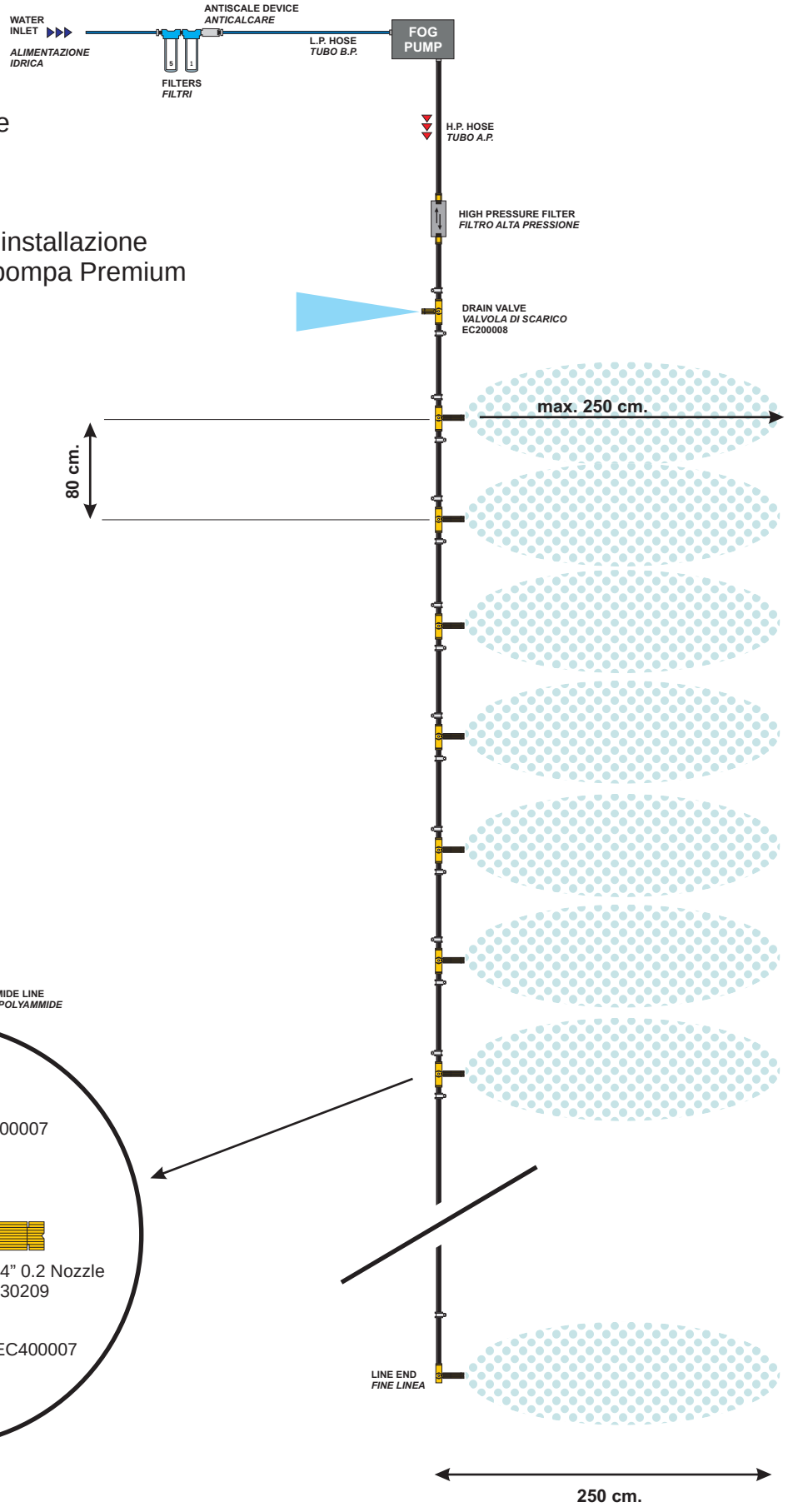
Mounting layout example
Polyammide pipes line
and Premium pump

Schema esemplificativo installazione
Linea Polyammide con pompa Premium



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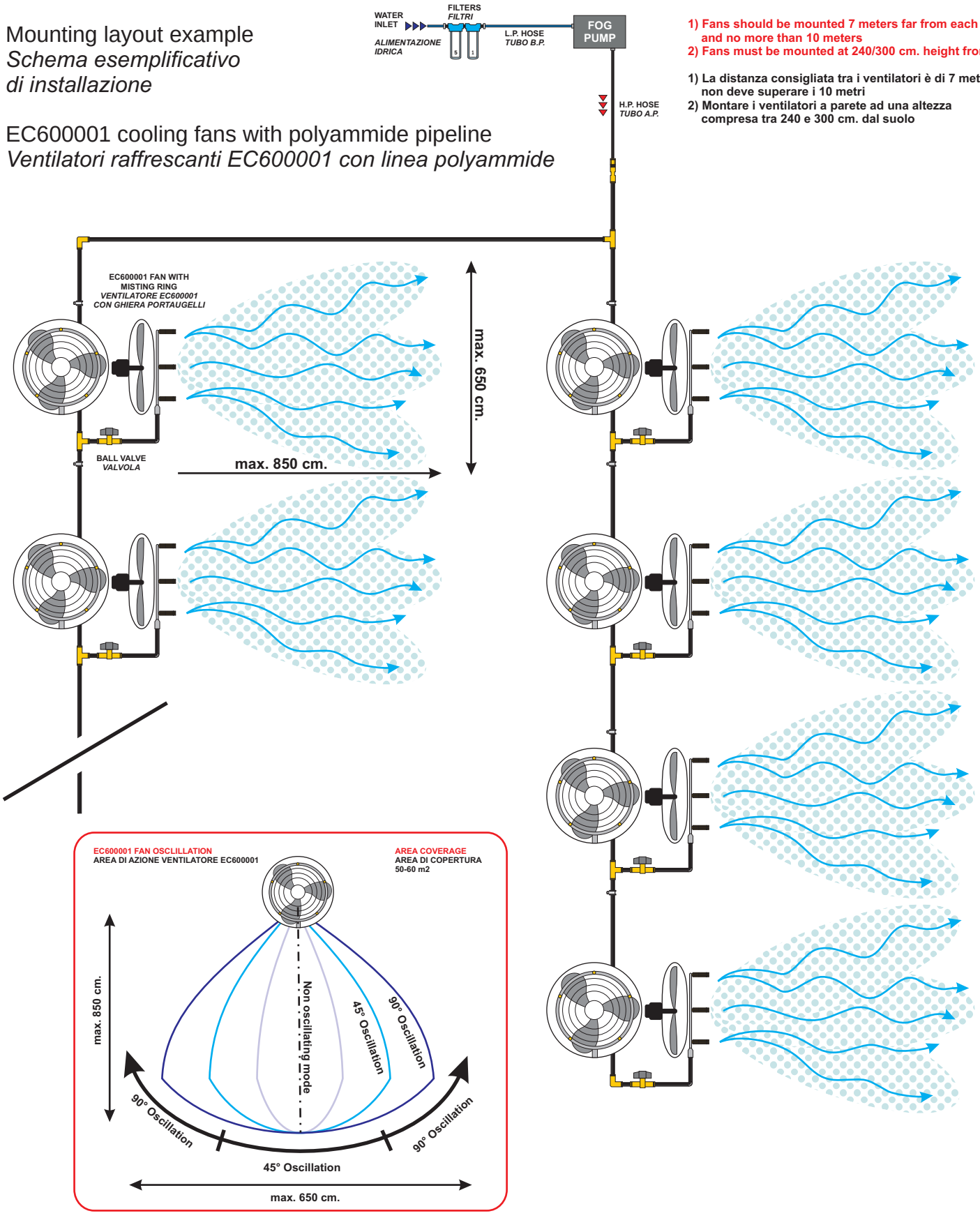
Mounting layout example
Schema esemplificativo di installazione

EC600001 cooling fans with polyammide pipeline
Ventilatori raffrescanti EC600001 con linea polyammide



1) Fans should be mounted 7 meters far from each other and no more than 10 meters
2) Fans must be mounted at 240/300 cm. height from floor

1) La distanza consigliata tra i ventilatori è di 7 metri e non deve superare i 10 metri
2) Montare i ventilatori a parete ad una altezza compresa tra 240 e 300 cm. dal suolo

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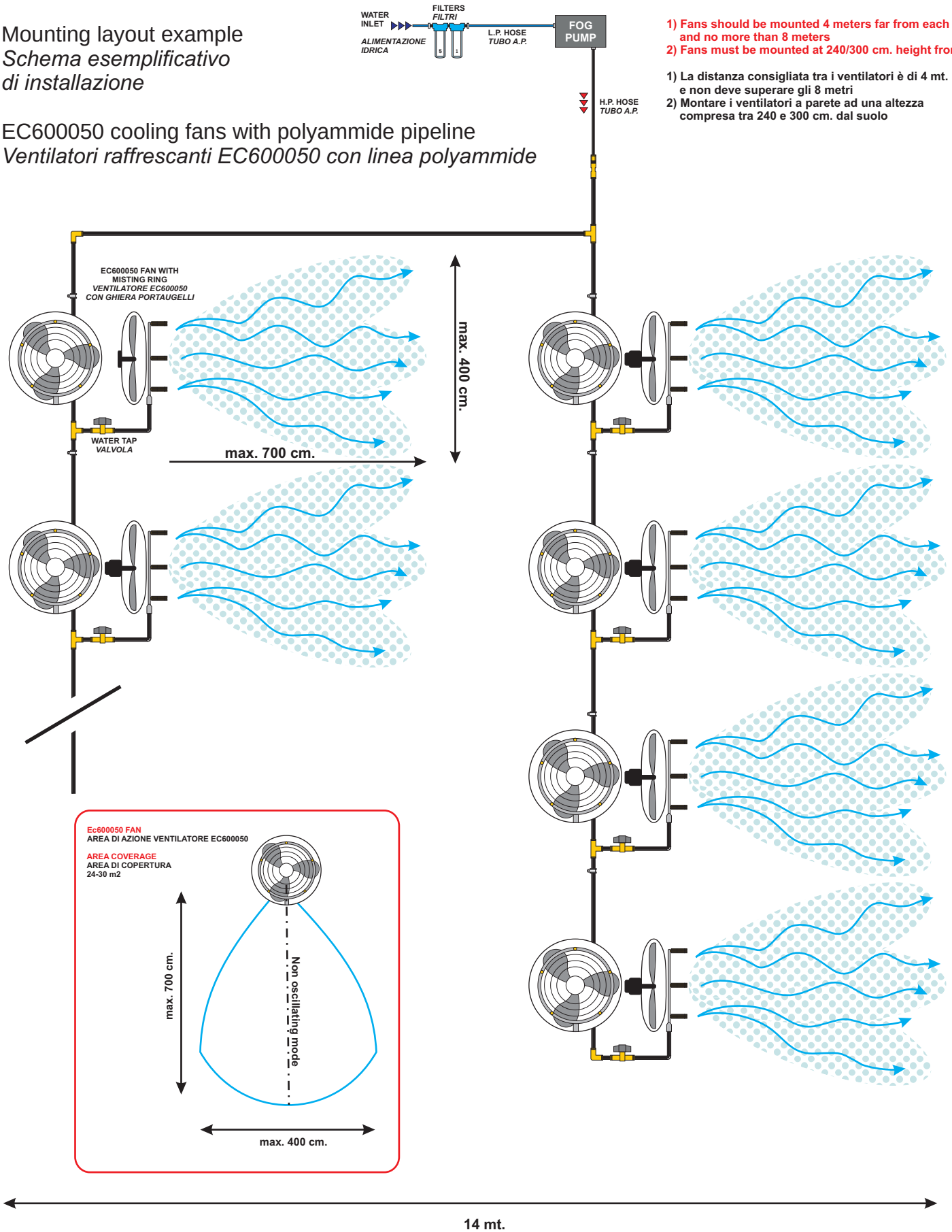
Mounting layout example
Schema esemplificativo di installazione

EC600050 cooling fans with polyammide pipeline
Ventilatori raffrescanti EC600050 con linea polyammide



1) Fans should be mounted 4 meters far from each other and no more than 8 meters
2) Fans must be mounted at 240/300 cm. height from floor

1) La distanza consigliata tra i ventilatori è di 4 mt. e non deve superare gli 8 metri
2) Montare i ventilatori a parete ad una altezza compresa tra 240 e 300 cm. dal suolo

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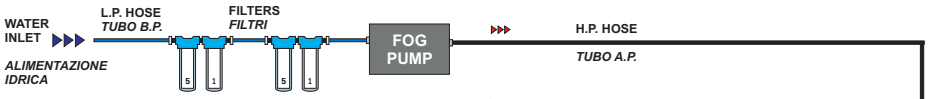
Mounting layout example
Schema esemplificativo di installazione

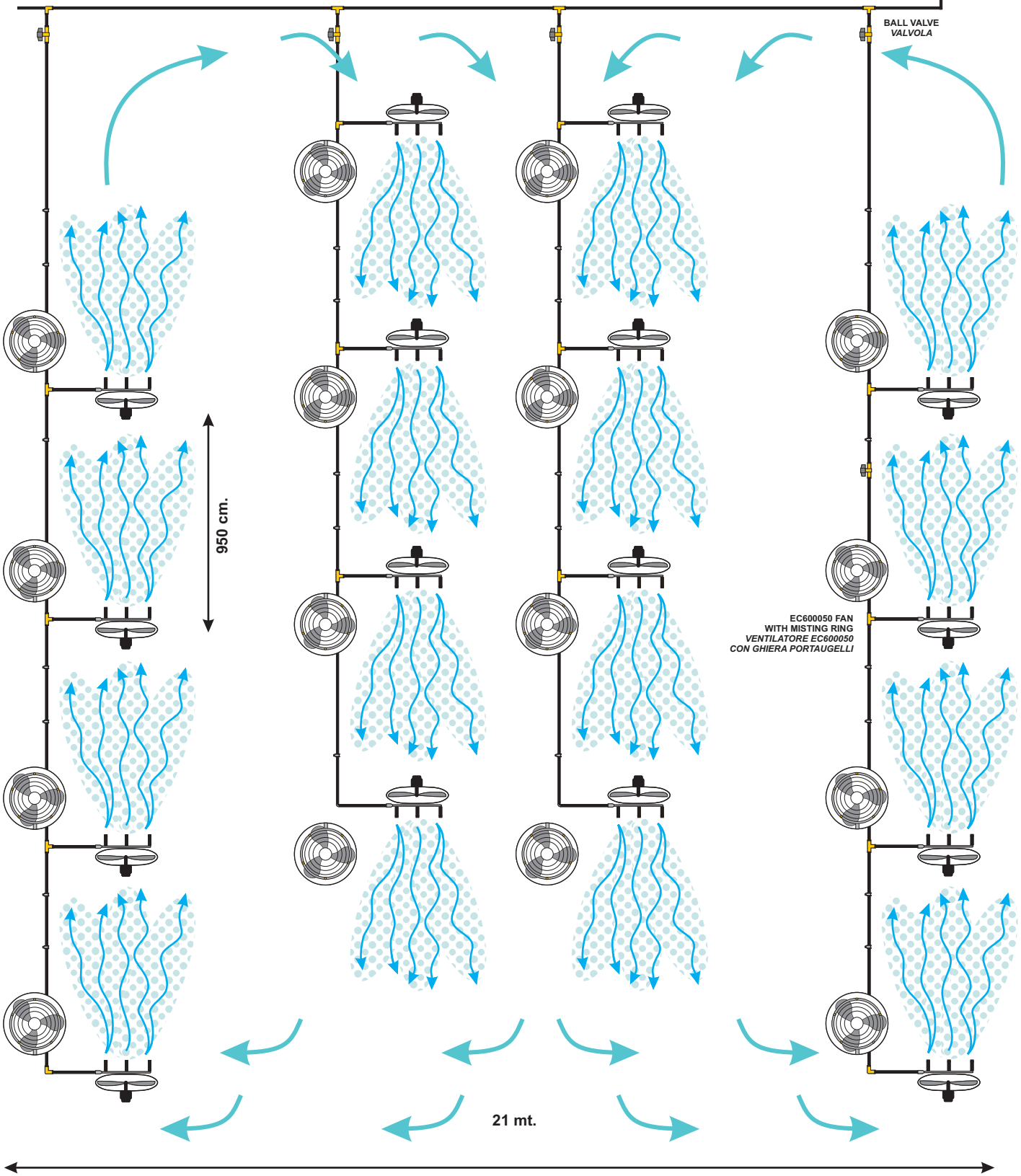


EC600050 cooling fans with polyammide pipeline
Ventilatori raffrescanti EC600050 con linea polyammide

SERIAL mounting
Disposizione SERIALE

1) Fans should be mounted 9.5 meters far from each other
2) Fans must be mounted at 240/300 cm. height from floor

1) La distanza consigliata tra i ventilatori è di 9.5 mt.
2) Montare i ventilatori a parete ad una altezza compresa tra 240 e 300 cm. dal suolo



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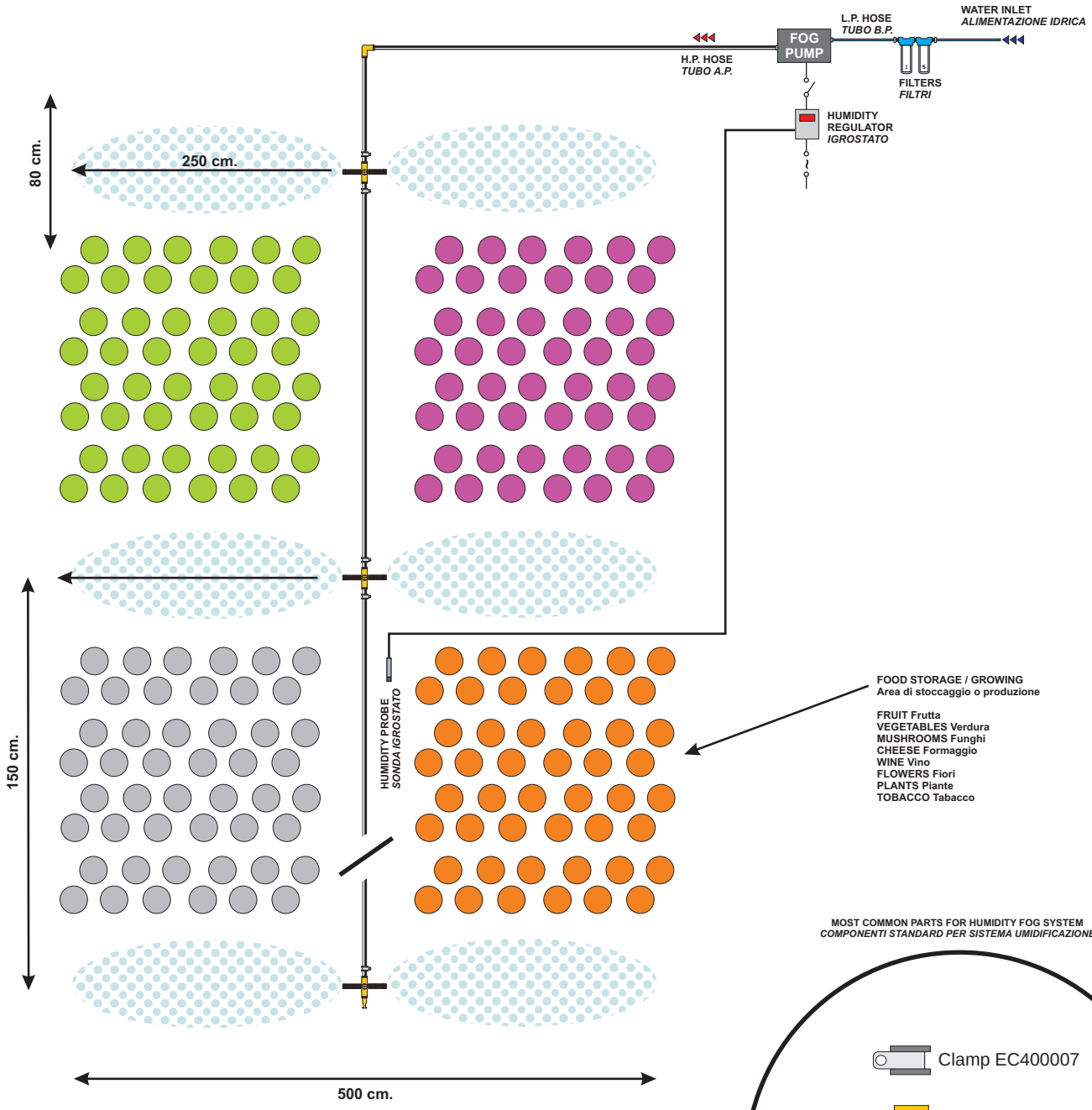
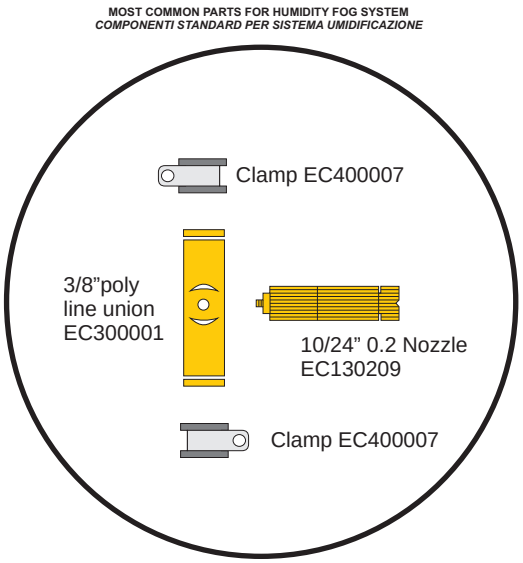
Mounting layout example
Humidification polyammide pipes line
Requires: TIME pump + Humidity Controller

Schema esemplificativo di installazione
Sistema di umidificazione in linea polyamide
Necessita: pompa serie TIME + Igrostato





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Mounting layout example
Polyammide pipes line with tunnel ventilation

Schema esemplificativo installazione
Linea polyamide con ventilazione a tunnel

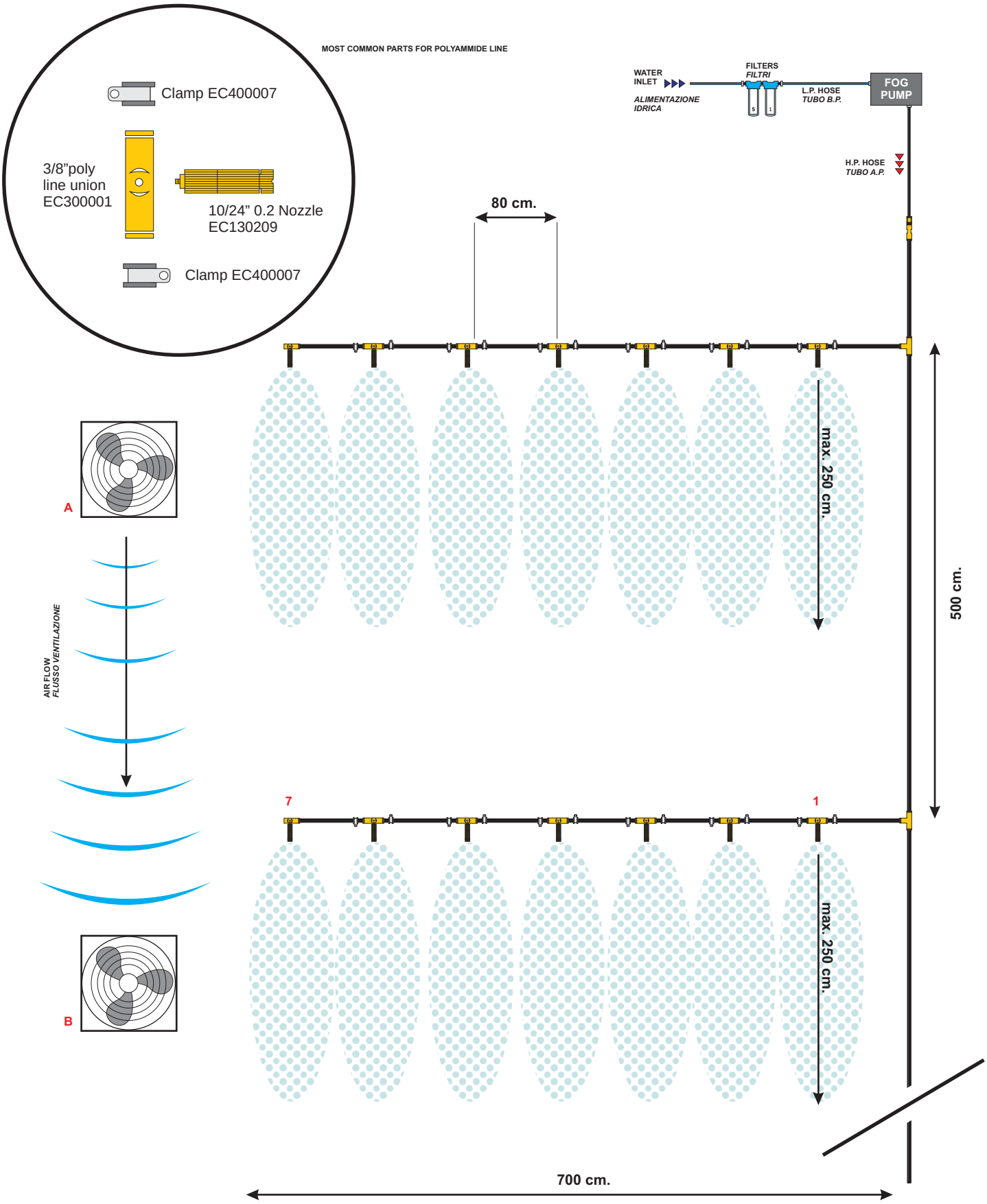

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TABELLA PORTATE UGELLI NEBULIZZATORI
FOG NOZZLES FLOW RATES TABLE

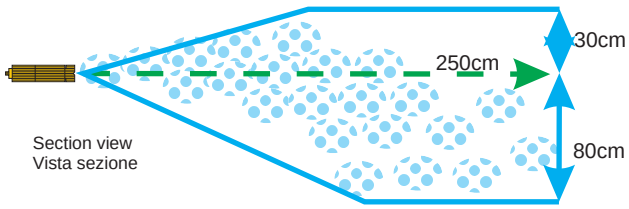
Tested with water under controlled Laboratory conditions and 1 U.S. Gallon = 3.78 Liters approx.
***Other orifice sizes available on request.

Dati rilevati da test di laboratorio.
Conversione 1 U.S. Gallon = 3.78 Litri
***Ugelli con foro/portata fuori standard su richiesta

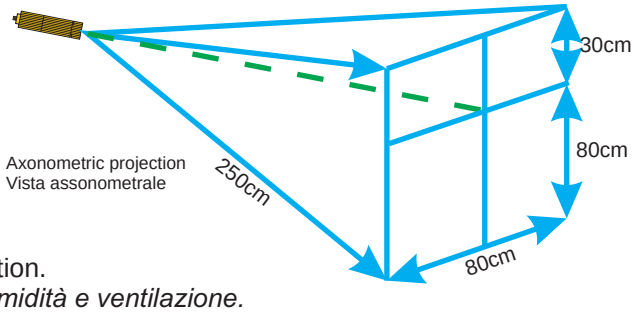
Tabella: Portata (GPH) (LPH) (LPM) alle pressioni indicate (BAR) (PSI)
Table: Flow rate (GPH) (LPH) (LPM) versus operating pressure (BAR) (PSI)

ORIFICE DIAMETER	BAR / PSI	3 / 42	4 / 56	7 / 100	10 / 142	15 / 213	25 / 355	35 / 500	45 / 640	70 / 1000	84 / 1200	100 / 1420
0,15 .006"/.15 mm	GPH		--	--	--	--	0,44	0,52	0,60	**0,73**	0,80	0,93
	LPH						1,68	1,98	2,28	**2,76**	3,06	3,54
	LPM						0,0280	0,0330	0,0380	0,0460	0,0510	0,0590
0,20 .008"/.20mm	GPH		--	--	--	--	0,77	0,92	1,05	**1,25**	1,55	1,60
	LPH						2,88	3,41	3,86	**4,72**	5,88	6,06
	LPM						0,0480	0,0568	0,0643	0,0787	0,0980	0,1010
0,30 .012"/.30mm	GPH	0,37	0,43	0,55	0,68	0,78	1,03	1,23	1,41	**1,74**	2,52	2,63
	LPH	1,34	1,55	2,05	2,45	3,00	3,87	4,74	5,20	**6,48**	9,54	9,96
	LPM						0,0645	0,0790	0,0867	0,1080	0,1590	0,1660
0,40 .015"/.40mm	GPH	0,51	0,59	0,76	0,93	1,07	1,42	1,69	1,93	**2,39**	3,09	3,19
	LPH	1,81	2,13	2,81	3,36	4,12	5,32	6,29	7,14	**8,90**	11,70	12,06
	LPM						0,0887	0,1048	0,1190	0,1483	0,1950	0,2010
0,50 .020"/.50mm	GPH	0,69	0,80	1,03	1,26	1,46	1,93	2,31	2,63	**3,26**	4,23	4,36
	LPH	2,51	2,90	3,83	4,58	5,61	7,24	8,57	9,72	**12,12**	16,02	16,50
	LPM						0,1207	0,1428	0,1620	0,2020	0,2670	0,2750

Area di lavoro richiesta per ugelli standard (valori suggeriti per ugelli 0.15 - 0.20)



Standard nozzles required work area (suggested values for 0.15 - 0.20 nozzles only)



Values may change depending on air temperature, humidity, ventilation.
I valori possono variare in dipendenza della temperatura dell'aria, umidità e ventilazione.

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