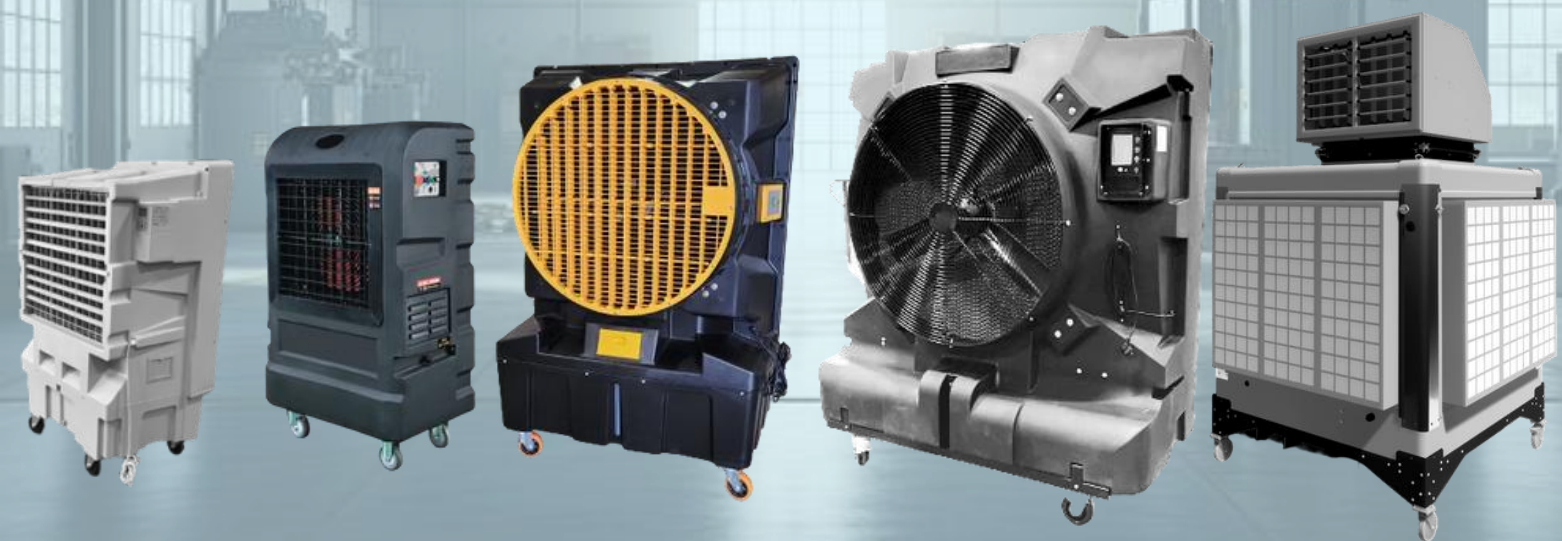




fresh air for the industry

Industrial Air Cooler Manufacturer

KM 12, 22, 30, 14 and FRESH 150



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1. INTRODUCTION

Evaporative cooling is a natural principle that is gaining in popularity thanks to its many advantages.

As environmental concerns grow in importance and energy costs rise, evaporative cooling (also known as biological cooling or adiabatic cooling) comes into its own.

Adiabatic cooling is 15 times more economical than traditional air-conditioning solutions.

Evaporative coolers are easy to maintain and require no installation (mobile versions). Simply connect them to a power and water supply, or manually fill the reservoir, and users benefit instantly from efficient cooling.

Year after year, temperatures rise, and laws designed to prevent heat stress in the workplace become stricter. Over the past few years, record-breaking temperatures have continued to rise, and are unlikely to fall in either number or duration.

This combination of factors is of concern to many companies, both in terms of employee safety and reduced productivity.

As a result, many are looking for efficient cooling solutions for their large industrial warehouses, hangars or workshops.



2. Adiabatic Cooling

HISTORY OF EVAPORATIVE COOLING

The Egyptians, Greeks and Romans used damp mats (what we now call "honeycomb panels") to cool the indoor air. They hung these mats in front of tent openings and windows. The wind blowing through these mats caused the water to evaporate, cooling the air inside.

In the 15th century, the first mechanical fans were built to provide ventilation. In the 18th century, textile manufacturers in New England began using water evaporation systems to condition the air in their mills. The system consisted of large "cooling towers" with fans that carried water-cooled air inside their buildings.

WHAT EXACTLY IS EVAPORATIVE COOLING?

Remember how cool it feels after a hot swim, when the warm, dry wind brushes against your wet skin?

This is evaporative cooling. Try the same thing when there's no wind or moving air. The surrounding air quickly becomes saturated with moisture, there's no evaporation and the cooling effect is gone.

Evaporative cooling units use this natural process to provide a constant flow of cool, pleasant air in a hot, uncomfortable environment.



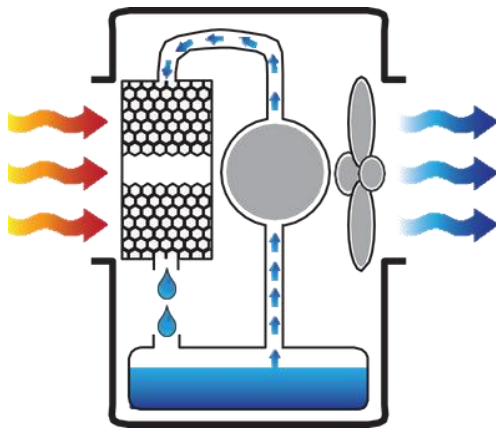
HOW DOES IT WORK ?

The heart of the evaporative cooling system is the cooling medium where the water evaporates, refreshing the air circulating inside.

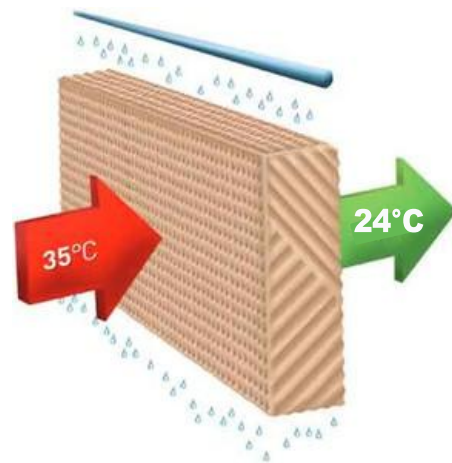
Evaporative cooling media are made from fluted cellulose sheets.

The integrated water distribution system distributes water evenly over the cooling exchangers to ensure that the entire surface is kept moist. This maximizes the cooling effect.

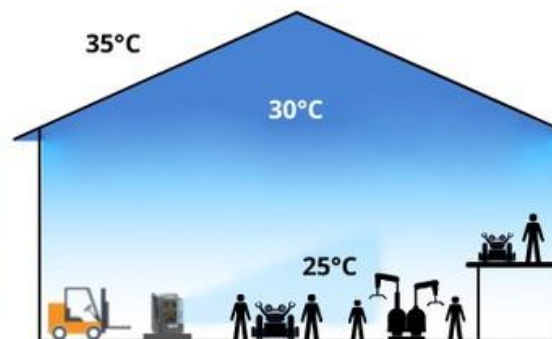
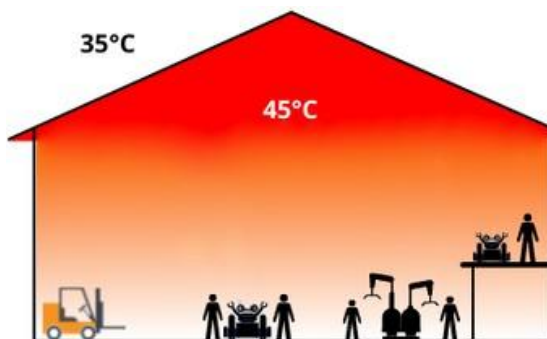
The fans create a negative pressure, drawing the air through the exchangers.



Water evaporates on contact with hot air



A control system manages media humidification





EVAPORATIVE COOLING AND HUMIDITY

A given volume of air at a certain temperature and pressure is capable of absorbing and retaining a certain quantity of water vapour. If this volume of air contains 50% of its maximum humidity, we say it is at 50% relative humidity.

The warmer the day, the drier the air, the more cooling can be achieved by evaporation. In other words, the cooling effect is optimal when you need it most.

Our adiabatic coolers are designed to operate normally in humid environments, and will always be much more efficient than a fan that simply stirs up warm air.

Our coolers will increase humidity by 2 to 5%, depending on the temperature and humidity of the environment you wish to cool. The slight increase is not perceptible.

RELATIVE HUMIDITY IN %					
	20 %	25 %	30 %	40 %	50 %
30 °C	17,2	18,2	19,2	21,1	22,8
32 °C	18,5	19,6	20,7	22,7	24,5
34 °C	19,8	21,0	22,1	24,3	26,2
36 °C	21,2	22,4	23,6	25,9	27,9
38 °C	22,5	23,9	25,1	27,5	29,5
40 °C	23,8	25,3	26,6	29,1	31,3
42 °C	25,2	26,7	28,1	30,7	33,0
44 °C	26,5	28,1	29,6	32,3	34,7

This table shows the theoretical temperature of the air leaving a cooler as a function of the temperature and relative humidity of the incoming air.

The theoretical outlet air temperature depends on the incoming air temperature and relative humidity.

Example :
Incoming air temperature = 35°C; Relative humidity = 30%;
Outgoing air temperature = 25°C



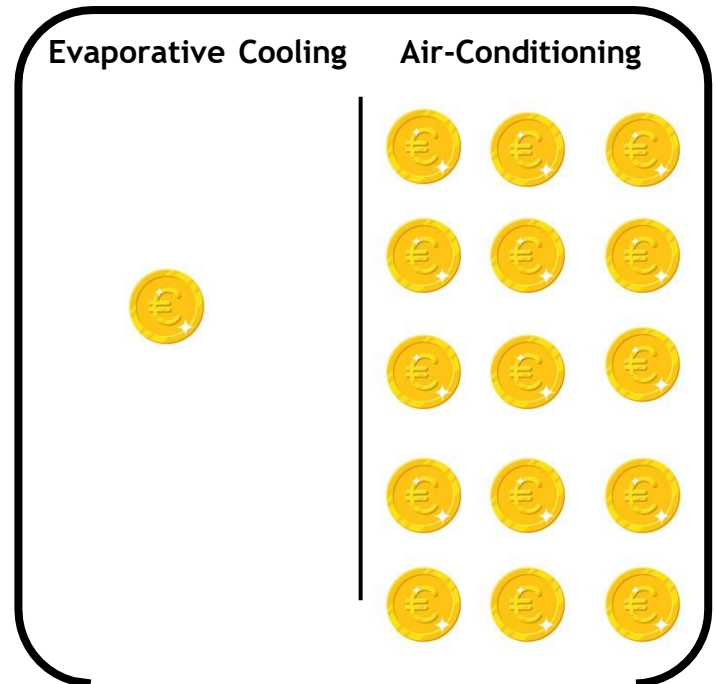
EVAPORATIVE COOLING VS. AIR-CONDITIONING

Under similar conditions, the acquisition and running costs of an adiabatic cooler are considerably lower than those of a conventional air conditioner. The latter are often bulky and costly, making them unsuitable for large spaces where doors are frequently open. By contrast, adiabatic cooling is perfectly suited to these environments, thanks to its ease of installation.

What's more, this method is environmentally friendly, using neither refrigerant gases nor a lot of electricity. On average, it costs 15 times less to run than a conventional air conditioner.

For spaces such as hangars or workshops, air conditioners are expensive and can cause health problems, while fans do not contribute to cooling. Our adiabatic coolers, with their efficient cooling media, can reduce temperatures even in high humidity. Their robust, portable design makes them easy to move around in factories, hangars and workshops.

These mobile units are ideal for targeted cooling, providing comfort where it's needed most.



Maintenance costs



Easy to use



Protects your health



Environmentally-friendly



Functions with doors and windows open



Portable on wheels



VENTILATION

Fresh, clean air is necessary to provide a comfortable, healthy environment that also promotes employee work efficiency.

To ensure healthy air, it is essential to clean it by eliminating or reducing the concentration of dirt it contains. Ventilating work environments with fresh, filtered air improves air quality.



THERMAL STRESS

Climatic conditions at work have a direct impact on employee comfort and efficiency.

An American study indicates that ideal conditions are between 23 and 25°C with 45 to 60% humidity. Above 33°C, productivity falls by 85%.

In industrial environments, temperatures can reach 27°C, and often exceed this threshold, particularly in sectors such as foundry and glassmaking.

This increases the risk of heat stress, which can lead to accidents. Workers exposed to high temperatures for too long can experience concentration difficulties, dehydration, cramps, dizziness and even fainting.

Traditional air-conditioning systems are not efficient in large spaces such as factories or warehouses, and they consume a lot of energy.

We recommend adiabatic coolers, which create a cool, comfortable working environment at low investment and running costs.

With our range, productivity can be maintained in safe working conditions. Our coolers balance humidity and cooling, avoiding large temperature variations.



Portable evaporative coolers



3. MK RANGE

The **KM range** are portable evaporative coolers. They use a natural process known for centuries : **evaporation** simple technology, efficient, economic, and environmentally-friendly.

Operation Principle

The cooler tank features a pump that humidifies a cellulose honeycomb panel. The fan draws warm air through this panel, causing the water to evaporate and cooling the air. The result is cool, droplet-free air, providing comfort even in areas that are difficult to air-condition. The hotter and drier the air drawn in, the lower the temperature of the air blown out. However, they should not be used in small, enclosed spaces.

Portable

Compact and lightweight, our coolers are easy to move and fit through narrow doorways. Their anti-corrosion, UV-treated plastic bodywork is robust, withstanding frequent movement without damage.

KM 22



Easy to Use

Simply fill the water tank and connect the unit to a 230V power supply for refreshing air. Equipped with an integrated control panel and remote control, they offer ventilation only or cooling with 3 speeds. They also feature a sweep function to direct the airflow across the entire width of the area.

Easy to Fill

Our coolers have large water tanks for long autonomy. A gauge makes it easy to check the water level. All models can be filled manually, but the KM 12, 22 and 30 have a connection for permanent filling via a water hose, with a float that automatically regulates the level.

Economic and environmentally-friendly

Our coolers require little water and electricity, consuming up to 80% less energy than gas air-conditioning. Installation is simple and economical, and they are easy to recycle. They offer an affordable, environmentally-friendly solution for efficiently cooling areas of over 400 m² during the hot season.

Mobile & filtering air cooler KM 12



Dust filtration
(G4 filter)



Integrated UV LAMP

- Disinfection of bacteria, viruses, fungi and moulds

Ideal for

Production halls

Storage rooms

Logistics halls

Greenhouses

Workshops

Events

Industry

Technical data

Flow rate Max.	m³/h	12 000
Electrical supply	V/Hz	220-240 / 50
Treated area	m²	up to 150 m²
Water content	L	70
Water consumption	L/h	8 - 10
Rated current	A	1.92
Water supply		automatic or manual
Dimensions (W x L x H)	mm	925 x 580 x 1440
Weight	kg	43
Performance	W	440
Checking the tank level		YES
Noise level	dB	54/58/63

Water connection ½"

Special features

- Dust filtration (G4 filter)
- Evaporative cooling without spray mist
- Adjustable speed (3 speeds)
- Oscillation mode of the air flow
- Timer function for automatic starting and switching off

Advantages

- Quiet, compact and mobile
- Economical and ecological
- Easy cleaning and low maintenance
- High cooling efficiency
- Large air volume
- Plug & play

Mobile filter air cooler KM 14



Areas of application

- Suitable for all types of industrial operations in dusty or non-dusty environments
- Automatic or manual water supply

Ideal for

Production halls

Storage rooms

Logistics halls

Workshops

Events

Industry

Technical data

Flow rate Max.	m³/h	14 000
Electrical supply	V/Hz	220-240 / 50
Treated area	m²	up to 180 m²
Water content	L	80
Water consumption	L/h	30 - 30
Rated current	A	3.7
Water supply		automatic or manual
Dimensions (W x L x H)	mm	130 x 74 x 50
Weight	kg	45
Performance	W	510
Checking the tank level		YES
Noise level	dB	66/68/70

Water connection ½"

Special features

- Evaporative cooling without spray mist
- Potentiometer
- Oscillation mode of the air flow
- Timer function for automatic starting and switching off

Advantages

- Quiet, compact and mobile
- Economical and ecological
- Easy cleaning and low maintenance
- High cooling efficiency
- Large air volume
- Plug & play

Mobile & filtering air cooler KM 22



Dust filtration
(G4 filter)



Integrated UV LAMP

- Disinfection of bacteria, viruses, fungi and moulds

Ideal for

Production halls

Storage rooms

Logistics halls

Greenhouses

Workshops

Events

Industry

Technical data

Flow rate Max.	m ³ /h	22 000
Electrical supply	V/Hz	220-240 / 50
Treated area	m ²	up to 250 m ²
Water content	L	130
Water consumption	L/h	10 - 15
Rated current	A	4.5
Water supply		automatic or manual
Dimensions (W x L x H)	mm	1120 x 640x 1600
Weight	kg	50
Performance	W	640
Checking the tank level		YES
Noise level	dB	58/64/66

Water connection 1/2"

Special features

- Dust filtration (G4 filter)
- Evaporative cooling without spray mist
- Adjustable speed (3 speeds)
- Oscillation mode of the air flow
- Timer function for automatic starting and switching off

Advantages

- Quiet, compact and mobile
- Economical and ecological
- Easy cleaning and low maintenance
- High cooling efficiency
- Large air volume
- Plug & play



Mobile & filtering air cooler

KM 30



Dust filtration
(G4 filter)



Integrated UV LAMP

- Disinfection of bacteria, viruses, fungi and moulds

Ideal for

Production halls

Storage rooms

Logistics halls

Greenhouses

Workshops

Events

Industry

Technical data

Flow rate Max.	m³/h	30 000
Electrical supply	V/Hz	220-240 / 50
Treated area	m²	up to 400 m²
Water content	L	200
Water consumption	L/h	20 - 30
Rated current	A	3.7
Water supply		automatic or manual
Dimensions (W x L x H)	mm	1565 x 725 x 1760
Weight	kg	110
Performance	W	850
Checking the tank level		YES
Noise level	dB	66/68/70

Water connection ½"

Particularités

- Dust filtration (G4 filter)
- Evaporative cooling without spray mist
- Adjustable speed (3 speeds)
- Timer function for automatic starting and switching off

Advantages

- Quiet, compact and mobile
- Economical and ecological
- Easy cleaning and low maintenance
- High cooling efficiency
- Large air volume
- Plug & play

Refreshing industrial air purifier

FRESH 150



For surfaces up to 400 m².

Areas of use

- Suitable for all types of industries and garages, warehouses, greenhouses, etc.
- Particularly dusty areas

Ideal for

Factories

Storage halls

Warehouses

Workshops

Dust

Smoke

Technical Specifications

Maximum Airflow	m³/h	15.000
Electricity Supply	V/Hz	220-240 / 50
Area Treated	m²	up to 400 m²
Water Capacity	L	0 - connected to water network
Water Consumption	L/h	10 to 15
Maximum Intensity	A	3,3
Water Supply		auto or manual
Measurements (l x L x h)	mm	1130 x 1130 x 2110
Weight	kg	230
Electric Power	W	2200
Max Noise Level	dB	62

Features

- Evaporative cooling without misting
- Adjustable speed
- Airflow oscillation mode
- Timer function for automatic start-up and shut-down

Advantages

- Quiet, compact and mobile
- Economical and ecological
- Easy cleaning and low maintenance
- High cooling efficiency
- High air volume
- Plug & play



4. frequently asked questions

Oftentimes, evaporative cooling can trigger more questions than answers. This section aims to clarify and respond to the most frequently asked questions. If your question is not on the list, feel free to contact us!

NOISE LEVEL

Can the noise level of evaporative coolers be reduced ?

The noise level is 70dB at full power (less than a domestic vacuum cleaner). Our units have at least three speeds, so you can adjust the noise level.

DISINFECTION

Does adiabatic coolers work against viruses ?

Our air fresheners are equipped with a UV lamp, which eliminates bacteria, viruses, fungi and molds present in the water.

INFECTION RISKS

Do adiabatic coolers increase the risk of infections and other health problems ?

No, on the contrary! This question is often based on the misconception that evaporative coolers can cause a slight rise in humidity, thereby increasing the risk of viruses spreading and promoting bacterial and fungal growth. However, the benefits of using evaporation have been clearly demonstrated.

RISK OF LEGIONELLOSIS

Does evaporative cooling increase the risk of Legionella because it uses water ?

No, the water used by our coolers is constantly on the move and kept at a very low temperature. This creates a hostile environment for legionella.

Our adiabatic coolers are a real economic and ecological solution!



COOLING CAPACITY

How far can adiabatic coolers reduce the temperature ?

Generally between 8 and 15°C, but this depends on many external factors, such as temperature, humidity and available ventilation. The higher the temperature, the greater the cooling effect. The lower the humidity, the more our coolers can evaporate, and the more efficient the ventilation, the better they work. So the more you need, the greater the drop in temperature.

AIRFLOW PROBLEMS

What can I do to adapt the airflow to my needs ?

Most of our coolers have louvers, so you can control the airflow and its direction. What's more, our coolers feature a multi-speed motor so you can reduce the air speed. Another solution is to raise the air cooler so that it is not directed directly at people (the cool air always flows downwards, so cooling is also guaranteed with this solution).

ENERGY CONSUMPTION

	Air coolers	Air-conditioning
Water consumption	4.60€ (120L of water)	-
Electric consumption	1.84€ (8 kWh)	27.6€ (120kWh)
Annual maintenance	30 € (Filter)	Several hundred d'€

Calculation conditions:

1000 m² - 8m height - Cooling by -10°C over a period of 8 hours

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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