

**Breezair**  
NUMBER ONE IN NATURAL COOLING

## OUTDOOR COOLING SYSTEM FOR DOMESTIC AND COMMERCIAL USE

World-leading natural cooling technology



**SEELEY**  
INTERNATIONAL 



TRADING AND INSTALLATION OF COOLING DEVICES

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## Take the natural approach to air conditioning!

Seeley International's Breezair range of evaporative air conditioners delivers cool, 100% fresh air, at much lower costs than refrigerated cooling methods. Evaporative cooling is quickly becoming the only viable option for cooling large areas. A Breezair system uses up to 80% less energy than a refrigerated air conditioning system. Doors and windows can be left open, with absolutely no loss of cooling efficiency.

### World-leading natural cooling technology



Breezair evaporative cooling is suitable for a large range of commercial and industrial applications:



Automotive industry



Textile industry



Animal facilities



Food industry



Warehouses



Factories



Restaurants



Outdoor installations



Schools



Laundries



Garden Centres



Shops

[www.seeleyinternational.com](http://www.seeleyinternational.com)



# Why Breezair?

**Breezair**  
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## FOR COMMERCIAL & INDUSTRIAL SPACES

Evaporative cooling is fast becoming the only viable option for cooling large areas. Traditional A/C systems are often not an option, due to the high capital and running costs.



## SAVING ON RUNNING COSTS

A Breezair system uses up to 87% less energy than refrigerated air conditioning systems. The only power-consuming components of an evaporative cooler are the fan and a water pump.



## 100% FRESH, NOT RECIRCULATED

Traditional A/C systems rely on recirculating the air inside the building, which in industrial spaces can be full of fumes and germs. Evaporative cooling always uses fresh air from outside.



## EASY TO MAINTAIN AND INSTALL

With no compressor installed and no use of chemical refrigerants to cool the air, Breezair evaporative coolers are simple to install and even easier to maintain.



## GREEN TECHNOLOGY

Evaporative cooling systems contain no harmful synthetic refrigerants. Compare this to refrigerated systems which use potent greenhouse gases like hydro fluorocarbons or chlorofluorocarbons, which deplete the ozone layer.



## ONLY WATER USED

Evaporative coolers only use water and electricity to run. The WATERManager system senses water quality with a probe that sends a signal back to the electronic module, which then ejects some dirty water and allows fresh water to enter.

## FLEXIBLE COOLING

If you need to cool small areas within a large space, then evaporative air conditioning gives you the only effective option – spot cooling. With spot cooling, an envelope of cool, high velocity air can be directed to a specific area, irrespective of the surrounding conditions.

## NATA (NATIONAL ASSOCIATION OF TESTING

## AUTHORITIES) ACCREDITED LABORATORY

Seeley International is Australia's only air conditioning and heating manufacturer with a NATA accredited test laboratory. NATA provides assessment, accreditation and training services to laboratories and technical facilities throughout Australia and internationally.

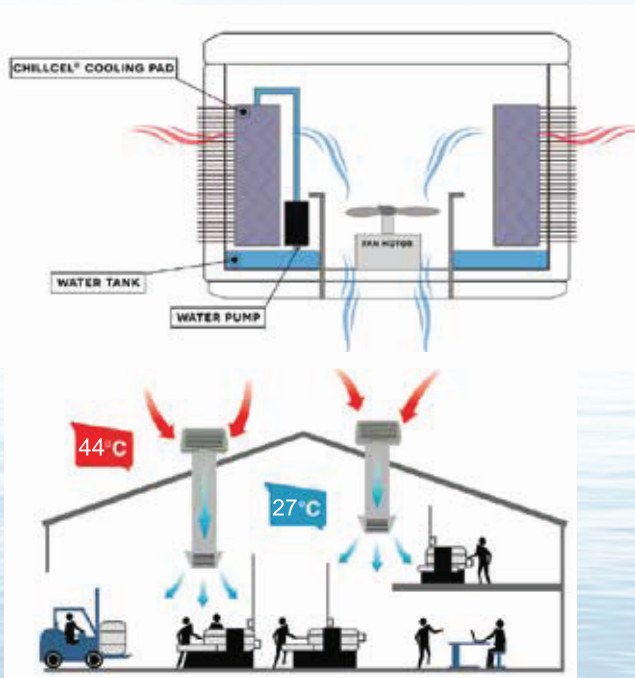
## How evaporative air cooling works

The beauty of evaporative air conditioning is its simplicity. It is a process that has been used throughout history – thousands of years ago, the Arabs hung wet blankets in the entrances to their tents, while the Greeks placed terracotta pots filled with water in their doorways.

Evaporative air conditioning takes advantage of this natural process. Each Breezair cooler contains large cooling pads, which are soaked with water. Hot ambient (outside) air is drawn through the cooler with a quiet but powerful fan.

As the hot air passes through the wet pads, the water absorbs some of the heat as it evaporates. The beautifully cooled, fresh air is then delivered into the building.

Natural evaporation cools the air, while the pads filter out dust, pollen and other contaminants. The result: cooler, cleaner, fresher air, without using fluorocarbons or potentially toxic chemicals.



**1. Hot outside air is pumped through water-soaked pads**

**2. As the air blows through the pads water is evaporated and the heat in the air is absorbed**

**3. This lowers the temperature of the air, which is then pushed to the whole building**

## How Breezair compares to refrigerated air conditioning

	Breezair	Refrigerated air conditioning
Temperature of supply air	Cool	Cool → cold
Moisture control	Moisture added	Moisture removed
Moisture control impact	Preserves essential moisture	Removes essential moisture
Fresh air control	100% fresh air	Maximum about 25% fresh air
Fresh air impact	100% fresh air eliminates many causes of Sick Building Syndrome	Recycled air can result in Sick Building Syndrome
Capital costs – installed	Lower	Higher
Running costs	Very low	Very high
Refrigerant type used	Natural - water	Synthetic Hydrofluorocarbons
Environmental impact of Refrigerant	No synthetic refrigerants	Synthetic refrigerants have very high global warming potential. They damage the environment as they leak into the atmosphere over time

## Cooler Discharge Air Temperature Chart

		Ambient Relative Humidity %								
		10	20	30	40	50	60	70	80	90
Ambient Dry Bulb Temperature °C	10	2.2	3.2	4.2	5.1	5.9	6.8	7.6	8.4	9.2
	15	5.6	6.8	8.0	9.1	10.2	11.2	12.2	13.2	14.1
	20	8.8	10.3	11.7	13.1	14.4	15.6	16.8	18.0	19.0
	25	11.8	13.7	15.4	17.0	18.6	20.0	21.3	22.6	23.8
	30	14.8	17.1	19.1	21.0	22.8	24.4	25.9	27.4	28.7
	35	17.7	20.4	22.8	25.0	27.0	28.8	30.5	32.1	33.6
	40	20.7	23.7	26.5	29.0	31.2	33.3	35.2	36.9	38.5
	45	23.5	27.1	30.3	33.1	35.5	37.8	39.8	41.7	43.4
	50	26.3	30.5	34.1	37.1	39.8	42.2	44.5	46.4	48.3

This chart represents approximate air temperatures based on cooling performance at sea level. From tests carried out to Australian Standard 2913.

## Psychrometric Chart

Normal temperature

SI units, 200 meters

Barometric Pressure 101.3kPa

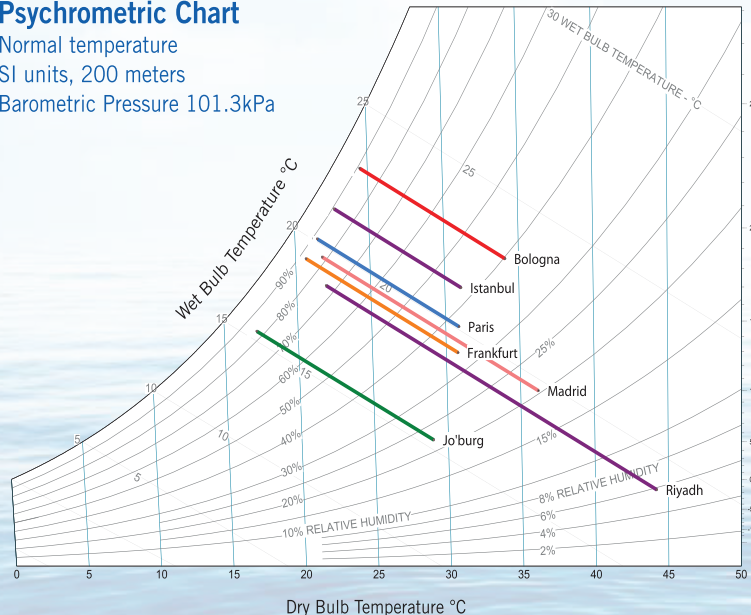


Chart explanation: Consider fresh air entering the cooler at 30°C dry-bulb and about 38% relative humidity. In the case of a direct evaporative air cooler, the fresh air passes directly through the wet cooling pad where it becomes cool and also moist, and emerges at about 21°C dry-bulb and 88% relative humidity. The process has travelled along the wet-bulb (orange) line and the air has gained about 5.5 grams/kg of additional moisture.

The chart also shows direct evaporative cooler process lines using Breezair saturation efficiency of 85% and ASHRAE design condition for each city.

