

Sizing instructions

SuperStealth



Use the Certified Air Delivery performance tables and the following procedure to properly size a Seeley International evaporative cooling unit for your application.

The performance or Cooling Capacity of an evaporative cooler is a function of both the air flow (CFM) and air discharge temperature.

Static pressure, or duct system resistance, also impacts on air delivery and should be considered to correctly size the cooling unit.

1 Determine design Conditions

- ≡ Outside Dry-Bulb (DB)
- ≡ Outside Wet-Bulb (WB)
- ≡ Inside Dry-Bulb (TI)

2 Determine the design Sensible Heat Load (Btuh)

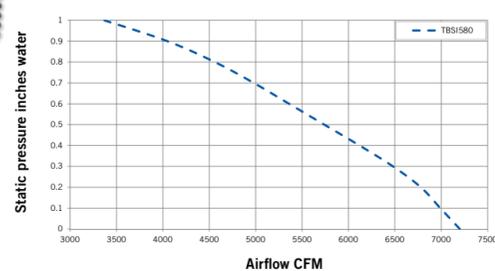
LAT = DB - [(DB-WB) EFF]
where EFF = 0.87 for Chillcel media

4 Determine the CFM required

CFM = 0.925 x Sensible Heat Load
(TI - LAT)

5 Determine the cooler(s) required by referring to the air flow charts to the right.

FAN CURVES



Model#	Industry STD Rating CFM	Motor H.P.	Certified Air Delivery (CFM) (static pressure inches water)					
			0.0	0.2	0.4	0.6	0.8	1.0
TBSI 580	10,000	1.0	7200	6780	6120	5360	4560	3370

SUITABLE FOR MOST INDUSTRIES, INCLUDING:

- ≡ Warehouses
- ≡ Repair / maintenance areas
- ≡ Sports centers
- ≡ Institutional facilities
- ≡ Manufacturing plants
- ≡ Storage areas
- ≡ Laundries / dry cleaners
- ≡ Commercial kitchens
- ≡ Agricultural facilities
- ≡ Farm building – dairy / poultry / stables

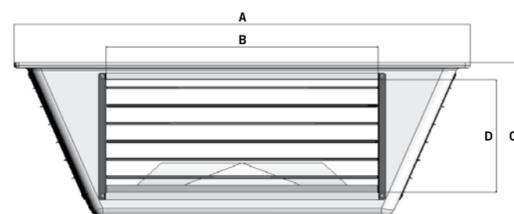
Air diffusers

All plenums are vacuum formed from high strength, low weight ABS plastic. The diffuser consists of aluminum airfoil blades, individually adjustable from fully open to closed for maximum directional air control.



4-sided high capacity commercial air diffuser

Manufacturer Part #089249					
Outlets	Free Area ft ²	Velocity FPM	Volume CFM	Pressure IWG	Throw Feet
4	5.6	980	5500	0.14	16.5
		1278	7200	0.2	19.5
		1476	8200	0.3	23



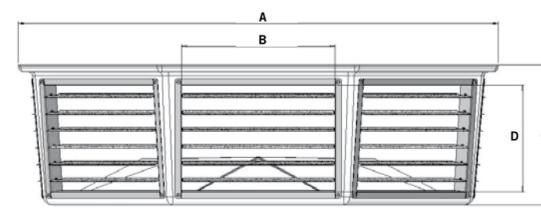
Model#	A	B	C	D
4-sided high capacity commercial air diffuser	34.8	20.7	11.6	9.4

Note: All dimensions are in inches. Drawing shows the actual opening dimensions.



8-sided high capacity commercial air diffuser

Manufacturer Part #089256					
Outlets	Free Area ft ²	Velocity FPM	Volume CFM	Pressure IWG	Throw Feet
8	7	980	6990	0.14	16.5
		1278	9090	0.2	19.5
		1476	10,488	0.3	23



Model#	A	B	C	D
8-sided high capacity commercial air diffuser	42.7	13.6	12.2	9.4

Note: All dimensions are in inches. Drawing shows the actual opening dimensions.

Breezair
NUMBER ONE IN NATURAL COOLING



TBSI Series

World's first high performance inverter axial evaporative cooler

FEATURING ADVANCED
MAGI@TOUCH
CONTROLLER



SuperStealth



Cat. No B0784 REV C (1216) US



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Information in this brochure was correct at the time of preparation. E & OE



Quality
ISO 9001

SAI GLOBAL



SEELEY
INTERNATIONAL

Why is Breezair unique?

25 Years
Corrosion-free
cabinets
guarantee

10 Years
Structural
components
guarantee

5 Years
De-lamination
of Chillcel media
guarantee

3 Years
Pump, motor
& junction box
guarantee

Technical information



Why Breezair?

For more than four decades, Seeley International's brands have been synonymous with leading-edge technology, innovative design and superior cooling performance, as well as outstanding product reliability and ease of maintenance.

Seeley International's dedication to innovation through the highest standards of research, engineering and manufacture, as well as our commitment to excellence in customer service, all combine to deliver the best possible cooling systems at the best possible price.

Designed and made in Australia to cope with even the harshest conditions, Breezair features a range of benefits exclusive to Seeley International, including:

- ≡ Permatuf, corrosion-proof materials
- ≡ Injection moulded cabinets and components that will not rust or fade
- ≡ Powerful Tornado® pump
- ≡ AQUAflow non-clogging water distribution system
- ≡ Intelligent WATERmanager system
- ≡ New Mini-Cell Chillcel® Pad Technology
- ≡ Amazing auto Clean and Dry function
- ≡ Available with the touch screen MagIQtouch Controller

Lightweight materials and "snap together" assembly make the TBSI Series a 'breeze' to install. **Contractors love them!**



Breezair Installation, Tucson, Arizona

World's first high performance inverter axial evaporative cooler

- **Extra static pressure**
- **Outstanding cooling performance and energy efficiency with the powerful SuperStealth axial fan and inverter motor**
- **Quietest axial evaporative cooler on the market**

New Venturi

Specifically designed for mounting the Invertair motor and the SuperStealth fan; it ensures minimum disturbance of air stream.



SuperStealth™ fan

SuperStealth axial fan is specifically designed to be more energy efficient and even quieter than the standard Stealth fan.



Invertair™ inverter motor

The Inverter motor is highly efficient throughout the operating range, using far less energy than a standard fan and motor.



Permatuf Corrosion-proof Cabinet

The Breezair cabinet will not corrode or rust. The UV stabilized structural polymer material is the same type used to make acid baths, battery cases and some space satellite components. Plus, it's designed to blend with any property.



MagIQtouch™ Controller (standard)

Operate one cooler from an easy to use, wall mounted thermostat controller. The controller comes with 65' wiring loom, that can be extended up to a maximum length of 130'.

AUTOWeatherseal

The AUTOWeatherseal closes the cooler air discharge outlet automatically, thus significantly reducing natural air currents from circulating in and out of the building. The result – a more comfortable and controlled environment.



WATERManager System

The Breezair WATERManager ensures optimum machine life with minimum maintenance by constantly checking water quality. As the water in the cooler evaporates, it leaves behind impurities and salts, which then become deposited on the cooling pads and cause the cooling power to fall. 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.



Clean and Dry Function

The cooler drains automatically when it's not in use, preventing algae growth and maintaining a clean cooler.



Digital Smartbox / Control Power Module

A state-of-the-art digital electronic control means optimum performance. The Smartbox digital control module monitors and controls all of the cooler's features to provide ultimate comfort conditions, temperature sensing and water quality supervision – completely safely and reliably. The module also incorporates diagnostic features and memory to aid trouble-shooting and minimize downtime. Several user choice parameters are available to allow you to set up your preferred environment.



NEW BREAKTHROUGH

Mini-Cell^ Chillcel® Pad Technology!

- ≡ Revolutionary new Mini-Cell structure with small cell design
- ≡ A new cutting edge level of cooling capacity
- ≡ Dramatically improves cooling efficiency due to 25% more surface area
- ≡ The only evaporative cooling pads fully manufactured in Australia
- ≡ Suitable for the harshest climates, and now, the absolute over-performer!

^Patent pending

AQUAflow

Breezair's AQUAflow non-clogging water distribution is one of the things that make it unique. The water distributor maximizes cooling efficiency by supplying a continuous and balanced flow of water across the cooling pads. This is different to any other brand of evaporative coolers, which are subject to water flow variations for a number of reasons. Breezair's balanced flow ensures highest evaporation efficiency and maximum cooling.



Tornado Pump

The perfect pump for the job! The Tornado pump is built to last. Designed, manufactured and tested by Seeley International, the Tornado pump epitomizes reliability. It features very safe material choices, an encapsulated motor with overload cut-out, stainless steel shafts and bearings fully protected from water. Plus, it has a clever impact-start feature that will overcome any tendency for the pump to become locked up with residue during prolonged off periods. The strong synchronous motor has constant speed, independent of voltage fluctuations, and runs very cool.

NEW! External Air Sensor (Optional Extra)

Displays current outside temperature

Intuitively optimises water and energy usage based on outside ambient conditions

Extends the life of your air conditioner by automatically draining the water tank when temperature nears freezing



MagIQtouch Controller

The advanced touch screen MagIQtouch Controller offers intuitive user navigation (including in-built Installation Wizard), making the operating process simple. Each cooler comes supplied with a 65' wiring loom and it may be extended up to a maximum length of 130' (optional), and to operate up to 135 coolers* from a single MagIQtouch Controller, using optional Link Module and wiring loom - no special controllers required!

*Total loom length must be <= 3280'

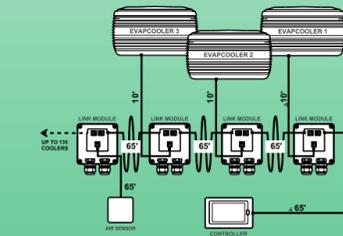
Optional Features

MagIQtouch™ BMS Control

Our coolers are BMS compatible. Please contact your local representative for further option details.

Link Module

Allows connection to additional coolers and sensor into the system using RJ 6 way communication cables.



Air Sensor

Air Sensor is a remote temperature and humidity sensing module that enables you to mount the MagIQtouch Controller in a convenient location (e.g. control room), while still sensing air from the conditioned space.



Technical Specifications (TBSI 580)

Airflow	Industry standard (cfm)	10,000
Cooling capacity*	0.3 IWG (BTU/hr)	62,700
Power consumption (total)	Watts max	1500
	Current max (amp)	7.0
Power supply	Voltage / Phases / Hz	200-240 / 1 / 60
Controller	Type	Digital
Fan	Type	Axial
	Diameter (mm)	534
Motor	Type	Inverter
	Speed max (rpm)	1700
	Rating (Watts)	950
	Current (amp)	5.5
	Voltage / Phases / Hz	200-240 V / 1 / 60
	Overload	Two 'one shot' fuses
	Enclosure	IP X4
Pump	Type	Centrifugal
	Motor	Synchronous
	Rating Watts (input)	30
	Flow rate (gal/min)	4.4 @ 3.9 ft head
	Voltage / Phases / Hz	200-240 / 1 / 60
	Overload	Auto reset
Cooling pad Chillcel	Enclosure rating	IP X4
	Size (inches)	33½ x 20¼ x 4¼ x 4 pads
	Pad area (ft²)	19.3
Water	Tank capacity (gal)	6
	Inlet (inches)	1/2" male BSP
	Drain (mm/inches)	40mm / 1½" male BSP
	Configurable to local requirements	
Shipping	Dimensions including pallet (inches)	45¼ x 45¼ x 35½ (H)
	Volume (ft³)	42
	Mass (lbs)	150
	Operating (lbs)	201
	Connecting duct (raw edged)	Length x width (inches)

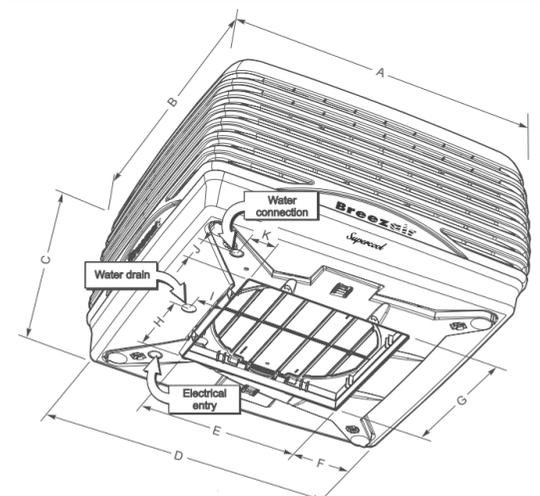
*This cooler has been tested in accordance with the requirements of the California Energy Commission Appliance Efficiency Regulations, Section 1603 and 1604.

Cooler discharge air temperature chart

Ambient Dry Bulb Temperature °F	Ambient Relative Humidity %								
	10	20	30	40	50	60	70	80	90
50	36.6	38.3	39.9	41.5	43.0	44.5	45.9	47.3	48.7
60	43.3	45.5	47.6	49.6	51.5	53.3	55.1	56.8	58.4
70	49.8	52.6	55.2	57.6	59.9	62.1	64.2	66.3	68.2
80	56.0	59.5	62.7	65.6	68.4	71.0	73.4	75.7	77.9
90	62.1	66.3	70.1	73.6	76.9	79.9	82.6	85.2	87.7
100	68.0	73.1	77.6	81.7	85.4	88.8	91.9	94.8	N/A
110	73.9	79.9	85.2	89.8	94.0	N/A	N/A	N/A	N/A
120	79.7	86.8	92.8	98.0	102.6	N/A	N/A	N/A	N/A
130	85.5	93.7	100.5	106.3	N/A	N/A	N/A	N/A	N/A

This chart represents approximate air temperatures based on 87% saturation efficiency at sea level. From tests carried out to Australian Standard 2913.

CABINET DETAILS



Model#	A	B	C	D	E	F	G	H	I	J	K
TBSI 580	45.25	45.25	32.875	45.25	21.625	9.75	21.625	1.375	3.75	3.25	3.25

Note: All dimensions are in inches

Typical installation

Drain outlet	1 ½" BSP to ¾" OD Reducer piece designed for push-on use with a flexible hose (3/4" ID) or solid PVC pipe (3/4" ID)
Water inlet	½" BSP to 3/8" Nom or ½" BSP to ¼" compression adapter pieces
Electrical	½" Flexible conduit
Install kit	The kit consists of MagIQtouch wall control, 65' wiring loom, auto drain valve and plumbing fittings (supplied as standard inside cooler).

