

# Commercial and Industrial Cooling

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World-leading natural cooling technology



# Why Breezair?

## How evaporative air conditioning works

The beauty of evaporative air conditioning is its simplicity. It's a process that's 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.

Think about how much cooler it is at the beach on a hot summer day. Why? Evaporation! Whenever water and hot air come into contact, the water evaporates, cooling the surrounding air by several degrees in the process.

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.

## Why evaporative air conditioning?

Take the natural approach to air conditioning! Seeley International's Breezair range of evaporative air coolers delivers lots of cool, 100% fresh air, at much lower costs than refrigerated cooling methods.

Evaporative air conditioning is fast 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.

## Fresh, clean air

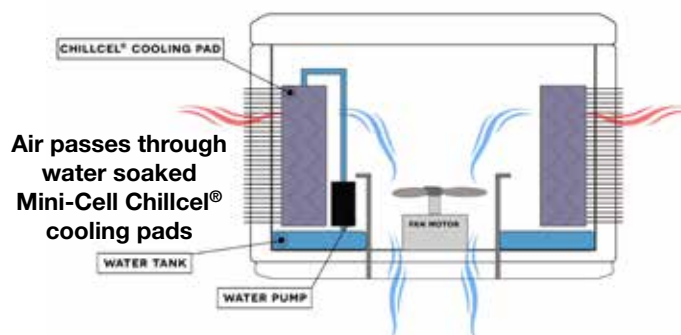
The delivered air is 100% fresh, with no risk of recirculated fumes, germs or odours.

Most importantly, as the outside temperature rises, the more cooling you get inside – the fundamental benefit of the evaporative process.

## 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.

Hot outside air is drawn in by a powerful and quiet fan



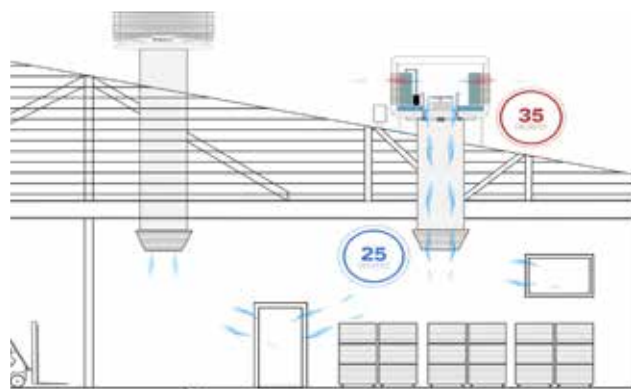
Air passes through water soaked Mini-Cell Chillcel® cooling pads

Water absorbs heat by the natural evaporation process. Cool, fresh air is produced.

## Feel it for yourself!

Breezair evaporative air conditioning:

- ≡ Is more energy-efficient – cheaper to run
- ≡ Delivers cleaner, healthier air
- ≡ Is easier and cheaper to install
- ≡ Improves productivity through fresh, clean air (less chance of Sick Building Syndrome or other air-borne problems)
- ≡ Is healthier for the environment – drastically reduced power use, no harmful emissions and no synthetic refrigerants
- ≡ Is easier to maintain



**Breezair evaporative cooling is suitable for a large range of commercial and industrial applications, such as:**

- warehouses
- repair and maintenance areas
- sports centres
- institutional facilities
- manufacturing plants
- storage areas
- laundries and dry cleaners
- commercial kitchens
- agricultural facilities
- farm buildings – dairy, poultry and stables.

In fact, over quarter of a million commercial and industrial installations have been installed worldwide, and the number is continually growing.



**Why Breezair?**

For around four decades, Seeley International's brands have been synonymous with leading-edge technology, innovative design and superior cooling performance, in addition to 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: browse this catalogue to discover more about Breezair!

# TBQ 500 & TBS 580

## The Breezair TBQ 500 & TBS 580: optimum efficiency and unsurpassed reliability

Breezair units feature advanced technology and a range of unique and clever design features that combine to achieve incredible cooling performance.

### NEW BREAKTHROUGH

#### Mini-Cell<sup>^</sup> Chillcel<sup>®</sup> Pad Technology! Dramatic improvement in cooling efficiency

Revolutionary new Mini-Cell structure provides a new development in cooling technology: the new enhanced small cell design, means that the Breezair range boasts a new cutting edge level of cooling capacity – up to 8% more than before, for the highest efficiency product.

New pad formulation has resulted in having 25% more surface area dramatically improving the cooling efficiency.

The only evaporative cooling pads fully manufactured in Australia to suit the harshest climates, and now, the absolute over-performer!

<sup>^</sup>Patent pending

#### NEW! External Air Sensor (optional)

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

#### Axial fan

The better the fan, the more efficient the system. This super powerful fan is designed to maximise performance and minimise noise.

The purpose designed fans are inherently balanced, with aerofoil blades to provide energy efficient, high pressure performance.



#### Totally enclosed motor

Breezair's fan motor is fully enclosed to international standards and excludes any moisture ingress from all sources. The advanced design is rigorously tested and completely reliable.

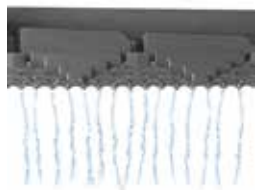


#### Permatuf<sup>™</sup> corrosion-proof cabinet

The Breezair cabinet will not corrode or rust. The UV stabilised 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.

#### Non-clogging water distribution system

Breezair's non-clogging water distribution is one of the things that make it unique. The water distributor maximises 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.



#### MagIQcool<sup>™</sup> Controller (standard)

Operate one cooler from an easy to use, wall mounted thermostat controller. The controller comes with 20 m wiring loom, that can be extended up to a maximum length of 100 m.



#### MagIQtouch<sup>™</sup> BMS Control (optional)

Our coolers are BMS compatible.

Please contact your local representative for further option details.

#### Advanced touch screen MagIQtouch<sup>™</sup> Controller (optional)

The technology includes in-built Installation Wizard, making the operating process simple. Each cooler comes supplied with a 20 m wiring loom and it may be extended up to a maximum length of 40 m (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 <= 1000 m



#### AUTOWeatherseal (optional for TBQ 500)

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<sup>™</sup> system (optional for TBQ 500)

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 (optional for TBQ 500)

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

#### Digital Smartbox<sup>™</sup> / 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 minimise downtime. Several user choice parameters are available to allow you to set up your preferred environment.



#### Tornado<sup>®</sup> water 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.



#### MagIQtouch<sup>™</sup> Air Sensor (optional)

The MagIQtouch Controller reads the temperature and Relative Humidity level from this remote sensor which can be installed in the area that needs to be cooled.



## Technical Specifications

		TBQ 500	TBS 580
Airflow @ 80Pa	Industry standard	9760 m <sup>3</sup> /h 5750 cfm	10010 m <sup>3</sup> /h 5890 cfm
Cooling capacity*	(kW)	13.3	16.8
Power consumption (total)	Watts max	1260	1210
	Current max (amp)	5.7	6.0
Power supply	Voltage / Phases / Hz	220-240 / 1 / 50	220-240 / 1 / 50
Controller	Type	Digital	Digital
Fan	Type	Axial	Axial
	Dia (mm)	541	541
Motor	Type	PSC	PSC
	Speed max (rpm)	1350	1350
	Output Watts max	750	950
	Overload & Fuse	Auto reset & "one shot" fuse	Auto reset & "one shot" fuse
	Enclosure	IP54	IP24
Pump	Type	Centrifugal	Centrifugal
	Motor	Synchronous	Synchronous
	Rating Watts (input)	25	25
	Flow rate (L/min)	21	21
	Voltage / Phases / Hz	230 / 1 / 50	230 / 1 / 50
	Overload	Auto reset	Auto reset
New Cooling Pad Mini-Cell Chillcel	Enclosure rating	IPX4	IPX4
	Size (mm)	850 x 526 (H) x 90 (4 pads)	850 x 526 (H) x 120 (4 pads)
Water	Pad area (m <sup>2</sup> )	1.79	1.79
	Tank capacity (L)	23	23
	Inlet (mm / inches)	12.7 / ½ male BSP	12.7 / ½ male BSP
Shipping	Drain (mm / inches)	40 / 1½ male BSP	40 / 1½ male BSP
	Dimensions incl. pallet (mm)	1150 x 1150 x 902 (H)	1150 x 1150 x 902 (H)
	Volume (m <sup>3</sup> )	1.19	1.19
Connecting duct (raw edged)	Mass (kg)	66	68
	Operating (kg)	89	91
	Length x width (mm)	550 x 550	550 x 550

\*Cooling capacity measured to Australian Standard AS2913-2000, ambient of 38°C dry bulb & 21°C wet bulb, with room exit temperature of 27.4°C.

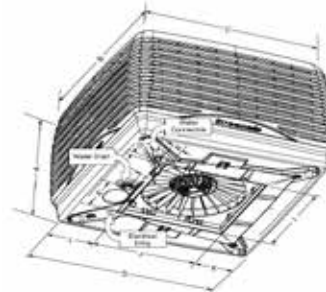
## Cooler Discharge Air Temperature Chart

TBQ 500		Ambient Relative Humidity %								
		10	20	30	40	50	60	70	80	90
Ambient Dry Bulb Temperature °C	10	2.7	3.6	4.5	5.3	6.2	7.0	7.8	8.5	9.3
	15	6.1	7.3	8.4	9.4	10.4	11.4	12.4	13.3	14.1
	20	9.4	10.8	12.2	13.5	14.7	15.8	17.0	18.1	19.0
	25	12.6	14.3	16.0	17.5	18.9	20.3	21.5	22.8	23.9
	30	15.7	17.8	19.7	21.5	23.2	24.7	26.2	27.5	28.8
	35	18.7	21.2	23.5	25.6	27.4	29.2	30.8	32.3	33.7
	40	21.8	24.7	27.3	29.6	31.7	33.7	35.4	37.1	38.6
	45	24.7	28.1	31.1	33.7	36.1	38.2	40.1	41.9	43.5
	50	27.6	31.6	35.0	37.8	40.4	42.7	44.8	46.7	48.4

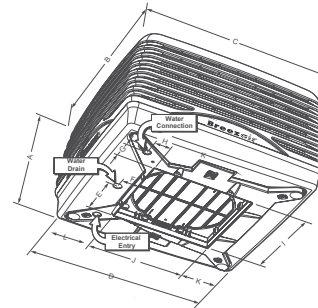
TBS 580		Ambient Relative Humidity %								
		10	20	30	40	50	60	70	80	90
Ambient Dry Bulb Temperature °C	10	2.3	3.2	4.2	5.1	6.0	6.8	7.6	8.4	9.2
	15	5.6	6.8	8.0	9.1	10.2	11.2	12.2	13.2	14.1
	20	8.8	10.3	11.7	13.1	14.4	15.6	16.8	18.0	19.0
	25	11.9	13.7	15.4	17.0	18.6	20.0	21.3	22.6	23.8
	30	14.8	17.1	19.1	21.0	22.8	24.4	25.9	27.4	28.7
	35	17.8	20.4	22.8	25.0	27.0	28.8	30.5	32.1	33.6
	40	20.7	23.8	26.6	29.0	31.3	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	39.9	42.3	44.5	46.5	48.3

These charts represent approximate air temperatures based on 90% saturation efficiency at sea level. From tests carried out to Australian Standard 2913.

## CABINET DETAILS



TBQ 500

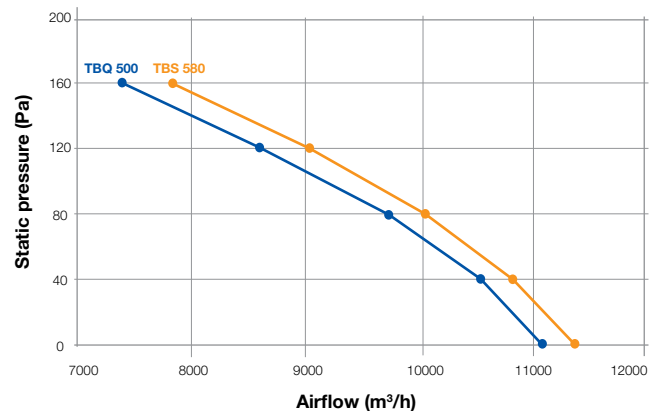


TBS 580

Model#	A	B	C	D	E	F	G	H	I*	J*	K	L
TBQ 500	835	1150	1150	1080	275	95	82	82	555	555	249	279
TBS 580	835	1150	1150	1080	275	95	82	82	555	555	249	279

Note: All dimensions are in mm \*Dropper dimensions

## FAN CURVES



Model#	Industry STD Rating m <sup>3</sup> /h @ 80Pa	Motor W	Certified Air Delivery (m <sup>3</sup> /h) (static pressure Pa)				
			0	40	80	120	160
TBQ 500	9760	750	11160	10550	9760	8680	7420
TBS 580	10010	950	11410	10800	10010	9070	7960

# TBSI 580

## World's first high performance inverter axial evaporative cooler

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

### 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.



### New Venturi

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



### MagIQcool™ Controller (standard)

Operate one cooler from an easy to use, wall mounted thermostat controller. The controller comes with 20 m wiring loom, that can be extended up to a maximum length of 100 m.



### Advanced touch screen MagIQtouch™ Controller (optional)

The technology includes in-built Installation Wizard, making the operating process simple. Each cooler comes supplied with a 20 m wiring loom and it may be extended up to a maximum length of 40 m (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 <= 1000 m

### Permatuf™ corrosion-proof cabinet

The Breezair cabinet will not corrode or rust. The UV stabilised 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™ BMS Control (optional)

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



### NEW BREAKTHROUGH Mini-Cell® Chillcel® Pad Technology!

#### Dramatic improvement in cooling efficiency

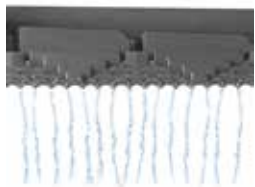
Revolutionary new Mini-Cell structure provides a new development in cooling technology. New enhanced small cell design, means that the Breezair range boasts a new cutting edge level of cooling capacity – up to 13% more than before!

New pad formulation has resulted in having 25% more surface area dramatically improving cooling efficiency. The only evaporative cooling pads fully manufactured in Australia to suit the harshest climates, and now, the absolute over-performer!

<sup>^</sup>Patent pending

### Non-clogging water distribution system

Breezair's non-clogging water distribution is one of the things that make it unique. The water distributor maximises 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.



### 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.

### Tornado® water 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.



### MagIQtouch™ Air Sensor (optional)

The MagIQtouch Controller reads the temperature and Relative Humidity level from this remote sensor which can be installed in the area that needs to be cooled.



### 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 minimise downtime. Several user choice parameters are available to allow you to set up your preferred environment.



### 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

## Technical Specifications

### TBSI 580

<b>Airflow @ 80Pa</b>	Industry standard	10910 m <sup>3</sup> /h 6420 cfm
<b>Cooling capacity*</b>	kW	18.4
<b>Power consumption (total)</b>	Watts max	1500
	Current max (amp)	7.0
<b>Power supply</b>	Voltage / Phases / Hz	220-240 / 1 / 50
<b>Controller</b>	Type	Digital
<b>Fan</b>	Type	Axial
	Dia (mm)	534
<b>Motor</b>	Type	Inverter
	Speed max (rpm)	1700 VAR
	Output Watts max	950
	Overload	Two "one shot" fuses
<b>Pump</b>	Type	Centrifugal
	Motor	Synchronous
	Rating Watts (input)	25
	Flow rate (L/min)	21
	Voltage / Phases / Hz	230 / 1 / 50
	Overload	Auto reset
<b>Cooling pad Chillcel</b>	Enclosure rating	IPX4
	Size (mm)	850 x 526 (H) x 120 (4 pads)
	Pad area (m <sup>2</sup> )	1.79
<b>Water</b>	Tank capacity (L)	23
	Inlet (mm / inches)	12.7 / ½ male BSP
	Drain (mm / inches)	40 / 1½ male BSP
<b>Shipping</b>	Dimensions including pallet (mm)	1150 x 1150 x 902 (H)
	Volume (m <sup>3</sup> )	1.19
	Mass (kg)	68
	Operating (kg)	91
<b>Connecting duct (raw edged)</b>	Length x width (mm)	550 x 550

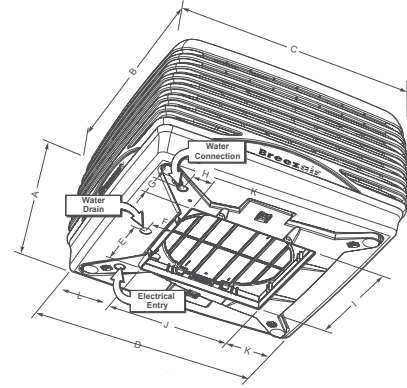
\*Cooling capacity measured to Australian Standard AS2913-2000, ambient of 38°C dry bulb & 21°C wet bulb, with room exit temperature of 27.4°C.

## 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.

## CABINET DETAILS

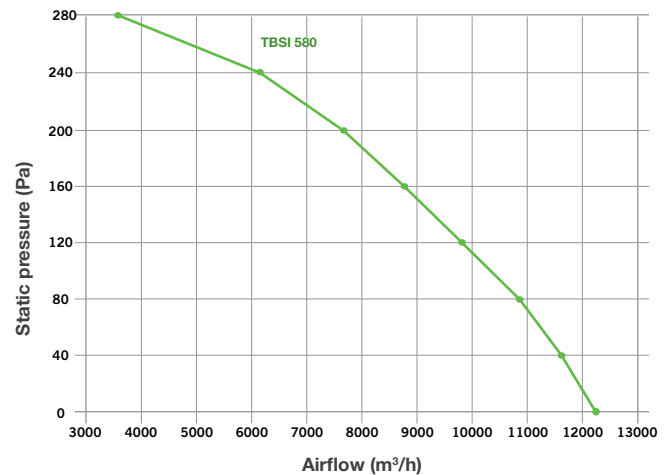


Model#	A	B	C	D	E	F	G	H	I*	J*	K	L
TBSI 580	835	1150	1150	1080	275	95	82	82	555	555	249	279

Note: All dimensions are in mm

\*Dropper dimensions

## FAN CURVE



Model#	Industry STD Rating m <sup>3</sup> /h @ 80Pa	Motor W	Certified Air Delivery (m <sup>3</sup> /h) (static pressure Pa)							
			0	40	80	120	160	200	240	280
TBSI 580	10910	950	12240	11660	10910	9860	8820	7700	6160	3600

## SEELEY INTERNATIONAL

Seeley International is Australia's largest air conditioning and ducted gas heating manufacturer and a global leader in developing ingenious, energy-efficient cooling and heating products.

Our vision is to lead the world in creating climate control solutions which continue to be highly innovative, of premium quality and inspirational in their delivery of energy-efficiency.

But it's more than just a vision... it's a way of life!

A commitment to innovation and excellence is at the heart of all that we do. Our success in delivering on that commitment has been recognised by our many awards and our expanding global presence. Seeley International now exports to well over 120 countries. Not bad for a company that started out in 1972 in the garage of its founder and Chairman, Frank Seeley AM FAICD, who was named South Australian of the Year for 2011!



Distributors for INDIA

**CHADHA INDUSTRIES PVT. LTD.**

*An ISO 9001 : 2015 Co.*

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