



Product Performance Test Results

This report presents the results of Airflow and Evaporation Efficiency Tests undertaken on an Evaporative Cooler. The tests were conducted in Meridian Test Laboratory's Lonsdale Test Facility in accordance with Meridian Test Laboratory's procedures and Australian Standards.

Brand: **Aolan / Grisair**
Model: **AZL 18-ZX10E**
Also known as **Biocool 18D AIV**

Unit description

Product Serial Number: 110005266
Product Type: Evaporative Cooler
Test Number: MTL 13-035

		AIRFLOW ^				
		Aolan AZL 18-ZX10E	Breezair TBS 580	Breezair TBSI 580	Breezair EXS 220	Coolair CPQ 1100X
Tested values	Volume flow rate (l/s)	2 560	2 780	3 030	2 540	2 811
	Volume flow rate (m ³ /h)	9 216	10 010	10 908	9 144	10 120
Claimed values	Volume flow rate (m ³ /h)	18 000	10 010	10 908	9 144	10 120
Over-estimation	%	95%	-	-	-	-

		COOLING CAPACITY ^				
		Aolan AZL 18-ZX10E	Breezair TBS 580	Breezair TBSI 580	Breezair EXS 220	Coolair CPQ 1100X
Tested values	Cooling capacity (kW)	10.6	16.8	18.4	15.1	14.1
Claimed values	Cooling capacity (kW)	16.7	16.8	18.4	15.1	14.1
Over-estimation	%	57%	-	-	-	-

		EVAPORATION EFFICIENCY ^^				
		Aolan AZL 18-ZX10E	Breezair TBS 580	Breezair TBSI 580	Breezair EXS 220	Coolair CPQ 1100X
Tested values	Evaporation efficiency %	82.2%	91.3%	91.5%	90.8%	86.3 %
Claimed values	Evaporation efficiency %	89.1%	91.3%	91.5%	90.8%	86.3 %
Over-estimation	%	8%	-	-	-	-

^ Test conditions: Dry Airflow to AS 2913-2000 and ISO 5801 :2007(E), Indoor air Dry Bulb: 38°C, Indoor air Wet Bulb: 21°C, Barometric pressure: 101.6 kPa, Fan static pressure: 80 Pa.
^^ Test conditions: Evaporation Efficiency to AS 2913-2000, Indoor air Dry Bulb: 38°C, Indoor air Wet Bulb: 21°C, Barometric pressure: 101.8 kPa, Fan static pressure: 80 Pa.



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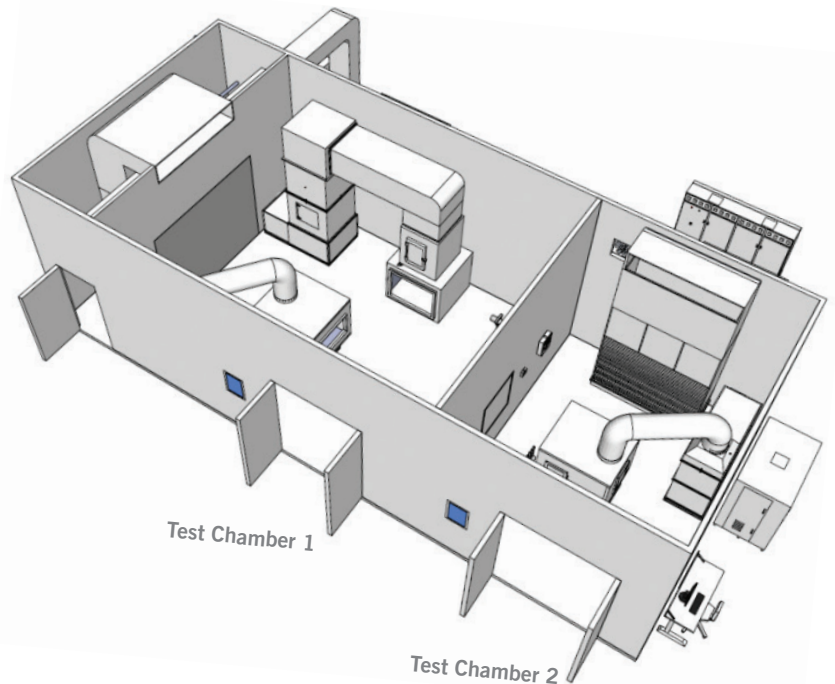
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Laboratory overview

The Meridian Psychrometric Test Laboratory is suitable for conducting performance and development testing on a range of cooling and heating products including direct and indirect evaporative coolers, refrigerated air conditioners and heat pumps.

The laboratory has two test chambers with independent control of dry bulb and wet bulb temperatures and three nozzle boxes that allow accurate measurement of a range of airflows. To enable testing of large evaporative coolers, the laboratory also has two desiccant dehumidifiers to extract additional moisture from the test chambers. The laboratory is fully PLC controlled with electronic measurement and data acquisition of all test results.

Appliance performance is calculated by measuring air conditions into and out of the appliance, airflow and power consumption.



Specifications

	Test chamber 1	Test chamber 2
Chamber size	W: 8m x L: 6.5m x H: 4m	W: 5m x L: 6.5m x H: 4m
Dry bulb temperature	0°C to 55°C	0°C to 45°C
Dew point temperature	0°C to 20°C	8°C to 15°C
Temperature control	+/- 0.2°C	+/- 0.2°C
Airflow rate	100 l/sec to 4000 l/sec	100 l/sec to 1000 l/sec

Product testing capability

Product	Test Standard
Fan performance	ISO 5801
Assembled evaporative coolers	AS 2913, ASHRAE 133
Indirect evaporative coolers	ASHRAE 143
Air conditioners and heat pumps	AS/NZS 3823.1.1, AS/NZS 3823.1.2 – Capacity 9 kW