

TECHNICAL SPECIFICATIONS - CW3

GENERAL

Climate Wizard coolers are characterised by the supply of 100% fresh, cool, outside air, with greatly reduced energy consumption relative to an equivalent refrigerated system performing the same duty.

The coolers comprise of a supply air fan, an exhaust air fan, a combined indirect/direct heat exchanger pack, integrated water reservoir, pumps, and chlorinator system.

CABINET

The cabinet consists of a reservoir, four side panels and a lid constructed of injection moulded UV stabilised reinforced polypropylene. Components are effectively treated to ensure corrosion resistance and mechanical fasteners are zinc coated, stainless steel or aluminium. Connection interface surfaces are provided for the outlet supply air ductwork to be fitted using established industry practices.

The CW3 is fitted with two semi-circular, polypropylene blades, hinged and counterbalanced, to open automatically when the supply fan is activated, and to close when the supply fan is switched off. The weather seal prevents the escape of room air through the ductwork.

FAN & MOTOR

The supply fan is a statically and dynamically balanced multi-blade, aerofoil shaped axial assembly. The exhaust fan is a multi-blade, centrifugal type with backward curved blades. Both fans are constructed from glass reinforced polypropylene and are mounted to their electric motor shaft by means of an axial co-moulded hub. The electric motors are high efficiency, inverter driven and responsive to pulse width modulation to implement speed control that delivers optimum efficiency at lower speed operation.

HEAT EXCHANGE CORE

The cooler uses a series of Seeley International's patented Micro-Core™ heat exchangers. The Micro-Core™ is characterised by its compact and efficient design which incorporates both an indirect cooling stage and an additional Chillcel® fabricated honeycomb, direct cooling pad.

WATER MANAGEMENT SYSTEM

The water supply connection is via a flexible connector which is terminated with a 1/2" BSP compression nipple.

Water is held in an internal reservoir which forms an integral part of the polymer cabinet to provide integrity to the structure and to ensure durability and corrosion resistance.

Heat exchange core saturation is achieved through internally mounted pumps delivering water to a specially designed non-clog water distribution system guaranteeing continuous uniform flow.

The pumps are manufactured from engineering plastics, with stainless steel shafts and fully encapsulated synchronous motors with thermal overload protection. They are provided with an easily cleanable strainer within the reservoir section.

An electronic water management system controls the maximum salinity level and chlorination of the reservoir water through continuous monitoring and replenishment.

The reservoir is drained by an electric drain valve which responds to the water management control system. The design of the reservoir ensures that no water remains after draining.

ELECTRICAL CABINET AND CONTROLS

The electrical control box is pre-wired within the cooler.

The cooler requires a 220V-240V, 10A, supply outlet with a 3m power cable supplied.

The cooler is also compatible with the MagIQtouch range of room wall controls and the MS1 BMS controller.

AIR FILTER

Intake air is filtered through aluminium framed, washable, pleated filters, protected by the intake louver forming the sides of the cabinet to minimise intrusion of rain.

INSTALLATION

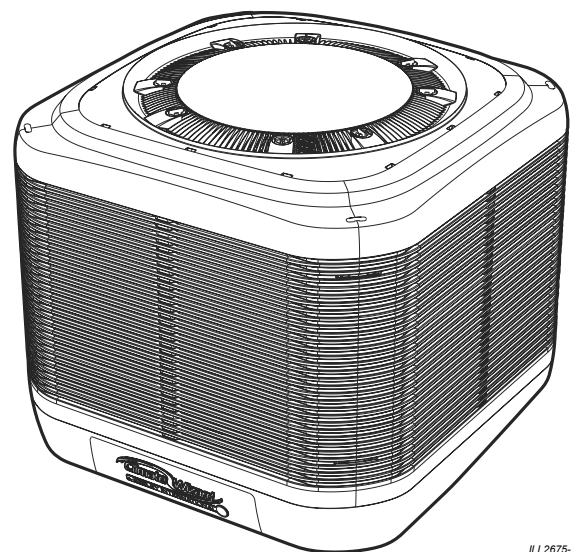
It is essential that the roof truss design is adequate to support the weight of the cooler.

Reinforcement may be required for existing roof structures. For a structural reinforcement guide for timber nail-plated truss roofs, see "CW3 Design Guide, Reinforcement of Timber Nail-plated Truss Roofs". Contact your Seeley International agent for a copy.

The cooler is designed to be installed on dropper with a minimum metal thickness of 1.0mm (20 gauge) to support the operating weight of the cooler. The top edge of the dropper must incorporate a raw, but deburred, safe edge to avoid fouling of the weather seal.

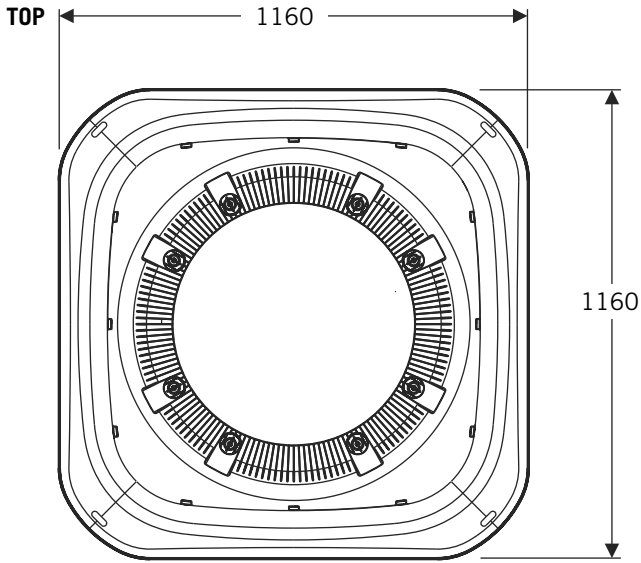
For information on the air duct design requirements, see Document: "Pre-installation Considerations for CW3 Duct Design". Contact your Seeley International agent for a copy.

The cooler is supplied on a pallet that is designed to allow the cooler to be readily craned into position. Features in the pallet provide for the safe sling lifting of the cooler. Given the weight of the product, the use of a crane to lift the cooler onto its mounting dropper is preferred. Alternatively, the cooler may be stripped of its major sub-assemblies to allow them to be handled onto the roof in more manageable pieces.

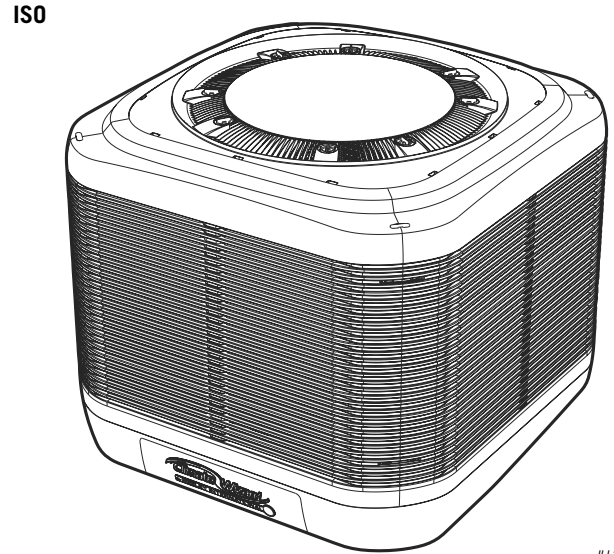


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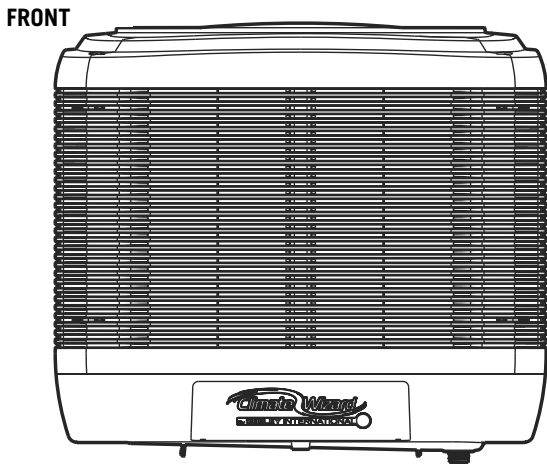
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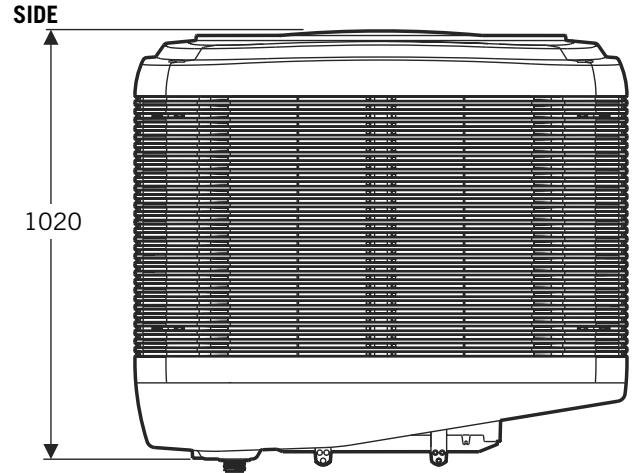
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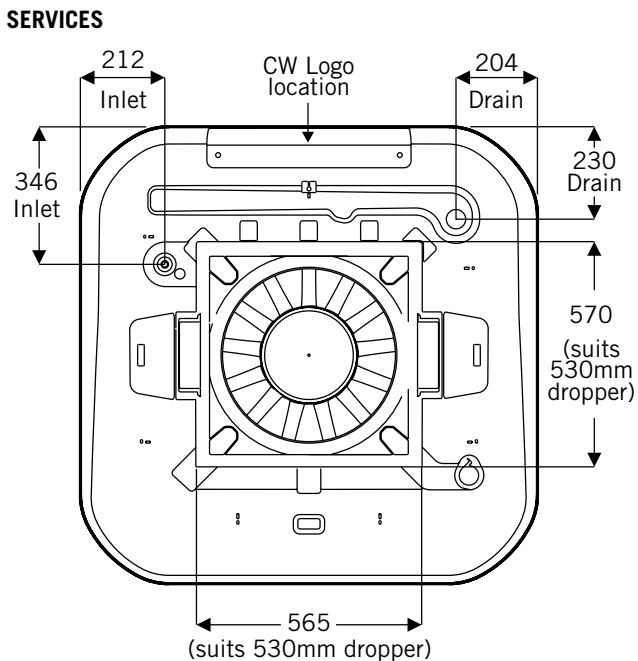
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Dimensions are in mm.

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MODEL			CW3	
SERVICES	Electrical	Voltage	220-240 V / 1~ / 50Hz	
		Rated Current	7 A	
		Input Power	1.75 kW	
	Water	Supply	10 L/min MINIMUM 20 L/min RECOMMENDED @ 100 kPa - 800 kPa	
		Max Temperature	40 °C	
		Inlet	1/2" Male BSP	
		Drain	20mm Push-On	
	Duct Connections	Drain Flow Rate	15 L/min	
		Supply Air	Bottom Discharge 530 x 530 mm	
	Exhaust Air	Top Discharge		
ENVIRONMENT	Maximum Inlet Air Temperature		50 °C	
AIR SYSTEMS	Supply Air Fan/Motor	Fan	400mm Axial	
		Motor	750 W	
		Control	Variable Speed, ECM, PWM	
		Maximum Speed	2400 rpm	
	Exhaust Air Fan/Motor	Fan	380mm Centrifugal Backward Curved	
		Motor	950 W	
		Control	Variable Speed, ECM, PWM	
		Maximum Speed	1100 rpm	
Air Filters	Inlet	8x G4 Washable 356 x 635 x 25mm		
HEAT EXCHANGERS	Indirect Evaporative		8 Micro-Core™	
	Direct Evaporative		8x Chillcel Pads	
WATER SYSTEMS	Tank (Reservoir) Capacity		30 L	
	Inlet Valve		12 VDC Solenoid Valve	
	Pump Indirect Heat Exchangers		1x 13 LPM @ 1.5m Head 240V / 1~ / 50 Hz Input Power 30 W	
	Pump Direct Heat Exchangers		1x 13 LPM @ 1.5m Head 240V / 1~ / 50 Hz Input Power 30 W	
	Salinity Management		Conductivity Probe	
	Chlorinator		12 VDC	
	Drain Valve		12 VDC Vertical	
DIMENSIONS	Shipping	Note: Some parts shipped loose.	1175mm Long x 1175mm Wide x 1045mm High	
	Operating		1160mm Long x 1160mm Wide x 1020mm High	
WEIGHT	Shipping	exc. Loose items	175 kg	
	Operating	inc. Water & Extras	210 kg	
STANDARDS COMPLIANCE			Electrical Safety IEC 60335.1:2010 +A1 +A2 IEC 60335.2.98:2002 +A1 +A2 EMC : CISPR14.1: 20120 EMF : EN 62233:2008	

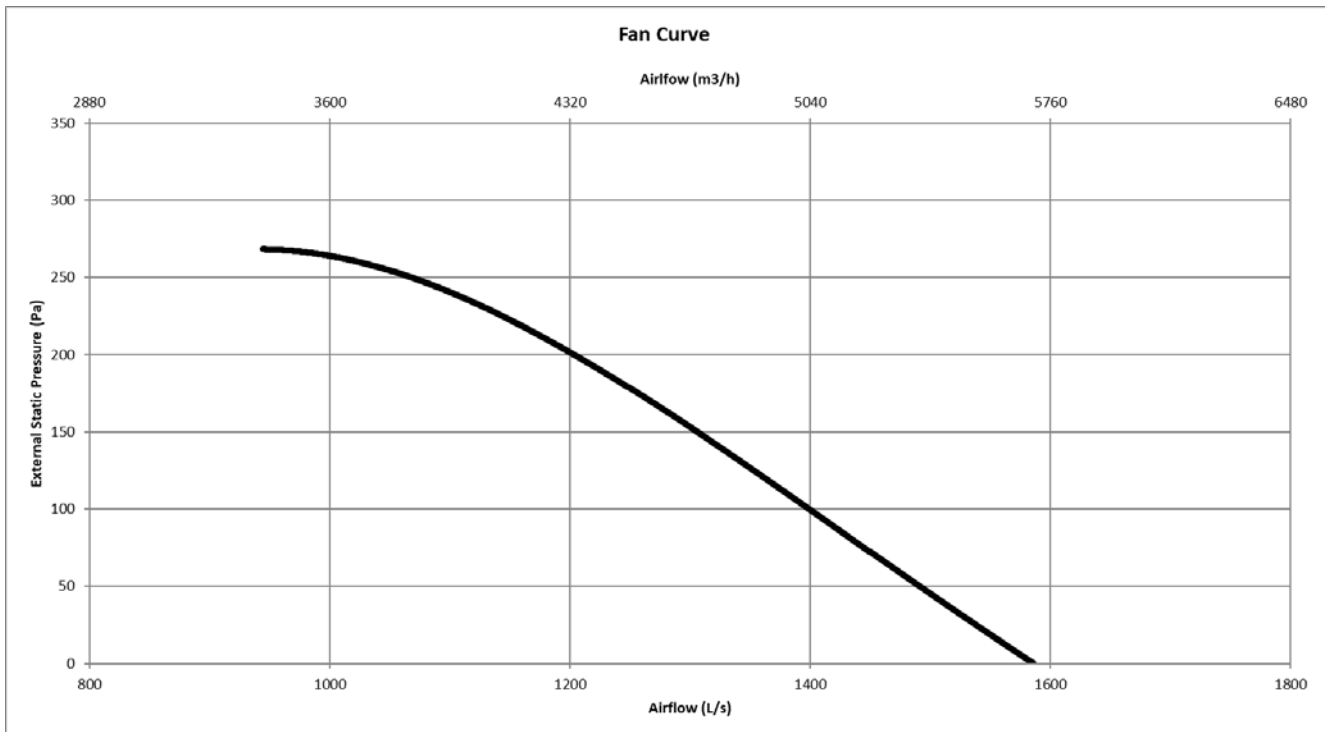
FREQUENCY (Hz)	Air Inlet Sound Power Level (db re 1 pW) Octave Band Centre Frequency							Total Sound Power (db re 1pW)
	125	250	500	1k	2k	4k	8k	
CW3	62	69	77	76	71	64	54	81

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Performance Summary*						
Static Pressure (Pa)	0	50	100	150	200	250
Airflow (L/s)	1585	1490	1405	1300	1210	1065
Airflow (m ³ /h)	5710	5360	5060	4680	4360	3830
Temperature (°C)	20.2	19.7	19.4	19.3	19.1	18.7
Standalone Cooling Capacity (kW)	14	14	14	13	12	11
Input Power (W)	1620	1660	1695	1725	1745	1750
Standalone COP	8.7	8.5	8.1	7.5	7.1	6.5

* Supply Air Temperatures, Cooling Capacities, COP and Water Consumption tested to Australian Standard AS 2913-2000 and ASHRAE 143 with design condition of: 38°C dry-bulb, 21°C wet-bulb and 27.4°C room exit temperature.

FAN CURVE



MAGIQTUUCH CONTROLS

CW3 is compatible with a wide range of MagIQtouch control solutions, including Wall Controllers, Building Management System (BMS) Controllers and Sensor Accessories.

Contact your local Sales office for compatible kits and installation literature.

