

# Control Climate

# Factors with sustainable hvac solutions

CW-6S CW-H15 Series CW-80 Series CW-X\XR Series





COMMERCIAL HVAC SOLUTIONS



# Manufacturing world leading sustainable HVAC solutions



Built by Australians, for a sustainable climate. Seeley International is proudly a 100% Australian owned company, designing and manufacturing world-leading commercial HVAC solutions for Australia and the world. As Australia's largest air conditioning manufacturer, we are a global leader in developing ingenious, energy-efficient cooling and heating products.

Being made in Australia, you can rely on consistency of supply, build quality, availability of parts and after sales service. We're dedicated to strengthening the Australian economy, supporting local employment and building on the skills of our workforce.



Hyper-efficient indirect evaporative cooling solutions



Evaporative cooling for commercial or industrial cooling applications



View our full commercial HVAC range



Commercial gas heating solutions and Hydrogen-ready HCV products

### Award Winning Company

ema

Comprehensive range of VRF Air Conditioning with

intelligent heating & cooling control software.

Seeley International consistently wins awards each year for new product design, innovation and sustainability.





The Climate Wizard's unique indirect evaporative heat exchange core provides hyper-efficient cooling of outside air.

Generate **100% fresh, cool, outside air,** at temperatures that rival refrigerated systems, with up to **80% lower energy costs**\*.

### Reduce carbon emissions Low GWP



Reduced running costs by up to 80%\*

Reduce the energy use and improve cooling performance of existing refrigerated systems.

No high electrical demand charges even in hot weather.

Savings on the installation costs.

### Comfortable indoor air quality



Improved IAQ (indoor air quality) with 100% outside ai, improves human performance in the workplace translating to better business performance.

No moisture added to the air\*\*.

Total cooling performance increases when air temperature rises.

# Flexible applications



Flexible design and engineering configurations suite a wide range of industries and applications.

Upfront capital costs can be recovered due to significant power reduction in cooling operation.

Supported by a team of experienced design consultants and engineers.

### Supporting Sustainability



Wiser use of water (R-718)

Responsible use of renewable resources.

No synthetic or chemical refrigerants that could harm the environment.

Features Auto-Cleanse<sup>(TM)</sup> water management system to minimize water and consumption and to maintain quality.

### Hyper-efficient



Simple, reliable solution to improve COP / EER (coefficient of performance / energy efficiency ratio)

Reduce OPEX (operating expenses) through reduced annual energy costs and improve cash flows.

Tested in NATA (National Association of Testing Authorities) accredited laboratory<sup>#</sup>.

# Low maintenance with technical support



Australia design and made. Easy access to spare parts. After sales support. Designed for easy maintenance.

Over 53 Years experience in the HVAC industry.

\*\* The Climate Wizard Supercool (indirect/direct option) adds a small amount of moisture to the supply air

<sup>#</sup>Testing of the CW-80 and CW-XXR units in the NATA accredited Meridian Test Laboratory are not possible due to their large and unique size.



# **Counter-flow Heat Exchanger**

#### The Climate Wizard indirect evaporative air conditioners use a hyper-efficient counter-flow

heat exchanger to produce 100% fresh, cool, outside air, with no added moisture.

The fresh cold air produced by The Climate Wizard can be similar to that produced by refrigerated systems, with temperatures that approach the ambient dew-point temperature.





# Performance comparison

# The Climate Wizard vs refrigerated cooling as temperature rises



Outdoor Temperature (Degrees Celsius DB) Source: Uni SA Roxby Downs Report June 2009

# The Climate Wizard's cooling performance can rival that of refrigerated systems, using up to 80% less energy.

That's not only great for reducing power bills; it's also great for the environment. And, no matter how hot it gets outside, The Climate Wizard uses the same amount of power and still delivers 100% fresh, cool air inside.

This is in direct contrast to refrigerated systems, which require increasing amounts of power as outside temperatures rise. The Climate Wizard's cost-saving capabilities actually increase, when the heat is at its highest.

At the same time, The Climate Wizard's performance also increases as temperatures rise – again, in complete contrast to refrigerated systems.

dry ai

kilogram of

# **Psychrometric chart**

Barometric pressure 101.3kPa

The coloured lines on the psychrometric chart compare The Climate Wizard's performance to that of a direct evaporative cooler on a hot day.



Dry bulb temperature °C

# The Climate Wizard Cooling Performance

#### **Supply Air Temperature**

Location	Design Condition	The Climate Wizard Leaving Air Temp (°C)											
		CW-6S	CW-H15	CW-H15S	CW-H15S Plus	CW-80	CW-80S	CW-80 HiCap	CW-80S HiCap				
Arid	42°C DB / 21°C WB	19	19	15	16	19	16	20	16				
Temperate	37°C DB / 19°C WB	17	17	14	15	18	15	18	15				
Continental	31°C DB / 20°C WB	19	19	17	18	20	18	20	18				
Sub-Tropical	31°C DB / 23°C WB	23	22	21	22	23	21	23	22				
Tropical	33°C DB / 26°C WB	26	25	24	25	26	25	26	25				

### **Stand-Alone Cooling Capacity**

Location	Design Condition	CV	V-6S	CW	-H15	CW-	H15S	CW-H PI	H15S us	CV	V-80	cw	W-80S CW		CW-80 CW-803 HiCap HiCap		-80S Cap
		kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР
Arid	42°C DB / 21°C WB	14	8	12	7	17	9	22	10	74	6	100	8	82	6	114	8
Temperate	37°C DB / 19°C WB	16	9	14	8	19	10	25	11	88	7	112	9	97	7	128	9
Continental	31°C DB / 20°C WB	13	7	11	6	14	8	19	9	72	6	86	7	78	6	98	7
Sub-Tropical	31°C DB / 23°C WB	8	4	7	4	9	5	12	5	42	3	52	4	44	3	58	4

### **Pre-Cooling Capacity**

Location	Design Condition	CW-H15		CW-H15S		CW-H15S Plus		CW-80		CW-80S		CW-80 HiCap		CW-80S HiCap	
		kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР	kW	СОР
Arid	42°C DB / 21°C WB	31	17	36	20	50	23	207	17	228	18	234	16	261	18
Temperate	37°C DB / 19°C WB	27	15	32	18	43	20	175	14	196	16	198	14	225	16
Continental	31°C DB / 20°C WB	16	9	19	11	26	12	104	8	117	9	116	8	134	9
Sub-Tropical	31°C DB / 23°C WB	12	7	13	7	19	8	75	6	83	7	82	6	95	7
Tropical	33°C DB / 26°C WB	10	6	12	6	16	7	66	5	72	6	71	5	82	6

# The Climate Wizard cooling performance calculator

Enter the key parameters to compare how much energy can be saved. Typically the results are compelling.

You will be provided with a summary and a report of your results to meet local climate conditions.

Go to seeleyinternational.com/commercial/tools





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Dramatically reduce energy consumption and cooling costs by incorporating or retrofitting a Climate Wizard into existing HVAC systems.

# Stand-alone cooling

Ideal for open plan and outdoor access applications



# **Pre-cooling**

A super cost effective way of cooling outside air required by refrigerated systems



# Hybrid heating and cooling

Ensure full design heating and cooling capacity by combining The Climate Wizard with other HVAC equipment such as commercial heating and/or VRF



# **CW-6S Micro-Core**®

The **Climate Wizard CW-6S** cooler is characterised by the supply of one directional flow of 100% outside filtered air, with greatly reduced energy consumption relative to an equivalent refrigerated system performing the same duty. Improving Indoor Air Quality by displacing harmful CO2, PM and VOCs. The cooler comprises of a supply air fan, an exhaust air fan, a combined indirect/direct heat exchanger pack, integrated water reservoir, pumps, and chlorinator system.

For more information



#### Air Filter

**Dimensions :** 

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.

1160mm (W) x 1160mm (L) x x1020mm (H)

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IDEAL APPLICATIONS

Public & Government Facilities Sport & Leisure Centres Retail & Supermarket Commercial Kitchens and more.

#### **Electrical Requirement & Controler**

The electrical control box is pre-wired within the cooler. The cooler requires a 220-240V, 10A, supply outlet with a 3m power cable supplied. The cooler is also compatible with the MaglQtouch range of room wall controls and the MS1 BMS controller.



### CW-6S

UP ТО **14**kW

- COP of up to 8 in pre-cooling applications.
- Up to 14kW of cooling capacity in outside air standalone cooling applications.
- 1,300 L/s (4,680 m<sup>3</sup>/h) supply air.
- Max external static pressure of 250Pa.
- Energy consumption at rated airflow of 1.8 kW.

#### Cabinet

The cabinet comprises a reservoir, four side panels, and a lid, all made from injection-moulded, UV-stabilized, reinforced polypropylene.

Components are treated for corrosion resistance, while mechanical fasteners are zinc-coated, stainless steel, or aluminum. Connection interfaces are designed to accommodate outlet supply air ductwork, following established industry practices.





#### Micro-Core®

The **CW-6S** 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.



Restaurants & Cellar Door Facilities Small Offices, Factories & Shops Doctor Rooms & Nursing Homes Pre-school & Day Care Centre and more.

# IDEAL APPLICATIONS

#### Fan & Motor

The supply fan is a multiblade, aerofoil-shaped axial assembly, while the exhaust fan is a multiblade centrifugal design with backward-curved blades.

The electric motors are high-efficiency, inverter-driven, and use pulse-width modulation for speed control, ensuring optimal efficiency at lower speeds.

#### Water Management System

Water is stored in an internal reservoir integrated into the polymer cabinet, providing structural integrity, durability, and resistance to corrosion. Internally mounted pumps deliver water to a specially designed, non-clog water distribution system, ensuring consistent and uniform flow to saturate the heat exchange core.

The pump motors are equipped with built-in thermal overload protection. An electronic water management system monitors and controls the reservoir's salinity and chlorination levels through continuous replenishment. The reservoir is emptied via an electric valve controlled by the water management system, with a design that ensures complete drainage without residual water.

# CW-H15 & CW-H15 Plus

**The Climate Wizard CW-H15 Series** utilises three hyper-efficient counter-flow indirect evaporative heat exchanger cores, keeping added moisture separate from the supply air stream to deliver cool, fresh air that approaches ambient dew-point temperatures.

The units are equipped with a supply air pressure damper that regulates air pressure in the discharge plenum, providing precise control over the return airflow into the separate wet channels. This feature also enables full control over positive capacity flow.

With an enhanced outside air intake, the filters are designed to maximize surface area for reduced pressure drop. The flat panel layout of the filters increases the air openings of the cowling, further improving accessibility and serviceability.



### Tornado<sup>®</sup> circulation water pump

- Australian designed and manufactured.
- Exceptional reliability under all conditions.
- Includes 'clever impact start' feature that will overcome any tendency for the pump to become locked up with residue during prolonged off periods.
- The robust synchronous motor operates at a constant speed, unaffected by voltage fluctuations, and remains cool during operation, ensuring a long service life.

### Water Management System

- Custom designed water management system minimises water consumption and maximises cleanliness.
- Continuously monitors and controls the water salinity level in the reservoir.
- Controls water cleanliness using a factory installed electrochlorinator.
- Alarms if low water levels are detected.
- Manages water distribution for minimum water consumption and maximum cooling efficiency.
- Automatic drain valve controlled to manage water quality and maximise system efficiency.
- Drains the water system during prolonged idle periods.

### Schneider PLC Controller

(Standard on all CW-H15\S Series models)

- Standard Schneider PLC controller allow for local and BMS control to maximise efficiency.
- Compatible with Multi-Magic control system.
- Standard BACnet & Modbus interface.



### Cabinetry

- Powder coated, marine grade aluminium.
- Weather proof and corrosion resistant.
- Mechanical fasteners are stainless steel or aluminium.

#### Water reservoir

- One piece moulded polymer construction.
- Durable and corrosion free.
- Provides excellent sound deadening properties.
- Sloped to prevent standing water when drained.



**31**kV

- · COP of up to 17 in pre-cooling applications.
- Up to 31 kW of cooling capacity in outside air pre-cooling applications.
- 1,100 L/s (3,960 m<sup>3</sup>/h) supply air.
- Max external static pressure of 195 Pa.
- Energy consumption at rated airflow of 1.8 kW.

# CW-H15S & CW-H15S Plus



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The Climate Wizard CW-H15 Supercool Series is designed to maintain precise temperature and humidity levels in critical climate control applications, making it ideal for cooling medium to large commercial and industrial spaces. It excels where moisture content must be carefully regulated to meet the specific needs of each application.

This series is particularly well-suited for environments such as pharmaceutical storage, printing, food processing, manufacturing, and winemaking, where it helps minimize yield loss due to evaporation.

The Climate Wizard CW-H15 Supercool indirect/direct evaporative air conditioner features a hyper-efficient counter-flow heat exchanger paired with a Supercool module that incorporates our patented Chillcel pads. This system enhances indoor air quality, improves ventilation rates, provides the required humidity, and helps lower CO2 and VOC levels.

#### Chillcel<sup>®</sup> Pads

Our extra-wide Chillcel® pads enhance cooling performance by maximizing evaporation efficiency due to the increased surface area.

#### Water distributor

- The water distributor delivers a calibrated volume of water to efficiently supercool the unit's leaving air.
- A dedicated pump and water distributor are used to independently water the direct evaporative media to maximise versatility.

#### Supply air fan and electric motor

- Backward curved, direct drive, plug fan.
- Ultra-quiet, vibration free.
- Variable speed ECM (electronically commutated motor) for maximum energy efficiency.



**50**k\

### CW-H15S

Part of the independent water collection

Corrosion free and self-draining.

system for the direct evaporative section.

- COP of up to 20 in pre-cooling applications.
- Up to 36 kW of cooling capacity in outside air pre-cooling applications.
- 1,100 L/s (3960 m<sup>3</sup>/h) supply air.

**Drip tray** 

- Max external static pressure of 180 Pa.
- Energy consumption at rated airflow of 1.8 kW.

### **CW-H15S Plus**

- COP of up to 34 in pre-cooling applications.
- Up to 136,485 BTU of cooling capacity in outside air pre-cooling applications.
- 1,600 L/s (5,760 m<sup>3</sup>/h) supply air.
- Max external static pressure of 80 Pa.
- Energy consumption at rated airflow of 2.2 kW.

**36**kV

# CW-80 & CW-80 Hi-Cap

The **Climate Wizard CW-80** and **CW-80 Hi-Cap**, utilising indirect evaporative air conditioning technology, excel in efficiently cooling large open spaces and have a wide range of commercial cooling applications. These systems are particularly well-suited for factories, warehouses, sporting facilities, gymnasiums, schools, and large-format retail environments.

The **Hi-Capacity** models feature a higher airflow capacity for more complex or long distance ducting requirements.By supplying 100% continuous fresh, filtered outside air with no added moisture, the Climate Wizard units can be seamlessly integrated with heating products or used as pre-coolers as part of a total HVAC solution.

Additionally, they use up to 80% less energy than refrigerated VRF systems, making them ideal for high-traffic areas where doors are frequently open, opened and closed.

IDEAL APPLICATIONS Education Facilities, Offices Public & Government Facilities Sport & Leisure Centres Retail & Supermarket Warehouses & Factories Agriculture & Plant Propagation, etc

### **CW-80 Series - Features & Benefits**

- Stainless steel structure- weather proof and corrosion resistant
- High efficiency fan motors
- Polymer water containment
- Proven water management system
- Low noise level
- Automatic or manual operation



### Schneider PLC Controller

**207**kV

#### (Standard on all CW-80 Series models)

- Standard Schneider PLC controller allow for local and BMS control to maximise efficiency
  - Compatible with Multi-Magic control system
- Standard BACnet & Modbus interface

# **CW-80**

- COP of up to 17 in pre-cooling applications.
- Up to 207kW of cooling capacity in outside air pre-cooling applications.
- Up to 7,400 L/s (26,640 m<sup>3</sup>/h) supply air.
- Max external static pressure of 610 Pa.
- Energy consumption at rated airflow of 12.5 kW.

## CW-80 Hi-Cap

• COP of up to 16 in pre-cooling applications.

234

- Up to 234kW of cooling capacity in outside air pre-cooling applications.
- Up to 8,500 L/s (30,600 m<sup>3</sup>/h) supply air.
- Max external static pressure of 820 Pa.
- Energy consumption at rated airflow of 14 kW.



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# CW-80S & CW-80S Hi-Cap

The **CW-80 Supercool Series** is designed to maintain precise temperature and humidity levels in critical climate control applications, making it ideal for cooling medium to large commercial and industrial spaces. It excels where moisture content must be carefully regulated to meet the specific needs of each application.

This series is particularly well-suited for environments such as pharmaceutical storage, printing, food processing, manufacturing, and winemaking, where it helps minimize yield loss due to evaporation.

The Climate Wizard CW-80 Supercool indirect/direct evaporative air conditioner features a hyper-efficient counter-flow heat exchanger paired with a Supercool module that incorporates our patented Chillcel pads. This system enhances indoor air quality, improves ventilation rates, provides the required humidity, and helps lower CO2 and VOC levels.

# Chillcel<sup>®</sup> Pads

Our extra-wide Chillcel® pads enhance cooling performance by maximizing evaporation efficiency due to the increased surface area.

APPLICATIONS

**261**kV

IDEAL

#### Water Management System

- Continuously monitor and control the water salinity.
- Controls water cleanliness using a electro-chlorinator.
- Alarms if low water levels are detected.

**Commercial Printers** 

Paper Manufacturing & Storage Food Processing

> Pharmaceutical Storage Winemaking Barrel Halls

> Semi Open Markets, etc

- Manages water distribution for minimum water consumption and maximum cooling efficiency.
- Automatic drain valve controlled to manage water quality and maximise system efficiency.

## **CW-80S**

- COP of up to 18 in pre-cooling applications.
- Up to 228kW of cooling capacity in outside air pre-cooling applications.
- Up to 7,100 L/s (25,600 m<sup>3</sup>/h) supply air.
- · Max external static pressure of 580 Pa.

The Climate Wizard

• Energy consumption at rated airflow of 12.5 kW.

### CW-80S Hi-Cap

- COP of up to 18 in pre-cooling applications.
- Up to 261kW of cooling capacity in outside air pre-cooling applications.
- Up to 8,200 L/s (29,500 m<sup>3</sup>/h) supply air.
- Max external static pressure of 825 Pa.
- Energy consumption at rated airflow of 14 kW.

**228**kV



The **Climate Wizard CW-X Series**, incorporates 2, 3, 4, or 8 integrated advanced indirect evaporative units, characterised by the supply of 100% fresh, cool outside air with precise control over minimal moisture in a single-pass configuration, significantly reducing energy consumption.

Each single-pass cooler module includes a supply air fan, an exhaust air fan, an indirect heat exchanger, a direct honeycomb ChillCel pad, an integrated water reservoir, pumps, and a chlorinator system.



For both the **CW-X Series** and **CW-XR Series**, the cabinet is constructed from stainless steel and mounted on a heavy-gauge base frame for structural stability. Forklift tine channels are integrated into the frame to facilitate easy transport and lifting. All components are corrosion-resistant, with mechanical fasteners made from zinc-coated, stainless steel, or aluminum

Cooling	Performance	CW-X2	CW-X3	CW-X4	CW-X8
Airflow	Supply Air	2,760L/s @ 100Pa	4,211L/s @ 100Pa	5,561L/s @ 100Pa	11,120L/s @ 100Pa
AITHOW	Exhaust Air	1,360L/s	2,040L/s	2,580L/s	5,160L/s
Temprature	Supply Air	Dry Bulb 19.4°C, Dew Point 14.8°C			
Cooling	Stand alone	27 kW	41 kW	54 kW	109 kW
Capacity *	Pre-cooling	63 kW	96 kW	127 kW	255 kW
COB *	Stand alone	7.5	7.5	7.6	7.4
COP "	Pre-cooling	17.1	17.4	17.3	17.3

\* Supply Air Temperatures, Cooling Capacities, COP and Water Consumption tested to design conditions of 38°C dry-bulb, 21°C wet-bulb.



#### **Redundancy & Fault Register**

The system is designed to support redundancy, ensuring continuous operation even in the event of component failure. It includes a comprehensive register of faults, each with a detailed description and suggested remedies. Fault numbers can be viewed on the Wall Controller, while fault codes are displayed on the PLC screen.

#### Chlorinator

The chlorinator generates chlorine to effectively eliminate bacteria in the water supply and activates when the cooler operates in IEC mode. If water conductivity remains below the required level for 24 hours, a clean tank drain cycle is automatically initiated.

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The optional integrated walkway provides easy access and safety, requiring no additional engineering or construction.

Drain & Water Connection Specification
 40mm drain outlet PVC
 ¾" water inlet with inline y strainer

# **CW-XR - RETURN AIR**

The **Climate Wizard CW-XR Series**, incorporates 2, 3, 4, or 8 integrated advanced indirect evaporative units, featuring a return air system that mixes 67% return air with 33% outside air before passing through the indirect heat exchanger.

This method reduces water consumption, decreases humidity input, filters the air, and is ideal for integration with existing reverse cycle units. The supply and return air ratio is maintained through a pressure sensor feature within the unit.

Flexible airflow configurations are available for both the **CW-X Series and CW-XR Series**, allowing the supply air duct to be positioned either on the side or at the bottom of the unit. This design simplifies installation and avoids complex ducting requirements.

For return air on the **CW-XR Series**, the return air inlet can also be configured to either the side or the bottom of the unit

Cooli	ng Performance	CW-X2R	CW-X3R	CW-X4R	CW-X8R
	Return Supply Air	1,710L/s @ 100Pa	2,630L/s @ 100Pa	3,480L/s @ 100Pa	9,950L/s @ 100Pa
Airflow	Fresh Supply Air	840L/s @ 100Pa	1,300L/s @ 100Pa	1,710L/s @ 100Pa	3,420L/s @ 100Pa
	Total Supply Air	2,550 L/s	3,930L/s	5,190L/s	10,370L/s
Townshing	Supply Air	DB 19.8°C, DP 11.8°C			
Temprature	Return Air	DB 27.4°C, DP 12.3°C			
Cooling Capacity *	Stand alone	24 kW	37 kW	48 kW	96 kW
COP*	Stand alone	6.5	6.5	6.7	6.5

\* Supply Air Temperatures, Cooling Capacities, COP and Water Consumption tested to design conditions of 33%, 38°C dry-bulb, 21°C wet-bulb fresh air and 67%, 27.4°C room exit temperature return air.

#### Water Salinity Control

The water management system employs a 3-pin water probe to measure conductivity as a proxy for salinity. Conductivity readings are updated whenever the water reaches the high probe, and if the value exceeds the upper set point, a salinity drain cycle is automatically initiated.

#### Schneider PLC Controller

The standard Schneider PLC controller allows for both local and BMS control, maximizing operational efficiency



# **Controller Options**

Maintaining an optimal indoor climate across various environments is crucial for comfort, productivity, and efficiency. For this reason, we offer a range of intuitive controllers, including the innovative Multi Magic Control System, the MaglQtouch Controller, and the Schneider Electric PLC controller for complete flexibility for integration with building management systems.

# **Supported Communication Protocols**





\*BACnet - standard on all CW-H & CW-80 models.

Whether you're managing a single system or overseeing a network of cooling units, Seeley International's intuitive controllers are your gateway to effortless climate control. Explore our range of controllers and discover how they can transform the way you manage your HVAC systems.

### BMS Interface Standard on all models

All The Climate Wizard air conditioning models are supplied with an interface to enable the cooler to be controlled from an external location, using a Building Management System.

# Multi-Magic<sup>®</sup> Touch Screen PLC Controller

### (Optional with CW-H15, CW-80, CW-X, CW-XR Series)

- 4" colour touch screen display with temperature and humidity sensor.
- Compatible with Indirect / Direct "Supercool" range
- 7 day programmable timer, 4 events per day.
- Service screen with operational history for ease of troubleshooting and servicing

Operate up to 15 coolers from

# MaglQtouch<sup>®</sup> Controller



- Easy operating process due to in-built Installation Wizard
- Each cooler comes supplied with 20m wiring loom (extendable to maximum 40m)
- Operate up to 60 coolers (total loom length must be 500m from a single MaglQtouch controller, using optional Link Module and wiring loom - no special controllers required)
- Operate Braemar ducted gas heating and The Climate Wizard cooling from the same MaglQtouch controller.

# Schneider PLC

one control

### (Standard on CW-H15, CW-80, CW-X, CW-XR Series)

- PLC screen and interface for local control and functionality
- Low level BMS interface - volt free contacts
- High level BMS interface
  Modbus compatible
- 24Vdc power supply available



# MaglQtouch<sup>®</sup> BMS Industrial Controller MS1 (Optional with CW-6S)

- Optional 12Vdc power supply
- 100m communication cable
- Operate up to 60 coolers using link modules



# Multi-Magic<sup>®</sup> Control System

For more information





Seeley International has delivered, in collaboration with Schneider Electric, a new standard in climate control for its hyper-efficient commercial cooling range, The Climate Wizard. Providing Smart connectivity, Multi-Magic<sup>®</sup> delivers state-of-the-art control for optimising performance, energy-efficiency and operational savings, as well as easy installation with an intuitive user interface.

#### Key Benifits

- Connect up to 15 devices via MODBUS RS-485.
- Ability to manually control the units in a fixed mode of operation.
- Comprehensive fault feedback to assist with servicing and troubleshooting.
- Utilise an optional mobile gateway to access the system remotely. Operational status and performance is logged and uploaded to the cloud for historical graphing and fault reporting.
- BMS Interface
- Low level interface to control mode of operation and fan speed.
- High level Modbus interface to control and read detailed operational status of the equipment.

- Advanced Features:
- Advanced automatic control algorithms that maximise energy efficiency of the cooling equipment.
- Programmable 7-day timer to automatically control on/off times and mode of operation.
- Ambient Condition Monitoring utilises ambient temperature and humidity sensors to predict leaving air temperature of the cooler allowing the controller to maintain stable room conditions.
- Minimum and maximum fan speed settings to ensure minimum outside air ventilation requirements are met.
- Supplementary fan and damper delay interface allows users to interface with ancillary equipment.

# **Multi-Magic** OPTIONAL SENSORS

When used in conjunction with Multi-Magic<sup>®</sup>, the room sensors allow the wall controller to be located safely away from the conditioned space. Wall Controller sensor values are disabled, and only the Room Sensor is used for setpoint control. Multiple Room Sensor values from multiple coolers can be averaged together to provide an overall temperature and relative humidity value for larger spaces.



### **Room Sensor**

Remote room and humidity sensors allow for averaging over a large area and allows for placement of the wall controller in a secure location not within the conditioned space.



### **Ambient Sensor**

An IP65 ambient sensor complete with radiation shield provides the ability to utilise the Ambient Conditioning Monitoring advanced feature for stable room conditions.

Ambient Condition Monitoring mode uses advanced formulas to calculate a predicted supply temperature. Coolers are disabled if the predicted supply temperature is greater than the current room temperature.



### **Duct Sensor**

Duct mounted sensor provides a read out on the screen to monitor performance of the cooler.

# **Technical specifications**

	(	CW-H15 Serie	s	CW-80 Series						
	CW-H15	CW-H15S	CW-H15S Plus	CW-80	CW-80 Hi Cap	CW-80S	CW-80S HiCap			
Pre cooling capacity*	25 kW*	29 kW*	40 kW*	161 kW*	181 kW*	186 kW*	214 kW*			
Airflow at external static pressure	1,100 L/s (3,960 m3/h) at 150 Pa external static	1,100 L/s (3,960 m3/h) at 120 Pa external static	1,600 L/s (5,760 m3/h) at 80 Pa external static	7,400 L/s (26,640 m3/h) at 190 Pa external static	8,500 L/s (30,600 m3/h) at 270 Pa external static	7,100 L/s (25,600 m3/h) at 180 Pa external static	8,200 L/s (29,500 m3/h) at 240 Pa external static			
Max. external static pressure	195 Pa	180 Pa	80 Pa	610 Pa	820 Pa	580 Pa	825 Pa			
Max. inlet air temperature	55 °C	55 °C	55 °C	50 °C	50 °C	50 °C	50 °C			
Power requirement at rated airflow	1.8 kW	1.8 kW	2.2 kW	12.5 kW	14 kW	12.5 kW	14 kW			
Electrical supply	3.	-phase, 380-415, 50	Hz		3-phase, 38	0-415V, 50 Hz				
Water supply	20 L/min deliv	vered at 100 kPa min,	800 kPa max	45	45 L/min delivered at 100kPa min, 1000 kPa max					
Water consumption	56 L/h	60 L/h	72 L/h	260 L/h	275 L/h	295 L/h	335 L/h			
Supply air configuration		Side discharge		Side discharge						
Supply fans	1 x 560mm bacl	kward curved centrifu coupled EC motor	gal fan with direct	2 x backward curved centrifugal fan with direct coupled EC motor						
Exhaust fans		Not applicable		4 x backwa	ard curved centrifuga	fan with direct coupl	led EC motor			
Pump	١	Water circulation pum	р	Water circulation pump						
Water management	Low voltage ca	atalytic chlorinator and	d salinity probe	Low voltage catalytic chlorinator and salinity probe						
Drain valve	Low v	oltage, vertical, electri	c drive	Low voltage, vertical, electric drive						
Heat exchanger core	3 x The count	e Climate Wizard IEC p er-flow heat exchange	patented r cores	16 x Climate Wizard IEC patented counter-flow heat exchanger cores						
Air filtration	6 x ISO Coarse ple 44	eated washable filters 4mm x 495mm x 44r	with metal frames, nm	16 x ISO Coarse pleated washable filters with metal frames, 622 mm x 622 mm x 44 mm						
Water reservoir	One pie	ece moulded polymer,	65 L	One piece moulded polymer, 180 L						
Dimensions	2290mn	1 L x 1825mm W x 12	185mm H		3980 mm L x 2550	mm W x 3515 mm H				
Shipping weight	340 kg	335 kg	335 kg	2000 kg	2000 kg	2100 kg	2100 kg			
Operating weight	330 kg	345 kg	345 kg	2700 kg	2700 kg	2850 kg	2850 kg			
Controller options	Wall controlle	r, BMS interface^, Mo	odbus, BACnet	Wall controller, BMS interface, Modbus, BACnet						

Note: Specifications subject to change. \*Tested in accordance with ASHRAE 143 conditions of 38.0°C db / 21.0°C wb. Stand alone cooling capacity may be lower, depending on application. \*Temperature data from field measurements.

# **Technical specifications**

CW-6S	C۱	N-X Series	- Single Pa	ass	C	W-XR Series	- Return A	Air
CW-6S	CW-X2	CW-X3	CW-X4	CW-X8	CW-X2R	CW-X3R	CW-X4R	CW-X8R
13 kW (Nominal Cooling)	63 kW*	96 kW*	127 kW*	255 kW*	24 kW (Nominal Cooling)	37 kW (Nominal Cooling)	48 kW (Nominal Cooling)	96 kW (Nominal Cooling)
1,300 L/s (4,680 m³/h) at 150 Pa	"2,760 L/s (9936 m³/h) at 100 Pa"	"4,211 L/s (15,160 m³/h) at 100 Pa"	"5,561 L/s (20,020 m³/h) at 100 Pa"	"11,120 L/s (40,032 m³/h) at 100 Pa"	"2,550 L/s (9180 m³/h) at 100 Pa"	"3,930L/s (14,148 m³/h) at 100 Pa"	"5,190 L/s (18,684 m³/h) at 100 Pa"	"10,370 L/s (37,332 m3/h) at 100 Pa"
250 Pa	250 Pa	250 Pa	250 Pa	250 Pa	250 Pa	250 Pa	250 Pa	250 Pa
50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
1.8 kW	3.6 kW	5.5 kW	7.2 kW	14.7 kW	3.6 kW	5.5 kW	7.2 kW	14.7 kW
1-phase, 220-240V, 50Hz		3-ph 380-41	nase, 5V, 50Hz			3-ph 380-415	iase, 5V, 50Hz	
20L/min @ 100kPa- 800kPa	20L/min @ 100kPa - 800kPa	26L/min @ 100kPa - 800kPa	35L/min @ 100kPa - 800kPa	70L/min @ 100kPa - 800kPa	20L/min @ 100kPa - 800kPa	26L/min @ 100kPa - 800kPa	35L/min @ 100kPa - 800kPa	70L/min @ 100kPa - 800kPa
60 L/h	105 L/h	148 L/h	195 L/h	390 L/h	105 L/h	148 L/h	195 L/h	390 L/h
Down discharge		Selective - Side c	or down discharge			Selective - Side o	r down discharge	
1 x	2 x	3 x 400mm	4 x Axial forward curv	8 x red fan. Variable Spe	2 x eed. ECM. PWM Co	3 x	4 x	8 x
1 x	2 x	3 x	4 x	8 x	2 x	3 х	4 x	8 x
	380mm Ba	ackward curved cei	ntrifugal fan with d Wa	ter circulation pump	er motor. Variable S	speed, ECM, PWM	Control	
			Low voltage cata	lytic chlorinator and	salinity probe			
			Low volta	age, vertical, electric	drive			
8 x	16 x	24 x	32 x Micro-Core® (	64 x (IEC) and Chillcel® (	16 x (DEC) Pads	24 x	32 x	64 x
8 x ISO Coarse pleated washable	8 x	12 x	16 x	32 x	8 x	12 x	16 x	32 x
filters with metal frames, 343 x 622 x 22 mm		MERV 8 pleated 594mm x 594	l washable filters 4mm x 44mm			MERV 8 pleated 594mm x 594	washable filters 4mm x 44mm	
1 x	2 x	З х	4 x One piece mou	8 x Ided polymer at 30 I	2 x	3 x	4 x	8 x
1,160mm (L) x 1,160mm (W) x 1,020 (H)	3157mm (L) x 1,546mm (W) x 1706mm (H)	4527mm (L) x 1,546mm (W) x 1706mm (H)	5897mm (L) x 1,546mm (W) x 1705mm (H)	11,186mm (L) x 1,546mm (W) x 1705mm (H)	3157mm (L) x 1,546mm (W) x 1706mm (H)	4527mm (L) x 1,546mm (W) x 1706mm (H)	5897mm (L) x 1,546mm (W) x 1705mm (H)	11,186mm (L) x 1,546mm (W) x 1705mm (H)
175 kg	900 kg	1,200 kg	1,500 kg	3,000 kg	900 kg	1,200 kg	1,500 kg	3,000 kg
210 kg	980 kg	1,320 kg	1,663 kg	3327 kg	980 kg	1,320 kg	1,663 kg	3327 kg
Wall controller, BMS	Wall o	controller, BMS inte	erface^, Modbus, E	BACnet	Wall o	ontroller, BMS inte	rface^, Modbus, B	ACnet

Note: specifications subject to change. \*Tested in accordance with ASHRAE 143 conditions of 38.0°C db/21.0°C wb fresh air and 67%, 27.4°C room exit temperature return air. Stand alone cooling capacity may be lower, depending on application. \*\*Tested in accordance with ASHRAE 143 conditions of 33%, 38.0°C db/21.0°C wb fresh air and 67%, 27.4°C room exit temperature return air. Stand alone cooling capacity may be lower.















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Information in this brochure was correct at the time of preparation. Specifications subject to change without any notice. E &  $\rm OE$ 





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