



MAGNUS®
powerhouse water heaters

HEAT PUMP WATER HEATER

Swimming Pool Heat Pumps



temperzone
climate innovations

The Efficient,
Reliable and Durable
Pool Heating Solution

Heating Capacity
25.0kW - 39.9kW



Temperzone Heat Pump Water Heaters for a Superior Solution

Temperzone is dedicated to pioneering innovative new technologies and creating market-leading, easy-to-use solutions that offer precision climate control.

MAGNUS swimming pool heat pumps are designed with local conditions in mind. Temperzone's understanding of what makes refrigeration systems continue to operate reliably, combined with a highly corrosion resistant design, offers confidence that MAGNUS should be your first choice for swimming pool heating.



Over 65 Years of Industry Experience

With over 65 years of expertise in the design of leading climate innovations, trust temperzone to offer the most efficient and reliable solutions for local conditions.

Leading Durability for a Longer Life

Temperzone has several decades of experience as the market leader in manufacturing hydronic air conditioning systems in the Australasian region. Temperzone has a long established reputation for quality and durability with a focus on long life commercial grade systems. You can be assured that MAGNUS will stand the test of time in the harshest of conditions.

Designed for Local Conditions

MAGNUS swimming pool heat pumps are designed with local conditions in mind. Temperzone's understanding of what makes refrigeration systems continue to operate reliably, combined with a highly corrosion resistant design, offers confidence that MAGNUS should be your first choice for swimming pool heating.

The Smarter Pool Heating Solution

Heat pump water heaters are environmentally responsible and efficient water heating solution available on the market today, providing a comfortable environment for all occupants no matter what the season is.

Features

MAGNUS[®]
powerhouse water heaters



Intelligent Unit Controller
Ensures the unit runs at its optimum efficiency and provides system operation data.



ThermoShell[®]
Corrosion resistant Titanium ThermoShell. Anti Fouling design. Higher Performance. Negligible pressure drop.



High Efficiency Compressors
For superior performance under extreme outdoor conditions.



Electronic Expansion Valve
Electronic expansion valves for greater control and efficiency.



Multi-speed Fans
Multi speed condenser fans for better efficiency and control.



Low Ambient Temperature Operation
Operates down to -10°C ambient temperature.



Marine Grade Powder Coating
Polyester powder coated with highly corrosion resistant pre-coating for long life durability.



Epoxy Coated Coils
Corrosion resistant epoxy coated coils for long life coil protection.



Local or 3rd Party Control
Operates with Temperzone local or 3rd party controllers.



Durable Compact Design
Robust high quality commercial construction.



Easy Service Access
Easy access panels to internal components.



BMS
BACnet[™] or Modbus via RS485 (or TCP/IP option)
*BACnet is optional accessory.



MAGNUS MWP, Delivering 600% Heating Efficiency*

Heat pump water heaters are the most efficient way to heat a pool. MAGNUS swimming pool heaters are able to turn one unit of input power into as much as 6 units of output power. The 600%* efficiency compares well with 100% for electric resistance heaters, and 70-90% for gas systems. The very low cost of operation means MAGNUS heat pump systems are the most cost effective option for your pool.



Energy Efficiency Comparison

Comparative energy input and output for various heating technologies*.



* conditions: 27/20°C db/wb outdoor ambient; EWT 27°C; LWT 30°C.

Lowest Carbon Emissions

Swimming Pool Heat Pumps

Utilising heat pump water heater technology leads to substantially reduced carbon emissions when compared to conventional water heating systems. Using renewable energy, individual units have nearly no carbon emissions and have the lowest overall carbon footprint. Carbon emissions can be reduced by as much as 70% when compared to gas boiler heating systems.

Reliable Performance

Intelligent De-ice Performance

In very cold ambient conditions ice will form on the evaporator coil during operation. Our coil design has been optimised for the local humid marine climate to more effectively remove ice build-up while maintaining unit efficiency. Combined with our intelligent de-ice system, these are the most effective cold climate heat-pump water heating units on the market.

Operates Down to -10°C Ambient

Designed for the harshest conditions, MAGNUS Pool heat pumps feature electronic expansion valves (EEV) which enable these units to operate in ambient temperatures down to -10°C and ensure efficient heating, whatever the weather.



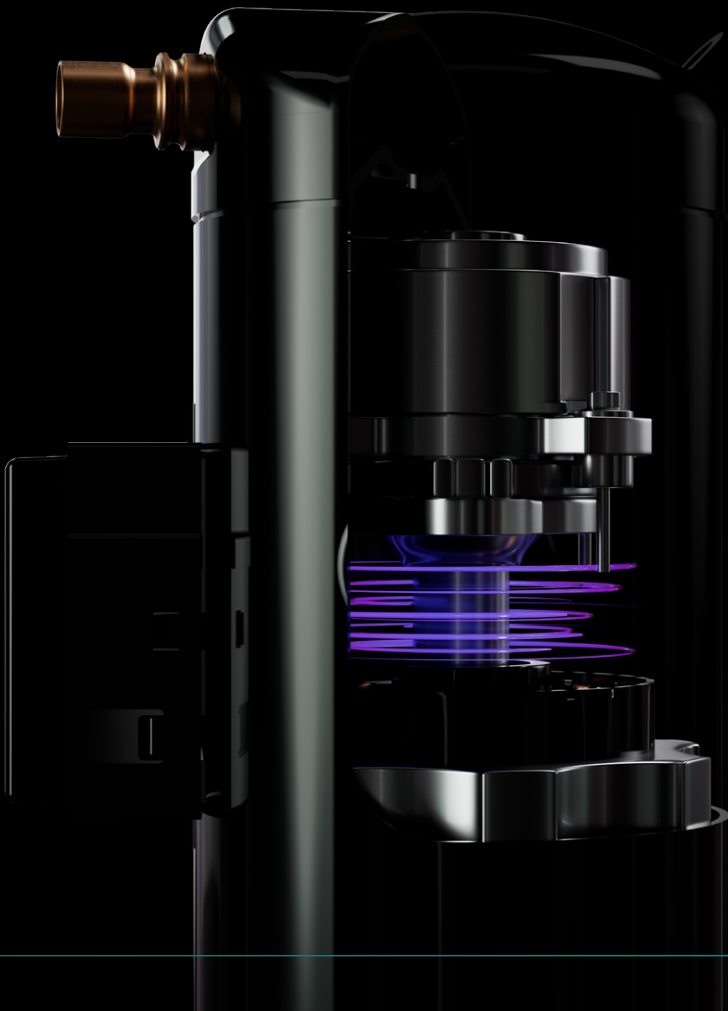
Non Fouling ThermoShell® Technology

ThermoShell® Technology Heat Exchangers

Temperzone swimming pool heat pump water heaters feature highly corrosion resistant Titanium ThermoShell® heat-exchanger for chlorinated and salt water. Temperzone's Titanium ThermoShell® heat exchanger design means they are fouling resistant which guarantees the same performance year after year.

Energy Efficiency Compressors

Highly efficient digital compressors allow additional control of the refrigeration cycle to cope with extreme outdoor conditions, and provide flexibility in pool temperature control options. The advanced unit controller combined with application specific design uniquely enables the compressor to constantly operate within its design limits, improving unit life.



Electronic Expansion Valves (EEV)

Temperzone EEV allow optimum control of superheat at varying load. They also provide increased efficiencies by lowering head pressure and optimum feeding of heat exchanger coils. EEV control liquid saturation over the coils, which in turn increases the opportunity to absorb energy.

Benefits include:

- › EEV enable improved efficiency and reduced operating costs at part-load conditions.
- › They also facilitate maximised energy savings during the shoulder seasons – periods in which air conditioning systems often run at part-load.



Reliability & Durability

- 1

Highly corrosion resistant epoxy coated coils to suit harsh climate conditions
- 2

Marine grade pretreatment and polyester powder coated galvanised steel, inside and out
- 3

Advanced integrated controls with full safety design integration
- 4

Maintenance-free, non-fouling, long life ThermoShell® heat exchanger
- 5

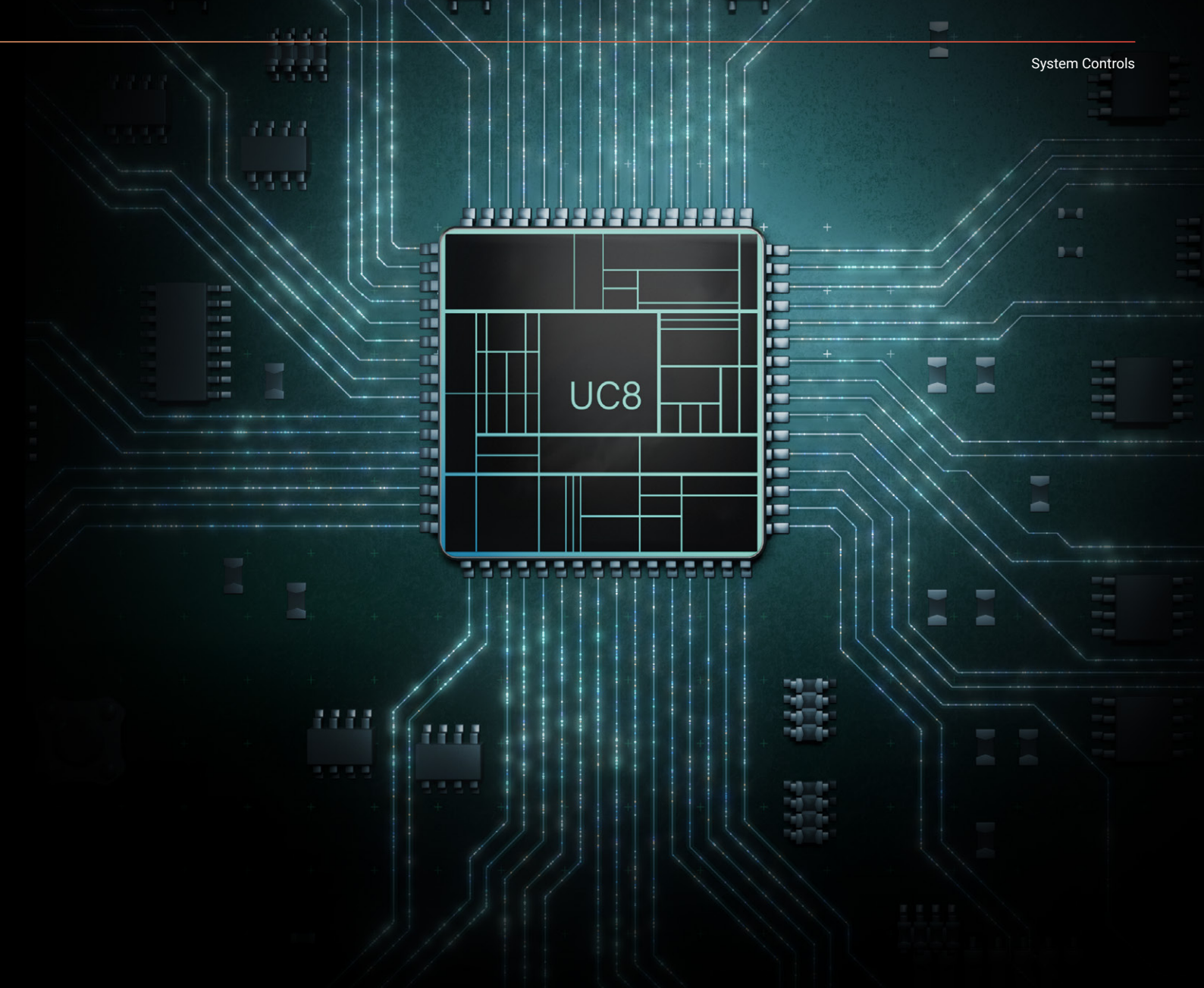
SKT coated screws provide a higher corrosion resistance than 316 stainless steel
- 6

Commercially constructed compact system design. Louvre guards for added coil protection
- 7

Scroll compressor in-line technology for optimal efficiency and heating service
- 8

Draining base preventing water and ice accumulation inside the unit
- 9

Easy service and maintenance access using panels and leak-free doors



- Intelligent System Controller

Temperzone’s proprietary electronic controller intelligently monitors the refrigerant conditions, while optimising system efficiency. A unique duplex electronic expansion valve control system ensures reliability and performance under a wide range of ambient temperatures (down to -10°C), while pressure transducers allow for precision pressure monitoring and control.
- WiFi Service Utility Tool

WiFi Service Utility (WSU) is a portable control interface that plugs directly into the UC8 board on a Temperzone Air Conditioning Unit. It allows you to monitor a wide range of operational parameters, view fault logs and even take control of the unit. It has its own WiFi network built in and the control and diagnostics are done wirelessly from a smartphone, tablet or notebook PC.
- BMS Control Integration

Providing for centralised management control, the UC8 controller is BMS compatible via digital and analogue signals or via Modbus.
- Local or 3rd Party Control

Choose either Temperzone’s TZT-100 advanced thermostat controller, or utilise 3rd-party control integration with 12VAC or 24VDC control.

Swimming Pool Heat Pump Specifications



Model

MWP 230

MWP 250

MWP 400

Heating Performance

Design Water Temp. (EWT/LWT) °C	27/30	25/28	25/28	27/30	25/28	25/28	27/30	25/28	25/28
Ambient Temp (db / wb)	27/20	20/17	7/6	27/20	20/17	7/6	27/20	20/17	7/6
Heating (kW)	26.9	25.0	18.4	28.4	26.3	19.6	43.9	39.9	29.9
Input Power (KW)	4.4	4.2	4.2	4.5	4.2	4.3	7.0	6.6	6.7
COP Heating	5.80	5.68	4.21	6.02	5.92	4.32	5.91	5.67	4.24
Water Flow Rate (l/min.)	128	119	88	135	126	94	210	190	143

Components

Heat Exchanger	Titanium ThermoShell	
Fans	3 spd Axial 500mm	3 spd Axial 500mm (x2)
Electronic Expansion Valves	1	2
Water Connections	1 1/2" BSP union (x2)	2" BSP union (x2)

Power

Power Source	1ph. 230V ac 50Hz	3ph. 400V ac 50Hz	
Running Amps - Total sys. (A/ph.)	21	8/7/ 7	15/14/15
Max Running Amps - Total sys. (A/ph.)	35	17/15/15	20/18/20

Compressor

Type	Digital Scroll
Refrigerant	R410A

Model

MWP 230

MWP 250

MWP 400

Sound Data

Sound Power (SWL) dB(A)*	68	68	71
Sound Pressure @ 3m (SPL) dB(A)	52	52	55

Design Specifications

Min./Max. EWT °C (Heating)	10/32
Design HEX Differential °C	3
Max. Operating Pressure kPa	200
Min. Ambient Operating Temp.	-10°C

Communication

Unit Controller	UC8
Communication Options	TZT-100 (controller included) / Modbus (BACNET option) / 3rd Party controls

Overall Dimensions, Weight & Finish

W x D x H (mm)	963 x 771 x 1199	1766 x 771 x 1199
Net Weight (kg)	175	285
Unit Finish	Zinc galvanised steel / grey polyester powder coat	

Note: Pump not included.
* Radiated. BS 848.2 : 2004. Direct method of measurement (reverberant room). The manufacturer reserves the right to make changes in specifications at any time without notice or obligation. Materials and specifications are subject to change without notice due to ongoing research and development programme.



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