



Range from 12 to 156kW

The Obsidian series from Aqua Chiller is a high ambient range of outdoor chillers, with capacities from 11.9 kW to 156 kW, purpose-built to withstand Australia's harshest climates. Designed for durability and reliability, these units utilise R134a refrigerant and oversized, coated condensers to ensure consistent performance in extreme conditions. With rugged construction, dust-resistant housing, and a high ambient cooling rating, the Obsidian range is the dependable solution for critical cooling in the toughest outdoor environments.

Benefits

The Obsidian series delivers exceptional resilience through high-specification components and thoughtful engineering. Each unit features corrosion-protected, oversized condensers, a sealed and pressurised buffer tank with automatic air bleeders, and a factory-installed bypass circuit for hydraulic flexibility. The dust-proof electrical housing and voltage-separated control system enhance safety and longevity in dusty or remote environments. Designed for simplicity and performance, the Obsidian range includes an automatic make-up water system to maintain operational continuity. Every unit undergoes comprehensive factory testing and is backed by a 3-year warranty, making the Obsidian series the go-to choice for mission-critical cooling in demanding ambient conditions.

Features

- Capacity range from 11.9 kW to 156 kW, with larger sizes available on request
- High ambient design, rated to perform at 7°C chilled water supply with 45°C ambient
- Advanced outdoor chiller series, built for demanding Australian conditions
- European-built with high-spec componentry
- Onsite commissioning included (a)
- 3-year warranty included as standard (b)
- Galvanised steel frame with durable polyester powder coating
- Heavy-duty adjustable feet for stability and levelling
- Oversized, corrosion-protected condenser coil, copper pipe with aluminium fins, Blygold or equivalent coating
- Scroll compressor technology for efficient and quiet operation
- High-efficiency brazed plate evaporator to reduce refrigerant charge
- Equipped with a thermostatic expansion valve for precise refrigerant flow
- Internal stainless steel circulation pump, 4 bar pressure
- Sealed and pressurised stainless steel water tank, thermally insulated, with auto air bleeders
- Bypass loop with gate valve, adjustable from outside the unit
- Non-corrosive piping materials for long service life
- Carel µChiller controller with APPLICA NFC mobile connectivity
- Optional Modbus capability and remote control panel
- Built-in fan speed control for optimised performance in variable conditions
- Flow switch, high and low pressure protection
- Thermal overload protection on motors
- Phase sequence, fail, and frequency protection

- Anti-freeze alarm to protect evaporator
- Remote on/off contact and alarm output contact
- Voltage separation between control and component circuits for safety
- Convenient pressure gauges for water pressure and refrigerant pressures
- Dustproof housing on electrical boxes and internal components for extended component life
- Tested under real-world load conditions prior to shipment
- Installation and maintenance plans available for long-term support

3 year warranty

All Aqua Chiller units are tested throughout the manufacturing process followed by a substantial and comprehensive test upon completion. Coupled with the world's most trusted component brands, Aqua Chiller's products are designed and built to last.



Notes

- (a) Onsite commissioning included in metro areas only. Additional travel fees apply for areas outside of metro regions and will be specified on quotation.
- (b) 3 year warranty valid when unit installed to our specifications verified by Aqua Chiller commissioning visit. 6 month maintenances must be completed and logged on our website by qualified personnel. Annual water treatment and filter changes must occur with proof provided. Aqua Chiller can offer install and maintenance packages to suit.

Specifications: 12-156 kW



Range designed for high ambient and extra harsh conditions

Aqua Chiller Name:	Units	AC-OBS-VPA-H-150-TP	AC-OBS-VSCA-H-245-TP	AC-OBS-VSCA-H-390-TP	AC-OBS-VSCA-H-500-TP
Cooling Capacity +7C supply +45C ambient	kW	11.9	19.8	31.4	40.4
Compressor Power Input	kW	5.2	7.8	13.0	16.8
Fan Power Input	kW	0.7	0.5	1.2	2.1
Pump Power Input	kW	0.75	1.3	1.3	1.5
Combined Power Input	kW	6.65	9.6	15.5	20.4
Power Supply	V/Ph/Hz	415/3/50	415/3/50	415/3/50	415/3/50
Compressor Operating Current	Amp	10.6	2 x 9.3	2 x 10.6	2 x 16.3
Compressor Max Current Draw	Amp	19.0	2 x 16	2 x 19	2 x 32
Compressor Locked Rotor Amps	Amp	98.0	2 x 87	2 x 85	2 x 145
Type of Refrigerant		R134a	R134a	R134a	R134a
Outdoor Installation		Suitable	Suitable	Suitable	Suitable
Expansion Device		Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve
Condenser Type		Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating
Fan Type		Axial (Ø50)	Axial (Ø45)	Axial (Ø63)	Axial (Ø50)
No. of Fans		1	2	2	3
Fan Motor Power	kW	0.7	2 x 0.25	2 x 0.6	3 x 0.7
Fan Speed Control		Yes	Yes	Yes	Yes
Condenser Air Flow Rate	m3/h	7,000	9,000	16,000	21,930
Compressor Type		Scroll	Scroll	Scroll	Scroll
No. Compressors		1	2	2	2
Compressor Capacity Control Steps	%	0, 100%	50%, 100%	50%, 100%	50%, 100%
Number of Refrigerant Circuits		1	1	1	1
Nominal Compressor Power	HP	8	2 x 7	2 x 10	2 x 13
Evaporator Type		Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger
Evaporator Flow Rate	m3/h	2	3.4	5.4	6.9
Tank		Closed, pressurised	Closed, pressurised	Closed, pressurised	Closed, pressurised
Tank material		AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel
Tank Volume	L	60	100	200	250
No of Pumps		1	1	1	1
Pump Type		Centrifugal	Centrifugal	Centrifugal	Centrifugal
Pump Power Input	kW	0.75	1.3	1.3	1.5
Pump Pressure	bar	4 bars	4 bars	4 bars	4 bars
Flow Protection		Flow-switch	Flow-switch	Flow Switch	Flow Switch
Water Inlet Connection Size	DN	20	25	32	50
Water Outlet Connection Size	DN	20	25	32	50
Type of Controller		Carel µChiller	Carel µChiller	Carel µChiller	Carel µChiller
HP Control		Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch
HP Gauge		Yes	Yes	Yes	Yes
LP Control		Transducer	Transducer	Transducer	Transducer
LP Gauge		Yes	Yes	Yes	Yes
Dimensions (W x L x H)	mm	900 x 1000 x 1620	1000 x 1400 x 1840	1060 x 1660 x 2110	950 x 2450 x 2010
Dry Weight	Kg	310	470	620	760

AC-OBS-VSCA-H-590-TP	AC-OBS-VSCA-H-780-TP	AC-OBS-VSCA-H-970-TP	AC-OBS-VSCA-H-1220-TP	AC-OBS-VSCA-H-1560/2-TP	AC-OBS-VSCA-H-1940/2-TP
47.8	62.6	78.0	100.0	125.2	156.0
19.0	26.4	32.8	38.4	52.8	65.6
2.2	3.3	3.3	4.95	6.6	6.6
2.2	3.0	4.0	4	4	5.5
23.1	32.7	40.1	47.35	63.4	77.7
415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50
2 x 18.7	2 x 24.1	2 x 30.8	2 x 33.9	4 x 24.1	4 x 30.8
2 x 35	2 x 47	2 x 58	2 x 72.7	4 x 47	4 x 58
2 x 175	2 x 215	2 x 270	2 x 300	4 x 215	4 x 270
R134a	R134a	R134a	R134a	R134a	R134a
Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve
Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating	Oversized Condenser with Corrosion Proof Coating
Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)
2	2	2	3	4	4
2 x 1.1	2 x 1.65	2 x 1.65	3 x 1.65	4 x 1.65	4 x 1.65
Staged, Inverter Option	Staged, Inverter Option	Staged, Inverter Option	Staged, Inverter Option	Staged, Inverter Option	Staged, Inverter Option
26,450	37,870	43,800	64,300	82,640	87,590
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
2	2	2	2	4	4
50%, 100%	50%, 100%	50%, 100%	50%, 100%	25%. 50%, 75%, 100%	25%. 50%, 75%, 100%
1	1	1	1	2	2
2 x 15	2 x 20	2 x 25	2 x 30	4 x 20	4 x 25
Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger
8.2	10.8	13.4	17.4	21.5	26.8
Closed, pressurised	Closed, pressurised	Closed, pressurised	Closed, pressurised	Closed, pressurised	Closed, pressurised
AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel
250	300	300	500	500	500
1	1	1	1	1	1
Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
2.2	3	4	4	4	5.5
4 bars	4 bars	4 bars	4 bars	4 bars	4 bars
Flow Switch	Flow Switch	Flow Switch	Flow Switch	Flow Switch	Flow Switch
50	65	65	65	80	80
50	65	65	65	80	80
Carel µChiller	Carel µChiller	Carel µChiller	Carel µChiller	Carel µChiller	Carel µChiller
Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch	Semi-Auto Reset Switch
Yes	Yes	Yes	Yes	Yes	Yes
Transducer	Transducer	Transducer	Transducer	Transducer	Transducer
Yes	Yes	Yes	Yes	Yes	Yes
1080 x 2450 x 2200	1080 x 3100 x 2200	1130 x 2710 x 2500	1130 x 3900 x 2600	2200 x 3100 x 2310	2200 x 3250 x 2550
900	980	1200	1720	2000	2500

Notes

- Nominal cooling capacity is calculated with 7°C chilled-water supply and 45°C inlet cooling air temperature at system flow rate and pressure
- Recommended temperature range of chilled fluid: 3°C and 25°C. Use of glycol recommended for set points under 6°C.
- Temperature difference between inlet and outlet chilled fluid between 4°C and 7°C. Contact us for temperature splits outside of this range
- All figures are at the rating point of 7c supply in 45c ambient.
- We recommend the use of R134a when ambient temperatures are expected to reach 42°C+

Features

- Flow switch protection.
- High and low pressure protection.
- Thermal overloads on motors.
- Phase Rotation, Fail, and Frequency protection.
- Alarm output contact.
- Remote on/off contact.
- Anti freezing alarm to protect evaporator.
- All models are tested under real conditions before shipment.
- Installation and maintenance plans are available.

High Ambient Range

The Obsidian range is designed for a specialised high ambient environment. This range includes:

- 45°C Ambient Design Point
- Oversized Condensers with Anti-Corrosive Coating
- Dust Minimisation Design
- Closed loop water circuit