



OptimusTM



Range from 17 to 211kW

The Optimus series from Aqua Chiller offers an advanced range of outdoor chillers with capacities from 17 kW to 211 kW, specifically designed for Australian conditions. Engineered for superior efficiency, these units utilise tandem-configured scroll compressors to deliver exceptional part-load performance, making them an ideal choice for demanding outdoor applications.

Benefits

The Optimus series stands out with its high-quality components, including Danfoss/Copeland compressors, Carel controllers, and EBM fans, ensuring reliable and consistent cooling. The use of a brazed plate heat exchanger and a thermally insulated stainless steel water tank optimises cooling performance while minimising refrigerant charge. These chillers are designed not only for efficiency but also for ease of use, featuring Modbus capability, an internal pump, and fan speed control. Rigorous testing ensures that every unit performs reliably right out of the box, backed by a 1-year warranty for added peace of mind. The Optimus series is the ultimate solution for those seeking high-performance, dependable cooling in challenging outdoor environments.

Features

- Capacity range from 17kW to 211kW.
- Superior part-load efficiency is achieved by using scroll compressors in a tandem configuration.
- Advanced range of outdoor chillers.
- European built and designed for Australian conditions.
- Onsite commissioning included (a).
- 3 year warranty included as standard (b).
- Compact, space saving design, suitable for indoor or outdoor installation with an electrical panel protected by a double enclosure.
- Galvanized steel frame further protected with polyester powder paint.
- Heavy duty adjustable feet to provide stability.
- High efficiency and quiet operation with scroll compressors.
- Less refrigerant charge by using an efficient brazed plate heat exchanger as the evaporator.
- Equipped with a thermostatic expansion valve.
- Includes a generously sized copper pipe aluminum finned condenser coil for high efficiency.
- Includes fan speed controller.
- Features the Carel µChiller microprocessor controller with Carel APPLICA NFC technology - connects your mobile phone to the chiller for parameter monitoring and easy changes.
- Optional Modbus capability and remote control panel.
- Thermally insulated stainless steel water tank.
- Internal stainless steel pump with 4 bar of pressure.
- Convenient pressure gauge included on the case for water pressure, high and low refrigerant pressures.
- Easy to service design.
- Non corrosive pipe material.

- 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.

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 personel. Annual water treatment and filter changes must occur with proof provided. Aqua Chiller can offer install and maintenance packages to suit.

Specifications: 17-211 kW

Aqua Chiller Name:	Units	AC-OPT-VSP-200-TP	AC-OPT-VSP-340-TP	AC-OPT-VSP-425-TP	AC-OPT-VSP-590-TP
Cooling Capacity +7C supply +35C ambient	kW	17.9	31.1	39.6	53.8
Compressor Power Input	kW	5.8	9.7	11.7	17.1
Fan Power Input	kW	0.76	0.76	0.6	0.76
Pump Power Input	kW	1	1	1.5	2.2
Combined Power Input	kW	5.8	9.7	11.7	17.1
Power Supply	V/Ph/Hz	415/3/50	415/3/50	415/3/50	415/3/50
Operating Current	Amp	10	17.4	22.7	31.8
Max Current Draw	Amp	16	30	32.4	58
Locked Rotor Amps	Amp	86	150	202	284
Type of Refrigerant		R410a	R410a	R410a, 100%	R410a
Outdoor Installation		Suitable	Suitable	Suitable	Suitable
Expansion Device		Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve
Condenser Type		Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins
Fan Type		Axial (Ø50)	Axial (Ø50)	Axial (Ø63)	Axial (Ø50)
No. of Fans		1	2	2	3
Fan Motor Power	kW	0.76	2 x 0.76	2 x 0.76	3 x 0.76
Fan Speed Control		Yes	Yes	Yes	Yes
Condenser Air Flow Rate	m3/h	8000	2x8000	2x8000	3x8000
Compressor Type		Scroll	Scroll	Scroll	Scroll
No. Compressors		2	2	2	2
Compressor Capacity Control Steps	%	0, 50%, 100%	0, 50%, 100%	0, 50%, 100%	0, 50%, 100%
Number of Refrigerant Circuits		1	1	1	1
Nominal Compressor Power	HP	2 x 3.4	2 x 6	2 x 7.5	2 x 10
Evaporator Type		Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger
Evaporator Flow Rate	m3/h	3.1	5.3	6.8	9.2
Tank		Included, non-pressurised	Included, non-pressurised	Included, non-pressurised	Included, non-pressurised
Tank material		AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel	AISI 304 Stainless Steel
Tank Volume	L	100	200	200	300
No of Pumps		1	1	1	1
Pump Type		Centrifugal	Centrifugal	Centrifugal	Centrifugal
Pump Power Input	kW	1	1	1.5	2.2
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	25	25	25	40
Water Outlet Connection Size	DN	25	25	25	40
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	mm	1000 W x 1400 D x 1840 H	1000 W x 1660 D x 1830 H	1060 W x 1660 D x 2110 H	950 W x 2450 D x 2010 H
Dry Weight	Kg	450	500	580	720

Notes

- Nominal cooling capacity is calculated with 7°C chilled-water supply and 35°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 35c ambient.
- We recommend the use of R134a when ambient temperatures are expected to reach 42°C+

AC-OPT-VSP-700-TP	AC-OPT-VSP-850-TP	AC-OPT-VSP-1120-TP	AC-OPT-VSP-1400-TP	AC-OPT-VSP-1820-TP	AC-OPT-VSP-2320-TP
64.6	80.5	106.3	133.1	163.9	211.0
18.6	23.5	33.3	38.5	50.0	63.2
1.2	1.2	1.2	1.2	1.2	1.2
3	3	4	5.5	7.5	11
18.6	23.5	33.3	38.5	50	63.2
415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50
35.4	44.9	57.5	68.6	82.8	109.3
60	77.2	102	124	158	212
294	394	454	520	588	778
R410a	R410a	R410a	R410a	R410a	R410a
Suitable	Suitable	Suitable	Suitable	Suitable	Suitable
Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve	Thermostatic Expansion Valve
Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins	Copper Pipes, Aluminum Fins
Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)	Axial (Ø80)
2	2	2	3	3	4
2 x 1.2	2 x 1.2	2 x 1.2	3 x 1.2	3 x 1.2	4 x 1.2
Yes	Yes	Yes	Yes	Yes	Yes
2x22500	2x22500	2x22500	3x22500	3x22500	4x22500
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
2	2	2	2	2	2
0, 50%, 100%	0, 50%, 100%	0, 50%, 100%	0, 50%, 100%	0, 50%, 100%	0, 50%, 100%
1	1	1	1	1	1
2 x 12	2 x 15	2 x 20	2 x 25	2 x 30	2 x 40
Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger	Brazed Plate Heat Exchanger
11.1	13.8	18.3	22.9	28.2	36.3
Included, non-pressurised	Included, non-pressurised	Included, non-pressurised	Included, non-pressurised	Included, non-pressurised	Included, non-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
300	300	300	500	500	500
1	1	1	1	1	1
Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
3	3	4	5.5	7.5	11
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	50	65	65	65	80
50	50	65	65	65	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 W x 2450 D x 2200 H	1080 W x 2450 D x 2200 H	1130 W x 3100 D x 2550 H	1130 W x 3900 D x 2630 H	1130 W x 3900 D x 2730 H	1200 W x 5000 D x 2620 H
810	830	1420	1720	1800	2330

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.
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