

AQUARIUS PLUS

High efficiency water cooled chillers, heat pumps and evaporating units with screw compressors and R134a refrigerant gas.

Cooling capacity 358-1544 kW

Heating capacity 405 - 1735 kW

Cooling capacity evaporating units 328 - 1429 kW

PST



PROCESS COOLING SOLUTIONS



AIR CONDITIONING SYSTEMS

Conditioning Your ambient,
maximising Your comfort.



The Aquarius Plus water cooled screw chillers are the best solution for commercial and industrial applications when requirements are reliability and performances. They are designed to meet market requirements in terms of versatility and energy efficiency. Stepless cooling capacity regulation, electronic expansion valves and high efficiency heat exchangers with integrated heat recovery systems, contributes to obtain high performance both at full load and at partial load with exceptional ESEER value.



Screw Compressors

Aquarius Plus are equipped with high efficiency screw compressors designed and optimized for R134a refrigerant gas. The stepless cooling capacity regulation ensures the delivery of the exact power according to the real needs of the system, obtaining the maximum energy efficiency in all operating conditions.

Smart Stepless Partialization

Thanks to the new **Smart Stepless** algorithm it is possible to obtain an high precision and adaptability in the cooling capacity regulation. The control dynamically manages the speed of the partialization based on the thermal load of the system.

Respect of Enviroment

High energy efficiency of the units Aquarius Plus coupled with R134a non-ozone depleting refrigerants, reduce the environment impact minimizing the energy waste. Recyclable and high quality materials ensure the respect of environment and reduces carbon footprint.

Electronic Expansion Valve

The electronic expansion valve allows an improvement of performance and an operating range wider than thermostatic expansion valves. The continuous calibrations system represents the best solution for all applications characterized by several thermal load changes.



25÷100%

R134a



Benefits

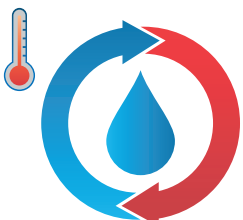
- 21 base models that perfectly match each specific system requirements;
- High energy efficiency both at full load and at partial load
- Stepless cooling capacity regulation with self-adaptive control;
- High precision and adaptability in cooling capacity regulation;
- Compressors minimum partialization step 25%;
- Heat exchangers with low water side pressure drops in order to save pumping costs;
- Low sound levels, thanks also to the availability of two different acoustic versions;
- Easy access to all components;
- Fully bundled heat recovery solutions;
- Condenser outlet water temperature up to 60°C.

Standard features

- Environmentally friendly refrigerant R134a with zero ozone depletion potential;
- High efficiency screw compressors with stepless regulation optimized for R134a refrigerant gas;
- Automatic circuit breakers for compressors;
- Compressor crankcase heaters;
- Check valve and shut-off valve on discharge line;
- Electronic expansion valves;
- Single pass shell & tubes heat exchangers optimized for R134a refrigerant gas;
- Electrical panel with numbered wires, forced ventilation and IP54 protection class;
- Phase monitor which provides protection against phase loss and phase reversal;
- Microprocessor electronic control xDRIVE with high computing capacity and user friendly interface, suitable for connection with supervisor system;
- RS485 interface for connection to ModBus supervisor systems;
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters.

Heat Recovery

The integrated partial or total heat recovery systems are able to provide useful heat, that would otherwise be lost, for other purposes thus reducing the overall energy bill and CO₂ emissions.



Energy Efficiency

Stepless cooling capacity regulation, electronic expansion valves and high efficiency heat exchangers with integrated heat recovery systems, contributes to obtain high performance both at full load and at partial load with exceptional ESEER values.



Main options

- Partial or total heat recovery;
- Compressors acoustical enclosure (super silent acoustic configuration);
- Shut-off valves on suction line;
- Soft starter device allows a reduction in start-up current reducing the mechanical stress for compressors;
- Capacitors for compressors;
- Condensing control kit (with servo-driven modulating valves or pressure control valves);
- Flanges kit on evaporator;
- Flanges kit or Victaulic kit on condenser and total heat recovery;
- Anti-vibration dampers kit;
- Remote control with LCD display VGIP;
- xWEB300D supervisor kit;
- Cooling tower or dry cooler available on request;
- Remote condenser available on request for condenserless version (ME).

Versions

- **CH** - Cooling only version;
- **HP** - Heat pump with hydraulic system reversing and outlet water temperature up to 60°C;
- **ME** - Condenserless version;
- **LWT** - Low Water Temperature (down to -8°C);

Acoustic configurations

- **Basic acoustic configuration:** compressors directly accessible;
- **Super silent acoustic configuration:** this configuration is optimised for very low noise operation: compressors are housed in a metal compartment insulated with a sound absorbing layer of open-cell expanded polyurethane and a sheet of sound deadening material (noise reduction -6 db(A) in comparison with basic).

xDRIVE Microprocessor Controller

Control and management of the unit are provided by the microprocessor electronic controller xDRIVE. Thanks to the high computing capacity and the simple user interface, it allows an easy management. The units can be remotely controlled with supervisory systems through the standard RS485 port or xWEB300D kit.



Factory Test

All models are individually tested in order to check correct operation, and also undergo refrigerant charge and leakage controls, and microprocessor and safety device setting verifications. Leading brand components are used throughout, ensuring long term reliability.



Model AQP			1402	1502	1602	1702	1802	2002	2202	2352
Cooling capacity	(1)	kW	357.8	388.9	428	458	494	534	584	613
Cooling capacity	(1)	TR	102	110.5	122	130	140.5	152	166	174
Total absorbed power		kW	70.8	78.3	86.2	92.1	98.4	104.8	111.6	118.4
EER		-	5.05	4.97	4.97	4.97	5.02	5.10	5.23	5.18
EXCHANGERS										
Evaporator pressure drops		kPa	38	45	27	31	33	38	34	37
Water flow		m ³ /h	61.4	66.7	73.5	78.6	84.8	91.7	100.2	105.2
GENERAL DATA										
Refrigerant		-	R134a							
Circuits / Compressors		N°	2/2							
Capacity control		%	12.5~100							
Power supply		V/Ph/Hz	400 ± 10% / 3+N-PE / 50							
Protection class		-	IP54							
NOISE LEVEL										
Noise pressure basic	(2)	dB(A)	68	68	69	69	69	70	70	70
Noise pressure silent	(2)	dB(A)	62	62	63	63	63	64	64	64
SIZE AND WEIGHT										
Depth		mm	4150	4150	4300	4300	4300	4300	4300	4300
Width		mm	1460	1460	1460	1460	1460	1460	1460	1460
Height		mm	1640	1640	1640	1725	1725	1725	1725	1770
Weight		kg	2118	2497	2942	2972	3132	3142	3185	3341

Model AQP			2502	2652	2802	3002	3202	3402	3602	3902
Cooling capacity	(1)	kW	644	686	732	792	868	930	1004	1071
Cooling capacity	(1)	TR	183	195	208	225	247	264	285.5	304.5
Total absorbed power		kW	125.4	133.9	143	155.5	167.4	179.3	191.6	205
EER		-	5.14	5.12	5.12	5.09	5.19	5.19	5.24	5.22
EXCHANGERS										
Evaporator pressure drops		kPa	36	40	37	56	43	49	31	35
Water flow		m ³ /h	110.5	117.7	125.6	135.9	149	159.6	172.3	183.8
GENERAL DATA										
Refrigerant		-	R134a							
Circuits / Compressors		N°	2/2							
Capacity control		%	12.5~100							
Power supply		V/Ph/Hz	400 ± 10% / 3+N-PE / 50							
Protection class		-	IP54							
NOISE LEVEL										
Noise pressure basic	(2)	dB(A)	70	70.5	70.5	70.5	71	71	71	71.5
Noise pressure silent	(2)	dB(A)	64	64.5	64.5	64.5	65	65	65	65.5
SIZE AND WEIGHT										
Depth		mm	4300	4300	4300	4920	4920	4920	4920	4920
Width		mm	1460	1390	1390	1390	1390	1390	1390	1390
Height		mm	1770	2132	2132	2132	2132	2165	2165	2278
Weight		kg	3677	3687	3932	4372	4852	4862	5195	5345

Model AQP			4202	4502	4802	5602	6402
Cooling capacity	(1)	kW	1144	1213	1302	1416	1544
Cooling capacity	(1)	TR	325	345	370	403	439
Total absorbed power		kW	218.6	233	247.2	282.4	302.8
EER		-	5.23	5.21	5.27	5.01	5.10
EXCHANGERS							
Evaporator pressure drops		kPa	41	45	49	56	50
Water flow		m ³ /h	196.4	208.2	223.5	243.1	265
GENERAL DATA							
Refrigerant		-	R134a				
Circuits / Compressors		N°	2/2				
Capacity control		%	12.5~100				
Power supply		V/Ph/Hz	400 ± 10% / 3+N-PE / 50				
Protection class		-	IP54				
NOISE LEVEL							
Noise pressurebasic	(2)	dB(A)	72	72	72.5	72.5	73
Noise pressuresilent	(2)	dB(A)	66	66	66.5	66.5	67
SIZE AND WEIGHT							
Depth		mm	4920	4920	4920	4970	4970
Width		mm	1390	1390	1390	1390	1390
Height		mm	2278	2287	2287	2287	2287
Weight		kg	5495	5565	6046	6276	6586

(1) Evaporator IN/OUT: 12/7°C ; condenser IN/OUT : 35/30°C;

(2) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and / or higher efficiency versions may differ.)

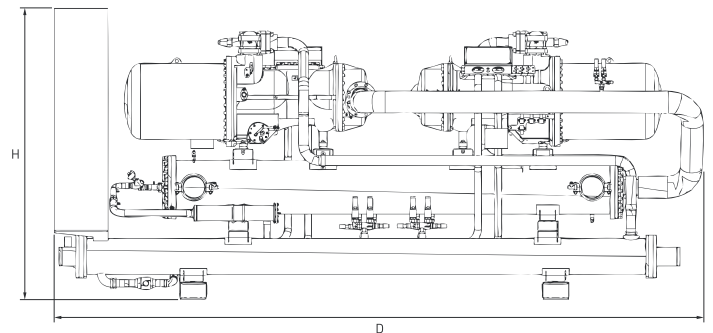
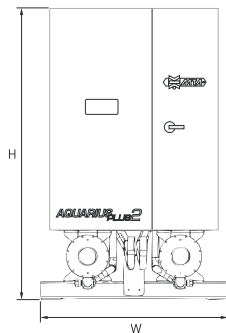
Acoustic configuration



BASIC ACOUSTIC CONFIGURATION



SUPER SILENT ACOUSTIC CONFIGURATION



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