



PROCESS COOLING
SOLUTIONS



AIR CONDITIONING
SYSTEMS

AQUARIUS_{PLUS}2



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

Cooling capacity 380 – 1549 kW

Heating capacity 427 – 1740 kW

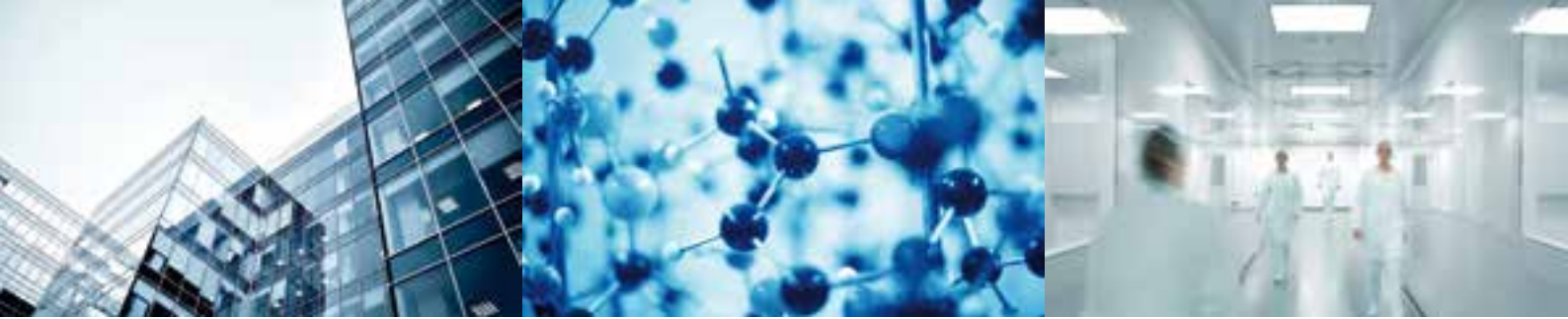
Cooling capacity evaporating units 350 – 1434 kW



*Conditioning your ambient,
maximising your comfort.*



Cooling, conditioning, purifying.



AQUARIUS PLUS 2

The Aquarius Plus 2 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 2 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

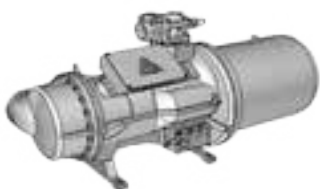
Thanks to the new **Smart Stepless** algorithm it is possible to obtain an high precision and adaptability in the cooling capacity regulation. The control dynamically manages the speed of the partialization based on the thermal load of the system.

Respect of Environment

High energy efficiency of the units Aquarius Plus 2 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

- 20 base models that perfectly match each specific system requirements;
- High energy efficiency both at full load and at partial load (Eurovent A Class);
- 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 available as factory fitted option allows a reduction in start-up current;
- 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

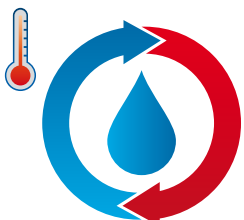
- **Basic acoustic configuration:** compressors directly accessible;
- **Super silent acoustic configuration:** this configuration is optimised for very low noise operation: compressors are housed in a metal compartment insulated with a sound absorbing layer of open-cell expanded polyurethane and a sheet 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.





Versions



COOLING ONLY



HEAT PUMPS

ME

CONDENSERLESS

LWT

LOW WATER TEMPERATURE

Acoustic configuration



BASIC ACOUSTIC CONFIGURATION



SUPER SILENT ACOUSTIC CONFIGURATION

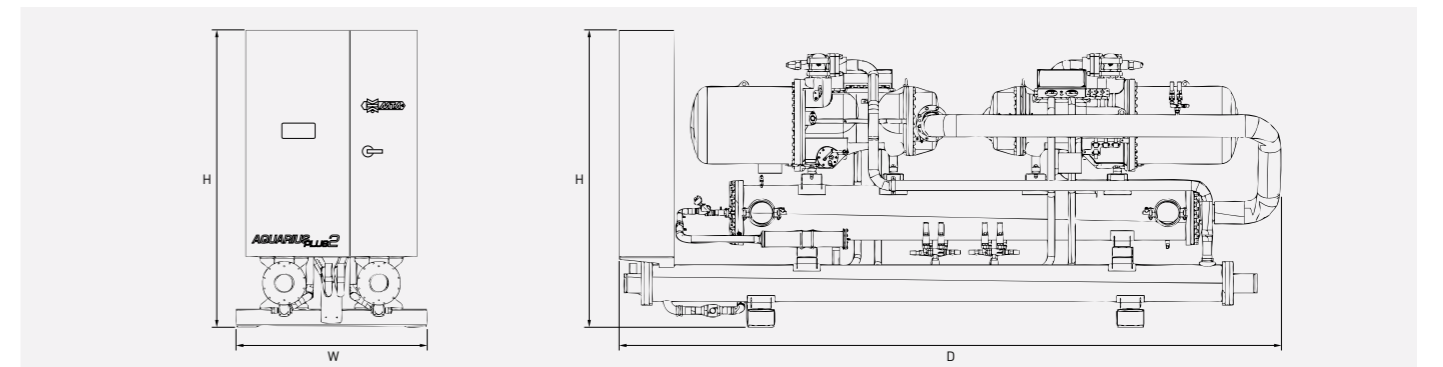
		1401	1601	1801	2001	2301	2601	3001	3301	2802	3202	3402	3602	4002	4302	4602	4902	5202	5602	6002	6602	
Cooling mode (1)																						
Cooling capacity	kW	380	422	482	531	594	654	714	768	753	848	907	967	1061	1121	1195	1256	1305	1373	1440	1549	
Total absorbed power	kW	74	82	94	103	115	126	137	147	147	163	175	188	204	215	229	240	250	263	275	296	
EER	-	5,12	5,15	5,13	5,17	5,17	5,20	5,20	5,23	5,12	5,21	5,18	5,15	5,21	5,21	5,22	5,24	5,21	5,21	5,24	5,23	
Energy efficiency class	-	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
ESEER	-	5,84	5,84	5,89	5,89	5,89	5,96	5,99	6,04	5,98	5,98	5,97	5,97	5,99	6,05	6,01	6,05	6,05	6,05	5,99	6,04	
Evaporator water flow rate	m³/h	65	72	83	91	102	112	122	132	129	145	156	166	182	192	205	215	224	235	247	265	
Evaporator pressur drops	kPa	43	48	32	43	45	41	33	27	40	40	37	41	37	26	32	35	37	45	48	58	
Condenser water flow rate	m³/h	78	87	99	109	122	134	147	158	155	174	187	199	218	230	245	258	268	282	296	318	
Condenser pressure drops	kPa	53	47	57	53	52	53	53	53	51	48	53	57	53	52	53	53	53	54	53	53	
Heating mode (2)																						
Heating capacity	kW	427	473	540	593	665	732	799	858	852	953	1019	1089	1188	1255	1337	1407	1466	1540	1618	1740	
Total absorbed power	kW	88	97	111	121	136	149	163	174	175	193	208	223	242	256	272	285	298	312	326	351	
COP	-	4,85	4,88	4,85	4,89	4,89	4,91	4,91	4,92	4,87	4,93	4,90	4,89	4,91	4,91	4,92	4,94	4,93	4,93	4,96	4,96	
Energy efficiency class	-	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Condenser water flow rate	m³/h	74	82	93	103	115	127	138	148	147	165	176	188	205	217	231	243	253	266	280	301	
Heat recovery																						
Partial recovery heating capacity (3)	kW	21	22	23	24	32	33	34	43	42	44	45	47	47	56	64	66	67	68	69	86	
Total recovery heating capacity (4)	kW	427	473	540	593	665	732	799	858	852	953	1019	1089	1188	1255	1337	1407	1466	1540	1618	1740	
Condenserless version (5)																						
Cooling capacity	kW	350	387	443	488	545	602	656	706	700	783	838	896	978	1032	1100	1159	1207	1267	1332	1434	
Total absorbed power	kW	82	91	104	114	128	140	153	164	164	182	195	209	227	240	255	267	280	294	307	330	
EER	-	4,26	4,24	4,26	4,29	4,26	4,30	4,29	4,31	4,27	4,30	4,29	4,29	4,31	4,29	4,31	4,33	4,32	4,31	4,34	4,34	
Evaporator water flow rate	m³/h	60	66	76	84	93	103	112	121	120	134	144	154	168	177	188	199	207	217	228	246	
Power supply (6)																						
Power	V/Ph/Hz	400 ± 10% / 3 - PE / 50																				
Compressor																						
Type	-											Screw										
Compressors / Cooling circuits	n°	1 / 1										2 / 2										
Cooling capacity regulation	-											Stepless										
Capacity control	-	25 ÷ 100										12,5 ÷ 100										
Refrigerant	-											R134a										
Sound levels (7)																						
Basic configuration	dB(A)	95	96	97	97	97	97	98	98	98	98	99	99	99	99	99	99	100	100	100	101	101
Super silent configuration	dB(A)	90	91	91	92	92	92	92	92	93	93	93	93	93	94	94	94	94	95	95	95	95

		Aquarius Plus 2																			
		1401	1601	1801	2001	2301	2601	3001	3301	2802	3202	3402	3602	4002	4302	4602	4902	5202	5602	6002	6602
Width (W)	mm	1460	1460	1460	1485	1485	1460	1460	1460	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390
Depth (D)	mm	4344	4344	4326	4326	4326	4326	4335	4335	4920	4920	4920	4920	4920	4920	4920	4920	4920	4920	4970	4970
Height (H)	mm	1640	1645	1725	1725	1645	1770	1770	1770	2132	2132	2165	2165	2278	2278	2278	2278	2278	2278	2278	2278
Weight	kg	1993	2137	2472	2513	2554	2791	2936	2987	3873	4153	4465	4769	5090	5124	5160	5232	5305	5490	5634	5737

		Aquarius Plus 2 / ME																			
		1401	1601	1801	2001	2301	2601	3001	3301	2802	3202	3402	3602	4002	4302	4602	4902	5202	5602	6002	6602
Width (W)	mm	1500	1500	1500	1500	1500	1500	1500	1500	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390	1390
Depth (D)	mm	3800	3800	3800	3800	3800	3800	3900	3900	4885	4885	4885	4885	4885	4885	4885	4885	4885	5035	5035	5035
Height (H)	mm	1650	1650	1650	1650	1650	1650	1650	1650	2165	2165	2165	2165	2265	2265	2265	2265	2265	2265	2265	2265
Weight	kg	1830	1955	2236	2257	2278	2486	2600	2600	3494	3632	3947	4243	4495	4519	4545	4597	4638	4774	4992	5075

Data declared according to UNI EN 14511:2011

- (1) **Cooling mode:** evaporator IN/OUT: 12/7 °C; condenser IN/OUT: 30/35 °C;
 - (2) **Heating mode:** evaporator IN/OUT: 12/7 °C; condenser IN/OUT: 40/45 °C;
 - (3) **Partial heat recovery:** evaporator IN/OUT: 12/7 °C; condenser IN/OUT: 30/35 °C; desuperheater IN/OUT: 40/45 °C;
 - (4) **Total heat recovery:** evaporator IN/OUT: 12/7 °C; heat recovery IN/OUT: 40/45 °C;
 - (5) **Condenserless version:** evaporator IN/OUT: 12/7 °C; condensing temperature: 45 °C;
 - (6) **IP54** protection class;
 - (7) **Sound power:** determined on the basis of measurements taken in accordance with the standard ISO 3744; the sound levels refer to operation of the unit under full load in nominal conditions;
 - (8) Dimensions and weights are referred to AQP2, without options and water content;
 - (9) Dimensions and weights are referred to AQP2 / ME, without options and water content.
- (* Preliminary data: please contact MTA.





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MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.



MTA products comply with European safety directives, as recognised by the CE symbol.



MTA participates in the E.C.C. programme for LCP-HP. Certified products are listed on www.eurovent-certification.com. Eurovent Certification applied to the units:
- Air/Water with cooling capacity up to 600 kW
- Water/Water up to 1500 kW



GOST Certification



Cooling, conditioning, purifying.