



PHOENIX PLUS



Air cooled water chillers featuring semi-hermetic twin screw compressors with R134a.

Nominal cooling capacity 451 – 1590 kW



Large capacity with perfect regulation.

The PHOENIX Plus range of chillers has been specifically designed to optimize the benefits of refrigerant R134a.

Their maximum advantage is achieved in process cooling application with both constant and variable thermal load thanks to technical features and the Smart Stepless regulation which guarantee the exact cooling capacity requested by the system, PHOENIX Plus achieves SEPR seasonal performance compliant with the ErP regulation, as well as very high nominal load EER ratios.



Cooling, conditioning, purifying.

Benefits

- High energy efficiency both at full load and at partial load;
- High seasonal performance efficiency (SEPR);
- The controller provides maximum flexibility to adapt to any operating condition, thanks to the Smart Stepless algorithm specifically developed by MTA;
- High reliability and continuity of operation (up to 4 screw compressors and "Smart Stepless" algorithm);
- Wide operating range;
- Comprehensive safety equipment, including phase monitor, pressure switches, differential pressure switch, crankcase heaters, compressors operating envelope and oil level;
- Wide range of accessories and kits for custom solutions;
- Integration FC4ALL with free cooling modules.

Main options

- Condenser coils with anticorrosion treatment;
- Soft starter;
- Antivibration dampers;
- Antifreeze heater;
- Metal mesh filters for condenser coil protection;
- Compressor housings;
- Replicated remote user terminal;
- Simple remote control;
- Serial connection to supervision systems;
- MTA xCONNECT Supervision based on internal web pages;
- Modularity / web interconnection hub.

Standard features

- Environmentally friendly R134a refrigerant;
- High efficiency screw compressors with stepless regulation optimized for R134a refrigerant gas;
- Compressor crankcase heater;
- Air-cooled condensers (copper tubes/aluminium fins) with transverse "V" formation;
- High efficiency EC axial fans with inverter technology and integrated speed regulation;
- Check valve on compressor discharge and shut-off valves on discharge and suction lines;
- Electronic expansion valves;
- Single pass shell & tubes evaporator optimized for R134a refrigerant gas;
- The Electrical panel is made up of IP 54 cabinet with forced ventilation, inside which are installed contactors and circuit breakers; the protection from the phase loss and from the phase reversal is assured by the phase monitor device;
- xDRIVE controller programmed with software specifically developed by MTA; high computing capacity and user friendly graphic interface; connectivity and supervision via Ethernet, USB, RS485 Modbus.

Version

- **Low ambient air temperature version** - down to -20 °C in cooling mode.



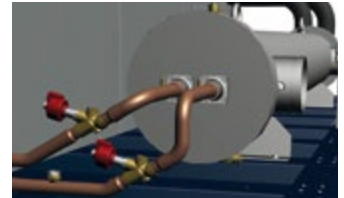
Semigraphic user interface with multifunctional buttons and dynamic display icons.



High efficiency EC axial fans with inverter technology.



Maximum accessibility to compressors.



Electronic expansion valves as standard and single pass shell & tubes evaporator.

Models PNP - HE version		160	170	180	190	200	220	250	265	280	310	330	360	390	405	420	440	470	500	530	560
Nominal cooling capacity [1]	kW	315	326	338	377	389	443	474	515	554	607	655	685	736	783	838	892	914	936	1025	1111
Total absorbed power [1]	kW	113	119	125	138	144	164	179	197	216	224	243	259	284	304	325	327	341	355	394	431
EER [2]		2,79	2,74	2,70	2,73	2,70	2,71	2,65	2,61	2,56	2,71	2,70	2,65	2,59	2,58	2,58	2,73	2,68	2,64	2,60	2,58
SEPR [3]		5,07	4,98	4,92	4,99	4,94	5,24	5,24	5,22	5,19	5,19	5,21	5,20	5,17	5,19	5,25	5,29	5,25	5,21	5,19	5,25
Max external air temp. [4]	°C	44	44	44	44	44	46	44	44	44	46	46	45	44	44	44	45	44	44	44	44
Nominal cooling capacity [5]	kW	451	467	484	540	556	634	677	736	791	871	940	982	1055	1121	1197	1279	1310	1341	1467	1590
Total absorbed power [5]	kW	111	117	123	137	143	162	178	197	217	221	240	257	283	304	326	322	338	353	393	432
EER [6]		4,05	4,98	3,92	3,94	3,89	3,92	3,81	3,73	3,63	3,94	3,92	3,82	3,72	3,68	3,67	3,97	3,88	3,8	3,73	3,68
Max external air temp. [7]	°C	38	38	38	38	38	41	38	38	38	41	41	39	38	38	38	39	38	38	38	38
Power supply	V/Ph/Hz	400 ± 10% / 3-PE / 50																			
Circuits / Compressors	N°	2/2					3/3					4/4									
Sound power [8]	dB(A)	96,9	96,9	96,9	98,1	98,1	99,0	99,0	98,9	98,8	100,5	100,8	100,8	100,7	100,6	100,5	102,0	102,0	102,0	101,9	101,8
Sound pressure [9]	dB(A)	68,9	68,9	68,9	70,1	70,1	71,0	71,0	70,9	70,8	72,5	72,8	72,8	72,7	72,6	72,5	74,0	74,0	74,0	73,9	73,8
Depth	mm	4530	4530	4530	4530	4530	4530	4530	4530	4530	6510	6510	6510	6510	6510	6510	8490	8490	8490	8490	8490
Width	mm	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190
Height	mm	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425	2425
Installed weight	kg	3480	3610	3740	3710	3840	4080	4210	4340	4470	5970	6040	6170	6350	6490	6750	8240	8370	8470	8770	9200

Data declared according to UNI EN 14511:2013.

- (1) **Nominal cooling capacity and Nominal absorbed power:** data referred to nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C.
- (2) **EER:** data referred to the full load functioning and nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C;
- (3) **SEPR:** data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.
- (4) **Maximum external air temperature:** data declared referred to cooling mode and outlet water temperature 7 °C.
- (5) **Nominal cooling capacity and Nominal absorbed power:** data referred to nominal conditions, external ambient temperature 25 °C and evaporator water temperature IN/OUT 20/15 °C.
- (6) **EER:** data referred to the full load functioning and nominal conditions, external ambient temperature 25 °C and evaporator water temperature IN/OUT 20/15 °C;
- (7) **Maximum external air temperature:** data declared referred to cooling mode and outlet water temperature 15 °C.
- (8) **Sound power:** determined on the basis of measurements taken in accordance with the standard ISO 3744.
- (9) **Sound pressure at 10 m:** average value obtained in free field on a reflective surface at a distance of 10 m from the external side of the electrical panel of machine 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 units with no options fitted.



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



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



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



EAC Declaration

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