



# PHOENIX PLUS



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

Nominal cooling capacity 1018 – 1503 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

- 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.

## Versions

- HE - High energy efficiency and basic acoustic configuration;
- SHE - High energy efficiency and low noise acoustic configuration;
- SSN - Standard energy efficiency and very low noise acoustic configuration;
- Low ambient air temperature version, down to -20 °C in cooling mode.

Models PNP	Versions	330			390			440			500			530			560		
		HE	SHE	SSN	HE	SHE	SSN	HE	SHE	SSN	HE	SHE	SSN	HE	SHE	SSN	HE	SHE	SSN
Nominal cooling capacity [1]	kW	711,3	663,1	623,1	846,9	789,5	740,5	983,1	909,8	854,0	1100,3	1035,7	980,3	1156,8	1083,4	1020,5	1220,3	1136,6	1064,9
Total absorbed power [1]	kW	256,7	265,8	278,1	299,6	311,1	327,4	336,7	351,9	369,9	367,3	375,4	391,3	398,1	410,4	430,2	429,5	446,1	470,1
EER [2]		2,77	2,50	2,24	2,83	2,54	2,26	2,92	2,59	2,31	3,00	2,76	2,51	2,91	2,64	2,37	2,84	2,55	2,27
SEPR [3]		5,56	5,58	5,83	5,57	5,88	5,87	5,51	5,74	5,70	5,69	5,60	6,00	5,59	5,76	5,84	5,56	5,86	5,83
Max external air temperature [4]	°C	46	45	41	46	42	38	46	45	42	46	43	39	46	45	41	46	42	38
Nominal cooling capacity [5]	kW	1018,5	943,2	880,9	1211,2	1120,7	1044,9	1406,1	1290,2	1202,6	1580,3	1478,1	1391,1	1657,8	1541,7	1443,9	1746,5	1614,7	1503,6
Total absorbed power [5]	kW	259,3	274,8	292,7	300,2	316,2	336,7	336,5	356,6	378,8	366,0	377,1	396,3	398,2	414,0	437,7	430,7	451,7	480,4
EER [6]		3,93	3,43	3,01	4,03	3,54	3,10	4,18	3,62	3,17	4,32	3,92	3,51	4,16	3,72	3,30	4,05	3,58	3,13
Max external air temperature [7]	°C	45	40	35	42	37	31	45	41	37	42	37	31	45	40	35	42	36	30
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50																	
Circuits / Compressors	N°	3/3			3/3			3/3			4/4			4/4			4/4		
Sound power [8]	dB(A)	100,3	92,7	90,8	99,9	92,3	90,3	100,0	92,4	90,4	100,5	92,8	90,8	100,7	93,0	91,0	100,9	93,2	91,2
Sound pressure [9]	dB(A)	72,3	64,7	62,8	71,9	64,3	62,3	72,0	64,4	62,4	72,5	64,8	62,8	72,7	65,0	63,0	72,9	65,2	63,2
Depth	mm	6435			7425			8415			10395			10395			10395		
Width	mm	2190			2190			2190			2190			2190			2190		
Height	mm	2425			2425			2425			2425			2425			2425		
Installed weight	kg	6927			7419			8464			9890			9955			10130		

**Data declared according to UNI EN 14511:2018. All data refers to standard units without accessories/options which require an electrical feeding source and in nominal working conditions.**

- (1) Data referred to nominal conditions, external ambient temperature 35 °C and evaporator water temperature IN/OUT 12/7 °C;
  - (2) 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) 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) Data declared referred to cooling mode and outlet water temperature 7 °C;
  - (5) Data referred to nominal conditions, external ambient temperature 25 °C and evaporator water temperature IN/OUT 20/15 °C;
  - (6) 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) Data declared referred to cooling mode and outlet water temperature 15 °C;
  - (8) Determined on the basis of measurements taken in accordance with the standard ISO 3744;
  - (9) 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](http://www.eurovent-certification.com) Certification applied to the units: - Air/Water up to 600 kW - Water/Water up to 1500 kW



EAC Declaration

**M.T.A. S.p.A.**  
Business office  
Viale Spagna, 8 - ZI  
35020 Tribano (PD) - Italy  
Tel. +39 049 9588611  
Fax +39 049 9588612  
[info@mta-it.com](mailto:info@mta-it.com)  
[www.mta-it.com](http://www.mta-it.com)



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