

PHOENIX PLUS



Air-cooled chillers with R134a equipped with semi-hermetic twin screw compressors.
Cooling capacity 310 - 1187 kW.



Benefits

- High energy efficiency both at full load and at partial load (Eurovent A Class);
- High seasonal energy efficiency (ESEER up to 4.34);
- 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 (ambient temperature from -20 °C to +50 °C);
- 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 with AQUAFree free-cooling modules.

Main Options

- High efficiency EC axial fans with inverter technology and integrated speed regulation;
- Condenser coils with anticorrosion treatment;
- Soft starter;
- Antivibration dampers;
- Special applications with partial or total heat recovery;
- Special applications for water temperatures down to -10 °C;
- Special very high efficiency applications;
- 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;
- AC Axial fans with die-cast aluminum blades, developed on the basis of bionic principles;
- 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

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

Standard energy efficiency versions:

- **N** - Standard energy efficiency and basic acoustic configuration;
- **SN** - Standard energy efficiency and low noise acoustic configuration;
- **SSN** - Standard energy efficiency and very low noise acoustic configuration;

High energy efficiency versions:

- **HE** - basic acoustic configuration optimized for full load operation (Eurovent A Class);
- **SHE** - low noise acoustic configuration optimized for part load operation (Eurovent A Class).



Model PNP		160	170	180	190	200	220	250	265	280	310	330	360	390	405	420	440	470	500	530	560
Cooling capacity (1)	kW	310	325	339	385	398	460	492	538	582	643	692	723	781	833	895	942	965	988	1089	1187
Total absorbed power (1)	kW	123	127	130	145	152	169	184	201	219	233	253	269	293	312	332	340	354	368	405	441
ESEER (N)	-	3,64	3,67	3,71	3,68	3,60	3,78	3,88	3,94	3,91	3,79	3,82	3,84	3,88	3,92	3,99	3,89	3,89	3,90	3,96	4,04
ESEER (HE)	-	4,05	4,10	4,07	4,00	4,00	4,02	4,17	4,21	4,17	4,11	4,09	4,11	4,16	4,20	4,25	4,19	4,20	4,22	4,26	4,27
ESEER (SHE)	-	4,12	4,11	4,14	4,05	4,07	4,09	4,24	4,28	4,23	4,18	4,15	4,19	4,24	4,27	4,32	4,26	4,29	4,28	4,34	4,34
Max external air temp. vers. N	°C	44	44	44	44	44	46	44	44	44	46	46	45	44	44	44	45	44	44	44	44
Max external air temp. vers. HE	°C	50	49	50	50	50	50	50	50	50	50	50	50	49	50	50	49	48	47	47	45

Power supply	V/Ph/Hz	400 ± 10% / 3-PE / 50																				
Circuits / Compressors	dB(A)	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	3/3	3/3	3/3	4/4	4/4	4/4	4/4	4/4
Sound pressure N [2]	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	
Sound pressure SN [2]	dB(A)	60,8	60,8	60,8	61,6	61,6	62,3	62,2	62,3	62,4	64,0	64,1	64,0	64,0	64,0	64,1	65,3	65,3	65,2	65,3	65,3	
Sound pressure SSN [2]	dB(A)	54,9	54,8	54,8	56,0	55,9	56,8	56,7	56,7	56,7	58,0	58,6	58,5	58,4	58,4	58,5	61,0	61,0	60,9	60,9	61,0	
Sound pressure HE [2]	dB(A)	70,3	70,2	70,0	71,7	71,6	72,8	72,5	72,4	72,2	73,8	74,5	74,4	74,2	74,1	74,0	75,4	75,3	75,2	75,0	75,0	
Sound pressure SHE [2]	dB(A)	63,0	62,8	62,6	64,2	64,1	65,1	64,7	64,6	64,4	66,2	66,9	66,6	66,4	66,3	66,2	67,7	67,5	67,3	67,1	67,1	
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 14511:2011.

(1) **Cooling mode:** external ambient temperature: 35 °C; evaporator IN/OUT: 12/7 °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).



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

Semigraphic user interface with multifunctional buttons and dynamic display icons.



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



Maximum accessibility to compressors.

