

ARIES FREECOOLING

AIR COOLED WATER CHILLERS WITH FREECOOLING SYSTEM FEATURING HERMETIC SCROLL COMPRESSORS.
COOLING CAPACITY 51 - 177 kW.



BENEFITS

- Maximum exploitation of free cooling and maximum energy efficiency of the system with respect to conventional solutions, thanks to the independence of the coils in terms of air handling;
- Accurate control of water outlet temperature (including at low temperatures down to -15 °C), thanks to the use of a modulating three-way water valve;
- Generous sizing of coils for free-cooling;
- Operates at high ambient temperatures thanks to the compressor unloading;
- Version SSN featuring extremely quiet operation;
- Individually tested in a test chamber like all MTA components and products;
- User friendly control section with simple readout and graphic display;
- Simple to install and maintain, easily accessible components.

MAIN OPTIONS

- Compressor suction and discharge valves;
- Axial fans with step or electronic regulation;
- Electronic expansion valve (except 201-301);
- Hydronic group without pump (201-301 only);
- Hydronic group with single or twin pump (351-751);
- High and low head pressure pumps;
- Air filter on coil (standard on 201-301);
- -15 °C ambient temperature version;
- Crankcase heater;
- Phase monitor;
- Correction capacitor (351-751);
- Antivibration dampers;
- Remote user interface;
- Remote display;
- Supervisor system.

STANDARD FEATURES

- Parallel Scroll compressor coupling within single refrigerant circuit;
- Finned coil evaporator inside the tank (201 - 301) and shell and tube evaporator (351 - 751);
- Condensers and fans installed in a separate compartment with airtight isolation, for maximum Free-Cooling effect and maximum overall energy efficiency;
- Axial fans with crescent shaped blades featuring step regulation;
- 3-way modulating valve for Free-Cooling (controlled by microprocessor), water connections within chiller;
- Total Free-Cooling from approximately 10 °C below the water outlet temperature;
- Water differential pressure switch on evaporator (301-751);
- High and low pressure transducers;
- Single or twin high pressure switches for max condensing pressure control;
- Electronic expansion valve with external equalisation, refrigerant filter, sight glass, solenoid valve on liquid line (except 201-301);
- Safety valve (except 201 - 301);
- Microprocessor control with advanced software ensuring optimum control in all conditions;
- Main switch;
- IP54 electric protection rating;
- Environmentally friendly refrigerants with R407C zero ozone depletion potential.

VERSIONS

- Chiller with freecooling system;
- Acoustic configurations:
 - N (standard);
 - SN (low noise);
 - SSN (very low noise).

		Model AS FC		201	251	301	351	401	501	551	601	701	751
Free Cooling OFF	Cooling capacity (1)	kW	50,9	54,6	69,3	80,1	97,6	115	133	146	161	177	
	Total absorbed power (1)	kW	16,2	19,3	20,0	30,1	34,3	40,1	44,4	50,7	52,7	60,1	
	Max external air temperature (1)	°C	45	47	47	42	44	43	43	41	45	43	
TOTAL Free Cooling	Cooling capacity (1)	kW	50,9	54,6	69,3	80,1	97,6	115	133	146	161	177	
	Absorbed power (1) *	kW	1,6	1,6	2,3	4,0	4,0	4,0	4,0	4,0	6,0	6,0	
	Total freecooling (1)	°C	1,0	1,4	-0,3	1,6	0,5	-0,7	0,4	-0,7	1,4	0,4	
Free Cooling OFF	Cooling capacity (2)	kW	46,5	49,5	63,1	72,8	88,6	105	121	133	147	162	
	Total absorbed power (2)	kW	15,7	18,8	19,5	29,0	33,1	38,5	42,7	48,6	50,8	57,8	
	Max external air temperature (2)	°C	46	48	48	44	45	44	44	43	46	45	
TOTAL Free Cooling	Cooling capacity (2)	kW	46,5	49,5	63,1	72,8	88,6	105	121	133	147	162	
	Absorbed power (2) *	kW	1,6	1,6	2,3	4,0	4,0	4,0	4,0	4,0	6,0	6,0	
	Total freecooling (2)	°C	-1,1	-0,7	-2,3	-0,6	-1,5	-2,5	-1,5	-2,5	-0,6	-1,6	
ESEER	-	4,19	3,82	4,07	3,56	3,73	3,79	3,97	3,94	3,91	3,75		
IPLV	-	4,29	3,93	3,99	3,64	3,63	3,84	3,91	4,03	3,82	3,78		
Power supply	V/Ph/Hz	400±10%/3/50											
Circuit / Compressors	N°	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Freecooling noise level OFF vers. N	dB(A)	60,2	60,2	61,5	62,6	61,6	61,6	61,6	61,6	61,6	62,3	62,3	
Freecooling noise level OFF vers. SN	dB(A)	-	-	-	56,2	55,0	55,0	55,0	55,0	55,0	55,2	55,2	
Freecooling noise level OFF vers. SSN	dB(A)	-	-	-	48,9	48,9	47,7	48,7	48,7	48,7	49,1	49,1	
Depth	mm	2550	2550	2550	3495	3495	3495	4595	4595	4595	4595		
Width	mm	1400	1400	1400	2188	2188	2188	2188	2188	2188	2188		
Height	mm	2136	2136	2136	1989	1989	1989	1989	1989	1989	1989		
Installed weight	Kg	1494	1494	1509	1858	1980	2276	2536	2541	2752	2803		

All data refers to standard units at the following nominal conditions:

(1) Evaporator water inlet/outlet temperature 15-10 °C, external air temperature 35 °C, glycol water at 30%.

(2) Evaporator water inlet/outlet temperature 12-7 °C, external air temperature 35 °C, glycol water at 30%.

* In total Freecooling mode the absorbed power is only the fans absorbed power.

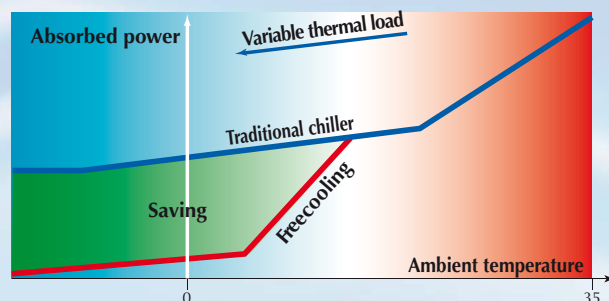
Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tolerance ± 2 dB.

The sound levels refer to operation of the unit under full load in nominal conditions.

AVAILABILITY OF FREE-COOLING

	Annual FC % usability on daily time from 6 AM till 8 PM	
	% of freecooling with water inlet = 12 °C	% of freecooling with water inlet = 15 °C
Berlin	54%	68%
Brussels	51%	69%
Copenhagen	61%	74%
Milan	47%	54%
Oslo	75%	84%
Stockholm	63%	73%
Vienna	50%	60%

ENERGY SAVING



Semi-graphic backlit PGD terminal.



Sections featuring complete aeraulic segregation to maximise the use of free-cooling.



Servo-controlled three-way hydraulic valve.

