PRODUCT GUIDE

Air conditioning

**Conditioning your ambient,
maximising your comfort.**

MTA®

Cooling, conditioning, purifying.

MTA®

Cooling, conditioning, purifying.

ENERGY FOR

An Air Conditioning system is a challenge and an opportunity. Increasing energy efficiency and decreasing environmental impact; providing comfort to human beings and improving their well-being, every day without interruption; providing a solution which is flexible to the needs of each individual application. At MTA we are dedicated to offering our Customers all this, and more ...

A company built on solid foundations

Founded over 25 years ago with the aim of providing innovative energy solutions, today MTA covers a role of Global leader within the fields of the conditioning of commercial, public or residential ambients, industrial process cooling and compressed air & gas purification. MTA's energy solutions offer unique answers to individual Customer needs. MTA's mission is to maximize Customer satisfaction by means of expert support, implementing optimized solutions with a minimal environmental impact.

Expert consultancy and service

MTA's energy lies within its people, with a dedicated team of experts focused to a single aim, that of satisfying and exceeding the needs and requests of its Customers. Continuous Business Process updates, coupled with advanced operating procedures, ensure MTA remains at the forefront of corporate development. MTA's worldwide network of expert personnel receive continuous and extensive training, to ensure that everybody representing MTA assumes the role of expert consultant towards its Customers.

The power of a global team

MTA boasts 4 production facilities, Sales Companies covering 4 continents and a network of Partners in over 60 countries worldwide. The expert international service network, is backed up by a comprehensive worldwide spare parts coverage. MTA products, designed for operation worldwide, comply to local legislations. Advanced supervision technology, including web browser and GSM cell phone connectivity, ensures peace of mind wherever you may be.

THE MTA GLOBAL TEAM

MANUFACTURING

TRIBANO ITALY

CONSELVE ITALY

MTA GROUP SALES COMPANIES

AUSTRALIA

CHINA

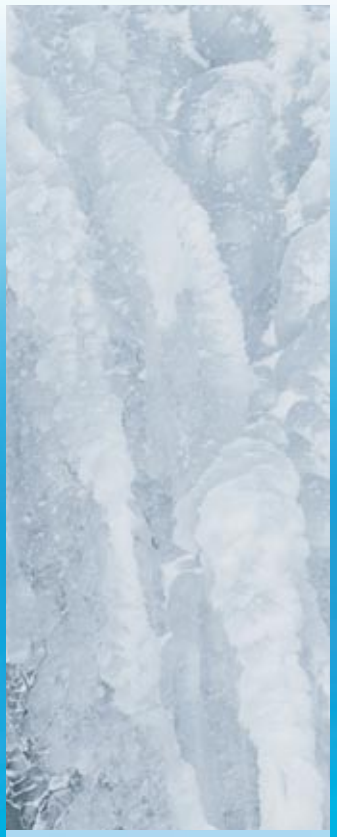
A team of MTA Partners covering over 60 countries worldwide

THE FUTURE

pure energy

A partner you can trust

MTA's success has been built upon its reputation within the marketplace, with endless renowned companies worldwide placing their trust in MTA to supply them with the optimum solution to their needs. MTA's flexibility towards special Customer solutions ensures each and every need can be satisfied. Continuous communication and cooperation with its Partners and Customers ensures MTA creates a team spirit with an aim towards excellence and long-term collaboration.



Pioneering innovation

MTA's future is founded upon the principals of innovation and excellence. Unique Customer solutions are born from a notable and continuous investment in R&D. Numerous patented products and state-of-the-art testing facilities ensure MTA products are not only highly advanced, but also extremely reliable. MTA's production facilities offer flexible manufacturing processes with extensive individual testing of each and every product leaving the factory. MTA is ISO9001:2000 certified.

Environmental commitment

MTA's very first product, a patented refrigeration dryer offering a new dimension in energy savings, set the path which has been followed ever since. Today MTA boasts novel products ensuring a minimal environmental impact and offers expert consultancy concerning energy savings within Customer applications. MTA's facilities and processes meet the requirements of ISO 14000 environmental legislations. MTA strives to ensure its success also benefits the ambient in which it operates.

Application driven Customer solutions

MTA's success is based upon understanding Customer applications. At MTA the aim is not to merely supply products, rather to fully maximize Customer potential. Whether it be office buildings, hotels, hospitals, shopping centres, cultural institutions, leisure facilities, telecommunications, public buildings or residential applications, MTA has the answers to each specific air conditioning need. Add to that MTA's extensive knowledge of industrial air conditioning and process cooling, within a vast array of individual applications.

BAGNOLI ITALY

VACARISSES SPAIN

Cooling
Conditioning
Purifying

FRANCE

GERMANY

ITALY

ROMANIA

SPAIN

USA

OFFER CONSULTANCY, SALES AND SERVICE SUPPORT ON A GLOBAL SCALE

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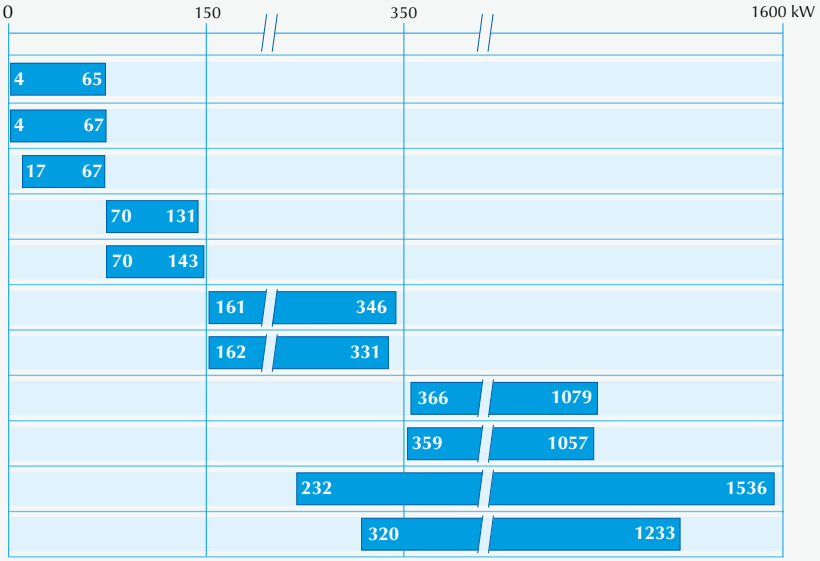

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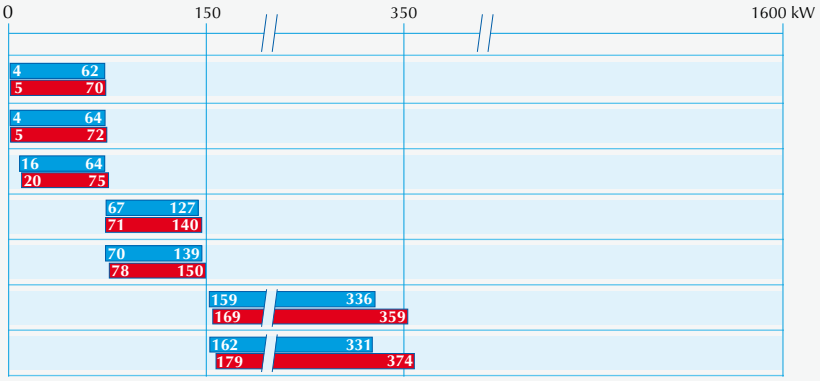

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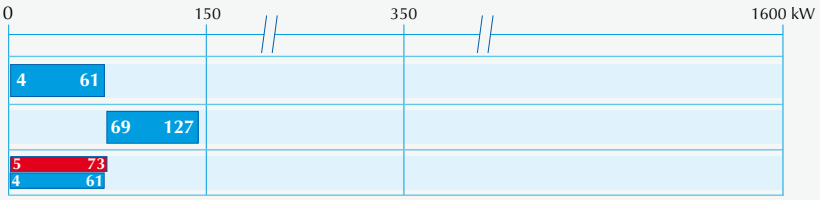

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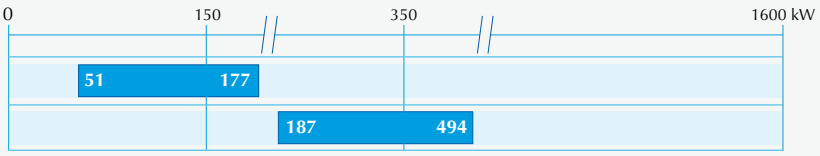

Legend

Mode

- ❄ cooling
- ❄/♨ cooling/heating

Fans

- axial
- centrifugal

Compressors

- rotary
- screw
- scroll
- centrifugal

Heat exchanger

- plate
- immersed finned coil
- shell and tube
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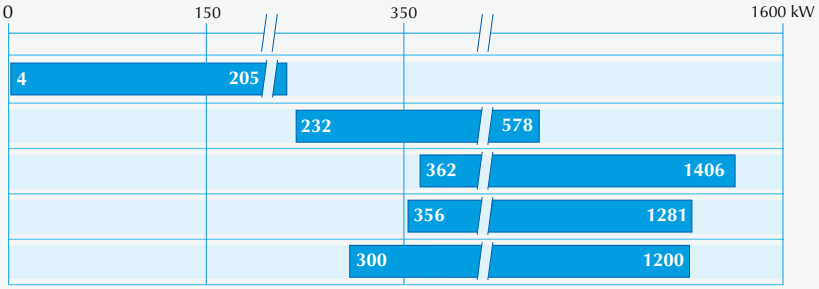

Water/water heat pump

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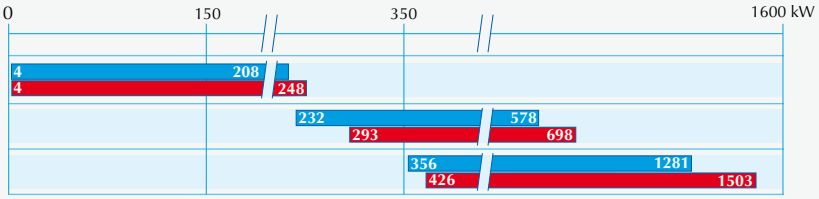

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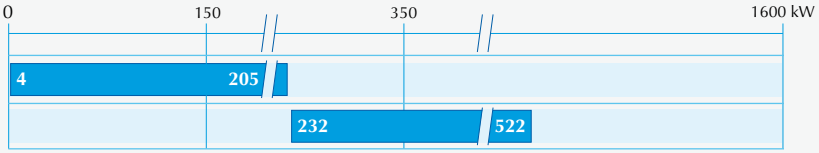

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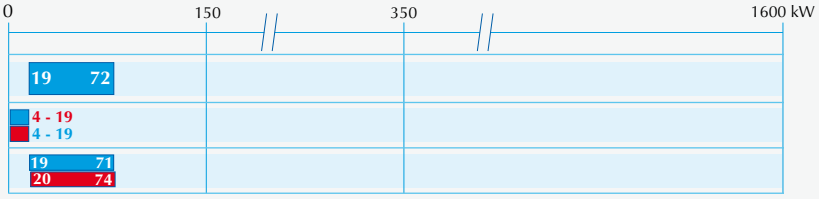

Ductable packaged cabinet-mounted air conditioners

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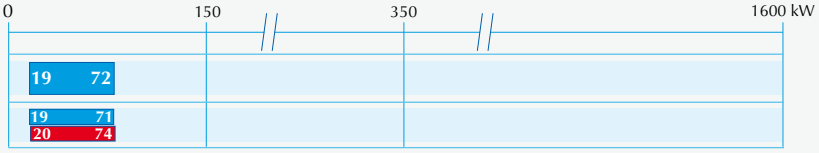

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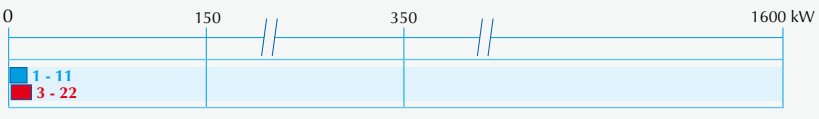

Quick guide

CYGNUS

CYGNUS HCYGNUS CYGNUS/MC HCYGNUS/MC
CYGNUS*tech* HCYGNUS*tech*

Air cooled water chillers, heat pumps, condensing units and reversible condensing units with R410A or R407C featuring rotary or hermetic scroll compressors. Cooling capacity 4 - 67 kW, heating capacity 5 -72 kW.

BENEFITS

- Extremely low noise levels;
- High EER/COP values and seasonal performance indices;
- Ideally suited to commercial and domestic chilled water air-conditioning applications;
- Extended operating limits;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System (FDS) (Minimum ambient temperature in heat pump mode= -10°C);
- Self-adaptive temperature control (SAC) for efficient operation with installations having low water contents;
- Designed for installation in confined spaces;
- Easy to use thanks to a controller with icon-based dual display;
- Easy installation and simple access to all chiller components;
- Compatible with the very latest supervisor and interface systems (BMS).

MAIN OPTIONS

- Configuration without storage tank;
- High/medium pressure head pump;
- Double pump, with one in stand-by (models 081-301);
- Condensate collection tray with hose connection (models 013-071);
- Anti-freeze heaters on evaporator, pump and tank;
- Replicated remote control interface;
- RS485 ModBus interface for connection to supervisor systems;
- X-WEB300 kit for local or remote (GSM mobile phone) monitoring plus data filing based on WEB server technology;
- Antivibration mountings.

STANDARD FEATURES

- Hermetic Rotary compressors (013-020) Scroll compressors (031- 171) tandem Scroll compressors (211-301);
- Integral hydronic kit complete with pump, tank, expansion vessel, filling/drain valve, pressure gauge, and automatic bleed valve;
- Hydraulic couplings directly accessible from the unit exterior;
- Brazed stainless steel plate evaporator;
- Axial fans with sickle shaped blades, electronic speed control;
- Heat pumps with 2nd thermostatic valve for performance optimisation in all operating conditions (models 131 to 301);
- Protection grade IPX4;
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- Environmentally friendly refrigerants with R410A and R407C zero ozone depletion potential.

VERSIONS

- Chiller;
- Heat pump;
- Condensing unit (R407C);
- Reversible condensing unit (R407C);
- Split chiller system in chiller mode or reversible heat pump (R407C).

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TECHNICAL DATA

		Model CY-HCY - CG-HCG-/MC		013	015	020	031	051	071	081	101	131	171	211	251	301
R410A (CYGNUS*evo*)	CY	Cooling capacity	kW	4.3	5.3	7.1	10.1	14.5	18.7	22.5	29.7	38.7	44.2	52.0	59.9	66.6
		Absorbed power	kW	1.3	1.7	2.3	3.0	4.5	6.1	6.6	8.9	11.4	12.6	15.7	17.4	20.7
		ESEER	-	2.98	2.86	2.94	3.31	3.34	3.22	3.55	3.58	3.55	3.72	4.03	4.24	4.23
		I.P.L.V.	-	2.62	2.57	2.65	2.67	2.68	2.63	2.94	2.94	2.91	3.03	4.01	4.33	4.36
		Max external air temp.	°C	49	47	46	47	46	46	47	46	46	47	46	46	45
	HCY	Heating capacity	kW	4.8	5.9	7.7	11.1	16.1	20.0	24.1	31.3	41.2	47.9	55.9	62.9	71.7
		Absorbed power	kW	1.3	1.6	2.2	3.1	4.5	5.9	6.5	8.5	11.1	12.7	15.1	17.2	19.9
		Min. external air temp.	°C	-8	-8	-7	-8	-8	-7	-9	-7	-8	-8	-8	-8	-7
R407C (CYGNUS)	CG	Cooling capacity	kW	4.1	4.8	6.9	9.7	13.5	16.7	21.2	28.5	37.1	43.8	49.8	57.0	65.5
		Absorbed power	kW	1.2	1.5	2.2	3.2	4.2	6.0	6.2	8.8	11.4	13.0	15.4	17.0	20.6
		Max external air temp.	°C	47	47	46	47	46	45	47	46	46	46	46	46	45
	HCG	Heating capacity	kW	4.6	5.1	7.2	10.9	14.5	19.2	22.8	30.4	40.2	46.5	54.8	60.9	70.4
		Absorbed power	kW	1.3	1.6	2.3	3.2	4.2	6.0	6.4	8.9	11.3	13.4	15.5	17.9	20.6
		Min. external air temp.	°C	-10	-9	-7	-9	-8	-7	-6	-7	-8	-7	-7	-7	-6
	MCCG	Cooling capacity	kW	3.8	4.5	6.6	9.3	12.6	15.8	19.5	26.2	34.3	40.2	45.9	52.5	61.0
		Absorbed power	kW	1.2	1.6	2.3	3.2	4.4	6.1	6.3	8.9	11.5	13.1	15.5	17.2	20.9
		Max external air temp.	°C	47	46	47	47	46	45	46	48	47	48	47	47	46
	MCHCG	Heating capacity	kW	4.9	5.6	7.7	11.5	15.3	19.8	23.8	31.8	42.1	49.0	57.1	63.6	72.7
		Absorbed power	kW	1.0	1.2	1.6	2.4	3.2	4.7	4.7	6.4	8.5	9.8	11.2	12.8	14.9
		Min. external air temp.	°C	-9	-8	-7	-9	-8	-7	-10	-9	-9	-8	-9	-9	-8

Power supply	V/Ph/Hz	230±10%/1/50			400±10%/3/50										
Noise level	dB(A)	35.6	37.7	38.9	40.7	41.9	42.9	41.5	44.5	46.8	48.2	48.6	49.4	49.0
Depth	mm	380	380	380	550	550	550	810	810	1112	1112	1112	1112	1112
Width	mm	978	978	978	1420	1420	1420	1960	1960	2060	2060	2470	2470	2470
Height	mm	985	985	985	1288	1288	1288	1203	1203	1417	1417	1595	1595	1595
Installed weight	Kg	98	101	111	151	182	184	344	361	470	505	613	638	654

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

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;
- Heat pump: condenser water inlet-outlet 40-45 °C, external air temperature 7 °C dry bulb, 6 °C wet bulb;
- Condensing unit (R407C): Evaporating temperature 5 °C (DEW), external air temperature 35 °C;
- Reversible condensing unit (R407C): condensing temperature 40 °C (dew), ambient air temperature 7 °C 6 °C wet bulb.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

Microprocessor controller with dual icon-based display.

Higher energy efficiency and quieter operation thanks to the use of scroll compressors.

Built-in pumping module with or without storage tank.

ORION

ORION HORION

Chillers with centrifugal fans, heat pumps, with hermetic scroll compressors.
Cooling capacity 17 – 66 kW, heating capacity 20 – 75 kW

BENEFITS

- High installation flexibility: direction of condensing air expulsion easily changed, even in site;
- Ideal for hydronic air conditioning installations in residential surroundings and public buildings;
- Complete with storage tank and pump to facilitate installation and start-up operations;
- Designed for installation in confined spaces;
- High EER and COP values;
- Extended operating limits;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System;
- Self-adaptive temperature control logic;
- Extremely quiet even without the use of sound-insulating devices;
- Easy to use thanks to an intuitive controller with dual icon-based display;
- Practical routine maintenance with easily accessible internal parts.

STANDARD FEATURES

- Hermetic scroll compressors (tandem dual compressor from model 211);
- Integral hydronic kit complete with centrifugal pump, tank, expansion vessel, relief valve, filling/drain valve, pressure gauge, and manual bleed valve;
- Brazed stainless steel plate evaporator;
- Centrifugal fans with fanwheel having forward-curved blades, double suction and belt-drive transmission with variable pitch pulley;
- Microprocessor controller;
- Main door lock disconnect switch;
- Condensate tray with threaded drain connection;
- Refrigerant charge, non-freezing oil, and factory testing;
- R407C refrigerant.

MAIN OPTIONS

- Layout without storage tank;
- High/medium pressure head pump;
- Kit for changing orientation of fans delivery port;
- Fans electronic speed control kit;
- Replicated wall-mounted remote control kit;
- RS485 ModBus interface for connection to supervisor systems;
- X-WEB300 kit for local or remote (GSM mobile phone) monitoring plus data filing based on WEB server technology;
- Antivibration mounts kit;
- Polyurethane filters kit for the condensing coil;
- Condensing coil with anticorrosion treatment;
- Phase monitor kit;
- Serial communications module kit.

VERSIONS

- Chiller;
- Heat pump.

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TECHNICAL DATA

	Model ON-HON		071	081	101	131	171	211	251	301
ON	Cooling capacity	kW	17.1	21.1	28.8	37.3	43.6	50.1	57.1	66.6
ON	Absorbed power	kW	5.9	6.6	9.1	11.9	13.4	15.9	17.7	21.0
ON	Available static pressure	Pa	110	117	131	130	153	181	202	205
ON	Max external air temp.	°C	46	47	47	46	48	47	46	47
HON	Cooling capacity	kW	16.1	20.7	28.1	36.3	41.6	48.4	54.8	63.2
HON	Absorbed power	kW	5.8	6.5	9.0	11,8	13.3	15.8	17.7	21.0
HON	Max external air temp.	°C	47	45	47	46	46	8.3	47	46
HON	Heating capacity	kW	19.8	23.5	31.2	42.1	49.2	57.1	63.7	74.7
HON	Absorbed power	kW	6.1	6.8	9.5	12.0	14.3	16.5	19.0	21.9
HON	Min. external air temp.	°C	-8	-7	-7	-8	-8	-8	-7	-6
	Power supply	V/Ph/Hz	400±10%/3/50							
	Noise	dB(A)	52.9	54.0	54.2	55.8	56.2	55.9	57.3	58.8
	Depth	mm	930	930	930	930	1081	1081	1081	1081
	Width	mm	1265	1265	1915	1915	2110	2110	2507	2507
	Height	mm	1444	1444	1444	1444	1900	1900	1900	1900
	Installed weight	Kg	307	341	506	534	876	935	1081	1111

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

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;
- Heat pump: condenser water inlet-outlet 40-45 °C, external air temperature 7 °C dry bulb, 6 °C wet bulb.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground with ducted air outlet. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

Microprocessor controller with dual icon-based display and read-out of functions and alarms.

Higher energy efficiency and quieter operation thanks to the use of scroll compressors.

Built-in pumping module with or without tank.

TAURUS

TAURUS HTAURUS TAURUS/MC
TAURUS*tech* HTAURUS*tech*

Air cooled water chillers, heat pumps and condensing units with R410A or R407C featuring hermetic scroll compressors. Cooling capacity 70 - 143 kW, heating capacity 71 - 150 kW.

BENEFITS

- Reduced noise levels, thanks also to the availability of three differing acoustic versions;
- High EER/COP levels, especially at partial loads;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Frost Detecting System (FDS) (Minimum ambient temperature in heat pump mode= -10°C);
- SAC self-adapting temperature control for efficient operation in installations with low water contents (dual-compressor models);
- Start-up and operation in even the most adverse conditions;
- Easy installation and simple access to all chiller components;
- Easy to use, thanks to an intuitive controller with dual icon-based display;
- Compatible with the very latest supervisor and interface systems (BMS).

STANDARD FEATURES

- 2 or 4 scroll compressors in parallel;
- Single welded-brazed stainless steel plate evaporator "dual-circuit";
- Heat pumps equipped with 2nd thermostatic valve, for performance optimisation in all operating conditions;
- Condensate tray with hose connection;
- Axial fans with progressive activation for optimised condensing pressure control;
- Solenoid valve on the liquid line of each refrigeration circuit;
- IP54 protection rating;
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- Environmentally friendly refrigerants with R410A and R407C zero ozone depletion potential.

MAIN OPTIONS

- Add-on external pumping unit with 1 or 2 pumps;
- Storage tank;
- Compressor shut-off valves on suction and discharge lines;
- Electronic fan speed control;
- Condenser coils designed for aggressive atmospheres;
- Antivibration dampers;
- Antifreeze heater on evaporator, pumps and tank.
- Metal mesh protective filters or grilles for condensing coils;
- Replicated remote control interface;
- RS485 ModBus interface for connection to supervisor systems;
- X-WEB300 kit for local or remote (GSM mobile phone) monitoring plus data filing based on WEB server technology;
- Refrigerant R134a or R22;
- 460/3/60 power supply.

VERSIONS

- Chiller;
- Heat pump;
- Condensing unit (R407C);
- Low ambient air temperature in cooling mode (down to –20 °C);
- Version with recovery desuperheaters;
- Version with total recovery condenser;
- Acoustic configurations:
  - N standard;
  - SN low noise;
  - SSN super-silent.

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TECHNICAL DATA

		Model TAT *tech* - HTAT *tech*		030	035	040	050	055	060
R410A (TAURIS*tech*)	TAT	Cooling capacity	kW	73.0	82.7	100	115	129	143
		Absorbed power	kW	22.5	23.5	30.4	34.7	38.7	42.6
		ESEER	-	3.80	4.10	4.23	3.68	3.81	4.01
		I.P.L.V.	-	4.03	4.32	4.36	3.87	4.01	4.24
		Max external air temp.	°C	47	47	46	46	47	46
	HTAT	Heating capacity	kW	77.6	85.0	109	120	136	150
		Absorbed power	kW	22.5	24.2	30.5	35.4	41.1	44.7
		Min. external air temp.	°C	-8	-9	-8	-8	-8	-8
		Power supply	V/Ph/Hz	400±10%/3/50					
		Noise level	dB(A)	58.5	58.5	58.3	60.2	59.3	59.3
		Depth	mm	2507	2507	2507	3407	3407	3407
		Width	mm	1110	1110	1110	1110	1110	1110
		Height	mm	2120	2120	2120	2120	2120	2120
		Installed weight	Kg	767	801	950	1137	1186	1211

		Model TA - HTA -/MC		070	079	094	106	118	133
R407C (TAURIS)	TA	Cooling capacity	kW	70.0	78.3	93.1	105.7	117.6	131.2
		Absorbed power	kW	23.8	24.9	32.9	37.1	40.9	45.8
		Max external air temp.	°C	46	46	45	46	46	46
	HTA	Heating capacity	kW	70.8	78.0	107.0	114.2	123.5	140.7
		Absorbed power	kW	22.1	24.2	31.7	33.9	38.9	42.9
		Min. external air temp.	°C	-8	-8	-8	-8	-8	-8
	MCTA	Cooling capacity	kW	68.93	75.68	90.97	101.37	118.24	127.67
		Absorbed power	kW	24.12	25.25	33.47	37.17	41.04	45.94
		Max external air temp.	°C	45	46	45	46	46	45
		Power supply	V/Ph/Hz	400±10%/3/50					
		Noise level	dB(A)	58.5	58.5	58.3	60.2	59.3	59.3
		Depth	mm	2507	2507	2507	3407	3407	3407
		Width	mm	1110	1110	1110	1110	1110	1110
		Height	mm	2120	2120	2120	2120	2120	2120
		Installed weight	Kg	767	801	950	1137	1186	1211

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

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C
- Heat pump: condenser water inlet-outlet 40-45 °C, external air temperature 7 °C dry bulb, 6 °C wet bulb
- Condensing unit (R407C): Evaporating temperature 5 °C (DEW), external air temperature 35 °C.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

Microprocessor with double display and icon control.

Pump section with or without storage tank.

Simplified installation and easy access to all internal components.

ARIES

ARIES HARIES
ARIES*tech* HARIES*tech*

Air cooled water chillers and heat pumps with R410A or R407C featuring hermetic scroll compressors. Cooling capacity 161 - 346 kW, heating capacity 170 - 374 kW.

BENEFITS

- Reduced noise levels, thanks also to the availability of three differing acoustic versions;
- High EER/COP levels, especially at partial loads;
- Optimisation of heat pump defrosting cycles thanks to the exclusive Adapive Defrosting (Minimum ambient temperature in heat pump mode= -10°C);
- Allows start-up and operation in even the most severe conditions thanks to the unloading function;
- Simplified installation and easy access to all components;
- User friendly controller with multifunctional buttons and dynamic display icons;
- Compatible with the latest BMS supervision and interface systems.

MAIN OPTIONS

- Shell and tube evaporator (R407C);
- Add-on external pumping unit with 1 or 2 pumps;
- Storage tank;
- Electronic thermostatic valve;
- Compressor shut-off valves on suction and discharge lines;
- Electronic fan speed control;
- Condenser coils designed for aggressive atmospheres;
- Antivibration dampers;
- Antifreeze heater on evaporator, pumps and tank.
- Metal mesh filters for condenser coil protection;
- Replicated remote control interface;
- Serial connection to supervisor system;
- X-WEB300 kit for local or remote (GSM mobile phone) monitoring plus data filing based on WEB server technology;
- Refrigerant R22 or R134a;
- 460/3/60 power supply.

STANDARD FEATURES

- 4 scroll compressors in parallel within two independent circuits;
- Single brazed stainless steel plate evaporator "dual-circuit";
- Heat pumps equipped with 2nd thermostatic valve (for optimised performance in all operating conditions) and condensate collection tray with hose clamp connections;
- Axial fans with progressive activation for optimised condensing pressure control, installed in two independent aeraulic sections;
- RS485 ModBus interface for connection to supervisor systems;
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters.
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- Environmentally friendly refrigerants with R410A and R407C zero ozone depletion potential.

VERSIONS

- Chiller;
- Heat pump;
- Low external air temperature version (up to –20 °C);
- High external air temperature;
- Version with desuperheaters;
- Versions with total heat recovery;
- Configuration with integrated Free-cooling, featuring unique aeraulic separation between chiller and Free-cooling sections (R407C);
- Acoustic configurations:
  - N standard;
  - SN low noise;
  - SSN very low noise.

pure energy

TECHNICAL DATA

		Model AST *tech* - HAST *tech*		070	080	090	100	110	120	130	140
R410A (ARIES*tech*)	AST	Cooling capacity	kW	162	196	213	225	250	272	312	331
		Absorbed power	kW	54.0	61.6	65.7	72.0	85.0	99.7	101	111
		ESEER	-	3.87	4.18	4.33	4.36	4.15	4.18	4.10	4.13
		I.P.L.V.	-	4.08	4.53	4.58	4.58	4.49	4.46	4.38	4.36
		Max external air temp.	°C	45	46	46	46	45	44	46	45
	HAST	Heating capacity	kW	179	214	230	243	276	317	339	374
		Absorbed power	kW	51.9	61.4	65.9	70.4	80.2	88.5	95.5	103
		Min. external air temp.	°C	-7	-7	-6	-6	-6	-8	-7	-8
		Power supply	V/Ph/Hz	400±10%/3/50							
		Noise level	dB(A)	65.6	64.6	64.6	64.6	64.6	64.6	65.3	65.3
		Depth	mm	3418	3418	3418	3418	4518	4518	4518	4518
		Width	mm	2188	2188	2188	2188	2188	2188	2188	2188
		Height	mm	1989	1989	1989	1989	1989	1989	1989	1989
		Installed weight	Kg	1765	1941	2005	2068	2296	2319	2504	2599

		Model AS - HAS		162	195	209	219	247	267	299	319
R407C (ARIES)	AS	Cooling capacity	kW	161	197	219	233	261	281	323	346
		Absorbed power	kW	57.4	65.3	69.8	76.4	84.5	96.2	101	114
		Max external air temp.	°C	45	46	46	46	46	45	46	45
	HAS	Heating capacity	kW	169	203	221	233	261	296	323	360
		Absorbed power	kW	51.7	60.6	64.7	69.1	75.9	83.9	92.7	103
		Min. external air temp.	°C	-8	-7	-8	-7	-7	-7	-7	-8
		Power supply	V/Ph/Hz	400±10%/3/50							
		Noise level	dB(A)	65.6	64.6	64.6	64.6	64.6	64.6	65.3	65.3
		Depth	mm	3418	3418	3418	3418	4518	4518	4518	4518
		Width	mm	2188	2188	2188	2188	2188	2188	2188	2188
		Height	mm	1989	1989	1989	1989	1989	1989	1989	1989
		Installed weight	Kg	1764	1933	1997	2065	2299	2307	2495	2590

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

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;
- Heat pump: condenser water inlet-outlet 40-45 °C, external air temperature 7 °C dry bulb, 6 °C wet bulb.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

Semigraphic user interface with multifunctional buttons and dynamic display icons.

Available with either plate or shell and tube evaporators (R407C).

Pump section with or without storage tank.

GALAXY

GALAXY
GALAXY *tech*

Air cooled water chillers with R410A and R407C featuring tandem/triple scroll compressors. Cooling capacity 366 - 1079 kW.

TECHNICAL DATA

	Model GLT - GL	
R410A (*tech*)	Cooling capacity	kW
	Absorbed power	kW
	ESEER	-
	IPLV	-
	Max external air temp.	°C
R407C	Cooling capacity	kW
	Absorbed power	kW
	Max external air temp.	°C
	Power supply	V/Ph/Hz
	Noise level	dB(A)
	Depth	mm
	Width	mm
	Height	mm
	Installed weight	Kg

BENEFITS

- Reduced noise levels, thanks also to the availability of three differing acoustic versions;
- High EER/COP levels, especially at partial loads;
- Allows start-up and operation in even the most severe conditions thanks to the unloading function;
- Easy to installation thanks to direct access water connections and the presence of headers (victaulic connections);
- Simple to install and maintain, easily accessible components;
- Compatible with the latest BMS supervision and interface systems.

MAIN OPTIONS

- Add-on external pumping unit with 1 or 2 pumps;
- Storage tank;
- Condenser coils designed for aggressive atmospheres;
- Metal mesh filters for condenser coil protection;
- Fan step regulation
- Compressor suction and discharge valves;
- Electronic expansion valve;
- Antifreeze heater on evaporator, pumps and tank.
- Compressor crankcase heater;
- Antivibration springs kit;
- Serial connection to supervisor system;
- Master-slave configuration allowing the interconnection and control of up to 4 units in parallel.
- Replicated remote control interface.

STANDARD FEATURES

- Multiple scroll compressors (4, 6, 9 or 12 depending on the model) connected in parallel (tandem or trio) on 2, 3 or 4 independent refrigeration circuits;
- Stainless steel brazed plate dual-circuit evaporators "dual-circuit";
- Shut-off valve and solenoid valve on the liquid line in each refrigeration circuit;
- Main switch;
- Phase monitor;
- Axial fans with progressive starting for condensing pressure control, arranged in two independent aeraulic sections;
- High and low pressure transducer;
- Thermostatic expansion valves, refrigerant fitters, sight glasses, solenoid valve on liquid line;
- Water differential pressure switch, air bleed valve and water drain valve;
- Water collectors for twin evaporator models;
- Factory tested and supplied with refrigerant charge and antifreeze oil;
- Environmentally friendly refrigerants with R410A and R407C zero ozone depletion potential.

VERSIONS

- Chiller;
- Low ambient air temperature in cooling mode (down to –20 °C);
- Version with recovery desuperheaters;
- Version with total recovery condensers;
- Applications for water temperatures down to –10 °C;
- Special applications with dual set-point operation;
- Acoustic configurations:
  - N (standard);
  - SN (low noise);
  - SSN (very low noise).

pure energy

120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	360
359	402	447	488	529	584	629	676	717	758	799	850	894	935	976	1017	1057
109	125	141	153	164	180	196	212	224	235	247	266	283	294	305	317	328
4,33	4,23	4,26	4,40	4,47	4,29	4,32	4,34	4,44	4,49	4,55	4,32	4,33	4,40	4,47	4,51	4,54
4,52	4,37	4,42	4,56	4,64	4,49	4,52	4,56	4,65	4,72	4,78	4,49	4,51	4,58	4,65	4,69	4,73
46	46	46	46	46	46	46	45	45	46	46	46	46	46	46	46	46
361	398	440	488	535	577	618	660	709	756	805	838	879	928	975	1023	1070
117	130	142	160	177	188	201	214	231	248	266	272	285	302	319	337	354
46	46	46	45	45	46	46	46	46	45	45	46	46	46	45	45	45
400±10%/3/50																
66,6	66,5	66,3	66,4	66,6	67,6	67,5	67,4	67,5	67,7	67,9	68,7	68,6	68,7	68,8	68,9	69,0
4530	4530	4530	4530	4530	6510	6510	6510	6510	6510	6510	8490	8490	8490	8490	8490	8490
2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190
2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
3106	3407	3505	3711	3908	5040	5138	5240	5449	5651	5840	6787	6884	7091	7287	7495	7691

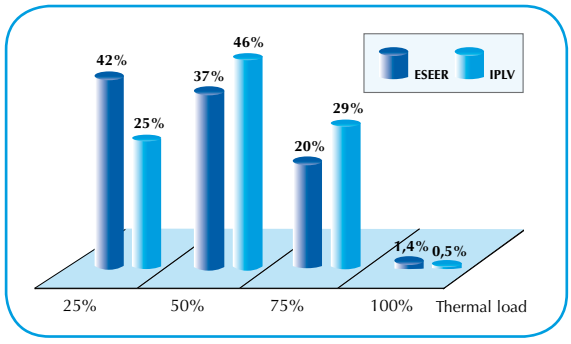
All data refers to standard units at the following nominal conditions:

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

PARTIAL LOADS

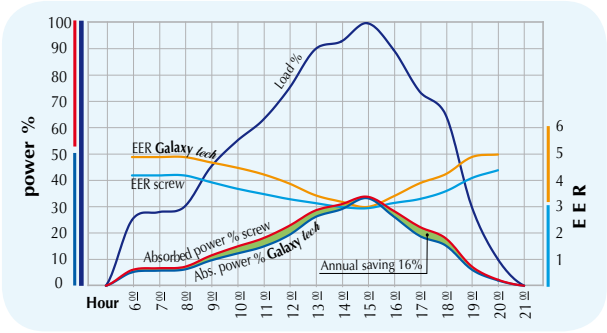
ESEER and IPLV operating time percentages



The standardised IPLV and ESEER indices establish the average weighted efficiency of a chiller and provides insight – in a more accurate manner than the EER value – into the relationship between the useful effect (energy removed from the rooms) and the energy expended (electrical power consumption) of an air conditioning unit throughout an entire season of operation.

The graphs show the importance of operation at partial load from the energy standpoint.

MULTISCROLL SOLUTION



City: Milan - **Application:** offices air conditioning

Comparison of absorbed power during a hot summer day; the chart refers to the worst situation among the possible ones during the whole year, as the multiscroll chiller maximizes the EER at partial loads.

6-key semi-graphic backlit PGD terminal.

Optimisation of performance in the most frequent duty conditions thanks to the multiscroll logic.

Pump section with or without storage tank.

PHOENIX

Air cooled water chillers featuring double screw semihermetic compressors.
Cooling capacity 232 - 1536 kW.

TECHNICAL DATA

Model PH	
Cooling capacity	kW
Absorbed power	kW
Max external air temp.	°C
Power supply	V/Ph/Hz
Noise	dB(A)
Depth	mm
Width	mm
Height	mm
Installed weight	Kg

BENEFITS

- Low noise levels, with 4 versions for further reduction;
- Elevated EER, especially at partial loads;
- Operates at high ambient temperatures thanks to the compressor unloading.
- Simple to install and maintain, easily accessible components.
- Compatible with the latest supervisory systems and BMS interfaces.

STANDARD FEATURES

- Refrigerant R407C.
- Double screw semi-hermetic compressors.
- 400/3/50 power supply.
- Microprocessor control p.CO^3.
- Shell and tube heat exchanger.
- Axial fans with step regulation.
- Protection grade IP54;
- Refrigerant charge, non-freezing oil, factory testing.

MAIN OPTIONS

- Antifreeze heater;
- Part winding start;
- Compressor suction and discharge valves;
- Phase monitor;
- Fan speed control;
- Desuperheater at 20%;
- Heat recovery at 50% or 100%;
- Ventilated electrical panel;
- Electronic expansion valve;
- Air filters on condenser coils;
- Anticorrosive treatment for condenser coils;
- Antivibration dampers;
- Remote control Kit;
- Compatible with the latest supervisory systems;
- R134a or R22 refrigerant.

VERSIONS

- Chiller;
- Acoustic configurations:
  - C standard;
  - SC low noise;
  - SF low noise high ambient temperature;
  - SSF very low noise;
- High ambient temperature (version H).

pure energy

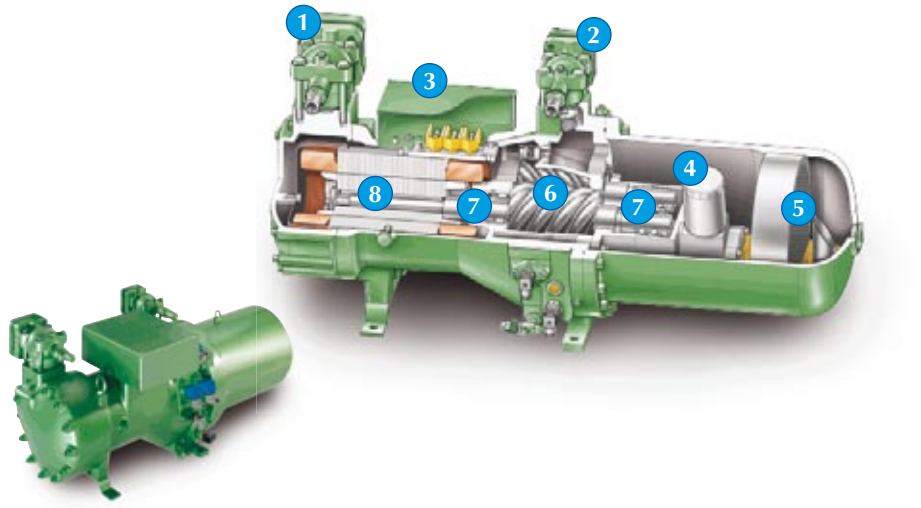
0232	0290	0347	0399	0443	0466	0515	0567	0617	0663	0715	0768	0802	0841	0876	0969	1008	1134	1234	1326	1430	1536
232	290	347	399	443	466	515	567	617	663	715	768	802	841	876	969	1008	1134	1234	1326	1430	1536
89	113	122	144	152	167	181	197	207	223	235	252	290	324	357	352	373	393	415	446	471	505
44	44	46	46	45	45	45	46	47	46	47	47	46	43	43	44	44	46	47	46	47	47
400±10%/3/50																					
65.0	66.5	65.7	65.0	66.1	66.2	65.9	65.6	66.7	66.6	67.1	68.0	68.5	68.6	68.7	68.9	68.9	68.6	69.2	69.1	69.6	70.0
3295	3295	3295	3295	4260	4260	4260	4260	5165	5165	6100	6100	6100	6100	6100	7035	7035	8520	10330	10330	12200	12200
2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190
2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
2196	2381	2761	2706	3305	3383	3741	4124	4601	5025	5108	5192	5623	5735	5751	6439	6734	8249	9203	10051	10217	10384

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

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

DOUBLE SCREW SEMIHERMETIC COMPRESSORS



1. Suction
2. Discharge
3. Electrical Panel
4. Oil Filter
5. Oil Separator
6. Screws
7. Bearings
8. Electric motor

Microprocessor control terminal.

Shell and tube evaporator with Victaulic connections.

Easily removable condenser mesh strainers.

PHOENIX *plus*

Air cooled water chillers featuring double screw semihermetic compressors.
Cooling capacity 320 – 1233 kW.

TECHNICAL DATA

Model PN	
Cooling capacity	kW
Absorbed power	kW
I.P.L.V.	-
ESEER	-
Max external air temp.	°C
Power supply	V/Ph/Hz
Noise	dB(A)
Depth	mm
Width	mm
Height	mm
Installed weight	Kg

BENEFITS

- IPLV seasonal performance index up to 4.3;
- Precise control of water temperature and adaptation to user demands thanks to continuous capacity control of the compressors (from 25 to 12.5 % of maximum loads in units with respectively 2 and 4 compressors);
- 20 different basic models to match the specific requirements of the installation;
- Facility to choose between three different sound insulation configurations;
- High efficiency version with the majority of models in energy efficiency Class A;
- Quietest acoustic configurations on the market;
- High temperature limits;
- Maximum ease of access to all components and coils for routine cleaning operations.

MAIN OPTIONS

- Electronic expansion valves;
- Electronic fan speed control;
- Version for –20 °C ambient air temperature;
- Filters to protect the condenser coils;
- Refrigerant-water exchangers protected with antifreeze heaters;
- Condenser coils with anticorrosion treatment;
- Special applications for dual set-point operation;
- Special applications with partial or total heat recovery exchangers;
- Special applications for water temperatures down to –10 °C;
- Special very high efficiency applications;
- Special applications with power factor correction capacitors;
- Replicated or single type remote control kit;
- Antivibration mounts kit;
- Protocols for supervision systems.

STANDARD FEATURES

- R134a ecological refrigerant with zero ozone depletion potential;
- Microprocessor controller;
- Semi-hermetic dual screw compressors expressly developed for use with R134a;
- Tube core evaporator expressly designed for use with R134a;
- "Victaulic" hydraulic connections;
- Condensers with transverse "V" formation and subcooling section;
- Check valve on compressor discharge and shut-off valves on discharge and suction lines;
- Shut-off valve and solenoid valve on the liquid line;
- Limitation of peak current by means of part-winding device;
- Muffler and flexible hoses on compressor suction and discharge (SSN version);
- IP54 protection rating;
- Refrigerant charge, non-freezing oil, and factory testing;
- 400/3/50 power supply.

VERSIONS

- Chiller;
- HE: High efficiency
- Acoustic configurations:
  - N (standard);
  - SN (low noise);
  - SSN (very low noise).

pure energy

	160	170	180	190	200	220	250	265	280	310	330	360	390	405	420	440	470	500	530	560
	320	340	359	389	420	476	522	564	606	667	714	765	824	868	927	980	1007	1039	1148	1233
	114	122	131	133	145	158	179	190	201	220	237	259	279	290	304	321	338	356	383	405
	3.9	4.0	4.0	41.0	41.0	41.0	3.9	4.2	4.3	4.1	4.1	4.0	4.1	4.2	4.3	4.2	4.1	3.9	4.2	4.3
	3.6	3.7	3.7	3.7	3.8	3.8	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.8	3.8	3.7	3.8	3.9
	44	44	44	44	44	46	44	44	44	46	46	44	44	44	44	45	44	44	44	44
	400±10%/3/50																			
	68.9	68.9	68.9	70.1	70.1	71.0	71.1	71.0	70.9	72.4	72.7	72.8	72.8	72.7	72.6	74.0	74.1	74.1	74.0	73.9
	4530	4530	4530	4530	4530	4530	4530	4530	4530	6510	6510	6460	6510	6510	6510	8490	8490	8490	8490	8490
	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190
	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
	3467	3509	3554	4137	4288	4702	4866	4949	5033	6511	6907	7286	7391	7472	7627	9085	9306	9349	9833	10000

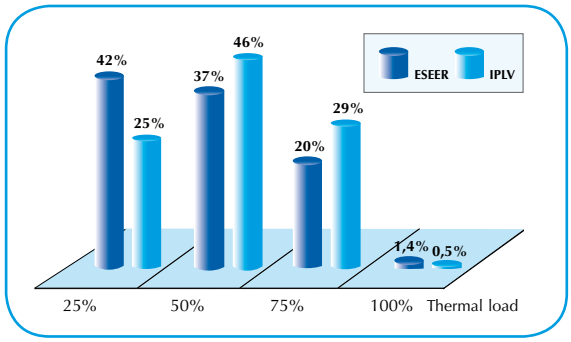
All data refers to standard units at the following nominal conditions:

- Chiller: evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C;

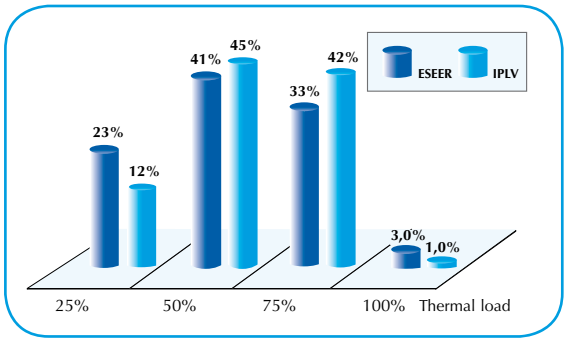
Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

IMPORTANCE OF OPERATION AT PARTIAL LOAD

ESEER and IPLV operating time percentages



ESEER and IPLV energy weights

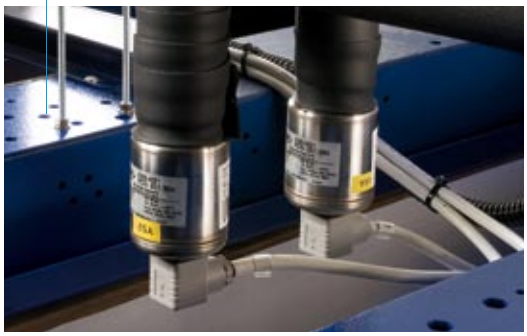


The standardised IPLV and ESEER indices establish the average weighted efficiency of a chiller and provides insight – in a more accurate manner than the EER value – into the relationship between the useful effect (energy removed from the rooms) and the energy expended (electrical power consumption) of an air conditioning unit throughout an entire season of operation.

The graphs show the importance of operation at partial load from the energy standpoint; specifically, in the interval of 50-75 % of rated capacity the unit develops significantly 70-80% of the useful effect, i.e. the cooling energy produced.

6-key semi-graphic backlit PGD terminal.

Electronic thermostatic expansion valves.



Maximum accessibility to compressors.

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;
- User friendly control section with simple readout and graphic display;
- Simple to install and maintain, easily accessible components;
- Environmental friendly, with zero ODP refrigerant R407C.

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;
- Cranckcase heater;
- Phase monitor;
- Correction capacitor (351-751);
- Antivibration dampers;
- Remote control kit;
- Remote display kit;
- Supervisor system kits.

STANDARD FEATURES

- Power supply 400/3/50;
- 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 aeraulic 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;
- 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;
- Protection grade IP54.
- Refrigerant R407C.

VERSIONS

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

pure energy

TECHNICAL DATA

	Model AS FC		201	251	301	351	401	501	551	601	701	751
Free Cooling OFF	Cooling capacity	kW	50.9	54.6	69.3	80.1	97.6	115.3	133.1	145.7	161.4	177.3
	Total absorbed power	kW	17.8	20.9	22.3	34.1	38.3	44.1	48.4	54.7	58.7	66.1
TOTAL Free Cooling	Cooling capacity	kW	50.9	54.6	69.3	80.1	97.6	115.3	133.1	145.7	161.4	177.3
	Absorbed power	kW	1.6	1.6	2.3	4.0	4.0	4.0	4.0	4.0	6.0	6.0
	Total freecooling	°C	1.0	1.4	-0.3	1.6	0.5	-0.7	0.4	-0.7	1.4	0.4
	Power supply	V/Ph/Hz	400±10%/3/50									
	Noise Freecooling OFF	dB(A)	59.3	59.3	61.0	62.6	61.6	61.6	61.6	61.6	62.3	62.3
	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	1131	1131	1146	1744	1859	2059	2289	2289	2411	2511

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

- external air temperature 35 °C, water inlet temperature 15 °C,
- water outlet temperature 10°C, Glycol = 30%

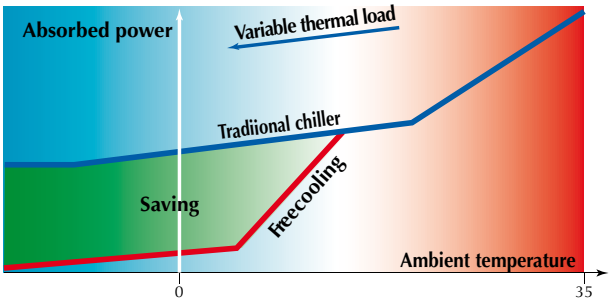
In total Freecooling mode the absorbed power is only the fans absorbed power.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 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	
	% T_in=12°C	% T_in=15°C
Berlino	**54%**	**68%**
Bruxelles	**51%**	**69%**
Copenaghen	**61%**	**74%**
Milano	**47%**	**54%**
Oslo	**75%**	**84%**
Stoccolma	**63%**	**73%**
Vienna	**50%**	**60%**

ENERGY SAVING



6-key semi-graphic backlit PGD terminal.

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

Servo-controlled three-way hydraulic valve.

PHOENIX *freecooling*

Air cooled water chillers with Freecooling system featuring double screw semihermetic compressors. Cooling capacity 187 - 494 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;
- Version SSF featuring extremely quiet operation;
- User friendly control section with simple readout and graphic display;
- Simple to install and maintain, asily accessible components;
- Environmental friendly, with zero ODP refrigerant R407C.

MAIN OPTIONS

- Compressor silencing canopy on C version (standard on other version);
- Electronic termostatic valve;
- Correction capacitor;
- Axial fans with continuos regulation;
- Fused or MCB electrical protection;
- Air filters on coils;
- –15 °C ambient temperature version;
- Antivibration dampers;
- Kit for remote control;
- Supervision system kits.

STANDARD FEATURES

- 400/3/50 power supply;
- Twin screw compressors with crankcase heater and oil level control;
- Part winding start for reduced current spikes;
- Compressor suction and discharge valves;
- Shell and tube evaporator;
- Independent refrigeration circuits;
- Condensers and fans installed in separate section with aeraulic isolation for the maximum exploitation of Free-Cooling and the maximum overall energy efficiency of the system;
- Axial fans with crescent shaped blades;
- 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;
- High and low pressure transducers;
- Electronic expansion valve with external equalisation, refrigerant filter, sight glass, solenoid valve on liquid line;
- Safety valve (except 0801 - 1101);
- Microprocessor control with advanced software ensuring optimum control in all conditions;
- Main switch;
- Protection grade IP54;
- SSF fitted silencers, flexible tubing and compressor vibration damping.
- Refrigerant R407C;

VERSIONS

- Refrigeratore con freecooling;
- Configurazioni acustiche:
  - C, standard;
  - SC, silenziata;
  - SF, silenziata (per elevata temperatura ambiente);
  - SSF, super-silenziata.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

	Model AS FC		0801	0901	1101	1251	1401	1602	1702	1802	2002	2202
Free Cooling OFF	Cooling capacity	kW	187	218	264	306	362	373	395	412	467	494
	Total absorbed power	kW	74.0	87.0	101	115	131	148	163	177	190	209
TOTAL Free Cooling	Cooling capacity	kW	187	218	264	306	362	373	395	412	467	494
	Absorbed power	kW	6.0	8.0	8.0	10.0	12.0	12.0	12.0	12.0	14.0	14.0
	Total freecooling	°C	-0.2	-1.6	-2.0	-0.6	0.1	-0.2	-0.8	-1.3	-0.6	-1.3
	Power supply	V/Ph/Hz	400±10%/3/50									
	Noise Freecooling OFF	dB(A)	62.0	63.2	62.6	63.6	65.0	65.5	65.6	65.7	66.9	66.9
	Depth	mm	3675	4590	4590	5490	6425	6425	6425	6425	7360	7360
	Width	mm	2190	2190	2190	2190	2190	2190	2190	2190	2190	2190
	Height	mm	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
	Installed weight	Kg	2623	3306	3814	4648	5003	5273	5385	6089	6133	6154

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

- external air temperature 35 °C, water inlet temperature 15 °C,
- water outlet temperature 10°C, Glycol = 30%

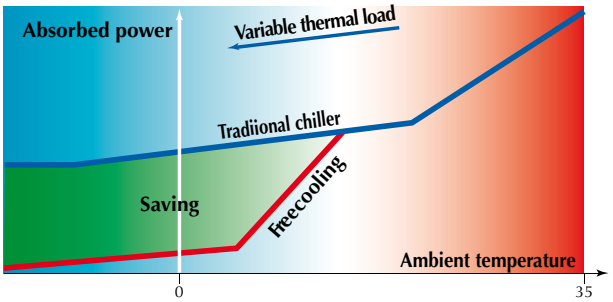
In total Freecooling mode the absorbed power is only the fans absorbed power.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 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	
	% T_in=12°C	% T_in=15°C
Berlino	**54%**	**68%**
Bruxelles	**51%**	**69%**
Copenaghen	**61%**	**74%**
Milano	**47%**	**54%**
Oslo	**75%**	**84%**
Stoccolma	**63%**	**73%**
Vienna	**50%**	**60%**

ENERGY SAVING



6-key semi-graphic backlit PGD terminal.

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

Servo-controlled three-way hydraulic valve.

OCEAN

OCEAN HOCEAN OCEAN/ME

Water cooled water chillers, heat pumps and condenserless version featuring hermetic scroll compressors. Cooling capacity 4 - 194 kW, heating capacity 5 - 230 kW.

BENEFITS

- Reduced noise levels thanks to extensive sound insulatinon;
- High EER/COP levels;
- Self-adaptive temperature control for operation in systems with reduced water contents (up to model 350);
- Reduced dimensions;
- Flexibility of use, sized for operation with either tower or well water;
- Easy installation and complete access to all internal components;
- Easy to use thanks to an intuitive controller with dual icon display;
- Compatible with the latest BMS supervision and interface systems.

STANDARD FEATURES

- Hermetic rotary (018-030), scroll (040-150) and twin scroll (200-600) compressors;
- Brazed stainless steel plate evaporator and condenser;
- Individually factory tested, charged with refrigerant and antifreeze oil, ready for operation;
- IP22 protection rating;
- Refrigerant R407C.

MAIN OPTIONS

- Separate module containing storage tank and pump, conceived to allow easy connection to the chiller itself;
- High and low head pressure pumps;
- Condensing pressure control valve;
- Antivibration dampers;
- Duplicated remote control kit;
- RS485 MODBUS interface kit for connection to supervisor systems;
- X-WEB300 remote supervision, allowing local or remote monitoring via a web server or a GSM cell phone;
- Matching cooling towers or dry coolers available on request.

VERSIONS

- Chiller;
- Heat pump:
  - Inversion on the gas side (models 018-350);
  - Inversion on the hydraulic side (models 400-600);
- Evaporating unit with in/out shut-off valves, designed for use with a remote condenser.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

	Model OC-HOC-/ME		018	022	030	040	050	070	100	130	150	200	230	280	350	400	500	600
	Well water																	
OC	Cooling capacity	kW	4.3	5.3	7.7	11.1	15.1	24.8	34.1	43.8	50.7	66.7	77.4	95.4	121	140	169	205
	Absorbed power	kW	1.0	1.2	1.6	2.3	3.1	4.4	6.0	8.0	9.3	11.9	13.9	17.1	22.1	25.5	30.7	40.0
HOC	Cooling capacity	kW	4.2	5.1	7.4	10.6	14.8	24.4	33.2	43.4	49.9	64.5	76.0	92.3	117	143	167	208
	Absorbed power	kW	1.0	1.1	1.6	2.3	3.0	4.4	5.9	7.8	9.2	12.0	13.9	17.1	22.0	25.6	30.6	39.6
	Tower water																	
OC	Cooling capacity	kW	4.2	5.1	7.2	10.5	14.3	23.5	32.0	41.1	47.6	62.4	72.7	89.5	114	131	160	194
	Absorbed power	kW	1.1	1.2	1.8	2.6	3.4	4.9	6.8	9.1	10.6	13.7	15.8	19.5	25.1	28.9	35.5	45.1
HOC	Cooling capacity	kW	4.1	4.5	7.1	10.2	14.2	23.1	31.5	40.8	47.4	60.3	71.3	86.4	111	134	159	196
	Absorbed power	kW	1.1	1.2	1.7	2.5	3.3	4.9	6.6	8.8	10.2	13.8	15.8	19.6	25.0	29.0	35.4	44.7
HOC	Heating capacity	kW	4.6	5.4	7.8	11.3	16.1	24.7	33.3	43.7	50.7	65.6	77.2	94.1	121	156	187	230
	Absorbed power	kW	1.3	1.5	2.2	3.3	4.4	6.3	8.9	11.6	13.3	18.2	20.5	25.16	31.9	35.4	43.6	54.0
/ME	Cooling capacity	kW	4.1	4.9	6.9	10.2	13.9	22.8	31.2	40.3	46.7	60.9	70.8	87.2	111	129	158	191
	Absorbed power	kW	1.1	1.3	1.9	2.8	3.6	5.2	7.2	9.5	11.0	14.4	16.6	20.5	26.1	30.2	36.7	46.3

Power supply	V/Ph/Hz	230±10%/1/50				400±10%/3/50											
Sound pressure level	dB(A)	30.1	30.5	31.1	35.1	37.8	38.4	41.3	45.7	46.3	48.1	49.4	49.9	50.7	51.7	52.9	53.9
Depth	mm	310	310	310	310	500	500	500	500	500	640	640	640	640	720	720	720
Width	mm	520	520	520	520	780	780	780	780	780	1550	1550	1550	1550	1750	1750	1750
Height	mm	800	800	800	800	1000	1000	1000	1000	1000	1200	1200	1200	1200	1200	1200	1200
Installed weight	Kg	48	52	58	66	120	159	181	204	217	388	430	478	538	664	682	715

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

Well water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 20-30 °C.
Tower water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 30-35 °C.
Heat pump: condenser water inlet/outlet temperature 40-45 °C; evaporator water inlet/outlet temperature 12-7 °C.
Evaporating unit: evaporator water inlet/outlet temperature 12-7 °C; condensing temperature (DEW) 45 °C.

Maximum condenser water outlet temperature at nominal conditions 50 °C;
Minimum evaporator water outlet temperature at nominal conditions 2 °C;
Maximum condensing temperature for evaporating unit at nominal conditions 64 °C.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB.
The sound levels refer to operation of the unit under full load in nominal conditions.

Microprocessor controller with dual icon-based display

Storage tank and pump in separate adjoinable module

Allows installation in even the most limited spaces

NEPTUNE

NEPTUNE NEPTUNE/ME

Water cooled water chillers featuring hermetic scroll compressors.
Cooling capacity 232 - 543 kW.

BENEFITS

- High EER/COP levels, especially at partial loads;
- Reduced noise levels, thanks also to the availability of two differing acoustic versions;
- 90 models: cooling only, heat pump, partial recovery,total recovery and evaporating unit, in standard and low noise versions;
- Reduced dimensions;
- Flexibility of use, sized for operation with either tower or well water;
- Allows start-up and operation in even the most severe conditions thanks to the unloading function;
- Easy installation and complete access to all internal components;
- Easy to use thanks to an intuitive controller with dual icon display;
- Compatible with the latest BMS supervision and interface systems.

STANDARD FEATURES

- 3 to 6 hermetic scroll compressors, positioned in parallel in one or two circuits;
- Brazed stainless steel plate evaporators and condensers;
- Designed for outdoor operation (IP54 protection rating);
- Shut-off valve and solenoid valve on the liquid line;
- Individually factory tested, charged with refrigerant and antifreeze oil, ready for operation;
- Refrigerant R407C (R22 on request).

MAIN OPTIONS

- Condensing pressure control valve;
- Antivibration dampers;
- Duplicated remote control kit;
- RS485 MODBUS interface kit for connection to supervisor systems;
- X-WEB300 remote supervision, allowing local or remote monitoring via a web server or a GSM cell phone;
- Matching cooling towers or dry coolers available on request.

VERSIONS

- Chiller;
- Heat pump with cycle inversion on the hydraulic side;
- Evaporating unit with in/out shut-off valves, designed for use with a remote condenser;
- Desuperheater, for recovery of approximately 20% of rejection heat;
- Recovery condensers (50% or 100% recovery of rejected heat).

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

	Model NE-/ME		075	090	100	110	120	135	150	165	180
	Tower water										
NE	Cooling capacity	kW	232.4	267.5	319.2	343.5	364.5	414.7	472.7	510.6	543.0
NE	Absorbed power	kW	55.2	67.5	73.8	81.6	91.2	102.0	110.8	121.3	135.5
	Well water										
NE	Cooling capacity	kW	246.3	284.1	338.3	364.5	388.0	440.8	501.3	541.7	578.4
NE	Absorbed power	kW	47.7	59.5	63.7	71.2	80.2	88.9	95.7	105.8	119.3
/ME	Cooling capacity	kW	231.6	261.3	315.5	335.2	355.0	408.5	463.3	492.4	522.6
/ME	Absorbed power	kW	54.9	69.1	73.3	82.8	92.4	101.0	109.7	124.0	138.3

Power supply	V/Ph/Hz	400±10%/3/50								
Sound pres. level (Standard)	dB(A)	60.3	61.6	61.5	62.2	62.8	62.8	62.4	63.3	63.7
Sound pres. level (comp. housing)	dB(A)	53.3	54.6	54.5	55.2	55.8	55.8	55.4	56.3	56.7
Depth	mm	2151	2151	2751	2751	2751	3951	3951	3951	3951
Width	mm	802	802	802	802	802	802	802	802	802
Height	mm	1800	1930	1867	1867	1867	1800	1800	1930	1930
Installed weight	Kg	1004	1191	1359	1474	1588	1753	1891	2116	2274

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

Tower water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 30-35 °C.
Well water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 20-30 °C.
Evaporating unit: evaporator water inlet/outlet temperature 12-7 °C; condensing temperature (DEW) 45 °C.

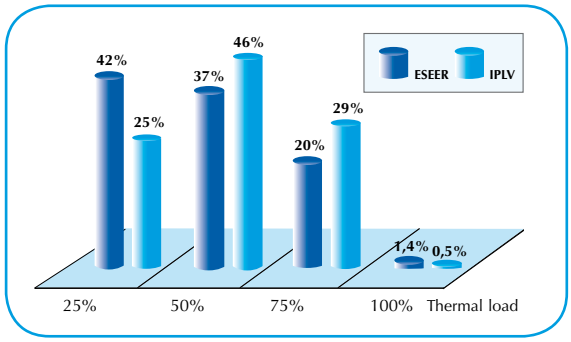
Heating capacity = Cooling capacity + Absorbed power.

Maximum condenser water outlet temperature at nominal conditions 50 °C.
Maximum condensing temperature for evaporating unit at nominal conditions 64 °C.

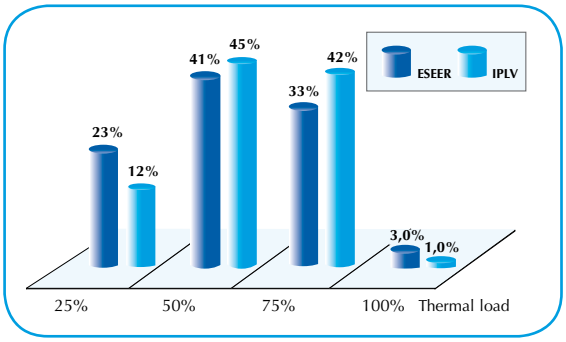
Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB.
The sound levels refer to operation of the unit under full load in nominal conditions.

IMPORTANCE OF OPERATION AT PARTIAL LOAD

ESEER and IPLV operating time percentages



ESEER and IPLV energy weights



The standardised IPLV and ESEER indices establish the average weighted efficiency of a chiller and provides insight – in a more accurate manner than the EER value – into the relationship between the useful effect (energy removed from the rooms) and the energy expended (electrical power consumption) of an air conditioning unit throughout an entire season of operation.

The graphs show the importance of operation at partial load from the energy standpoint; specifically, in the interval of 50-75 % of rated capacity the unit develops significantly 70-80% of the useful effect, i.e. the cooling energy produced.

Microprocessor controller with dual icon-based display

Optimised performance thanks to multiscroll logic

Ideal for air conditioning of civil, public and private buildings

AQUARIUS

Water cooled water chillers featuring double screw compressors.
Cooling capacity 330 - 1406 kW.

BENEFITS

- Reduced noise level thanks to the four different versions;
- High energy saving thanks to a considerable EER;
- Suitable for industrial process cooling;
- Operation at high inlet water temperature thanks to the compressor unloading;
- Easy to install and to service thanks to a direct access to all components;
- Compatible with the latest supervisory systems and BMS interfaces.

STANDARD FEATURES

- Double screw semi-hermetic compressors;
- Electrical Supply 400/3/50;
- Microprocessor control pCO^2;
- Shell and tube heat exchanger;
- Suction and discharge compressor valves;
- Part winding start;
- Phase monitor;
- Protection grade IP54;
- R407C refrigerant gas.

MAIN OPTIONS

- Refrigerant gas R22 or R134a;
- Antifreeze heater;
- Heat recovery at 50% or 100%;
- Electronic expansion valve;
- Antivibration mountings;
- Water regulating valve;
- Kit for remote control;
- Protocols for supervisory systems.

VERSIONS

- Chiller;
- Acoustic configurations:
  - C standard;
  - SSF extra low noise.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

Model AQ		0330	0370	0400	0470	0530	0600	0665	0715	0740	0810	0845	0950	1000	1070	1155	1210	1295
Tower water																		
Cooling capacity	kW	330	370	403	469	527	598	665	714	740	809	845	951	1001	1068	1155	1210	1294
Absorbed power	kW	78	84	89	106	118	129	136	151	162	174	183	199	209	222	246	256	276
Well water																		
Cooling capacity	kW	362	407	444	515	573	651	715	776	808	881	920	1038	1095	1165	1260	1318	1406
Absorbed power	kW	69	74	80	93	105	115	125	135	144	154	163	179	188	199	218	228	246

Power supply	V/Ph/Hz	400±10%/3/50																
Sound pressure level (Vers. C)	dB(A)	63.3	63.1	62.9	63.4	63.8	64.0	64.1	65.2	66.0	67.1	67.9	65.8	65.9	66.6	67.8	68.5	69.7
Sound pressure level (Vers. SSF)	dB(A)	57.3	57.1	56.9	57.4	57.8	58.0	58.1	59.2	60.0	61.1	61.9	59.8	59.9	60.6	61.8	62.5	63.7
Depth	mm	3505	3505	3505	3505	3505	3890	3890	3890	3890	3890	3890	4380	4380	4380	4380	4380	4380
Width	mm	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	2190	2190	2190	2190
Height	mm	2100	2100	2100	2100	2100	2100	2100	2100	2200	2200	2200	2200	2200	2280	2280	2280	2280
Installed weight	Kg	2008	2523	2703	2763	2852	3521	3861	3876	4178	4275	4335	5313	5653	5908	6531	6617	6717

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

Tower water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 30-35 °C.
Well water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 20-30 °C.

Heating capacity = Cooling capacity + Absorbed power.

Max. condenser outlet water temperature at nominal conditions = 50 °C.

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB.
The sound levels refer to operation of the unit under full load in nominal conditions.

Microprocessor control terminal.

Easily removable condensers for fast maintenance.

Semi-hermetic dual screw compressors.

AQUARIUS *plus*

Water cooled water chillers featuring double screw compressors.
Cooling capacity 400 - 1371 kW.

BENEFITS

- 19 base models with single or twin compressors to perfectly match each specific system requirement;
- Class leading nominal and seasonal energy efficiency ratings;
- Reduced noise levels, thanks also to the availability of two differing acoustic versions;
- Easy access to all components;
- Continuous control of the cooling capacity.

MAIN OPTIONS

- Pressure control or servo-controlled valves for condensing pressure control;
- Condensers for tower or well water;
- Duplicated or simple remote control;
- Connection to supervision systems;
- Antivibration dampers;
- Matching cooling towers or dry coolers available on request;
- Version for water temperatures down to –10 °C;
- Power factor correction condensers;
- Heat recovery exchangers (in dedicated unit frame).

STANDARD FEATURES

- Refrigerant R134a;
- Electronic expansion valves as standard on models 1401-2401 and 2202-4802, optional for the remaining models;
- Semi-hermetic dual screw compressors expressly developed for use with R134a;
- Evaporator and shell and tube condensers optimised for operation with R134a;
- Easily adapted to heat pump operation;
- Check valve on compressor discharge, shut-off valves on suction and discharge lines;
- Shut-off valve and solenoid valve on the liquid line;
- Start-up with low peak current;
- Suitable for outdoor installation.

VERSIONS

- Chiller.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

Model AQP		1401	1601	1801	2101	2401	1402	1502	1602	1802	2002	2202	2502	2652	2802	3202	3402	3602	4202	4802
Tower water																				
Cooling capacity	kW	356	427	486	553	607	364	384	410	475	530	570	648	686	728	847	913	974	1112	1225
Absorbed power	kW	70	84	95	109	119	71	76	81	93	103	112	127	134	140	166	178	191	219	238
ESEER	-	6,32	6,13	6,52	5,89	6,43	6,50	6,21	6,14	6,47	6,61	6,50	5,98	6,43	6,54	6,10	6,47	6,53	5,92	6,47
I.P.L.V.	-	6,11	5,86	6,26	5,65	6,18	6,43	6,14	6,09	6,41	6,55	6,46	5,93	6,36	6,48	6,06	6,42	6,49	5,87	6,42
Well water																				
Cooling capacity	kW	373	446	506	578	634	380	401	428	497	553	593	677	718	762	886	952	1014	1161	1281
Absorbed power	kW	66	78	88	102	111	67	70	75	87	95	104	119	124	131	154	165	176	206	222
Power supply	V/Ph/Hz	400±10%/3/50																		
Sound pres. level	dB(A)	69.0	68.0	68.0	69.0	70.0	66.0	66.0	66.0	68.0	68.5	69.0	70.0	71.0	72.0	71.0	71.0	71.0	72.0	73.0
Depth	mm	3345	3345	3345	3345	3345	3745	3745	3745	3745	3745	3745	3745	4295	3755	4745	4845	4860	4760	4760
Width	mm	1020	1020	1020	1020	1020	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Height	mm	2020	2020	2110	2110	2110	1850	1850	1850	1850	1940	1940	1940	1940	2000	2130	2200	2200	2250	2250
Installed weight	Kg	2455	2909	3420	3477	3586	2691	2966	2966	3024	3683	3983	4040	4409	4509	5826	6539	6539	6953	7141

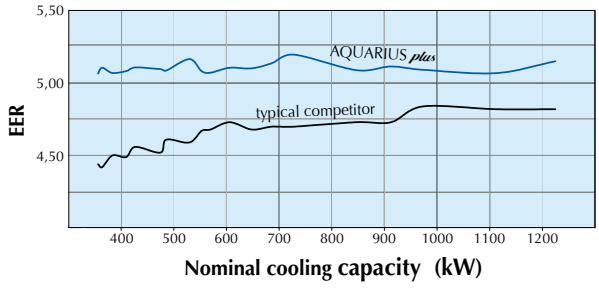
All data refers to standard units at the following nominal conditions:

Tower water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 30-35 °C.
Well water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 15-30 °C.
Heating capacity = Cooling capacity + Absorbed power.

IPLV calculated in accordance with ARI Standard 550/590-2003 - ESEER: European Seasonal Energy Efficiency Ratio adopted by Eurovent

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB.
The sound levels refer to operation of the unit under full load in nominal conditions.

A SAVING WHICH YOU CAN'T IGNORE



Semi-graphic backlit microprocessor display

Electronic thermostatic valves

Continuous control of the cooling capacity

AQUA *genius*

Water cooled water chillers featuring oil free centrifugal.
Cooling capacity 300 - 1200 kW.

BENEFITS

- Absence of friction with resulting benefits in terms of low noise emissions;
- Elevated IPLV and elevated EER at partial loads;
- Long compressor lifetime thanks to the absence of mechanical friction;
- Very low starting current (2 A);
- The variable compressor speed control allows the chiller to adapt it self to a wide range of power ratings;
- No vibration, low noise levels;
- Reduced weight due to the compact compressor technology.

STANDARD FEATURES

- 400/3/50 power supply;
- Centrifugal turbocor compressors with magnetic bearings;
- Single refrigeration circuit with 1,2,3 or 4 compressors mounted in parallel;
- Continuous power output modulation by means of speed control;
- Electronic expansion valve;
- Microprocessor control;
- Shell and tube evaporator and condenser, optimized for use with refrigerant R134a;
- Protection grade IP44;
- Compressor suction and discharge valves;
- Liquid line valve and electrovalve;
- Evaporator water side differential pressure switch;
- Refrigerant R134a.

MAIN OPTIONS

- Tower water or city water condenser;
- Rubber antivibration (110) or springs antivibration kit (220 - 440).

VERSIONS

- Chiller.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

Model AQ TC		110	220	330	440
Tower water					
Cooling capacity	kW	300	600	900	1200
Absorbed power	kW	68.3	136.6	204.9	273.2
Well water					
Cooling capacity	kW	300	600	900	1200
Absorbed power	kW	58.6	117.2	175.8	234.4
IPLV (1)		7.9	7.9	8.0	8.0
Power supply	V/Ph/Hz	400±10%/3/50			
Sound pressure level	dB(A)	65	67	68	69
Depth	mm	3260	4200	4645	4645
Width	mm	995	1500	1700	1700
Height	mm	1626	2193	2275	2275
Installed weight	Kg	1555	3611	4933	6118

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

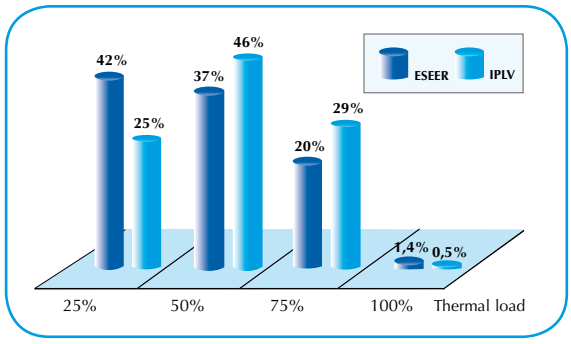
Tower water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 30-35 °C.
Well water: Chiller: evaporator water inlet/outlet temperature 12-7 °C, condenser water inlet/outlet temperature 15-30 °C.
Heating capacity = Cooling capacity + Absorbed power.

IPLV calculated in accordance with ARI Standard 550/590-2003 - ESEER: European Seasonal Energy Efficiency Ratio adopted by Eurovent

Sound pressure level in hemispherical field at 10 m from condenser side and 1.6 m from ground. Values with tollerance ± 2 dB.
The sound levels refer to operation of the unit under full load in nominal conditions.

PARTIAL LOADS

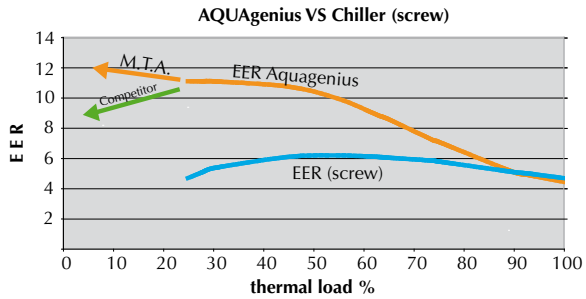
ESEER and IPLV operating time percentages



The standardised IPLV and ESEER indices establish the average weighted efficiency of a chiller and provides insight – in a more accurate manner than the EER value – into the relationship between the useful effect (energy removed from the rooms) and the energy expended (electrical power consumption) of an air conditioning unit throughout an entire season of operation.

The graphs show the importance of operation at partial load from the energy standpoint.

ELEVATED EER



City: Milan – **Application**: offices air conditioning.

Thermal load is 30% of the chiller's nominal capacity for more than the 50% of the total working time.
Units fitted with several compressors in parallel maximize their EER also at partial loads, wich represent more than the 50 % of the unit's total working time. EER is lower on units fitted with centrifugal compressors installed on independent circuits.

6-key semi-graphic backlit PGD terminal.

Oil-free dual stage centrifugal compressors with speed control provided by an integrated inverter.

Easily removable condensers for rapid maintenance.

EOLO

EOLO*mini* EOLO HEOLO

Cooling-only and heat pump air-cooled ductable split systems and packaged cabinet-mounted air conditioners with hermetic scroll compressors.
Cooling capacity 3.7 – 72 kW, heating capacity 4 – 74 kW.

BENEFITS (EOLO*mini*)

- Extremely quiet;
- Ideal for air conditioning installations in open-space surroundings and small commercial premises;
- Compact dimensions and attractive styling;
- Easy and rapid installation thanks to double-ended threaded couplings and integral support flanges;
- Easy control of the numerous functions by means of wall-mounted controller (DC) and remote control (CS);
- High EER/COP values;
- Extended operating limits;
- Remotability up to 50 m depending on the model.

MAIN OPTIONS

- Supplementary electric heaters;
- Wall control for CS systems.

STANDARD FEATURES

- Use of R410A refrigerant;
- Hermetic rotary and scroll compressors;
- 3-speed + auto speed fans on indoor units;
- Functions: cooling, heating, nighttime operation, dehumidification, automatic cooling/heating, indoor unit anti-freeze, daily timer, hot start;
- Outdoor unit with fan speed control;
- High efficiency self-adaptive defrosting system;
- External coil with “Blue-fin” treatment;
- Pressure test connections;
- Built-in condensate tray;
- Condensate expulsion pump (CS);
- Refrigerant charge, non-freezing oil and factory testing;
- RoHS certification (single-phase models only).

BENEFITS (EOLO)

- Facility to change the air flow direction of the centrifugal fans also at the time of installation;
- Outdoor units with axial or centrifugal fans;
- Ideal for air conditioning installations in public buildings, commercial premises and industrial production sites;
- High EER/COP values;
- Extended operating limits;
- Optimisation of the heat pump defrosting cycles thanks to the exclusive Frost Detecting System with stopping of the indoor unit fans;
- Extremely quiet operation;
- Controller with dual icon-based display for easy management;
- Simplified maintenance, easily accessible parts.

MAIN OPTIONS

- Fan delivery port orientation modification kit;
- Supplementary hot water heating coils or electric heaters;
- Condensing unit centrifugal fans electronic speed control kit;
- Antivibration mounts kit;
- Filters kit for condensing coil;
- Serial communication module kit.

STANDARD FEATURES

- Use of R407C refrigerant;
- Hermetic scroll compressors (tandem dual compressor from model 185) equipped with crankcase heater;
- Centrifugal fans with fanwheel having forward-curved blades,double suction and belt-drive transmission with variable pitch pulley;
- Axial condensing unit with electronic fan speed control;
- Microprocessor controller + replicated wall-mounted remote control equipped with room thermostat;
- Main door lock disconnect switch;
- Indoor units lined with anti-condensation insulating matting;
- Indoor units equipped with polyurethane foam sheet filter;
- Built-in condensate tray;
- Filled with non-freezing oil and factory tested.

pure energy

Cooling, conditioning, purifying.

TECHNICAL DATA

	Model EOM-EO		M12	M18		M24		M30		M40		M50	M60	066	080	110	135	160	185	220	245
	Unit type		DC	DC	CS	DC	CS	DC	CS	DC	CS	DC	DC	DC	DC	DC	DC	DC	DC	DC	DC
Eolo	Cooling capacity (1)	kW	3.7	5.2	5.2	6.8	6.8	9	9	13	12	16.2	18.6	19.4	23.2	32.2	39.9	46.5	53.5	62.4	72.1
	Absorbed power	kW	1.3	1.85	1.85	2.3	2.3	3.35	3.3	4.8	4.5	6.2	6.9	6.4	6.5	9.3	11.9	13.5	15.9	17.8	21.4
	Air flow	m^3/h	780	1280	620	1700	770	2140	1020	2140	2040	2900	2900	4200	5120	7230	8520	9800	11210	12800	13880
HEolo	Heating capacity (2)	kW	3.8	5.3	5.3	6.9	6.9	9.5	9.5	13.7	12.6	16.2	18.9	19.9	24.6	33.9	43.4	51.3	56.8	66.8	74.4
	Absorbed power	kW	1.18	1.65	1.65	2.1	2.13	3.18	3.2	4.75	4.4	6	6.8	5.7	6.1	8.0	11.2	13.5	15.0	16.6	20.2
	Power supply	V/Ph/Hz	230±10%/1/50							400±10%/3/50											
Axial Outdoor Unit	Noise	dB(A)	49	58	58	62	58	62	62	62	62	62	62	45.8	43.1	46.3	48.8	49.4	50.0	50.7	51.3
	Depth	mm	292	370		370		413		412		412	412	550	810	810	1112	1112	1112	1112	1112
	Width	mm	845	865		915		1044		980		980	980	1420	1960	1960	2060	2060	2470	2470	2470
	Height	mm	540	685		688		1040		1250		1250	1250	1288	1203	1203	1417	1417	1595	1595	1595
	Installed weight	Kg	39	46		49		96		110		110	110	175	317	327	438	468	517	593	608
Centrif. Outdoor Unit	Noise	dB(A)	-	-		-		-		-		-	-	52.9	54.0	54.2	55.8	56.2	55.9	57.3	58.8
	Depth	mm	-	-		-		-		-		-	-	930	930	930	930	1081	1081	1081	1081
	Width	mm	-	-		-		-		-		-	-	1265	1265	1915	1915	2110	2110	2507	2507
	Height	mm	-	-		-		-		-		-	-	1444	1444	1444	1444	1900	1900	1900	1900
	Installed weight	Kg	-	-		-		-		-		-	-	185	190	275	285	550	580	800	870
Indoor Unit	Nominal available static pres.	Pa	30	60	-	60	-	80	-	80	-	80	80	163	146	158	139	197	183	224	197
	Noise	dB(A)	38	40	35	40	37	43	39	58	45	58	58	47.0	47.8	48.6	51.6	51.5	54.3	53.7	55.3
	Depth	mm	480	618	570	678	570	738	730	738	930	798	798	930	930	930	930	1081	1081	1081	1081
	Width	mm	941	1015	570	1015	570	1315	730	1315	930	1365	1365	1265	1265	1915	1915	2110	2110	2507	2507
	Height	mm	200	240	290	275	290	275	290	275	290	315	315	688	688	792	792	912	912	925	925
	Installed weight	Kg	30	30	27	35	27	45	42	45	60	60	55	105	105	150	185	300	310	340	360

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

(1) Room air temperature: 27 °C D.B. / 19 °C W.B.; Ambient air temperature 35 °C D.B. / 24 °C W.B. (values for axial outdoor unit).
(2) Heat pump: Room air temperature: 20 °C; Ambient air temperature 7 °C D.B / 6 °C W.B. (values for axial outdoor unit).

Maximum ambient air temperature for outdoor unit: 45 °C; minimum ambient air temperature for outdoor unit: -10 °C.

Sound pressure level in hemispherical irradiation conditions at a distance of 1 m from the unit.

Microprocessor controller with dual icon-based display and read-out of functions and alarms.

Unit controllers and remote controls.

Built-in condensate collection tray.

MISTRAL

Air treatment hydraulic terminal units.

BENEFITS

- Extreme low noise;
- Reduced overall dimensions with a depth of 200 mm only;
- Easy to access;
- Easy and limited maintenance;
- Easy inversion of the coil connection on site;
- On demand ready-to-plug unit with all accessories fitted.

MAIN OPTIONS

- Auxiliary heating coil for a 4 pipe installation;
- 2 or 3 way valve and multifunction thermostat;
- Electric heater;
- Fresh air intake with manual or motorized shutter;
- Straight or 90° duct extensions;
- Coated wooden casing (for recessed type units).

STANDARD FEATURES

Available in 8 sizes and 10 different models to suite all installation, such as:

- floor free standing vertical cabinet type, with either supporting feet or continuous basement, with bottom or front air return, top or front air supply;
- horizontal exposed cabinet type for ceiling suspension, with either back or bottomair return, or with bottom air return through an extended cabinet decorative plenum provided with return air grille;
- vertical or horizontal recessed type.

VERSIONS

- Fan coils;
- Water-type cassette terminals;
- Ductable units.

pure energy

TECHNICAL DATA

Model ML		50	100	200	300	400	600	800	1000
Cooling capacity (1)	W	1400	1657	2314	3488	4767	6976	8953	10755
Sensible cooling capacity (1)	W	1264	1495	2088	2953	4035	5897	7597	9122
Heating capacity (2)	W	2918	3447	4703	7011	9628	14069	18465	22280
Absorbed power	W	45	45	50	63	75	115	120	176
Air flow	m^3/h	330	356	495	705	950	1450	1740	2100
Power supply	V/Ph/Hz	230±10%/1/50							
Noise (3)	dB(A)	38	38	40	40	41	48	49	53
Depth	mm	560	760	760	960	1160	1360	1360	1460
Width	mm	200	200	200	200	200	200	200	220
Height	mm	480	480	480	480	480	480	480	480
Installed weight	Kg	16.6	16.6	17.9	23.2	28.5	32.8	34.8	37.1

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

(1) Data referred to: External air temperature 27 °C/19 °C C.B.U., inlet water temp. 7 °C, delta t 5 °C.
(2) Data referred to: Ambient temperature 20 °C, inlet water temp. 70 °C, delta t 10 °C.
(3) ISO 3745 - 1 m.

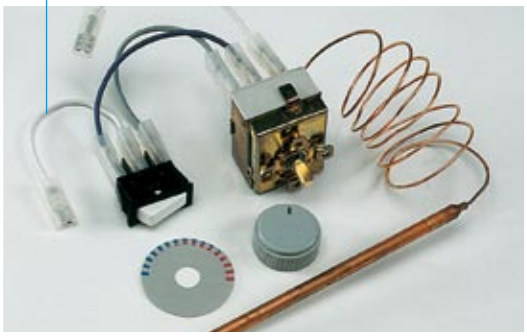
Horizontal with cabinet

Recessed type units

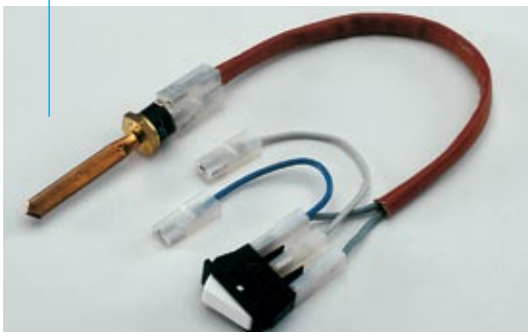
Air filter (view of the unit without cabinet)

Control board

Bulb room thermostat



Water low temperature thermostat



Connectivity

Click and check

xCONNECT, MTA's world of connectivity solutions, allows connection to User-supplied Building Management Systems (**BMS**), connection **via local LAN** or **Ethernet networks**, connection to MTA's dedicated **X-WEB** supervisor, the possibility to program or download storical data via **USB** connection, and much more beyond.

Serial connection to the most advanced **BMS** systems allows MTA units to be integrated into a centralised supervisor. LonWorks, BacNet, ProfiBus and ModBus are all offered, as are other protocols.

Local supervision via intranet or internet can also be achieved **via Ethernet**, with **pre-programmed HTML supervision pages** which, according to the unit type, are already pre-programmed within the unit itself.

Local Canbus and pLAN serial connection allows multiple units to be interconnected within an autonomous system, with one unit acting as Master. The User can manage all units within the system via the Master unit, or via a remote User interface.

MTA's **X-WEB** function represents one of the most advanced supervision systems currently available, and integrates the latest internet applications.

All **X-WEB** solutions feature a server utilising a µc-Linux operating system, allowing data transmission to a client PC. The server reads, files and manages all information arriving from the units to which it is connected. The following functions are offered in Web page format, either locally or remotely, even **via GSM to cell phones or PDAs**:

- Dynamic multiparameter visualization, either graphically or numerically, of all analogue data, the outputs status and the alarm status;
- Remote modification of the operating parameters;
- Graphic scheduling for command functions;
- System personalization, including alarm messaging rules;
- Remote alarm reset procedures and alarm history filing;
- Alarm message transmission via fax or GSM modem.

Features offered depend upon unit type and xCONNECT configuration utilised.

The complete programme

MTA®
Cooling, conditioning, purifying.

DryEnergy Hybrid

Energy saving refrigeration dryers with digital controllers and unique iDRAIN. Air flow capacity from 17 to 2250 m³/h.

DryPower

Refrigeration dryers featuring DRYMODULE heat exchanger and Scroll compressors. Air flow capacity from 1320 to 11400 m³/h.

HPDry

Energy saving refrigeration dryers for pressures up to 50 barg. Air flow capacity from 1530 to 7302 m³/h.

DryXtreme

Heatless and heat regenerated adsorption dryers with microprocessor control as standard. Air flow capacity from 27 to 8903 m³/h.

CoolPro - air-cooled

Air-cooled aftercoolers.
Air flow capacity from 36 to 4800 m³/h.

DryPlus

Environmentally friendly refrigeration dryer, can be personalised to all individual needs. Air flow capacity from 17400 to 32400 m³/h.

DryPro

Energy saving refrigeration dryers featuring up to 4 Scroll compressors. Air flow capacity from 13500 to 45600 m³/h.

CoolPro - water-cooled

Water-cooled aftercoolers. Well suited to technical gases.
Air flow capacity from 90 to 38400 m³/h.

PureTec

Quality compressed air and gas filtration, numerous filtration grades. Air flow capacity from 60 to 8940 m³/h.

PureSep

Condensate separators offered in various configurations and materials. Air flow capacity from 200 to 38.400 m³/h.

LiquiPure

Oil-water separators; the easiest and most economic solution for environmental condensate disposal.

CDF *SCE* *CDE* *SCM40*

LiquiPro

Electronic zero-loss, mechanical zero-loss and timed drains covering all individual specifications.

HERCULES

Air-cooled water chillers with semihermetic reciprocating or scroll compressors. Nominal cooling capacity from 120 to 340 kW.

CENTAURUS

Air-cooled water chillers featuring semihermetic reciprocating compressors. Nominal cooling capacity from 233 to 900 kW.

TAEevo - TWEevo - HAEevo

Air and water-cooled chillers, heat pumps and laser chillers. Nominal cooling capacity from 0.5 to 181 kW.

RWD

Air-blast water coolers. Nominal cooling power from 10 to 372 kW.

Cooling, conditioning, purifying.

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Replace the GPCOM001EB
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GPCOM001FB

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