AERMEC

NEW

G

070/1732

R410A

Precision air conditioners:

X direct air or water condensate expansion
W cooled water
Cooling capacity 43 183kW

Downflow

Latest generation control panel.

- **INCREASE TA THE FRONT SECTION OF THE COIL BY ABOUT 40-50% THEREBY REDUCING ITS AIR-SIDE PRESSURE DROPS AND CONSEQUENTLY THE POWER CONSUMPTION OF THE FANS.**
- **INCREASE ATA THE DIMENSION OF THE AIR FILTERS INSTALLED UP-LINE OF THE COLD COIL, THAT BRINGS ABOUT A REDUCTION OF PRESSURE DROPS AND LESS MAINTENANCE.**
- **INCREASE ATA THE EFFICIENCY OF THE FANS INSTALLED IN THE SUB-BASE EXPEL TREATED AIR HORIZONTALLY.**

CHARACTERISTICS

The precision air conditioners in the G Series have build and operating features that meet latest generation Data Center design criteria.

CONFIGURATIONS

GXU: air conditioners with delivery downwards and direct expansion with air or water condensation.
GWU: air conditioners with delivery downwards with cooled water.

CHARACTERISTICS

The precision air conditioners in the **G** Series are designed to condition technological premises for applications with high power density. In such applications, installations are characterised by technical flooring of heights up to 800mm, thereby creating ample space underneath for housing delivery fans. The fans are fitted inside with a separate sub-base, without increasing the dimensions of the unit, thereby optimising available space with significant advantages:

- Thanks to the over-sized coils with a large heat-exchange surface area, high yields are achieved with less energy consumption.
- Larger filtering surface area that allows reduced pressure drops and maintenance work thanks to cleaner operation.
- Horizontal fan delivery in the sub-base with lower pressure drops.

The range has been designed and optimised for operation with ozone benign refrigerant R410A.

STRUCTURE

The set-up comprises a dark grey (RAL7024) epoxy powder painted steel frame ensuring a long-lasting finish. Self-extinguishing thermal-acoustic insulation panels finished with anti-friction film. The ventilation sub-base is supplied separately and must be connected electrically on site or in loco.

COILS

Coils with large surface area installed in ideal positions to optimise air flow and heat transfer; in refrigeration-quality copper piping with mechanically mounted aluminium fins. Cooled water machines are fitted as standard with motor-driven 2-way valves (a 3-way version is also available in the selection stage).

COMPRESSORS

Scroll compressor with high capacity and low electrical power consumption. The two-circuit configuration can divide output yield thanks to electronic adjustment that automatically manages compressor activation depending on the pressure required.

FANS

Centrifugal fans with backwards curved blades (plug-fan) and EC motor directly coupled to the electronic control to minimise electricity consumption and noise levels.

FILTERS

Undulated filters, single-use, self-extinguishing, efficiency class G4 (according to EN 779).
differential pressure switch (AS STANDARD) to signal 'filter dirty' status.

ELECTRONIC ADJUSTMENT

Thanks to control through the Modbus® Master protocol. all the main components in the unit are constantly supervised, with more than 50 different variables to ensure real-time monitoring of all operating cycles.
Thanks to specific functions dedicated to energy saving and optimised management of all the unit's operating cycles, with direct expansion and cooled water alike.
Thanks to the built-in RS485 Modbus® card and the BACnet, LonWorks and SNMP interface gateway, fast and easy interfacing is possible with monitoring devices and BMS (Building Management System).
Display of all operating parameters in 8 languages.

ACCESSORIES

DIRECT EXPANSION.
- Brushless DC compressors with inverter adjustment
- Power supply line for remote condenser
- Power supply line for remote condenser speed adjuster
- Condenser adjustment with 0-10V signal remote condenser with EC fans
- "Kit LT" for operating with low outside air temperature with the remote condenser
- Oversized liquid receiver tank
- Non-return valves on the delivery and liquid lines
- Water condenser
- Water condenser with condensing temperature adjustment valve
- "Kit HT" for operating with high condensation temperatures

COOLED WATER
- Modulating 3-way valves
- Water temperature probes on inlet & outlet
- "Power valve" kit

HEATING:
- Electrical coils with low thermal inertia and adjustment over differential stages
- Electrical coils with low thermal inertia and modulating adjustment (available on request only for certain models)
- Water-based heating coils with 2 or 3 way modulating (available on request only for certain models)

HUMIDIFICATION:
- Ambient humidity probe
- Delivery humidity probe
- Immersed electrode humidifier

MECHANICAL AND STRUCTURAL:
- Condensate discharge pump
- Condensate discharge and humidifier pump
- Overpressure gate valves on delivery
- Air filter on intake, efficiency M5 (EU5)
- Intake plenum
- Ventilated plenum with panelling for front or rear delivery
- Ventilated plenum with panelling for bottom delivery (installation above raised flooring)
- Panels with counter-panelling, "sandwich" type
- Panels with over-sized acoustic finishing

ELECTRICAL:
- Alternative voltages available: 460V/3ph/60Hz - 380V/3ph/60Hz - 230V/3ph/60Hz
- Power supply line without neutral
- Automatic line selector switch (ATS) - "Basic" version
- Automatic line selector switch (ATS) - "Advanced" version

REGULATION:
- Ventilation adjustment at constant capacity
- Ventilation adjustment at constant pressure
- Setting and cable for local network connection
- User terminal for remote installation
- Flooding detection system

Note: For further information refer to the selection program.

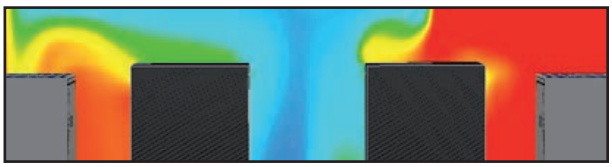
AERNET

The innovative **Aernet** system revolutionises the local network concept.
This system exploits the modulating capacities of the components to actively divide the work load between all units present in the local network.

Compared to the Duty Stand-by latent redundancy system (n+1 o n+n), where the backup units were on hold waiting for a problem to arise, the **Aernet** system means that **the units connected in the network are always active.**

DUTY / STAND-BY

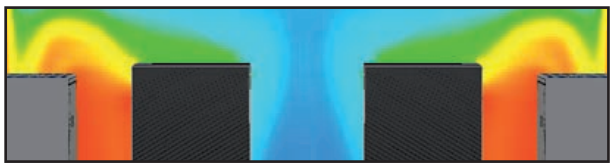
On 100% On 100% Stand-by



On 100% Stand-by

AERNET

On 60% On 60% On 60%



On 60% On 60%

TECHNICAL DATA

GXU: downwards air delivery - direct expansion with air or water condensation

Sizes			**461**	**612**	**932**	**1232***	**1342***	**1732***
Total cooling capacity	(1)	kW	43,0	54,9	91.7	123,3	138,8	171,5
Sensible cooling capacity	(1)	kW	35,9	42,1	79,4	98,0	127,6	143,4
EER	(3)		3.39	3.08	2.84	3.60	3.43	3.36
Total cooling capacity	(2)	kW	46,6	58,8	99,6	130,3	153,6	186,4
Sensible cooling capacity	(2)	kW	46,6	53.1	99,6	124,9	153,6	186,4
EER	(3)		3.67	3.06	3.92	3.39	3,78	3.66
Fans		type			Plug fan EC			
Air flow rate		m3/h	9500	10000	19000	24000	37500	37500
Sound Data								
Sound pressure	(4)	dB(A)	57	58	59	64	65	65

GWU: downwards air delivery - cooled water

Sizes			**70**	**150**	**230**	**300**
Total cooling capacity	(1)	kW	47.7	91.7	128,3	183,5
Sensible cooling capacity	(1)	kW	42,1	82,6	119,9	165,3
EER	(3)		32,89	33,97	35,15	44,7
Total cooling capacity	(2)	kW	38,5	74.9	106,7	149,8
Sensible cooling capacity	(2)	kW	38,5	74.9	106,7	149,8
EER	(3)		27.7	26,98	29,81	34,51
Fans		type		Plug fan EC		
Air flow rate		m3/h	9500	19000	28500	38000
Sound Data						
Sound pressure (4)		dB(A)	57	59	61	60

(1) Cooling: condensing temperature 45°C incoming air 24°C-45%; incoming air 24°C-45%; water 7/12°C; static external pressure: 30Pa; plenum ventilated, height 1000 mm. *The stated performance levels do not take into account the heat generated by the fans, that should be added to the thermal impact of the installation.*

(2) Cooling: condensing temperature 45°C incoming air 30°C-30%; incoming air 12°C-40%; water 14/20°C; static external pressure: 30Pa; plenum ventilated, height 1000 mm. *The stated performance levels do not take into account the heat generated by the fans, that should be added to the thermal impact of the installation.*

(3) EER: Energy Efficiency Ratio; total cooling capacity / input power from compressors + fans (air condensers excluded).

(4) Sound pressure declared data at a distance of 2m in a free field in accordance with UNI EN ISO 3744:2010

(*) Sizes available only on request

CONFIGURATIONS - DOWNWARDS DELIVERY

Standard execution for perimeter installation inside Data Centres: the height of the raised flooring must be minimum 550 mm.

Execution for perimeter installation inside Data Centre with height of raised flooring less than 550 mm. In this case, the sub-base having a fixed height of 550 mm c/w side closure panels must be installed above the flooring. It is in any case essential to make sure that the height of the ceiling allows good air intake.

Execution for installation outside Data Centre, without raised flooring and rear delivery. In this case, the sub-base having a fixed height of 550 mm c/w side closure panels and rear delivery grilles. Installation of the plenum with the rear return system is optional, if there is no channelling system.

DIMENSIONS

GXU models		461	612	932	1232	1342	1732
Length	mm	1490	1490	2390	2390	3290	3290
Depth	mm	921	921	921	921	921	921
Height	mm	1990	1990	1990	1990	1990	1990
Net weight	kg	630	680	870	940	1160	1250

GWU models		70	150	230	300
Length	mm	1320	2220	3120	4020
Depth	mm	921	921	921	921
Height	mm	1990	1990	1990	1990
Net weight	kg	610	750	930	1250

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