

MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

COMFORT

AIR HANDLING UNITS

WIZARDX

G02
G07

AIR HANDLING UNITS
FROM 3000 TO 20000 m³/h



r R410A

r R32

WIZARDX **G02** **G07**



WIZARDX is the new Climaveneta unit for filtration, purification, and sanification of ambient air.

Featuring innovative enthalpic heat recovery and EC plug fans, WIZARDX displays high capacity in recovering both latent and sensible heat, thus drastically reducing energy consumption.



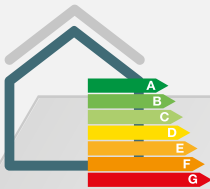
IDEAL APPLICATIONS

- ▶ Office buildings
- ▶ Independent shops
- ▶ Museums and theaters
- ▶ Sport centers

CONNECTING WIZARDX AND MR.SLIM

Thanks to the use of the PAC-IF 013 card the unit is perfectly matched to the external direct expansion unit, Mr. Slim, managing its operation to maximum efficiency even in the presence of complex systems with multiple external units.





HIGH EFFICIENCY IN THE THERMAL EXCHANGE

The use of rotary recovery systems combined with the direct expansion technology allows heat exchanges with high levels of efficiency. The use of the outdoor unit Mr. Slim, equipped with an inverter, further contributes to minimizing energy consumption.



PERFECT INTEGRATION WITH DIRECT EXPANSION SYSTEMS

The internal coil is optimized for R32 and R410A ecological refrigerants, and the combination with the direct expansion systems ensures optimal performance, sustainability, reliability, and easy installation.



HIGH PRECISION CONTROL

Advanced control logic and technical components with a high regulation capacity, such as EC plug fans, the enthalpy wheel and the direct expansion coil, allows thermal and air renewal requirements to be achieved perfectly. The continuous modulation of the resources ensures maximum comfort with very low consumption.



PLANT SIMPLIFICATION

WIZARDX is presented as a ready-to-use unit. All the control, regulation, and safety components are already installed inside the unit and tested. WIZARDX can therefore be quickly connected to Mr. Slim external units without the need for any special unit configurations.



WIZARDX G07

THE ECO-FRIENDLY ALTERNATIVE FOR A GREENER TOMORROW

R 32

Why R32?

The G07 version has been specifically designed to be coupled with the R32 Mr Slim units in order to provide customers with a concrete greener alternative to traditional refrigerants.



REDUCED ENVIRONMENTAL IMPACT

- ▶ **0 ODP** - Ozone Depletion Potential
- ▶ **One-third OWP** that R410A
- ▶ F-Gas phasedown compliant



PERFORMANCE & ENVELOPE

- ▶ Ideal for the next generation of equipment
- ▶ Requires **less refrigerant volume per kW**
- ▶ **High refrigeration** and thermal conductivity
- ▶ **Low pressure drops**
- ▶ **Affordable** and readily available



RELIABILITY

- ▶ **Easy to handle**, reuse, and recycle
- ▶ **Low toxicity**, low flammability
- ▶ A single component refrigerant systems

TECHNOLOGICAL CHOICES

EVOLVED CONTROL

The functional heart of the WIZARDX is the electronic controller with an advanced microprocessor capable of managing all the regulation and safety functions of the unit and its optional accessories.

The integration of the exclusive Mitsubishi IMOUC protocol (Intelligent Multiple Outdoor Units Control) allows the air handling unit to be perfectly coupled with Mr Slim, thus optimizing power levels and energy efficiency.

During heating mode, the protocol manages the defrost phases of the external units in sequence with the objective of maintaining the required temperature set controlling both the delivery and recovery temperature.



DIRECT EXPANSION COIL

R32

Direct expansion coil optimized for operation with the ecological refrigerants R32 and R410A.

R410A

UNIT FUNCTIONS

C-OU

Fresh air treatment with neutral conditions only



B-OU

Fresh air treatment with powered coil for better dehumidification



E-OU

Fresh air treatment with neutral conditions only and multi-circuit direct expansion coil



FILTERS

The standard version of the unit is supplied with ISO COARSE 55% and ePM1 50% filters on the supply (respectively G4 + F7 according to EN 779), ISO COARSE 55% on the return.

For an higher filtration and to satisfy the regulation of different markets, air filters

ePM10-75% and ePM1-50% (M6 and F7 according to EN 779) and rigid bag filters ePM1-70% and ePM1-75% (F8 and F9 according to EN 779) are available.

In order to guarantee air deodorization and purification actions, activated carbon filters and electronic filters can be selected.

EXTERNAL STRUCTURE

Double wall sandwich panels with a thickness of 45mm and internal galvanized steel sheet. External sheet in pre-plasticized galvanized steel. The frame has double chamber aluminum profiles and panels fixed with concealed screws.

EC PLUG FANS

Supply and exhaust centrifugal fans, with free impeller and motor directly integrated into the fan structure for a more compact construction and ventilation efficiency.

Thanks to the composite material structure and the electronic commutation engine technology, WIZARDX EC plug fans guarantee better energy performance and very low energy consumption. As an option it is possible to install fans with a higher prevalence (HP).



TECHNICAL DATA

WIZARDX G02 // G07 //



ACCESSORIES



Air quality control in the environment with CO₂ probe



Pre-heating and re-heating electric or hot water coils



BMS system connections

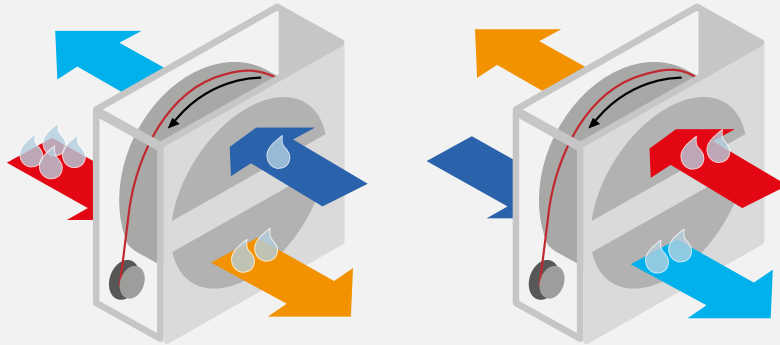
HIGH PERFORMANCE COMPOSITE OR METAL FANS

- ✓ **Recirculation damper section**
- ✓ **Roof**
Aluminum roof for outdoor installations
- ✓ **Steam humidifier section**
Additional section equipped with an immerse electrodes steam producer to contribute to the rooms humidification
- ✓ **Dampers for fresh air intake, supply, return and exhaustair flows**
- ✓ **HP high pressure fans**
Available for both the supply and exhaust fans
- ✓ **Panel insulation, polyurethane or mineral rock wool**



ENTHALPIC HEAT RECOVERY

The enthalpic heat recovery of the WIZARDX units represents the most efficient recovery system available on the market with higher performances ranging from 60% to 90% compared to traditional solutions.



Key component is the enthalpy wheel, made with alternatively flat and corrugated aluminum sheets.

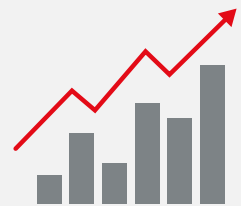
Subjected to hygroscopic treatment, the aluminum sheets of the enthalpic wheel feature a very high exchange surface, thus recovering both the latent and sensible heat. This provides a significant increase in the unit's overall efficiency.



Recovery of latent heat



Cooling power recovered



Fast return on investment

Active sanitizing system with photocatalytic oxidation



The active sanitizing system features a special UV-C lamp which uses the photocatalytic oxidation process to reduce the microbial load airborne (such as bacteria, molds, allergens, odors, organic and volatile compounds, ultra-fine powders), in order to make your environment a healthier living place.

SUPERMARKET & FOOD CHAIN

It has been proven that the use of this technology not only increases air quality, but also increases the duration of food freshness because the bacteriological load in the air is reduced.

HOTELS, GYMS & RESTAURANTS

Reduction of smells and contaminants, giving the perception of healthier air in the rooms.

OFFICE BUILDINGS

Increased reduction of bacteria, allergens, and odors.

KEY FEATURES

From 95-100% reduction of bacterial load and germs contained in the air.

95-100%





PERFECT AIR FILTRATION

Perfect air filtration thanks to the ionization process where smaller airborne dust clusters are attached each other, facilitating their reduction.



BETTER AIR QUALITY

Increased reduction of allergens, bacteria, and odors which can cause allergies or breathing diseases.



REDUCTION OF ODORS

Smoke, chemical, cooking, etc.



REDUCED MAINTENANCE

Quick and easy maintenance of the honeycomb filter, with a simple jet of compressed air.



HIGH FLOW RATE

High flow rate of treated air (up to 4000 m³ / h per lamp).



IMPROVED HYGIENE

Continuous sanitation (as long as the air ventilation system is running).

“BY FAR THE BEST PROOF IS EXPERIENCE”

Sir Francis Bacon
British Philosopher (1561 - 1626)

AJACCIO HOSPITAL

2016 - 2018 Ajaccio, Corsica - France

Application:

Healthcare / Hospitals

Cooling capacity:

4000 kW

Installed units:

4x i-FX-W (1+i) 3402, 640 fan coils, 83x WIZARD,
16x ACU, ClimaPRO
Certifications: HQE - Excellent

Plant type:

Hydronic System -
Air to Air System

Air flow:

72000 M³/h

PROJECT

Ajaccio Hospital, located on the east side of the city with a scenic view of the sea, has replaced the old one and has become the main medical centre for the whole island. With its 340 beds, the hospital offers all types of facilities for patient care, including the emergency room, radiology, general medicine, surgery with eight operating theaters, gynecology and obstetrics, intensive care, and cardio-vascular divisions.

CHALLENGE

The Hospital was built in strict compliance with environmental and energy saving standards, according to the French certification HQE (Haute Qualité Environnementale).

SOLUTION

In the new Ajaccio Hospital, 4 Climaveneta high efficiency water cooled chillers i-FX-W (1+i) 3402 for a total cooling capacity of about 4,000 kW were installed. For the air distribution in the hospital 640 fan coil units, belonging to a-LIFE and a-HWD2 ranges, were chosen, while the air treatment is provided by 60 Wizard air handling units. Moreover 23 AHUs have been installed as extractors. The supply contract also included 16 Accurate close control units, which are installed in the data center of the hospital. The whole HVAC system is managed by ClimaPRO.



TO LEARN MORE ABOUT THIS PROJECT

<https://www.melcohit.com/en/projects/5071/ajaccio-hospital>





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