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

Data Book

Data Book
WSM3-G07_0262_0604_202210_EN - R32

HEATING

COOLING

WSM3 / WSM3-T G07 0262-0604

80-180 kW

Fully-configurable and high-efficiency air-source reverse-cycle and cooling only rooftop unit

FREE COOLING

R R32

INVERTER

ErP 2021 COMPLIANT

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

(The photo of the unit is purely indicative and may vary depending on the model)

- MAXIMUM EFFICIENCY
- MINIMUM DIMENSIONS
- LOW-GWP REFRIGERANT
- 4 TYPES OF HEAT RECOVERY AVAILABLE

CLIMAVENETA®

The units highlighted in this publication contain R32 [GWP_{100} 677] fluorinated greenhouse gases.

Functions

HEATING — Heating

COOLING — Cooling

FREE COOLING — Free Cooling

Refrigerant

R R32 — R32

Other features

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com — Eurovent

INVERTER DRIVEN COMPRESSOR — Inverter Driven Compressor

Compulsory product certifications for the country

Voluntary product certifications

Check current validity of the certificate on:
www.eurovent-certification.com
o
www.certiflash.com

Company certifications

Environmental Management System in compliance with the requirements of UNI EN ISO 14001:2004

Occupational Health and Safety Management System in compliance with the requirements of BS OHSAS 18001:2007

Quality Management System in compliance with the requirements of UNI EN ISO 9001:2008

Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A., European leader in high-efficiency centralised air-conditioning systems, recognises and supports the use of energy and environmental impact certification systems as incentives for the construction of buildings with high energy performance and the development of more sustainable and better quality buildings.

Since the introduction of the first certification system in the early 1990s, interest in building certification has grown considerably and has led to the introduction of a large number of standards, rating systems and certification programs. With its strong international presence, Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. has considerable direct experience with many of these certifications and is an active member of GBC Italia.

The commitment of Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. to the development of responsible and sustainable air-conditioning solutions translates into a comprehensive range of energy-efficient products and systems, designed with a focus on improving energy performance and thus the score that can be achieved in the main certification rating systems, such as LEED, BREAM, GREENSTAR, BCA, NABERS, DNGB, HQE and BEAM.

For more information on how Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. products can contribute to improving the energy performance and rating of a building according to the main environmental certifications, please visit: https://www.melcohit.com/GLOBAL/Company/Green-Certifications/QR%20code/

The WSM3 units are packaged reverse-cycle (WSM3) or cooling only (WSM3-T) air-air units developed based on the extensive experience of MEHITS S.p.A. in the design and construction of rooftop units.
The packaged solution that directly serves the area to be air conditioned allows the system to be optimised and installation is made even simpler thanks to the flexibility and versatility that is a feature of the WSM3 range.
Depending on the version selected, they can manage all air handling and air change requirements in spaces featuring medium-large surface areas and volumes, such as shops, supermarkets, shopping centres, logistics hubs and exhibition centres.

The compressors are the hermetic rotary scroll type, with inverter technology on a single refrigerant circuit for power sizes < 120kW or in tandem on an independent double circuit for higher power ratings.
These solutions, together with the use of electronic lamination valves as standard, allow the required loads to be met promptly as external conditions change, maximum efficiency and thus achievement of high energy and cost savings.
There are numerous options for customising the WSM3 units, thanks to the different air handling sections, a vast range of accessories and 4 types of heat recovery on the exhaust air.
The unit is intended for outdoor installations.

2.1 LOW-GWP refrigerant

The refrigerant circuit and the air handling coil of the WSM3 units are specifically designed to work with A2L (low flammability) refrigerant gas, in this case R32.

R32 refrigerant gas delivers a significant reduction in environmental impact due to an ODP of 0 and a **GWP that is 66%** lower than conventional R410A.
It is ideal for next generation systems, ensuring a **reduced refrigerant volume** per kW due to its high thermal conductivity.
Pressure drops in the refrigerant circuit are also much reduced. R32 is a mono-component gas, easily available and simple to use.

2.2 Inverter technology

WSM3 units are Plug&Play solutions that, in their sizes from 80 to 120 kW, are equipped with **inverter technology**, which ensures energy efficiency levels that are the highest in the market, resulting in high energy and costs savings.
Additionally, the significant noise reduction compared to fixed-speed compressors should not be overlooked, nor the zero starting currents for which additional safety systems would otherwise be required.

The unit sizes from 120 to 180 kW have a double refrigerant circuit and 4 on/off compressors with tandem operation.

2.3 Reduced and optimised footprint

The WSM3 units are extremely compact and ready for use, all the control and safety components are pre-tested and already installed in the different cabinets.
The new **single-packaged** layout, in all its sizes and configurations, has enabled **significant optimisation of the footprint and weight** of the different cabinets, with reductions of **up to 30%** compared to the previous WSM2 units, ensuring greater competitiveness.
Furthermore, with the innovative arrangement of the components, the extraction fans (when selected) always discharge the exhaust air directly to the outdoor coils, thus increasing the overall efficiency of the unit.

2.4 Highly versatile

Each application has different needs, all of which require an optimum response.
There may be applications where the unit works in integration with other systems or, conversely, where the rooftop is the main and only system for air treatment and ventilation.
The WSM3 range of units offer different selection options regarding the rooms to be air-conditioned, ranging from re-circulation only to mixture with fresh outside air, and solutions with enthalpic heat recovery.
Moreover, each of the different functions can be further customised thanks to a vast range of accessories.

3.1 Description

WSM3 is a packaged, reverse-cycle (WSM3) or cooling-only (WSM3-T) air-to-air unit for air handling and air change in spaces with medium-large surface areas or volumes, such as cinemas, theatres, shopping centres, exhibition centres and warehouses. The range is divided into 8 sizes, from 80 to 180 kW (16000 to 33000 m^3/h), each available in 8 different functions, allowing the unit to be adapted to the specific requirements of the system.
The first 4 sizes (up to 120 kW) are developed on a single refrigerant circuit with 2 scroll compressors, one of which is equipped with **inverter technology**.
The 4 larger sizes (over 120 kW) have a double refrigerant circuit with 4 on/off scroll compressors and tandem operation.
All sizes have electronic expansion valves as standard, work with **LOW GWP R32** refrigerant and the supply and return fans (if required) are EC plug fans.
The ample freedom of choice in the direction of air flows, as well as the possibility to customise the unit with 4 types of heat recovery and different air handling chambers, make WSM3 the right unit for any application context.

The possibility to reverse the refrigerant circuit, careful sizing of the components and specific design decisions mean the WSM3 units can work continuously across a wide operating range (outside temperatures down to -15°C in heat pump operation and up to 48°C at full load in cooling operation).
Moreover, considerable reductions in compressor power consumption can be achieved using the **free cooling/free heating** function, as standard on all models (apart from the basic AR version).

A wide range of accessories is available to complete the offering. In particular, other high-efficiency filters are available in addition to the standard, ISO Coarse 50% (ISO 16890 - G4 in accordance with EN 779), ePM01 50% (ISO 16890 - F7 in accordance with EN 779:2012) and ePM01 85% (ISO 16890 - F9 in accordance with EN 779:2012).
WSM3 has different solutions to address the needs associated with **IAQ** (Indoor Air Quality), offering the possibility of equipping the units with PCO **(Photocatalytic Oxidation purification)** lamps or **electronic filters**, for highly purified air resulting from the removal of pollen, fine dust, mould, smog, viruses and bacteria.

The unit meets the requirements for seasonal energy efficiency in heating mode (ηs,h) and cooling mode (ηs,c) under Regulation (EU) 2016/2281, already complying with the limits set for the second tier (in force as of January 1, 2021), thus proving its high performance.

The WSM3 range is also part of the **Eurovent certification** program for rooftop (RT) units.
The list of certified products is available on the website www.eurovent-certification.com

3.1.1 Structure

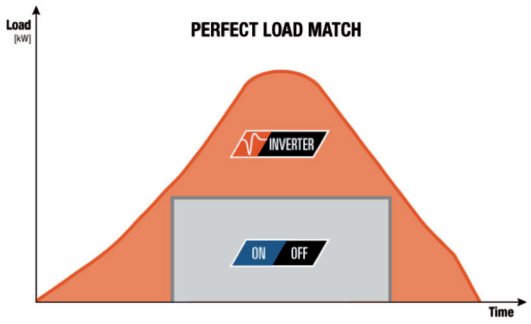
Single-packaged structure designed specifically for outdoor installation, with load-bearing base and structure made from suitably thick hot galvanised and painted steel plate.
The front of the unit comprising the condenser section and the electrical panel is made from galvanised metal plate, painted with polyester powder coat to ensure a completely weatherproof structure (paint colour RAL 7035).
The rear of the unit is the air handling part and comprises a load-bearing structure made completely from aluminium alloy, which supports the sandwich infill panels (side thickness 25 mm, 42 mm bottom and top), with galvanised metal plate on the inside and painted and galvanised plate on the outside (colour RAL 7035), with polyurethane foam insulation in between, average density 45 kg/m^3 and Euroclass E fire classification according to EN 13501/1.

The resulting structure has the following features:
- **Rigidity and sturdiness;**
- he presence of a continuous gasket on the closing panels in the air handling area for **better air tightness** and rainwater tightness;
- The electrical cables and refrigerant piping are positioned in dedicated modules, without crossing through the air handling module.

Any mixing chambers for air return, energy recovery or additional modules are always incorporated into the single packaged structure, making the WSM3 unit a completely plug-and-play solution, **in which the time needed for handling and installing the unit on site is reduced to a minimum**.

3.1.2 Compressors and inverters

Hermetic rotary scroll compressors, R32 refrigerant, fitted with timed sump heater (deactivated automatically when not needed) to prevent the refrigerant from diluting the oil when the compressor stops.
The sizes **0262**, **0302**, **0352** and **0402** have two compressors on a single refrigerant circuit, both equipped with a two-pole electric motor and one controlled by an inverter (**1-i technology**). The 1+i technology combines fixed and variable speed on the same refrigerant circuit, exploiting the advantages of both solutions and ensuring **high performance and accurate control** under all operating conditions, especially with partial loads.



The sizes **0444**, **0484**, **0524** and **0604** have 4 compressors on a double refrigerant circuit, all equipped with a two-pole electric motor with direct starting.

Size	No. gas circuits	Number of compressors	Technology
0262, 0302, 0352, 0402	1	2	1+i
0444, 0484, 0524, 0604	2	4	ON/OFF
Nr.	1	1	2
F.L.I.	6,8	6,8	6,8
F.L.A.	10,8	10,8	10,8
Nr.	2	2	2

All compressors feature motor protection against overheating, overcurrent and high gas supply temperatures.

3.1.3 Indoor heat exchanger

Direct expansion air handling coil for heat exchange with the refrigerant gas, made from a coil of mechanically expanded copper tubes and corrugated aluminium fins.
Different treatments are available as options, such as copper/copper coils or coils with pre-coated fins to protect against medium/high corrosion, Fin Guard Silver or Electrofin treatments for targeted protection against marine atmospheres or very aggressive pollutants.
The speed of the air through the coil is kept below the limit value of 2.7 m/s, even at full flow, to avoid entraining condensate, even in the most extreme temperature-humidity conditions.
Aluminium pan for collecting condensate, with sloping bottom and complete with drain attachment.

3.1.4 Outdoor heat exchanger

Direct expansion outdoor coil for heat exchange between the refrigerant gas and the outside air, made from a coil of mechanically expanded copper tubes and corrugated aluminium fins.
Each circuit is equipped with a dedicated, independent condensing coil.
Different treatments are available as options, such as copper/copper coils or coils with pre-coated fins to protect against medium/high corrosion, Fin Guard Silver or Electrofin treatments for targeted protection against marine atmospheres or very aggressive pollutants.
For reverse-cycle units, each coil is equipped with a heater to prevent ice from forming after defrosting in winter operation.

3.1.5 Refrigerant circuit

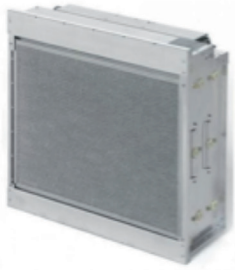
The WSM3 units are equipped with a single (for sizes up to 120 kW) or double refrigerant circuit (for sizes over 120 kW) which, in addition to the above, are complete with:
- R32 refrigerant charge;
- bi-directional filter-drier;
- liquid and moisture indicator on refrigerant circuit;
- **bi-directional electronic expansion valve**;
- charge and pressure control valves;
- high pressure safety switch;
- double high pressure safety valve, which protects the unit against explosion in the event of fire;
- low pressure safety valve;
- four-way reversing valve (for reverse-cycle units only);
- liquid receivers on condenser outlet (for reverse-cycle units only);
- oil separator (for sizes with inverters only).

The use of electronic expansion valves brings considerable benefits, especially when load is variable and with different outdoor conditions.
Application of the valve on this unit is a result of specific design decisions regarding the refrigerant circuit configuration and optimisation of operation across a range of different operating conditions.

3.1.6 Filtration and IAQ

Washable pleated synthetic fibre panel pre-filter, grade ISO coarse 55% according to ISO 16890 (G4 in accordance with EN 779), 98 mm thick.
The filters are positioned on steel guides with easy access for routine maintenance and replacement. It is possible to choose, as options, between panel pre-filters with different levels of efficiency, ePM10 75% (M6 in accordance with EN 779) or ePM01 50% (F7 in accordance with EN 779).
In the module downstream of the pre-filter, it is also possible to add a **high-efficiency pocket filter** with ePM01 50% (F7 in accordance with EN 779), ePM01 70% (F8 in accordance with EN 779) and ePM01 80% (F9 in accordance with EN 779).

There are therefore multiple solutions related to **IAQ** (Indoor Air Quality), to which are added **Photocatalytic Oxidation purification** lamps (PCO) and **electronic filters**, for highly purified air resulting from the removal of pollen, fine dust, mould, smog, viruses and bacteria (see paragraphs 4.2 and 4.3).



Following system commissioning, the filters should be replaced to eliminate any trapped impurities.

3.1.7 Air handling fan module

Supply air plug fan with brushless EC motor.
Impeller with backward inclined blades made from composite material, with three-dimensional blade profile optimised for very high efficiency and low noise.
Directly-coupled **EC brushless motor**, with IP54 ingress protection, for continuous and precise control of air flow without the adoption of external inverters.
Two types of fans are available: standard ones and, as an option, an enhanced version for higher static pressure.
The fans installed comply with IEC 60335-2-40, sections 22.116 and 22.117, which makes them suitable for operation in the presence of A2L refrigerant gas.

3.1.8 Power and control electrical panel

Power and control electrical panel built in compliance with EN 60204 and IEC 204, complete with:
- Control circuit transformer;
- Main door lock disconnect switch;
- Power section with busbars;
- Fuses to protect the loads;
- Spring-loaded terminals on the control circuits;
- Electrical panel for outdoor installation, with hot galvanised panelling and seal gaskets;
- Electric heater management on outdoor coils (for reverse-cycle WSM3 only);
- AIR3000+ TE microprocessor-based electronic controller for optimised fan management;
- W3000+ TE microprocessor-based electronic controller for optimised management of refrigerant circuit;
- Operator panel with LCD interface

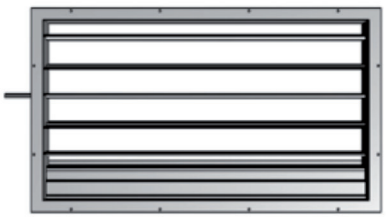
Unit power supply voltage: 400V~ ±10% - 50Hz.
The electrical panel has two air grills with its own filter and ventilation system, ensuring continuous ventilation that prevent overheating and reduces the risk of refrigerant gas stagnating inside the panel in the event of a leak. It also aids the removal of condensation on electrical and electronic devices.

3.1.9 Safety device for A2L gas use

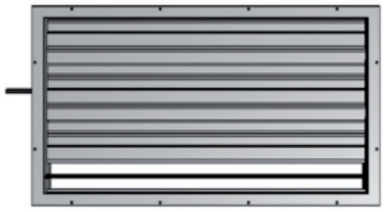
WSM3 – G07 (R32 refrigerant gas), using A2L gas (slightly flammable according to ISO 817), needs to be equipped with suitable safety devices to prevent, in the event of leaks, the concentration of refrigerant gas towards the rooms served or inside the unit.
Therefore the units are always equipped with a **gas sensor** near the treatment coil, as this is the source from which any leak of refrigerant may occur.
Once the leak has been detected, the unit in steady-state operation maintains a minimum level of ventilation to prevent excessive accumulation of gas in the air-conditioned space, diluting it with the conditioned air flow.
If the leak occurs while the machine is off, the alarm stops the unit from starting up.
The unit is also equipped with a 'sensor malfunction' alarm, which triggers the same actions as described above if a sensor malfunction is detected.

To support **total environmental safety**, WSM3 – G07 may be equipped with **"safety dampers"**, a **unique solution** that lends itself especially to spaces with naked flames or in the event of a site blackout.
If the unit is required for areas with naked flames (e.g. smoking rooms, kitchens, etc.), the machine is equipped with class 4 dampers (in accordance with EN 751) on the air supply and return, with the aim of isolating the rooms served in the event of a leak of refrigerant gas.
In this case, the two dampers close, ventilation is stopped and natural ventilation is ensured through the opening of the fresh air intake damper, which allows the evacuation of residual refrigerant.
In the case of the AR unit, where there is no fresh air intake damper, the air intake damper is equipped with a counter-rotating blade, which opens outwards when the machine is not in operation, while the remaining blades are closed.

This accessory makes it possible to **keep the unit in communication with the outdoors** at all times, ensuring that any leak of refrigerant can be evacuated.
With the presence of safety dampers, the same type of logic is also applied in cases of **blackout** at the installation site, guaranteeing a maximum level of safety even when the machine is not powered.



UNIT ON = OPEN DAMPER



UNIT ON = CLOSED DAMPER

3.2 AIR 3000 + controller

AIR 3000+

The **AIR 3000+** controller features advanced functions and proprietary control strategies. It comprises a double control board for managing both ventilation and heating/cooling.

The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multi-level menu, with settable display language. It can be used to:
- switch the unit on/off;
- set the function (heating or cooling) manually or automatically;
- set the ventilation and temperature/humidity set points;
- force 100% fresh air (not for basic AR version);
- force all recirculation.

Temperature control is based on **proportional or proportional + integral logic** using the return air temperature probe reading. The set point can also be adjusted based on outside temperature, in both cooling and heating operation.

For units fitted with motor-driven fresh air damper, the controller automatically manages **free cooling** (or free heating) operation based on the fresh air temperature.
When the fresh air temperature is very close to the set point on the return, the unit opens the fresh air intake damper completely, closes recirculation and shuts down all heating devices, delivering the fresh air from outside directly into the room and thus resulting in considerable energy savings.

As an option, there is also enthalpy free cooling, which is activated when the fresh air reaches certain temperature and humidity conditions.
The ventilation module can work at **constant flow-rate** (standard), **constant pressure** (optional) or **variable flow-rate**, by exploiting the advantages of VAIR or in relation to the signal from the CO2 probe (optional).
The controller can integrate and automatically manage different **optional heating devices** (hot water coil, electric heater, gas-fired heating module) for reheating or integration with the main heating device.
It can also regulate the proportion of fresh air in relation to ppm of CO2 detected by a special probe installed in the unit's intake, duct or directly in the rooms served (optional).
The **defrost cycles** are also **optimised** thanks to a proprietary self-adaptive logic, which features constant monitoring of ambient and operating parameters. The number and duration of defrosts are drastically reduced, consequently increasing the unit's overall energy efficiency.
Compressor power consumption can be controlled using a **demand limi**t function (optional), which allows the power consumed by the unit to be limited for protection during periodic situations (e.g. open construction sites).
In addition, an unloading function is available for part-load operation of the refrigerant circuit in critical conditions (**HPTC function**), which involves both the compressors and the fresh air intake damper (where fitted).
This function allows, in critical conditions (high outside temperatures) one of the two tandem compressors in the refrigerant circuit to be switched off, progressively closing the fresh air intake damper, so as to meet the required cooling capacity, even if only partially.
A **timer** can be used to create an operating profile with up to 4 typical days and 10 different time bands.
Supervision is available with different options, using proprietary devices or by integration into third-party systems using BACnet, BACnet-over-IP, Modbus, Modbus-over-IP and Echelon protocols.
AIR 3000 + also features an optional innovative KIPlink (Keyboard In your Pocket, see paragraph 4.1) user interface based on WiFi technology, so the unit can be operated directly from a smartphone or tablet. KIPlink allows the user to:

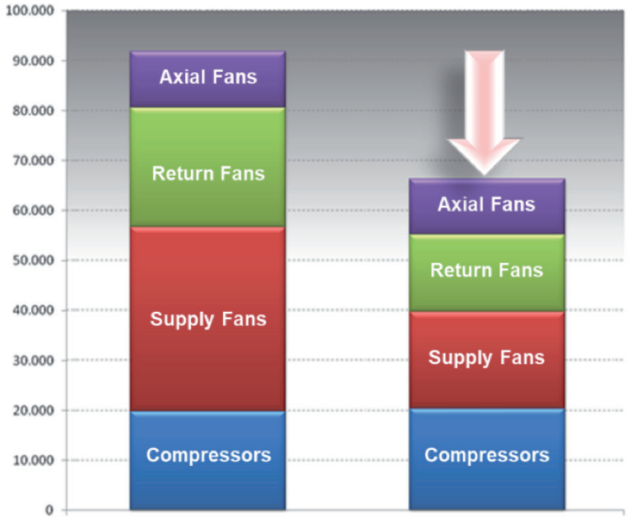
- switch the unit on and off;
- change the set points;
- monitor the status of the unit and the various components in detail;
- display and reset any alarms.

The KIPlink interface is what opens the door to a complete MEHITS supervision system that not only allows all the MEHITS units equipped with KIPlink to be displayed, but also **includes communication with the Mitsubishi supervision systems AE200/POST AE 200 and EW-50**. There is full visibility of the whole system via a single access point (touch panel, PC, etc.), so that both MEHITS units as well as MELCO units can be displayed and managed.

3.2.1 Variable Air Flow-Rate (VAIR) function

With a rooftop unit, which serves the rooms directly and is the main source of ventilation, the fans work continuously at a fixed flow-rate under all operating conditions of the unit: this is also the case in free cooling mode and partial load, which cover most of the operating hours.
Consequently, energy consumption resulting from the fan module of a rooftop unit represents more than 50% of the unit's total annual consumption and MEHITS S.p.A. therefore decided it was essential to develop a fan management logic with the main purpose of reducing ventilation-related energy consumption.
The most efficient way to reduce energy consumption is to reduce the speed, and consequently its flow-rate, whenever the system's operating conditions permit it.

Thanks to the advanced logics contained in the AIR 3000+ control and the use of EC plug fans with electronic speed control, the innovative **VAIR** (variable flow-rate) function allows the supply and return flow-rates managed by the unit to be varied, in relation to the specific demand of the system, considering the active percentage of each heating device such as compressors, heaters, heating modules, free cooling or free heating.
Therefore, whenever the unit operates at partial load, the air flow rate is simultaneously reduced to within the limits set by the user, reducing the power consumption of the fans and thus achieving significant energy savings.



In this way, the flow rates are managed considering the actual needs of the rooms, while still respecting the constraints imposed by the components and the type of system.
In addition to the benefit in terms of comfort, there is also an economic benefit since, by reducing the fan speed, VAIR can reduce the unit's total consumption by up to **30%** compared to the traditional constant-flow solution.

3.3 Certifications

Units compliant with the following directives and corresponding amendments:

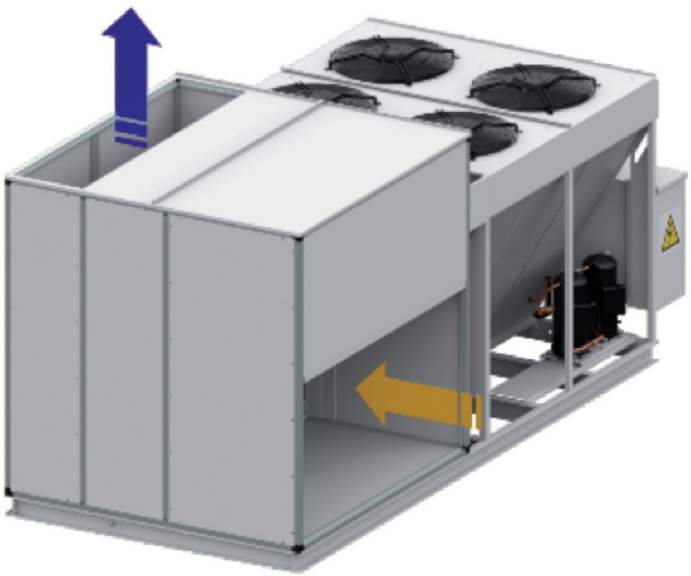
- Machinery directive 2006/42/EC.
- Electromagnetic compatibility directive 2014/30/EC.
- Pressure equipment directive 2014/68/EU
- Low voltage directive 2014/35/EC.
- RoHS directive 2011/65/EU (where applicable)
- Gas appliances directive 2016/426/EU (where applicable)
- Regulation (EU) 2016/2281 (implementation of directive 2009/125/EC).
- Regulation (EU) 2016/2281 (implementation of directive 2009/125/EC) Second Tier (ErP 2021)
- Eurovent certification (www.eurovent-certification.com) - rooftop unit program (RT).

3.4 Versions

The WSM3 units are available in a **reverse-cycle** version, for chiller and heat pump operation, and a **cooling only** version, called WSM3-T, for chiller operation only.
Both versions can be selected with the different configurations described below, depending on the specific design requirements.
All the configurations, regardless of size, are always built in an optimised **single-packaged** layout, which facilitates installation on site.

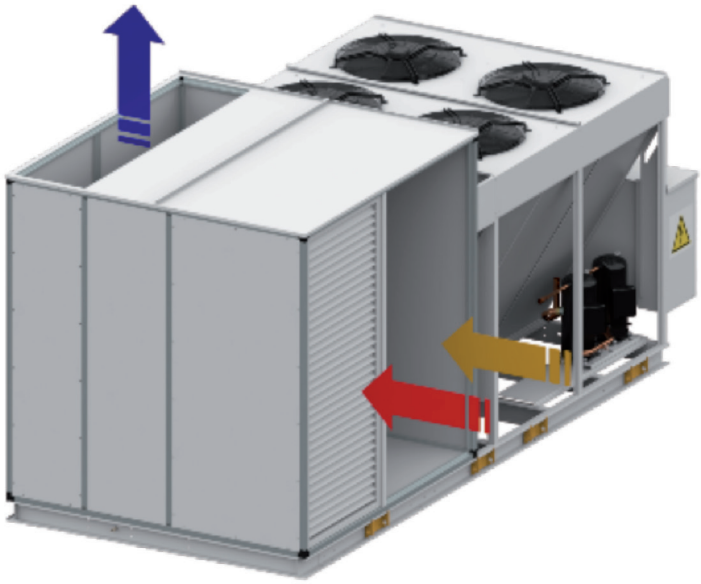
3.4.1 AR – All Recirculation version

This version is the basic unit in the WSM3 range.
The unit is designed for air recirculation only, taking in air from the rooms served and delivering it back after air-conditioning using the filters and the direct expansion coil.
Air exhaust and fresh air intake must be managed using systems that are separate from the unit.
A unit configured in this way is an ideal product for replacing obsolete units in existing installations that already have a dedicated air change system.



3.4.2 MF – Mixing and Free Cooling version

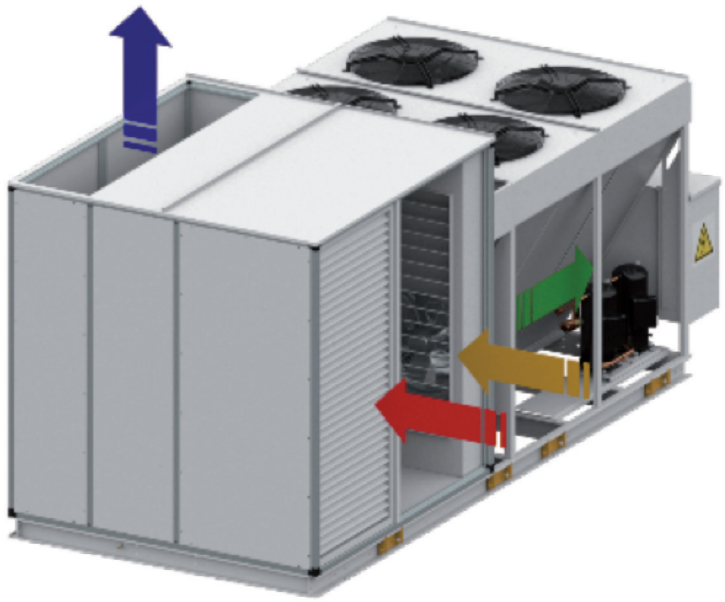
Compared to the basic version, this unit has two opposing motor-driven dampers managed by the unit's controller for operation with recirculated air only, mixtures and free cooling.
This function allows the recirculated air taken from the rooms to be mixed with some fresh outside air, either at a fixed percentage set on the controller or, as an option, using an air quality probe (CO2 reading).
Free cooling operation is managed by the controller, which opens the dampers so as to create a mixture of fresh outside air and recirculated air that requires less energy to air-condition, based on the outside temperature, indoor temperature and set point. During this function one or more cooling devices are deactivated, and are completely switched off with free cooling operation only.
The supply fans guarantee the design flow-rate; indoor air exhaust must be managed using systems that are separate from the unit.
This function is preferred when the amount of fresh air to be delivered into the rooms is low, and when the pressure drop in the intake ducts is not too high and the building is not very air tight (old buildings).



3.4.3 AX-F – Extraction + Heat Recovery Free version (Mixture and exhaust with axial-flow fan and heat recovery)

Compared to the basic version, this unit has two opposing motor-driven dampers managed by the unit's controller for operation with recirculated air only, mixtures and free cooling.
This system allows the recirculated air taken from the rooms to be mixed with some fresh outside air, either at a fixed percentage set on the controller, or using an air quality probe (CO2 reading).
In this case, the minimum permitted value cannot fall below 25% of conditioned air.
With the all recirculation function, the axial extraction fans are not in operation and a barometric damper on the exhaust air flow seals off the exhaust. However, when a proportion of fresh air is required (25% of conditioned air is the minimum permitted, below this threshold the unit operates in all recirculation), the barometric damper + extraction fans come into operation, expelling the same proportion of exhaust air.
Balancing the two flow rates prevents overpressure from being generated in the rooms served.
With reference to the exhaust air flow, axial extraction fans could overcome pressure drops in the return ducts, even up to 150 Pa.
To maximise energy efficiency, the exhaust fan has a brushless EC motor and its speed is adjusted according to how far open the fresh air intake damper is.
The supply fans guarantee the design flow-rate, and in the event of high outside air flow-rates (for example, during free cooling or free heating), they can also generate considerable overpressure in the room: in buildings with good air tightness, it is recommended to install an additional extraction system.

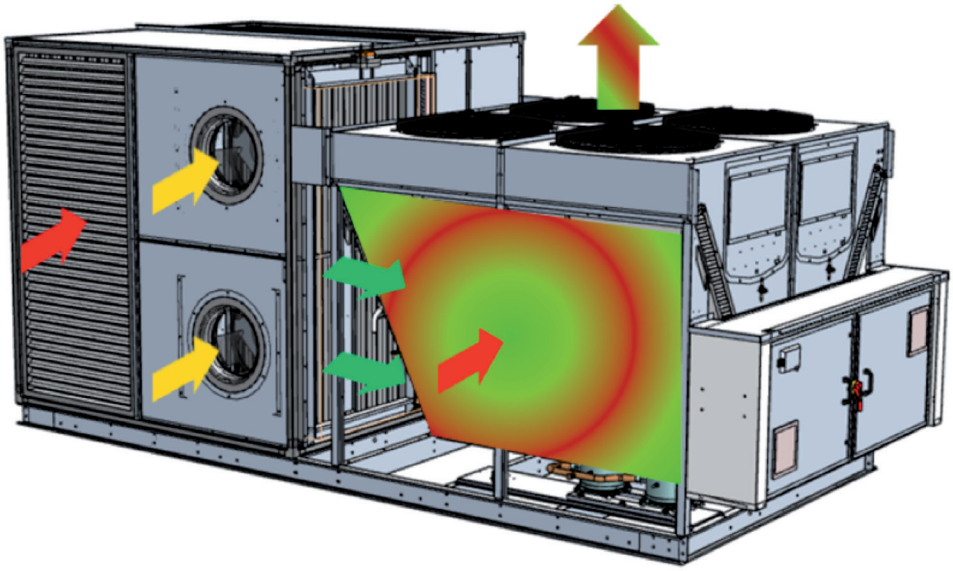
Heat Recovery: the exhaust air is not allowed to flow outside freely, but it is conveyed through the exhaust damper to the outdoor coil so that residual thermal energy can be recovered.
The exhaust air flow is milder than the outdoor air in winter and cooler in summer.
This allows the outdoor coil to work at more favourable conditions, with a higher average evaporation pressure in heat pump operation and a lower average condensation pressure in chiller operation.
The results, in both cases, are a reduction in consumption and an increase in capacity delivered.
This type of unit is ideal for small-medium commercial spaces, in buildings with medium air-tightness, such as supermarkets, shops and service stations, enabling a single unit to meet the building's heating needs and provide air change.



Free cooling operation is managed by the controller, which opens the dampers, starting with a minimum opening percentage of 25% of the conditioned air and creating a mixture of fresh outside air and recirculated air that requires less energy to air-condition, based on the outside temperature, indoor temperature and set point.
Depending on the size, one or more axial extraction fans are activated with this function, which simultaneously deactivates one or more cooling devices until they are switched off completely in free cooling operation only.

3.4.4 HR-F – Heat Recovery Free version (Return air fan and thermodynamic heat recovery)

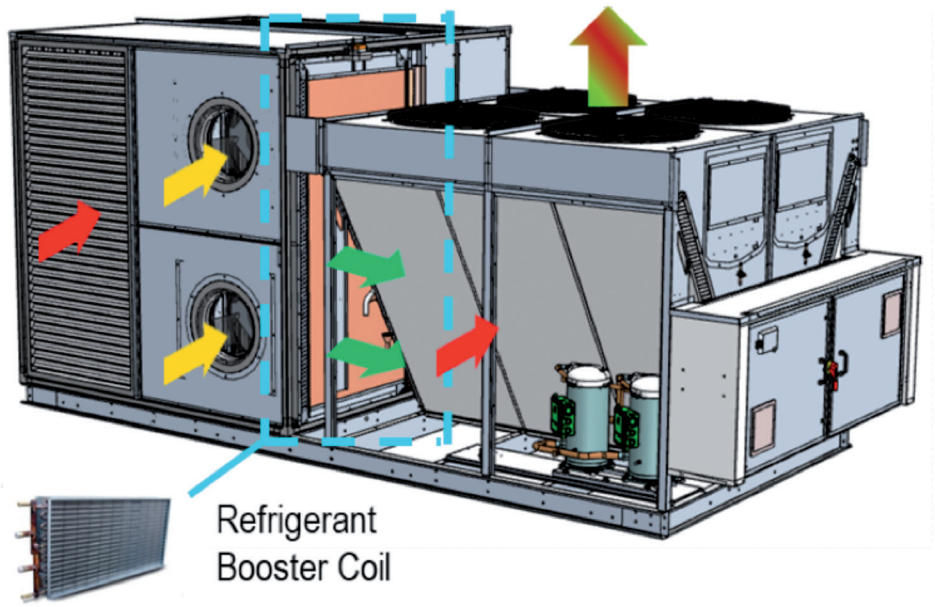
Compared to the basic version, there is a mixing chamber with three dampers which is managed by the unit's controller for operation with recirculated air only, mixtures and free cooling.
This system allows the recirculated air taken from the rooms to be mixed with some fresh outside air, either at a fixed percentage set on the controller, or using an air quality probe (CO2 reading).
The exhaust air is conveyed through the exhaust damper to the outdoor coils, so as to exploit the energy contained in air flow to increase overall unit performance (paragraph 3.4.3).
The return air EC plug fans can overcome considerable pressure drops in the duct (even higher than 250 Pa) with high air flow-rates, for precise control of overpressure in the air-conditioned space.
This function is useful in new buildings with high air change requirements (such as cinemas, theatres, auditoriums, exhibition centres and shopping centres).



Free cooling operation is managed by the controller, which opens the dampers so as to create a mixture of fresh outside air and recirculated air that requires less energy to air-condition, based on the outside temperature, indoor temperature and set point.
During this function one or more cooling devices are deactivated, and are completely switched off with free cooling operation only.

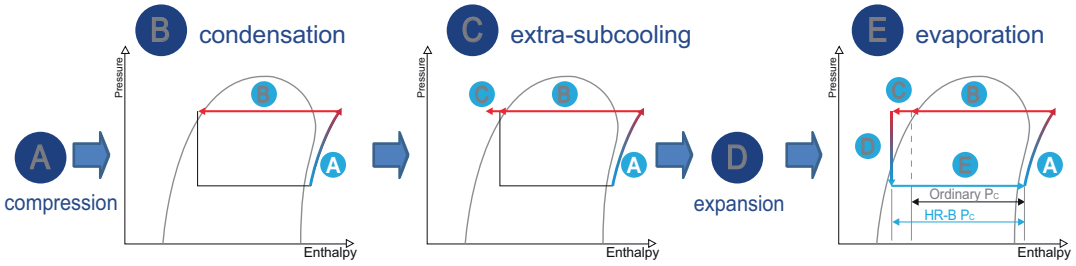
3.4.5 HR-B – Refrigerant Booster version (Return air fan and Refrigerant Booster heat recovery)

Compared to the basic version, there is a mixing chamber with three dampers which is managed by the unit's controller for operation with recirculated air only, mixtures and free cooling.
This system allows the recirculated air taken from the rooms to be mixed with some fresh outside air, either at a fixed percentage set on the controller, or using an air quality probe (CO2 reading).
Furthermore, a 'booster' recovery coil, positioned near the exhaust damper, is used to recover all of the heat contained in exhaust air.
This recovered energy is transferred to the refrigerant circuit, which increases the capacity of the air handling coil without increasing compressor workload.
This coil handles the entire exhaust air flow with uniform distribution across the whole heat exchange area.
The exhaust air is then conveyed towards the outdoor coils, so as to also exploit the residual energy contained in air flow to further increase overall unit performance (paragraph 3.4.3).
The return air EC plug fans can overcome considerable pressure drops in the duct (even higher than 250 Pa) with high air flow-rates, for precise control of overpressure in the air-conditioned space.
This function is useful in new buildings with high air change requirements (such as cinemas, theatres, auditoriums, exhibition centres and shopping centres).

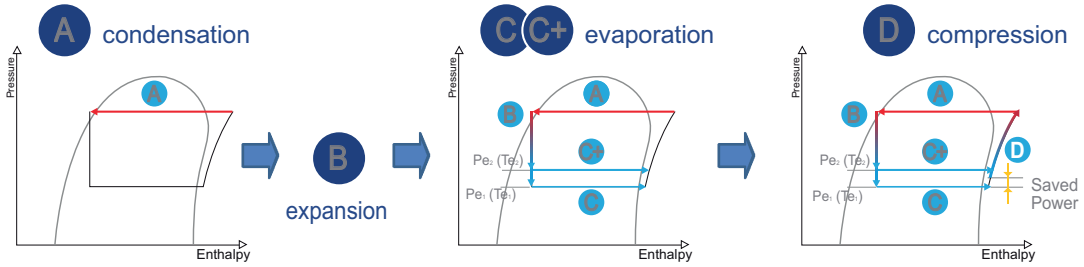


Thermodynamic principle: a subcooling coil is positioned on the exhaust damper to transfer the recovered energy to the main refrigerant circuit, thus increasing the capacity delivered by the main air handling coil without however increasing the power consumption of the compressor.
In favourable exhaust air conditions, subcooling (C) can be increased, thus further boosting the cooling capacity of the unit (Pc).

Cooling



Heating



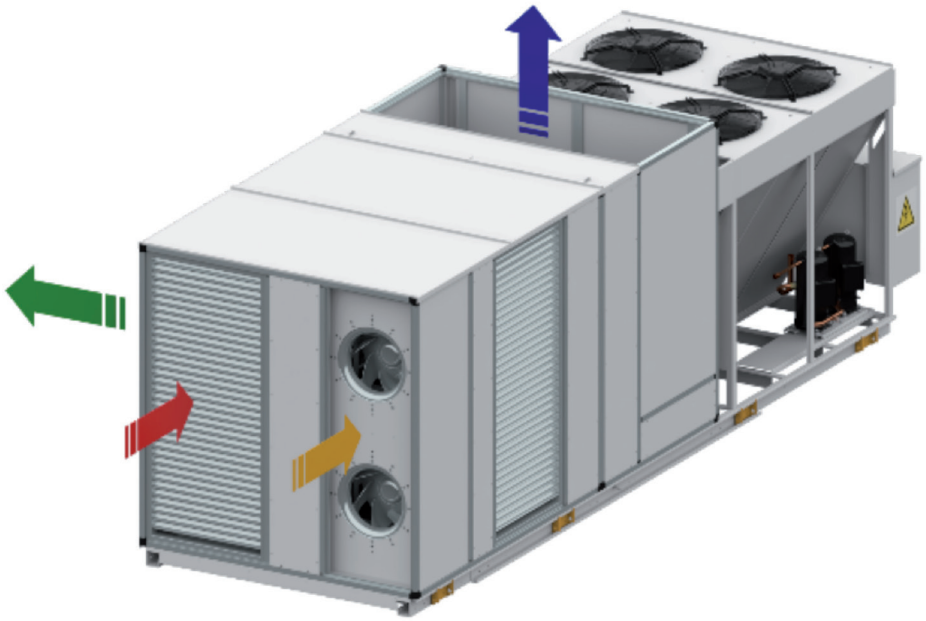
In heat pump operation, refrigerant evaporation is divided between the outdoor coil and the refrigerant booster coil. The improved conditions of the exhaust air can be exploited to evaporate part of the refrigerant at better conditions than those outdoors (C+), thus increasing the efficiency of the whole system.

Benefits:

- Complete and precise recovery of the energy contained in the exhaust air, ensured by perfect distribution across the heat recovery coil and without mixing with outside air;
- Increased cooling and heating capacity delivered by the entire unit.
- The additional heat exchanger coil in the refrigerant circuit means an overall reduction in compressor power consumption;
- Complete separation of the air flows;
- Additional air pressure drop is limited solely to the exhaust air flow;
- Ideal solution for Mediterranean climates with mild winters, as the energy in the exhaust air can also be exploited in conditions that traditional air/air heat recovery units would otherwise not allow;
- It starts working even at low exhaust air flow rate.

3.4.6 HR-P version – Heat Recovery Plate (Return air fan and heat recovery with plate heat exchanger)

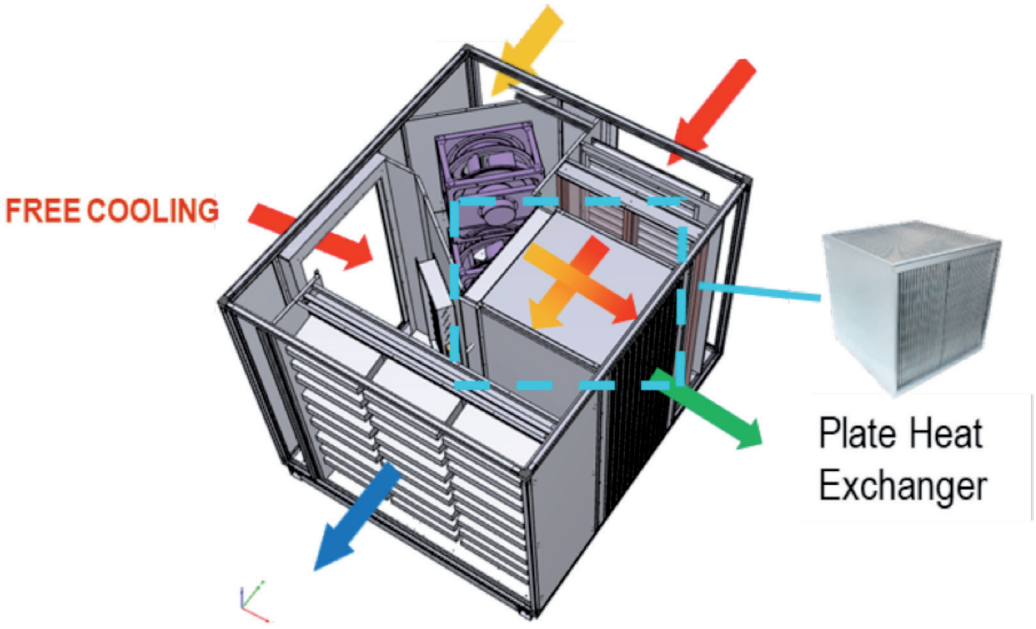
The HR-F version, the HR-P function uses a plate heat exchanger for energy recovery between the fresh air intake and exhaust air.
The heat recovery unit is installed inside the three-damper mixing chamber, located upstream of the air handling coil and that also contains the return fans (EC plug fans).
Two versions of plate heat exchanger are available: for systems where a fresh air intake flow-rate less than 50% of supply air flow-rate is required, the low air flow version is suitable (HR-P – LOW FLOW version); vice versa, if the fresh air flow-rate is predominant, a version is available featuring a heat exchanger with larger plates (HR-P – HIGH FLOW version).
Both solutions feature additional filters to protect the heat exchanger from excessive fouling: class G4 filters are installed on the fresh air flow.
This function is useful in new buildings with high air change requirements (such as cinemas, theatres, auditoriums, exhibition centres and shopping centres).



Thermodynamic principle: the flow of incoming fresh air, before being mixed with the return air, flows across a plate heat exchanger, where it is either heated or cooled by the exhaust air flow.
The two air flows remain completely separate, being in sealed sections between the aluminium plates. Heat is transferred due to the temperature difference between the two air flows.
The efficiency of energy recovery increases the higher the temperature difference between the two air flows, making this solution particularly suitable in extreme climates.

Benefits:
- Complete separation between the two air flows (exhaust and fresh air), with no risk of contamination;
- High reliability and safe operation;
- Easy cleaning and minimum maintenance;
- Optimum performance in extreme climates;
- Extends unit operating limits;
- Suitable for operation with high outside air flow-rates (even 100% in some sizes/versions);
- Aluminium construction to improve heat exchange;
- Low pressure drop ensured by the large heat exchange surfaces;
- Thanks to the by-pass damper, the fresh air bypasses the heat recovery unit in free cooling operation, resulting in less power consumption by the supply fan.

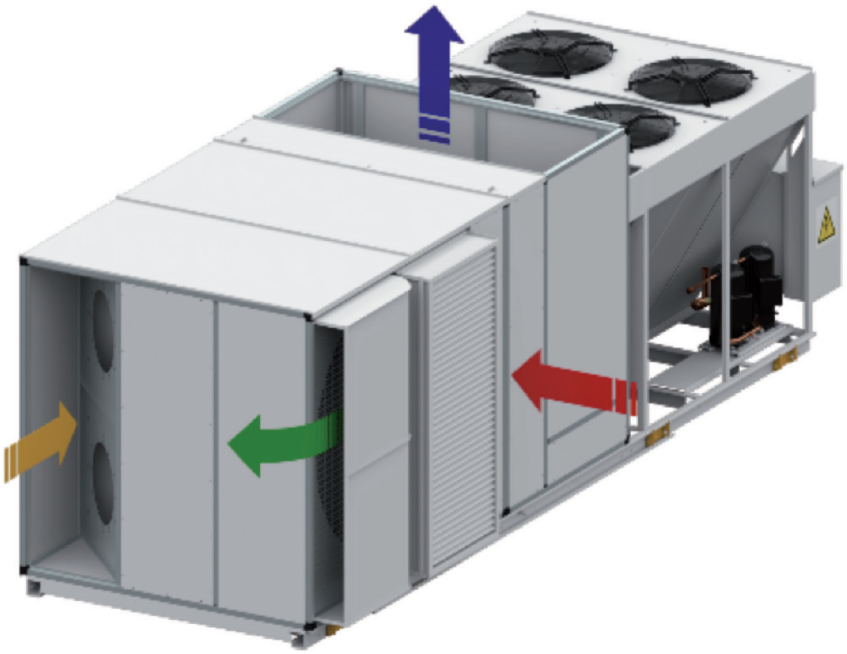
During free cooling operation, the unit controller manages the opening of the dampers so as to create a mixture between fresh and recirculated air, based on the outside air temperature, room temperature and set point, and save energy. For this operating mode, the unit is equipped with bypass dampers on the plate heat recovery unit in the outside air flow, so as to avoid heat exchange with the exhaust air inside the heat exchanger when this is not useful:



One or more cooling devices (compressors) are deactivated until they are completely switched off with free cooling operation only (i.e. when the set point can be reached solely by the introduction of outside air into the room).

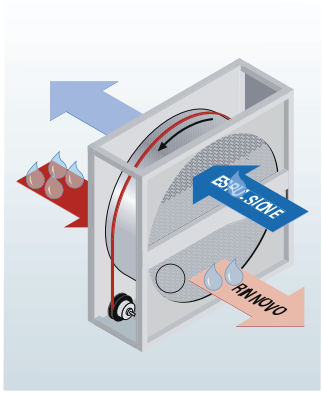
3.4.7 HR-E – Heat Recovery Enthalpic version (Return air fan and heat recovery with enthalpy wheel)

The HR-E function uses an enthalpy wheel to recover sensible and latent heat between the fresh outside air and exhaust air.
The heat recovery unit is installed inside the three-damper mixing chamber, located upstream of the air handling coil and that also contains the return fans (EC plug fans).
A rotary enthalpy wheel is the most efficient form of heat recovery on the market, with efficiency between 60% and 90% depending on operating conditions, allowing compliance with the highest-efficiency standards in force regarding energy savings.
The enthalpy wheel is made from corrugated aluminium plates that create a very high heat exchange surface area in relation to the volume, achieving benefits also in terms of the space occupied inside the unit.
The hygroscopic treatment that the aluminium plates undergo allows recovery of both latent heat and sensible heat, dehumidifying in the summer and reducing – if not totally eliminating – the need for humidifiers in winter; overall unit performance is significantly increased.
Additional filters are fitted to protect the heat exchanger from excessive fouling: in particular, class G4 filters are installed in the outside air flow.
The return air EC plug fans can overcome considerable pressure drops in the duct (even higher than 250 Pa) with high air flow-rates, for precise control of overpressure in the air-conditioned space.
This function is useful in new buildings with high air change requirements (such as cinemas, theatres, auditoriums, exhibition centres and shopping centres).

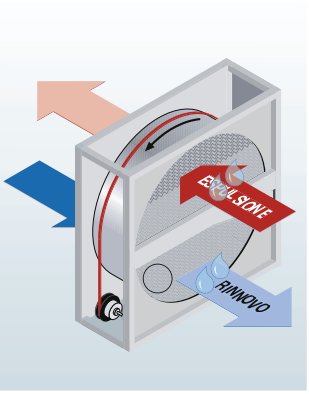


Thermodynamic principle: heat exchange occurs through accumulation of heat in the wheel. Heat is transferred to the heat-absorbing material from the exhaust air in one half of the rotation.
The heat is then given up to the fresh outside air in the other half.
As the wheel rotates, the parts that absorb and give up heat are continuously inverted.
The wheel is driven by a fixed-speed motor.

Summer operating



Winter operating



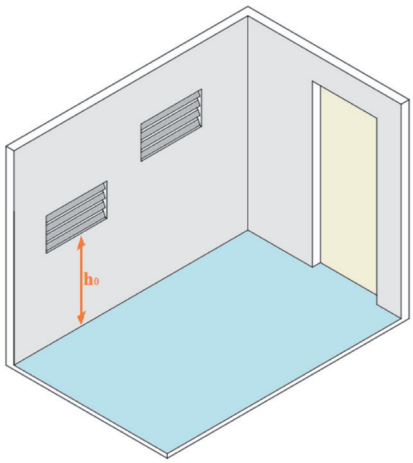
Benefits:
- High heat recovery efficiency, up to 90%;
- Compact dimensions;
- Recovery of latent heat;
- Optimum performance in extreme climates;
- Suitable for operation with high outside air flow-rates.

The **free cooling** function is enabled when the temperature or enthalpy (optional) conditions of the outside air allow. The unit controller manages the opening of the dampers so as to create a mixture between fresh and recirculated air and save energy, based on the outside air temperature, room temperature and set point.
In this operating mode, the unit stops the enthalpy wheel, so as to avoid heat exchange with the exhaust air when this is not useful. One or more cooling devices (compressors) are deactivated until they are completely switched off with free cooling operation only (i.e. when the set point can be reached solely by the introduction of outside air into the room).

3.5 Minimum installation area for R32 unit

Using R32 refrigerant gas, classified as A2L (low flammability according to ISO 817), the unit must be selected according to the minimum surface area indicated in the tables below, considering that the unit itself cannot be considered as a safety element for the indoor environment and that the installer is fully responsible for its correct installation and for making safe the rooms served by the unit.
For installations that do not comply with the table, the area must be adapted in accordance with EN378-3 with regard to the chapters on additional safety systems and applicable local standards.

The minimum surface areas to be observed are given for each size, referring to the smallest room served by the unit at the installation site.



WSM3 AR - MF - AX -F - HR-F - HR-P - HR-E								
Height of the appliance's ports (h0 in EN 378-1, Annex C.2)	Amin [m²] 0262	Amin [m²] 0302	Amin [m²] 0352	Amin [m²] 0402	Amin [m²] 0444	Amin [m²] 0484	Amin [m²] 0524	Amin [m²] 0604
0,6	-	-	-	-	-	-	-	-
1	-	-	-	-	216	220	-	-
1,8	147	152	192	198	120	123	140	151
2,2	120	124	157	162	99	100	115	123
WSM3 AR - MF - AX -F - HR-F - HR-P - HR-E with Hot Gas Coil								
Height of the appliance's ports (h0 in EN 378-1, Annex C.2)	Amin [m²] 0262	Amin [m²] 0302	Amin [m²] 0352	Amin [m²] 0402	Amin [m²] 0444	Amin [m²] 0484	Amin [m²] 0524	Amin [m²] 0604
0,6	-	-	-	-	-	-	-	-
1	-	-	-	-	221	225	-	-
1,8	150	155	196	201	123	125	143	154
2,2	122	127	161	165	101	102	117	126
WSM3 AR - MF - AX -F - HR-F - HR-P - HR-E								
Height of the appliance's ports (h0 in EN 378-1, Annex C.2)	Amin [m²] 0262	Amin [m²] 0302	Amin [m²] 0352	Amin [m²] 0402	Amin [m²] 0444	Amin [m²] 0484	Amin [m²] 0524	Amin [m²] 0604
0,6	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
1,8	232	244	-	-	209	212	-	-
2,2	190	200	249	-	171	174	223	22 4
WSM3 HR-B with Hot Gas Coil								
Height of the appliance's ports (h0 in EN 378-1, Annex C.2)	Amin [m²] 0262	Amin [m²] 0302	Amin [m²] 0352	Amin [m²] 0402	Amin [m²] 0444	Amin [m²] 0484	Amin [m²] 0524	Amin [m²] 0604
0,6	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-
1,8	234	245	-	-	210	213	-	-
2,2	191	201	-	-	172	175	224	225

NOTE:
The reference height 'h0' should be considered by taking the height from the floor to the lowest outlet in the room (see image). The minimum areas indicated above are calculated according to EN378-1:2016, with reference to Chapter 5:
- Location classification: II
- Access category: a.

Where no minimum surface area is given ('-'), additional safety systems are required in accordance with EN378-3 and applicable local standards.

All the restrictions mentioned apply not only to new installations but also to relocations and layout changes. For specific situations other than those mentioned above, contact the office.

4.1 Standard configuration

For **power sizes 0262**, **0302**, **0382** and **0402**, configuration of a standard unit includes:

1062 – Unit compliant with ErP directive 2021
2076 – Supply air, lateral (right)
2065 – Return air, lateral (left)
4468 – Sandwich panel with polyurethane
342 – Power supply 400V/3ph/50Hz+PE
2411 – Phase sequence control
865 – **EC outdoor fans**
1862 – Constant flow-rate
B861 – Supply prefilter ISO COARSE 55% (G4 in accordance with EN 779)
880 – Outdoor coil Cu/Al
6192 – Compact keypad
4162 – Automatic summer/winter switching
4270 – Return probe
411 – Electrical panel with forced ventilation
9970 – Standard packaging

For power **sizes 0444**, **0484**, **0524** and **0604**, configuration of a standard unit includes:

1062 – Unit compliant with ErP directive 2021
2076 – Supply air, lateral (right)
2065 – Return air, lateral (left)
4468 – Sandwich panel with polyurethane
342 – Power supply 400V/3ph/50Hz+PE
2411 – Phase sequence control
865 – **Variable speed device**
1862 – Constant flow-rate
B861 – Supply prefilter ISO COARSE 55% (G4 in accordance with EN 779)
880 – Outdoor coil Cu/Al
6192 – Compact keypad
4162 – Automatic summer/winter switching
4270 – Return probe
411 – Electrical panel with forced ventilation
9970 – Standard packaging

4.2 Accessories

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
2072 ÷ 2077	Supply air direction	Choice of different directions for supply air flow. See the table on supply air compatibility with the accessories and unit versions included in this bulletin. The reference point always refers to the electrical panel.	Allows greater configuration versatility, facilitating installation on site.
2061 ÷ 2065	Return air direction	Choice of different directions for return air flow. See the table on return air compatibility with the accessories and unit versions included in this bulletin. The reference point always refers to the electrical panel.	Allows greater configuration versatility, facilitating installation on site.
3412	Circuit breakers	Overcurrent switch on the major electrical loads installed on the unit.	In the event of overcurrent, it allows the switch to be reset without replacing the relative fuses.
3301	Power factor correction	Overcurrent switch on the major electrical loads installed on the unit. Capacitors on the compressors' power inlet. This accessory is only available for sizes 0444, 0484, 0524 and 0604, as the lower power sizes are equipped with inverters. For the combination with option 1511 (soft start), contact the office.	Increases the unit's cos(phi) from an average value of 0.87 to an average value of 0.92.
4181 ÷ 4188	Remote connectivity option	Choice of different serial interface cards, in relation to different communication protocols (MODBUS, ECHLON, BACNET).	Integration with supervision systems.
865	EC outdoor fans	EC fans with electronic switching The brushless motor, managed by a special controller, continuously regulates the fan speed. This accessory is only available for sizes 0444, 0484, 0524 and 0604, since the lower power sizes are fitted with it as standard. EC outdoor fans are recommended for operation in cooling mode at low outdoor temperatures (below 12°C).	Minimised energy consumption and current draw during start-up. The noise reduces proportionally to load reduction.
1511	Soft start	Two-phase controlled electronic static starter for managing peak current. This accessory is only available for sizes 0444, 0484, 0524 and 0604, as the lower power sizes are equipped with inverters. For the combination with option 3301 (compressor phase-shifting) contact the office.	Reduced start-up current compared to direct motor start-up, reduced mechanical wear on motor windings, less mains voltage fluctuation during start-up, more favourable sizing of the electrical system.
B841	Public application safety package	The package includes some accessories to detect smoke inside the unit, compliant with the French ERP regulation. The accessories included are: - D.A.D. (NF S 61961 certified); - Smoke detector (NF S 61961 certified); - smoke alarm management according to ERP standard; - Spring-loaded dampers (if envisaged by the unit's chosen function); - If there are electric heaters, they will be equipped with an automatic reset thermostat set at 90°C and a manual reset thermostat set at 120°C. Option not available if already fitted with opt. "A511 Smoke sensor".	Necessary in order to meet the specifications required by the French ERP regulation (établissements recevant du public).

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
B831 ÷ B833	Fan blade material	It is possible to choose the metal blade for the supply fan or supply and return fan (if featured).	Necessary in order to meet the specifications required by the French ERP regulation (établissements recevant du public).
4251	Supply air motors	Possibility to choose uprated motors on supply fans.	They increase the available static pressure at the supply fan opening.
4241	Return air motors	Possibility to choose uprated motors on return fans.	They increase the available static pressure at the return fan opening.
1861	Constant air-flow regulation + Vair	The unit is capable of varying the set point for both supply and return air-flow according to the load of the devices.	Reduction of air flow according to the system's actual heating/cooling demand allows substantial savings to be achieved and thus increases the system's efficiency.
1863	Constant pressure regulation	Air fan speed is controlled in order to maintain constant available static pressure in the system.	Fan speed is controlled in such a way as to maintain a constant available static pressure in the system's air distribution plenum. This is useful for variable air volume (VAV) air distribution systems
1864	Fixed speed 0-10V regulation	Air fan speed is kept constant, according to a set value.	Fan speed can be set directly by the controller to assist start-up operations.
4401	Return fans double set point	Variation, by keypad or supervisor, of the set point for the return fan (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integration with supervision systems.
4402	Return fans continuous variation set point	Continuous variation of the set point for the return fan, within a range previously set by keypad or supervisor (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integration with supervision systems.
4411	Supply fans double set point	Variation, by keypad or supervisor, of the set point for the supply fan (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integrazione con sistemi di supervisione.
4412	Supply and return fans double set point	Variation, by keypad or supervisor, of the set point for the supply and return fan (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integration with supervision systems.
4413	Supply fan continuous variation set point	Continuous variation of the set point for the supply fan, within a range previously set by keypad or supervisor (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integration with supervision systems.

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
4414	Supply and return fan continuous variation set point	Continuous variation of the set point for the supply and return fan, within a range previously set by keypad or supervisor (the set point can be either an air flow-rate, a fixed speed or pressure value, depending on the option chosen, 1862-1863-1864). This option is not possible with the Vair option (1861).	Integration with supervision systems.
4141	CO2 probe for air quality control	Probe for managing air quality inside the rooms. The signal is processed by the controller in order to adjust the flow of fresh air (signal to the fresh air intake damper).	Automatic management of the fresh air flow-rate allows outside air to be handled only when needed, guaranteeing compliance with relevant standards and occupant comfort.
4142	Remote forcing with 4-20 mA signal	Remote forcing with 4-20 mA signal to manage the opening of the fresh air intake damper.	
4143	CO2 + VOC probe for air quality control	Probe for managing air quality inside the rooms. The signal is processed by the controller in order to adjust the flow of fresh air. The probe can measure both CO2 concentration (closely linked to room crowding) and the pollution generated by volatile organic compounds, the cause of indoor pollution: the higher of the two values controls the opening of the fresh air intake damper.	Automatic management of the fresh air flow-rate allows outside air to be handled only when needed, guaranteeing compliance with relevant standards and occupant comfort.
B851	PCO purification system	Active purification system with photocatalytic oxidation. It is a purification system that allows a process of photocatalytic oxidation thanks to the combination of a special UV lamp and a honeycomb catalyst structure made of titanium dioxide (TiO2).	The process generates hydroxyl radicals (-OH) and hydrogen peroxide (H2O2) in quantities of no more than 0.02 PPM, which, when released into the air flow, enable a very effective reduction of microbial load (such as bacteria, moulds, allergens, odours, organic and volatile compounds, and ultra-fine dust).
B863 ÷ B864	Air supply prefilters	Prefilters of different efficiencies are available (M6 and F7 in accordance with EN779).	It guarantees a pre-filtering of the air in order to reduce fouling of the main filter and the remaining components.
2521 ÷ 2521C	High efficiency pocket filters	In addition to the prefilters, flat or rigid pocket filters with different efficiencies are available, depending on the type of unit: ePM01 50% (ISO 16890, F7 in accordance with EN 779), ePM01 70% (ISO 16890, F8 in accordance with EN 779) or ePM01 80% (ISO 16890, F9 in accordance with EN 779), with Class 1 fire resistance. Easy access from the outside thanks to the large inspection panels, and sliding on steel grills to allow simple removal for cleaning or replacement.	Housed at the inlet of the air handling coil, they guarantee fine filtration of the air delivered into the room.

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
2524	Electronic filters	These are housed at the inlet of the air handling coil, and are intended to replace the high-efficiency mechanical pocket filters. The electrostatic precipitation process forming the basis of the operating principle consists of three key stages: transfer of an electric charge to the particles suspended in the air, capture of the particles and removal of the captured particles. The particles are charged by means of a discharge ionisation device.	For use in applications that require high filtering efficiency (efficiencies of 99%) to remove dust particles in the micrometre range, combined with low pressure drops resulting in savings in fan power. Electrostatic filters are designed for a very long working life and have very low maintenance requirements, except for periodic cleaning which is automatically signalled by the filter itself. Use of these filters also reduces pathogens that are harmful to health. High efficiency combined with a long working life means that the initial cost of the investment is offset by the much reduced management and maintenance costs.
1852	Filter differential pressure switch	Differential pressure switch to detect the level of filter clogging, with warning.	The pressure switch measures the clogging of standard filters plus any high-efficiency filters.
4311	Empty module	Additional chamber 650 mm in length, required for installing additional components that cannot be positioned inside the standard cabinet.	
1461	ON/OFF hot gas coil	Condensing finned coil placed downstream of the air handling coil, supplied by hot gas from the compressor's supply. ON/OFF control. This option must be combined with options for humidity control (opt. 4133-4135-4137).	The reheating coil allows the air intake temperature to be adjusted during the dehumidification stages.
1463	Gas-fired heating module management	Option for managing an additional module in which a gas burner is housed. Not available for unit versions AX-F, HR-F and HR-B. For burner size, refer to options 1645A – 1647.	The methane gas-fired heating module is very well suited to working in particularly cold climates; for heat pump versions, the module can be used to supplement heating, while it is intended as a replacement for cooling-only units.
1466	Electric heater management	Option for managing an electric heater positioned downstream of the direct expansion coil. For heater size, refer to options 1314 – 1315.	The electric heater can be used to reheat or to supplement heat pump operation. It can also be activated during defrost cycles.
1467	Water heating coil (2 rows)	Water heating coil positioned after the air handling coil.	The coil can be used as a heating device or to supplement heat pump operation.
1468	Water heating coil (3 rows)	Water heating coil positioned after the air handling coil.	The coil can be used as a heating device or to supplement heat pump operation.
1341	2-way valve (V2V)	Modulating 2-way valve located at the water heating coil, complete with motorisation. This option can be chosen only with the water heating coil (option 1467 or 1468).	
1342	3-way valve (V3V)	Modulating mixing valve located at the outlet of the water heating coil, complete with motorisation. This option can be chosen only with the water heating coil (option 1467 or 1468).	

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
1345	Continuous signal for water coil control	Analogue signal output from the controller to operate an external water valve for managing the water heating coil. This option can be chosen only with the water heating coil (option 1467 or 1468).	
1314 ÷ 1315	Electrical heating coil	Electric heater positioned after the air handling coil. These options are available only with the electric heater management option (opt. 1466).	The electric heater can be used to reheat or to supplement heat pump operation. It can also be activated during defrost cycles.
1645A ÷ 1647	Modulating premix gas-fired heating module	Additional module housing a modulating premix gas burner and a stainless steel air/flue heat exchanger. The function of the module is to heat the air delivered to the air-conditioned rooms, making it flow over the external surface of the combustion chamber and the pipes of the heat exchanger. Option 1463 or 1464 is compulsory for this option (heating module management). Not available for unit versions AX-F, HR-F and HR-B.	The condensing gas heating module makes it possible to achieve: high heating capacity with considerable compactness; high efficiency values by exploiting the heat of condensation; practically zero CO2 emissions.
4131	Ambient humidity probe	Probe for measuring the relative humidity in the rooms, installed on the return.	
4132	Enthalpic free cooling	Function regulated by the temperature and humidity probes, installed in a position that allows the energy status of both the ambient air and outdoor air to be monitored and compared. The control manages the opening/closing of the dampers to exploit more favourable outdoor conditions.	During free cooling operation, the devices are deactivated gradually until they are completely switched off, maintaining the desired temperature-humidity conditions by directly exploiting fresh air.
4133	Dehumidification	With a humidity probe positioned on the return, this function allows the air to be dehumidified during cooling operation, reducing excess humidity in the rooms.	Enthalpic control to bring the ambient humidity within the set point values. A heating device is recommended for the reheating in order to adjust the intake temperature during the dehumidification stages.
4134	Signal for humidifier	The unit provides a signal to operate a humidifier, thanks to the reading from the humidity probe positioned on the return. It is also possible to equip the unit with a humidifier (options 4301 – 4308)	Increases ambient humidity. Only works in heating mode. Contact the office for special configurations.
4309	Digital signal for humidifier control	The unit provides a digital signal to control the switching on or off of an external humidifier, thanks to the reading from the humidity probe positioned on the return.	Increases ambient humidity. Only works in heating mode.
4309A	Continuous signal for humidifier control	The unit provides an analogue signal to operate an external humidifier, thanks to the reading from the humidity probe positioned on the return.	Increases ambient humidity. Only works in heating mode.
881	Copper/copper outdoor coil	Outdoor coil with copper pipes and fins.	It provides good corrosion resistance.
883	Outdoor coil with pre-coated fins	Outdoor coil with painted surface.	It provides resistance in environments with medium levels of air pollution.

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
884	Outdoor coil with Electrofin treatment	Outdoor coil treated with Electrofin.	This treatment is specially developed to protect coils in marine environments, guaranteeing complete protection of the finned surface with less than 1% heat transfer loss.
895	Outdoor coil with Fin Guard Silver treatment	Outdoor coil with epoxy treatment.	It provides excellent corrosion resistance in very aggressive environments or marine atmospheres.
2032	Welded mesh coil protection	Welded mesh painted in RAL 7035 to protect the outdoor coils.	Protection grills for condensing coils and part of the refrigerant circuit against ingress of medium-large solid bodies.
2033	Painted metal mesh coil protection	Punched and painted metal mesh to protect the outdoor coils.	Protection grills for condensing coils and part of the refrigerant circuit against ingress of small-medium solid bodies.
971	Copper/copper indoor coil	Indoor air handling coil with copper pipes and fins. Caution: this accessory applies to the air handling coil only. Contact the office if you want to apply this accessory to other optional coils (e.g. reheating coil).	It provides good corrosion resistance.
974	Indoor coil with Fin Guard Silver treatment	Indoor air handling coil with epoxy treatment. Caution: this accessory applies to the air handling coil only. Contact the office if you want to apply this accessory to other optional coils (e.g. reheating coil).	It provides excellent corrosion resistance in very aggressive environments or marine atmospheres.
975	Indoor coil with pre-coated fins	Indoor air handling coil with painted surface. Caution: this accessory applies to the air handling coil only. Contact the office if you want to apply this accessory to other optional coils (e.g. reheating coil).	It provides resistance in environments with medium levels of air pollution.
976	Outdoor coil with Electrofin treatment	The indoor coil is given an electro-deposition coating by total immersion at the factory. Caution: this accessory applies to the air handling coil only. Contact the office if you want to apply this accessory to other optional coils (e.g. reheating coil).	This treatment is specially developed to protect coils in marine environments, guaranteeing complete protection of the finned surface with less than 1% heat transfer loss.
1441	KIPlink + Compact Keypad	KIPlink is the innovative user interface based on WiFi technology, which also allows the unit to be reached via LAN.	Real-time control of the unit is possible via the MEHITS app, within WiFi range or via the building's LAN.
B901	Display AIR 3000 Touch+	It is an additional display for controlling the rooftop unit which is installed in the air conditioned area. It is supplied with the rooftop unit.	It shows all the functions available on the display fitted on the unit, plus: - It can be installed in the room; - 4.3" colour touch screen display; - Temperature and humidity probes; - User friendly; - It can be installed in a public space, as the menu is protected by a password; - Display language can be changed.
5924	Mains analyser for BMS	The option requires installation of the following devices on the unit: - mains analyser with display and MODBUS interface over RS485 (without MID certification); - current transformers.	This accessory makes it possible to gather data on the unit's energy consumption, it shows this data on the display and communicates it via RS485 serial bus to BMS for energy measurement.

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
3434	Gas leak detection system	An alarm appears on the unit display and via the serial bus if the gas charge falls more than 20% compared to the original charge set at the factory. The gas is detected by measuring the overheating and the extent to which the electronic thermostatic valve is open.	This accessory enables any refrigerant leaks to be detected at any point in the circuit. It does not control any safety action but only provides an alarm.
381 ÷ 383	Numbered wiring on electric board and colouring for UK market	In the construction of the unit's electrical panel not only are the individual inputs and outputs identified, but the electrical cables are also labelled for easy recognition. In addition, power cables coloured according to the UK standard can be used.	It increases user friendliness and ease of management of the electrical panel during maintenance.
3591	Fan operating signal	Signalling, by keypad or supervisor, the activation of the unit's fans, with the possibility of controlling any auxiliary loads.	Integration with supervision systems.
3601	Compressor operating signal	Signalling, by keypad or supervisor, the activation of the unit's compressors, with the possibility of controlling any auxiliary loads.	Integration with supervision systems.
4121	Forced shutdown (SFR)	Possibility, via keypad or supervisor, to force the unit to shut down.	Integration with supervision systems.
4161 ÷ 4162	Remote summer/ winter switching	Possibility, via keypad or supervisor, to force the unit's summer/winter switch.	Integration with supervision systems.
6171	Demand limit	Possibility, via keypad or supervisor, to limit the power consumed by the unit.	Safety device that can be used in temporary situations (e.g. open construction sites).
4111	Remote forcing of air extraction (EFR)	Possibility, via keypad or supervisor, to force the opening of the return and exhaust dampers, the switching off of the compressors and the activation of the fans. Not available for AR, MF and AX-F functions.	Integration with supervision systems. Safety device for air extraction in the event of smoke in the served area. It provides an alarm as output.
4172 ÷ 4173	Remote forcing of room air cleaning and start-up	Possibility, via keypad or supervisor, to force complete air change in the room served. Controls the full opening of the fresh air damper. The compressors are switched off for air intake, extraction and exhaust. Subsequent start-up can also be envisaged and takes place by running the unit in all recirculation. Not available for AR, MF and AX-F functions.	Integration with supervision systems. It allows a massive and rapid air change in a room.
4381	Remote forcing of all fresh air	Possibility, via keypad or supervisor, to force all fresh air operation.	Integration with supervision systems.
4391	Remote forcing of all recirculation	Possibility, via keypad or supervisor, to force all recirculation operation.	Integration with supervision systems.
7001	Remote forcing of ventilation only	Possibility, via keypad or supervisor, to force ventilation-only operation, with compressors and heating or cooling devices not active.	Integration with supervision systems.
4442	Return temperature double set point	Possibility, via keypad or supervisor, to set a double set point for the return temperature.	Integration with supervision systems.
4444	Return temperature continuous variation set point	Possibility, via keypad or supervisor, to continuously vary the set point for the return temperature.	Integration with supervision systems.
4271 ÷ 4272	Temperature probe for room or duct	Return air temperature probe supplied loose for installation in a room or duct.	
A511	Smoke sensor	Smoke sensor that forces the unit to switch off when smoke is detected. Option not available if already fitted with opt. "B841 Public application safety package".	Safety device that, in the event smoke is detected, prevents air from entering the room served, which could feed a potential fire.

CODE	ACCESSORY NAME	DESCRIPTION	ADVANTAGES
C022	Safety dampers	Class 4 dampers (in accordance with EN 751) on the air supply and air return which isolate the rooms served in the event of a leak of refrigerant gas. In the case of the AR unit, the return damper is equipped with a counter-rotating blade (paragraph 3.1.9).	This accessory makes it possible to keep the unit in communication with the outdoors at all times, ensuring that any leak of refrigerant can be evacuated.
3422	Electrical panel lighting + socket	Installation of LED lights and a 230V CEE 7/3 socket (Schuko) on the electrical panel. The maximum available capacity is 500VA.	Internal lighting simplifies maintenance operations and work on the electrical panel, the socket can be used to power small electrical/electronic devices (lights, notebooks, tablets, etc.). Not compatible with option B841.
2101	Rubber vibration dampers		
1972 ÷ 1973	Reinforcement for long-distance transport	The accessory includes reinforcements on the compressor base, reinforcements on the handling chambers, fan locking brackets, reinforcement of the handles for closing/opening the panels.	This accessory allows the structural preservation of the unit when it is transported long distances, especially by lorry.
9966 ÷ 9996	Type of packaging	As standard, the unit is supplied without packaging. Nylon packaging or packaging for containers (nylon + slides) is available as an option.	

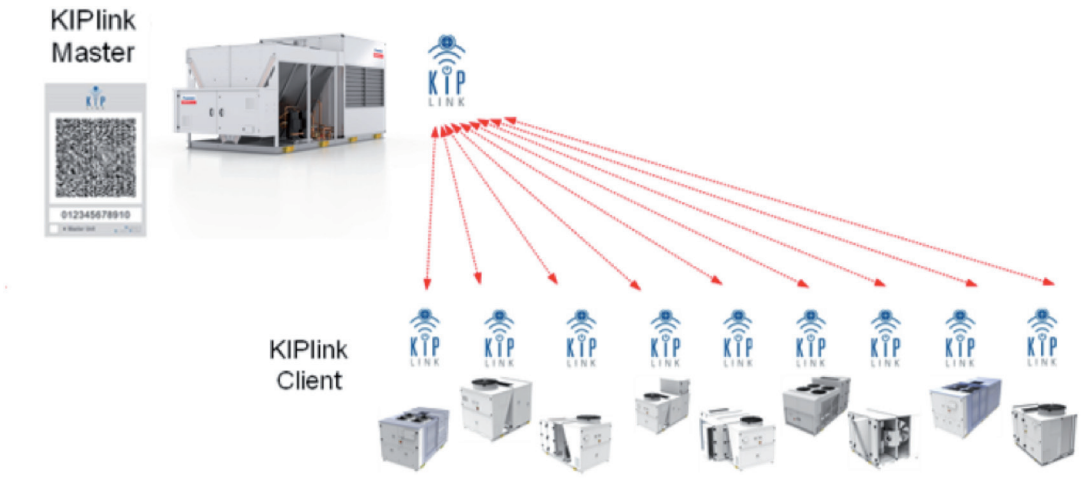
4.3 Opt. 1441: KIPlink – Air 3.000 link+

Based on WiFi technology, KIPlink allows the user to operate the unit directly from their mobile device (smartphone, tablet, notebook) via the MEHITS app.
It allows the user to monitor each component, to display and change all the parameters, with user-friendly screens with command descriptions for 'help' messages to reset alarms and troubleshooting.
It monitors the parameters of the refrigerant circuit, the status of the air dampers, any CO2 probes, etc., and displays graphics of the main operating variables in real time.

It also has a data logger function, which allows the user to:
- View graphics of the main operating variables in real time;
- Improve diagnostics with data and graphics from 10 minutes before and after each alarm;
- Download all the data for detailed analysis.

It is also possible to connect the KIPlink hardware, via its ethernet port, to the building's LAN, so that the unit can be monitored from a LAN device (such as a PC, laptop or mobile phone) with a simple web browser connected to the IP address of the KIPlink.

KIPlink is also an authentic **supervision system**.
In a system with several units (maximum 10), the information on each of them can be displayed and overwritten through access to just one machine, recognised as group master.
In addition, the KIPlink interface enables connection to a single supervision system entirely developed by MEHITS which, from a single touch panel, allows the parameters of both MEHITS units and MELCO units to be displayed and overwritten, integrating all the information from **AE200**, **post AE200** and **EW50**.

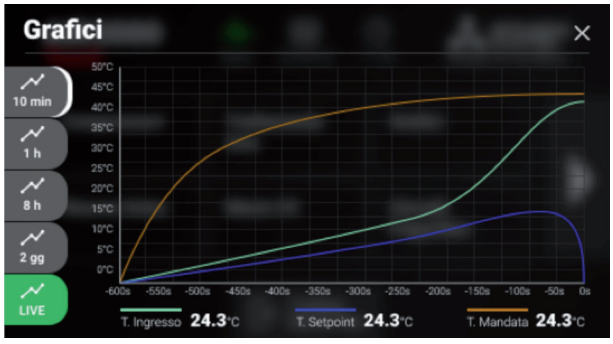


4.4 Opt. Opt. B901: Display AIR 3000 Touch+

It is an additional display for controlling the rooftop unit and is installed directly in the air conditioned area. It shows all the functions that are already available in the display fitted on the machine, plus:

- It can be installed directly in the air conditioned area;
- 4.3" touch screen display;
- Equipped with temperature and humidity probes;
- User friendly;
- Installation even in a public space, thanks to the possibility of entering a password to lock the menu;
- Multi-language menu.

AIR 3000 Touch+ is connected to the rooftop unit via an AWG 20-22 cable (maximum distance 500m) and is supplied together with the rooftop unit.
The 230VDC 24VAC power supply is included (maximum distance between the power supply and display is 300m).
Two installations are possible – flush-mounted or surface-mounted – and both boxes are supplied.



4.5 Opt. B851: PCO purification system

This is a purification system that triggers a process of photocatalytic oxidation (PCO), thanks to the combination of:
- UV-C rays;
- Honeycomb catalytic structure made of titanium dioxide (TiO_2);
- Water vapour contained in the conditioned air flow (relative humidity above 20%).

The process generates -OH ions and **hydrogen peroxide** (H_2O_2) which, when released into the conditioned air flow, purify the air of bacteria, viruses, moulds, odours and organic volatile compounds.
In addition, the ions generated are transported by the air flow itself and sanitise the surfaces with which they come into contact.
This is why the technology is also referred to as an **active purification** system.

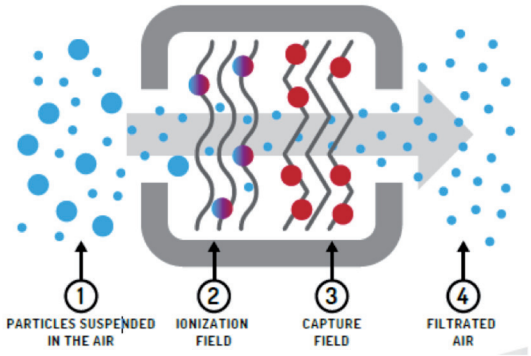
There are many advantages to photocatalytic oxidation lamps:
- Significant reduction of bacterial loads contained in the air flow and deposited on the surfaces with which they come into contact;
- Continuous purification;
- Odour reduction;
- High capacities (up to 4,000 m³/h per lamp);
- Reduced maintenance compared to conventional UV-C lamps;
- Overall improvement in air quality.

American university laboratories have demonstrated how photocatalytic oxidation is truly effective in eliminating the bacterial load in a given space: by recirculating and purifying the same air for a duration of 24 hours, it was seen that the bacterial load is reduced overall by 99%, regardless of the type of bacteria.

4.6 Opt. 2524: Electrostatic filters

Electrostatic filter technology is based on the **electrostatic precipitation** process.
By passing through the filter, the air flow is subject to 2 treatments:

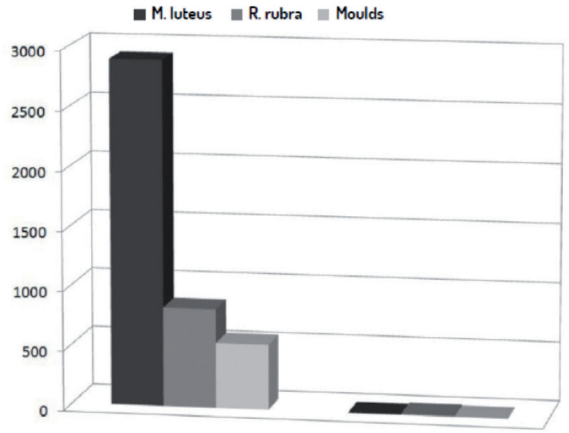
1. Passing through a high-voltage electric field ionises the air flow, with a negative charge, including particulate matter and contained impurities;
2. Then it passes through a 'capture field' consisting of positively charged metal plates, which attract the impurities contained in the flow.



When the filter is not active, the particles remain trapped in the capture plates.

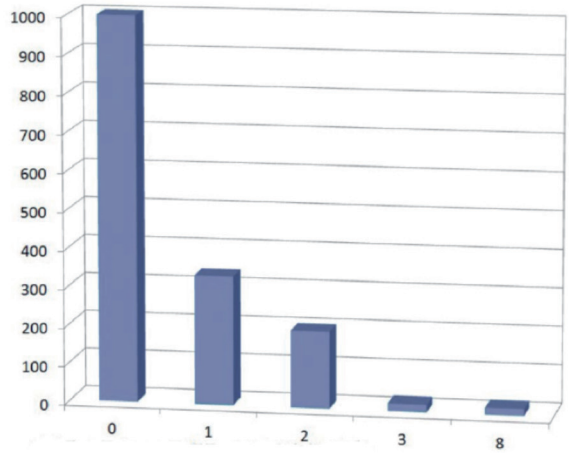
Numerous tests have been conducted on this technology, which has proven to be particularly effective both after a single pass through the filter and when a volume of air is air-conditioned over a fixed period of time.

Measurement of the bacterian load in the air before and after the electrostatic filter



	CFU before the filter	CFU after the filter
M. luteus	2896	0
R. rubra	830	9
Moulds	548	2

Reduction of moulds inside an electrostatically filtered environment



Operating hours of an electrostatic filter

	0	1	2	3	8
CFU Moulds	1000	335	200	20	18

Once the filter is saturated, it just needs to be regenerated by washing the plates with water and an alkaline detergent.
This phase is completely safe in comfort applications since, when the air flow contacts the capture plates, any bacteria or micro-organisms are immediately destroyed and are not therefore released, which could happen in the case of traditional pocket filters.

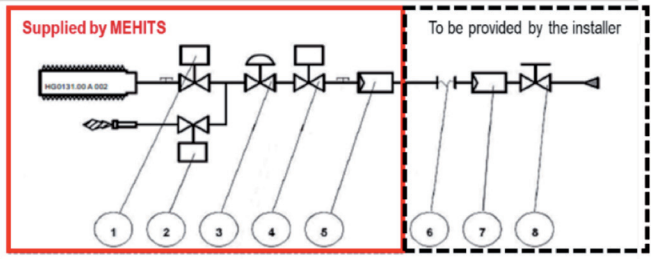
4.7 Opt. 1645A-1647: Modulating premix gas-fired heating module

For colder climate conditions, the gas-fired heating module is available as an auxiliary heating device.
The heating module is equipped with modulating control and can be used to supplement the heat pump or replace it completely.

The function of the module is to heat the air delivered to the air-conditioned rooms, making it flow over the external surface of the combustion chamber and the pipes of the heat exchanger.
In this way, it is possible to achieve high heating capacity with considerable compactness, high efficiency values by exploiting the heat of condensation (109% lower calorific value), and practically zero CO2 emissions.

The heating module accessory includes:
- Condensing premix burner with modulating control, fired by natural gas;
- LPG supply kit (Liquid Propane Gas, Ref. Installation, User and Maintenance Manual);
- Control and safety device (Ref. Installation, User and Maintenance Manual).

The flue for evacuation of combustion fumes is not included and remains the responsibility of the customer.
This must be designed in relation to the position of the unit on site and the local regulations in force.



1. Main burner gas solenoid valve
2. Pilot burner gas solenoid valve
3. Pressure stabiliser
4. Safety gas solenoid valve
5. Gas filter (small section)
6. Anti-vibration joint
7. Gas filter (large section)
8. Gas valve

Safety and **reliability** are guaranteed thanks to the excellent results obtained in operational tests conducted by third-party laboratories.
Option 1463 or 1464 is compulsory for this option (heating module management). Not available for unit versions AX-F, HR-F and HR-B.

4.8 Remote keypad

The unit's display is located on the electrical panel door and is connected directly to the AIR3000 + controller.

The unit can also be connected to a remote keypad, choosing between different configurations:

- Code C9261063. Remote keypad kit up to 200 m (K200), being the distance between the last unit and the remote keypad. The kit includes a second keypad/display and two T-junction boards: one to be fitted near the controller, the other near the remote keypad. The maximum length possible is 200 m.
- Code C9261064. Remote keypad kit up to 500 m (K500), being the distance between the last unit and the remote keypad. The kit includes a second keypad/display and two T-junction boards: one to be fitted near the first controller in the LAN, the other near the remote keypad. The kit also includes an AC/DC power supply for the remote keypad, to be placed near the keypad. The maximum length possible is 500 m.

The same remote keypad can display up to 8 rooftop units, exploiting the LAN connection between the units.
After having correctly completed the connections, the remote keypad can switch from interfacing to one unit to the next, following the procedure shown in the user manual.

WSM3-G07 /AR - Standard unit										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**75,00**	**85,40**	**95,90**	**111,00**	**122,00**	**138,00**	**152,00**	**176,00**
Sensible capacity	(1)	kW	60,80	69,10	77,20	81,60	99,20	109,00	124,00	137,00
Total power consumption	(1)	kW	29,10	33,70	36,90	42,00	44,70	50,30	56,60	61,60
EER	(1)	-	2,60	2,50	2,60	2,60	2,70	2,70	2,70	2,90
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**77,70**	**87,50**	**100,00**	**115,00**	**123,00**	**143,00**	**163,00**	**174,00**
Total power consumption	(2)	kW	22,30	24,90	28,10	32,60	39,90	46,50	53,10	55,80
COP	(2)	-	3,50	3,50	3,60	3,50	3,10	3,10	3,10	3,10
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	3640				5140			
Width		mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	1280	1290	1340	1370	2110	2150	2250	2270

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 0%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 0%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters.
Any additional modules are not considered.
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /MF										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**80,00**	**91,10**	**102,00**	**119,00**	**131,00**	**147,00**	**163,00**	**188,00**
Sensible capacity	(1)	kW	60,50	68,80	76,80	80,70	101,00	111,00	126,00	139,00
Total power consumption	(1)	kW	29,50	34,30	37,50	42,90	45,30	50,90	57,30	62,50
EER	(1)	-	2,70	2,70	2,70	2,80	2,90	2,90	2,80	3,00
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**78,10**	**87,80**	**101,00**	**115,00**	**123,00**	**144,00**	**164,00**	**174,00**
Total power consumption	(2)	kW	20,90	23,40	26,40	30,60	37,40	43,60	49,90	52,30
COP	(2)	-	3,70	3,80	3,80	3,80	3,30	3,30	3,30	3,30
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	3640				5140			
Width		mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	1350	1360	1410	1440	2210	2250	2350	2370

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /AX-F										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**80,50**	**91,70**	**103,00**	**120,00**	**132,00**	**148,00**	**164,00**	**190,00**
Sensible capacity	(1)	kW	60,70	69,10	77,20	81,10	101,00	111,00	126,00	140,00
Total power consumption	(1)	kW	29,90	34,50	37,60	42,80	45,90	51,60	57,70	62,70
EER	(1)	-	2,70	2,70	2,70	2,80	2,90	2,90	2,80	3,00
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**79,60**	**89,70**	**103,00**	**118,00**	**126,00**	**147,00**	**168,00**	**179,00**
Total power consumption	(2)	kW	21,80	24,20	27,30	31,60	39,00	45,20	51,60	54,00
COP	(2)	-	3,70	3,70	3,80	3,70	3,20	3,30	3,30	3,30
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Exhaust fan										
Type			Axial fan Φ 500 mm				Axial fan Φ 630 mm			
Number		No.	1	1	1	1	1	1	1	1
Supply air flow-rate		m³/h	4.800	5.400	6.000	6.600	7.200	7.800	8.700	9.900
Available static pressure	(3)	Pa	158	147	132	113	170	163	152	134
Sound power										
Global	(4)	dB(A)	91	92	92	92	90	92	93	91
Weights and dimensions										
Length		mm	3640				5140			
Width	(6)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	1410	1420	1480	1510	2300	2340	2440	2460

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(6) Size without deflector hoods and exhaust fans.
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /HR-F										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**80,50**	**91,70**	**103,00**	**120,00**	**132,00**	**148,00**	**164,00**	**190,00**
Sensible capacity	(1)	kW	60,70	69,10	77,20	81,10	101,00	111,00	126,00	140,00
Total power consumption	(1)	kW	31,60	35,70	39,10	44,70	47,60	53,60	60,50	66,60
EER	(1)	-	2,50	2,60	2,60	2,70	2,80	2,80	2,70	2,80
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**79,60**	**89,70**	**103,00**	**118,00**	**126,00**	**147,00**	**168,00**	**179,00**
Total power consumption	(2)	kW	23,40	25,40	28,80	33,40	40,60	47,30	54,30	58,00
COP	(2)	-	3,40	3,50	3,60	3,50	3,10	3,10	3,10	3,10
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Return fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	2
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	3640				5140			
Width	(7)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	1490	1500	1560	1560	2380	2430	2530	2550

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(7) Size without deflector hoods and prefilter frame on the outside air (if fitted).
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /HR-B										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**87,40**	**99,60**	**112,00**	**130,00**	**143,00**	**161,00**	**178,00**	**206,00**
Sensible capacity	(1)	kW	63,70	72,50	81,00	85,10	106,00	117,00	133,00	146,00
Total power consumption	(1)	kW	31,60	35,80	39,20	44,80	47,60	53,70	60,60	66,70
EER	(1)	-	2,80	2,80	2,90	2,90	3,00	3,00	2,90	3,10
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**85,80**	**96,70**	**111,00**	**127,00**	**136,00**	**158,00**	**181,00**	**192,00**
Total power consumption	(2)	kW	24,10	26,20	29,60	34,40	41,60	48,40	55,70	59,50
COP	(2)	-	3,60	3,70	3,80	3,70	3,30	3,30	3,20	3,20
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	25,5	26,7	33,4	34,7	45,3	46,5	59,6	60,1
Type of refrigerant			R32							
Return fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	2	2
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	3640				5140			
Width	(7)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	1510	1530	1580	1610	2410	2450	2560	2590

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(7) Size without deflector hoods and prefilter frame on the outside air (if fitted).
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /HR-P LOW FLOW										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**86,10**	**97,90**	**110,00**	**127,00**	**140,00**	**157,00**	**173,00**	**200,00**
Sensible capacity	(1)	kW	63,40	72,00	80,40	84,70	106,00	116,00	132,00	145,00
Total power consumption	(1)	kW	31,60	36,90	40,60	46,60	48,90	55,10	63,20	72,00
EER	(1)	-	2,70	2,70	2,70	2,70	2,90	2,80	2,70	2,80
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**89,70**	**101,00**	**115,00**	**131,00**	**141,00**	**162,00**	**185,00**	**198,00**
Total power consumption	(2)	kW	24,00	27,20	30,90	35,90	42,90	49,90	58,20	63,80
COP	(2)	-	3,70	3,70	3,70	3,70	3,30	3,30	3,20	3,10
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	2	2	2	2	3	3	3	4
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Return fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	3	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	6035				7135			
Width	(7)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	2330	2340	2390	2390	3000	3040	3140	3160

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters.
Any additional modules are not considered.
(7) Size without deflector hoods and prefilter frame on the outside air (if fitted).
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /HR-P HIGH FLOW										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**86,60**	**98,50**	**110,00**	**128,00**	**141,00**	**158,00**	**174,00**	**201,00**
Sensible capacity	(1)	kW	63,60	72,30	80,70	85,10	106,00	116,00	132,00	145,00
Total power consumption	(1)	kW	31,20	36,30	39,80	45,60	48,10	54,10	61,80	70,00
EER	(1)	-	2,80	2,70	2,80	2,80	2,90	2,90	2,80	2,90
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**90,50**	**102,00**	**116,00**	**132,00**	**142,00**	**164,00**	**186,00**	**199,00**
Total power consumption	(2)	kW	23,60	26,60	30,20	35,00	42,10	48,90	56,90	61,90
COP	(2)	-	3,80	3,80	3,80	3,80	3,40	3,30	3,30	3,20
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	2	2	2	2	3	3	3	4
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Return fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	3	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	6035				7135			
Width	(7)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	2330	2340	2390	2390	3000	3040	3140	3160

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(7) Size without deflector hoods and prefilter frame on the outside air (if fitted).
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

WSM3-G07 /HR-E										
SIZE			**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Cooling (Gross Value)										
Cooling capacity	(1)	**kW**	**103,00**	**116,00**	**129,00**	**147,00**	**164,00**	**182,00**	**200,00**	**229,00**
Sensible capacity	(1)	kW	69,10	78,30	87,10	91,90	113,00	123,00	140,00	154,00
Total power consumption	(1)	kW	31,30	36,50	40,10	45,80	48,30	54,40	62,20	70,50
EER	(1)	-	3,30	3,20	3,20	3,20	3,40	3,30	3,20	3,30
Heating (Gross Value)										
Heating capacity	(2)	**kW**	**97,80**	**110,00**	**125,00**	**141,00**	**153,00**	**175,00**	**199,00**	**213,00**
Total power consumption	(2)	kW	24,10	27,20	30,80	35,70	42,80	49,80	57,80	62,90
COP	(2)	-	4,10	4,00	4,10	4,00	3,60	3,50	3,40	3,40
Supply fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	2	2	2	2	3	3	3	4
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Outdoor fans										
Type			Axial fan Φ 800mm							
Number		No.	2	2	2	2	3	4	4	4
Outside air flow-rate		m³/h	43.400	43.400	42.340	42.340	62.400	81.530	79.100	79.100
Nominal installed power		kW	3,9	3,9	3,9	3,9	5,7	7,6	7,6	7,6
Compressors										
Number of compressors		No.	2	2	2	2	4	4	4	4
Number of circuits		No.	1	1	1	1	2	2	2	2
Capacity stages		No.	1+i	1+i	1+i	1+i	4	4	4	4
Refrigerant charge	(8)	kg	16,0	16,6	21,1	21,6	25,2	26,8	30,7	33,0
Type of refrigerant			R32							
Return fans										
Type			Radial fan (Plug fan) - EC motor with built-in controller							
Number		No.	1	2	2	2	2	2	3	3
Supply air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	(3)	Pa	250	250	250	250	250	250	250	250
Sound power										
Global	(4)	dB(A)	90	91	92	92	88	91	92	91
Weights and dimensions										
Length		mm	6035				7135			
Width	(7)	mm	2250				2250			
Height		mm	2330				2425			
Standard unit operating weight	(5)	kg	2330	2340	2390	2390	3010	3050	3150	3170

Note:
(1) Cooling: Outside 35°C 50% RH / Inside 27°C 47% RH / Mix 30%.
(2) Heating: Outside 7°C 87% RH / Inside 20°C 50% RH / Mix 30%.
(3) Available static pressure for standard configuration (pressure drops resulting from any available accessories not included).
(4) Sound power based on measurements performed in accordance with ISO 3744. For complete sound data, consult Elca World.
(5) The weight given refers to the heat pump version of the unit, including any coils and accessory filters. Any additional modules are not considered.
(7) Size without deflector hoods and prefilter frame on the outside air (if fitted).
(8) The gas charge indicated is obtained by means of a theoretical calculation and may differ from the actual gas charge in the unit and shown on the data plate.

Air flow-rate

SIZE			0262	0302	0382	0402	0444	0484	0524	0604
CLIMATE CONDITIONS - AVERAGE (1)										
Definition	Symbol									
Air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Theoretical heating load	$P_{design,h}$	kW	57,8	64,6	74,4	85,9	90,5	106,0	120,0	127,0
Reference design temperature	$T_{design,h}$	°C	-10,0	-10,0	-10,0	-10,0	-10,0	-10,0	-10,0	-10,0
Bivalent temperature	Tbiv	°C	-5,5	-5,5	-5,5	-5,5	-5,5	-5,5	-5,5	-5,5
Seasonal Coefficient of Performance	SCOP		3,44	3,67	3,68	3,65	3,42	3,27	3,34	3,44
Seasonal energy efficiency of heating the space	$\eta_{s,h}$	%	134,6	143,8	144,2	143,0	133,8	127,8	130,6	134,6

(1): Indoor conditions: 20°C d.b. - 15°C w.b.
Type of calculation with fixed flow rate

DATA ON SEASONAL EFFICIENCY IN COOLING (EN14825:2018) – WSM3/WSM3-T G07

SIZE			0262	0302	0382	0402	0444	0484	0524	0604
WEATHER CONDITIONS - AVERAGE (2)										
Definition	Symbol									
Air flow-rate		m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Theoretical cooling load	$P_{design,c}$	kW	76,5	87,6	98,3	114,0	126,0	141,0	157,0	181,0
Reference design temperature	$T_{design,c}$	°C	35,0	35,0	35,0	35,0	35,0	35,0	35,0	35,0
Seasonal Energy Efficiency Ratio	SEER		4,80	5,16	5,24	5,29	4,51	4,40	4,56	4,6
Seasonal energy efficiency of cooling the space	$\eta_{s,c}$	%	189,00	203,4	206,6	208,6	177,4	173,0	179,4	181,0

(2): Indoor conditions: 27°C d.b. - 19°C w.b.
Type of calculation with fixed flow rate

GLOBAL SEASONAL EFFICIENCY (EU 2016:2281) – WSM3 G07

SIZE		0262	0302	0382	0402	0444	0484	0524	0604
Efficiency tier achieved (Heating and Cooling)	ErP Tier	2021	2021	2021	2021	2021	2021	2021	2021

GLOBAL SEASONAL EFFICIENCY (EU 2016:2281) – WSM3-T G07

SIZE		0262	0302	0382	0402	0444	0484	0524	0604
Efficiency tier achieved (Heating and Cooling)	ErP Tier	2021	2021	2021	2021	2021	2021	2021	2021

EUROVENT CERTIFICATION PROGRAM

MEHITS S.p.A., in order to ensure greater transparency in relation to its rooftop units, has chosen to have the performance of its units certified by a third party, Eurovent Certita Certification, a body recognised both in Europe and internationally (www.eurovent-certification.com).
The performance values certified in the third-party laboratory are declared in accordance with the following regulations:

EN 14511 "Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling". (Update 2018)

EN 14825 "Air conditioners, liquid chilling packages and heat pumps, with electrically driven compressors, for space heating and cooling. Testing and rating at part-load conditions and calculation of seasonal performance". (Update 2018)

EN 12102 "Air conditioners, liquid chilling packages, heat pumps and dehumidifiers with electrically driven compressors for space heating and cooling - Measurement of airborne noise – Determination of the sound power level"..

The main certified values are shown below.

WSM3/WSM3-T G07									
SIZE		**0262**	**0302**	**0382**	**0402**	**0444**	**0484**	**0524**	**0604**
Nominal air flow-rate (handling)	m³/h	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Available static pressure	Pa	200	250	250	250	300	300	350	350
Cooling capacity (EN 14511)	kW	76,5	87,6	98,3	114,0	126,0	141,0	157,0	181,0
EER (EN 14511)		2,81	2,78	2,85	2,89	3,02	3,01	2,96	3,16
Season Energy Efficiency in cooling (EN 14825), ηs,c		189,0	203,4	206,6	208,6	177,4	173,0	179,4	181,0
Eurovent SEER Class		A	A+	A+	A+	B	B	B	B
Heating capacity (EN 14511)	kW	76,2	85,3	97,9	112,0	120,0	140,0	159,0	2,0
COP (EN 14511)		3,73	3,75	3,81	3,75	3,25	3,23	3,21	3,26
Season Energy Efficiency in heating (EN 14825), ηs,h		134,6	143,8	144,2	143,0	133,8	127,8	130,6	134,6
Eurovent SCOP Class		B	A	A	A	B	B	B	B
Sound power (LWO - room)	dB(A)	90	91	92	92	88	91	92	91
Sound power (LWI - duct)	dB(A)	82	77	78	79	80	81	83	81

Check the validity of the certificate and any updated data on www.eurovent-certification.com

TABLE FOR THE CONFIGURATION FUNCTIONS AND ACCESSORIES IN RELATION TO AIR SUPPLY AND RETURN

CONFIGURATION				SUPPLY AIR DIRECTION (1)					RETURN AIR DIRECTION (1)			
Option code				2072	2075	2076	2077	2073	2063	2062	2065	2061
Function	Accessories											
	Option code	Description	What is possible?	BOTTOM	TOP	RIGHT	LEFT	REAR	BOTTOM	RIGHT	LEFT	REAR
AR	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	NO	YES	YES	NO	YES	NO
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
	1463	GAS-FIRED HEATING MODULE MANAGEMENT										
	1464	GAS-FIRED HEATING MODULE MANAGEMENT + HOT GAS COIL										
MF	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	NO	YES	YES	NO	YES	NO
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
	1463	GAS-FIRED HEATING MODULE MANAGEMENT										
	1464	GAS-FIRED HEATING MODULE MANAGEMENT + HOT GAS COIL										
AX	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	NO	YES	YES	NO	YES	NO
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
HR/F, HR/B	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	NO	YES	YES	NO	YES	NO
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
HR/P LF, HR/P HF	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	YES	NO	YES	NO	YES	YES
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
	1463	GAS-FIRED HEATING MODULE MANAGEMENT										
	1464	GAS-FIRED HEATING MODULE MANAGEMENT + HOT GAS COIL										
HR/E	1467	2-ROW WATER HEATING COIL H2R	ONLY ONE OPTION	YES	YES	YES	YES	NO	NO	YES	NO	YES
	1468	3-ROW WATER HEATING COIL H3R										
	1466	ELECTRIC HEATER MANAGEMENT										
	1461	HOT GAS COIL										
	1463	GAS-FIRED HEATING MODULE MANAGEMENT										
	1464	GAS-FIRED HEATING MODULE MANAGEMENT + HOT GAS COIL										

Note:
(1) = With reference to front of electrical panel
YES: Possible (as an option)
NO: Not possible For special requirements, contact the office.

For the AX-F, HR-F e HR-B units with bottom side return air, an additional deflector must be installed downstream of the exhaust damper which is supplied with the unit.

SUPPLY AIR FANS (FOR AR, MF, AX-F, HR-F, HR-B VERSIONS)

Size		0262	0302	0382	0402	0444	0484	0524	0604
Minimum flow-rate	[m³/h]	12.800	14.400	16.000	17.600	19.200	20.800	23.200	26.400
Rated flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Maximum flow-rate	[m³/h]	18.500	20.500	23.000	25.300	27.500	30.000	33.000	38.400

Option code	Type	Sizes	0262	0302	0382	0402	0444	0484	0524	0604
4250	EC Plug fan, standard	F.L.I.	4,2	8,4	8,4	8,4	8,4	8,4	8,4	12,6
		F.L.A.	6,75	13,5	13,5	13,5	13,5	13,5	13,5	20,3
	Number	No.	1	2	2	2	2	2	2	3
4251	EC PLUG FAN, higher rating (MM1)	F.L.I.	8,4	8,4	8,4	8,4	12,6	12,6	12,6	12,6
		F.L.A.	13,5	13,5	13,5	13,5	20,3	20,3	20,3	20,3
	Number	No.	2	2	2	2	3	3	3	3

The electrical data shown are total values.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
Unit in the standard configuration, without accessories
Limit flow-rate to ensure a maximum coil flow-through speed of 2.7 m/s
For detailed specifications contact Elca

SUPPLY AIR FANS (FOR HR-P, HR-E VERSIONS)

Size		0262	0302	0382	0402	0444	0484	0524	0604
Minimum flow-rate	[m³/h]	12.800	14.400	16.000	17.600	19.200	20.800	23.200	26.400
Rated flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Maximum flow-rate	[m³/h]	18.500	20.500	23.000	25.300	27.500	30.000	33.000	35.000

Option code	Type	Sizes	0262	0302	0382	0402	0444	0484	0524	0604
4250	EC Plug fan, standard	F.L.I.	8,4	8,4	8,4	8,4	12,6	12,6	12,6	16,8
		F.L.A.	13,5	13,5	13,5	13,5	20,25	20,25	20,25	27,0
	Number	No.	2	2	2	2	3	3	3	4
4251	EC PLUG FAN, higher rating (MM1)	F.L.I.	10,0	10,0	15,0	15,0	15,0	20,0	20,0	20,0
		F.L.A.	16,0	16,0	24,0	24,0	24,0	32,0	32,0	32,0
	Number	No.	2	2	3	3	3	4	4	4

The electrical data shown are total values.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
Unit in the standard configuration, without accessories
Limit flow-rate to ensure a maximum coil flow-through speed of 2.7 m/s
For detailed specifications contact Elca

EXHAUST FAN (FOR AX-F VERSION)

Sizes		0262	0302	0382	0402	0444	0484	0524	0604
Axial-flow fan	F.L.I.	0,77	0,77	0,77	0,77	1,75	1,75	1,75	1,75
	F.L.A.	1,7	1,7	1,7	1,7	3,7	3,7	3,7	3,7
Fan diameter	mm	500	500	500	500	630	630	630	630
Number	No.	1	1	1	1	1	1	1	1

The electrical data shown are total values.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
Unit in the standard configuration, without accessories
For detailed specifications contact Elca

RETURN AIR FANS (FOR HR-F, HR-B VERSIONS)

Sizes		0262	0302	0382	0402	0444	0484	0524	0604
Minimum flow-rate	[m³/h]	12.800	14.400	16.000	17.600	19.200	20.800	23.200	26.400
Rated flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Maximum flow-rate	[m³/h]	18.500	20.500	23.000	25.300	27.500	30.000	33.000	38.400

Option code	Type	Sizes	0262	0302	0382	0402	0444	0484	0524	0604
4250	EC Plug fan, standard	F.L.I.	4,2	8,4	8,4	8,4	8,4	8,4	8,4	8,4
		F.L.A.	6,75	13,5	13,5	13,5	13,5	13,5	13,5	13,5
	Number	No.	1	2	2	2	2	2	2	2
4251	EC Plug fan, higher rating (MM1)	F.L.I.	8,4	8,4	8,4	8,4	8,4	8,4	15,0	15,0
		F.L.A.	13,5	13,5	13,5	13,5	13,5	13,5	24,0	24,0
	Number	No.	2	2	2	2	2	2	3	3

The electrical data shown are total values.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
Unit in the standard configuration, without accessories
For detailed specifications contact Elca

RETURN AIR FANS (FOR HR-P, HR-E VERSIONS)

Sizes		0262	0302	0382	0402	0444	0484	0524	0604
Minimum air flow	[m³/h]	12.800	14.400	16.000	17.600	19.200	20.800	23.200	26.400
Rated flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
Maximum flow-rate	[m³/h]	18.500	20.500	23.000	25.300	27.500	30.000	33.000	35.000

Option code	Type	Sizes	0262	0302	0382	0402	0444	0484	0524	0604
4250	EC Plug fan, standard	F.L.I.	4,2	8,4	8,4	8,4	8,4	8,4	15,0	15,0
		F.L.A.	6,75	13,5	13,5	13,5	13,5	13,5	24,0	24,0
	Number	No.	1	2	2	2	2	2	3	3
4251	EC Plug fan, higher rating (MM1)	F.L.I.	8,4	8,4	8,4	8,4	8,4	8,4	15,0	15,0
		F.L.A.	13,5	13,5	13,5	13,5	13,5	13,5	24,0	24,0
	Number	No.	2	2	2	2	2	2	3	3

The electrical data shown are total values.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
Unit in the standard configuration, without accessories
For detailed specifications contact Elca

COMPRESSORS

Size	Type	CIRCUIT 1					CIRCUIT 2				
		No.	Connection	F.L.I. [kW]	F.L.A. [A]	L.R.A. [A]	No.	Connection	F.L.I. [kW]	F.L.A. [A]	L.R.A. [A]
0262	Scroll	2	Tandem	15,2	22,3	141	-	-	-	-	-
0302	Scroll	2	Tandem	18,7	27,0	141	-	-	-	-	-
0382	Scroll	2	Tandem	20,0	29,8	186	-	-	-	-	-
0402	Scroll	2	Tandem	22,0	32,3	240	-	-	-	-	-
0444	Scroll	2	Tandem	25,1	41,8	139	2	Tandem	25,1	41,8	147
0484	Scroll	2	Tandem	28,6	46,6	147	2	Tandem	28,6	46,6	147
0524	Scroll	2	Tandem	32,5	53,9	186	2	Tandem	32,5	53,9	186
0604	Scroll	2	Tandem	35,1	59,5	186	2	Tandem	35,1	59,5	186

Total electrical data for each circuit.
FLI Power consumption in max. admissible conditions. [kW]
FLA Current draw in max. admissible conditions. [A]
LRA Locked rotor current

ELECTRICAL DATA

AR and MF FUNCTIONS

Size	Compresssors			Supply fans			Axial-flow outside air fans			Auxiliary		Total		
	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [kW]
0262	2	30,3	44,5	1,0	4,2	6,8	2,0	3,9	6,6	0,5	1,3	38,9	59,0	176,0
0302	2	37,3	54,0	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	50,1	75,5	192,0
0382	2	39,9	59,6	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	52,7	81,0	237,0
0402	2	44,0	64,6	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	56,8	86,0	291,0
0444	4	50,1	83,6	2,0	8,4	13,5	3,0	5,7	11,7	0,5	1,3	64,7	110,0	235,0
0484	4	57,1	93,1	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	73,6	123,0	240,0
0524	4	65,0	107,7	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	81,5	138,0	294,0
0604	4	70,2	118,9	3,0	12,6	20,3	4,0	7,6	15,6	0,5	1,3	90,9	156,0	312,0

AX/F function

Size	Compresssors			Supply fans			Axial-flow exhaust air fans			Axial-flow outside air fans			Auxiliary		Total		
	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [A]
0262	2	30,3	44,5	1,0	4,2	6,8	1,0	0,8	1,7	2,0	3,9	6,6	0,5	1,3	39,7	61,0	178,0
0302	2	37,3	54,0	2,0	8,4	13,5	1,0	0,8	1,7	2,0	3,9	6,6	0,5	1,3	50,9	77,0	194,0
0382	2	39,9	59,6	2,0	8,4	13,5	1,0	0,8	1,7	2,0	3,9	6,6	0,5	1,3	53,5	83,0	239,0
0402	2	44,0	64,6	2,0	8,4	13,5	1,0	0,8	1,7	2,0	3,9	6,6	0,5	1,3	57,6	88,0	293,0
0444	4	50,1	83,6	2,0	8,4	13,5	1,0	1,8	3,7	3,0	5,7	11,7	0,5	1,3	66,5	114,0	238,0
0484	4	57,1	93,1	2,0	8,4	13,5	1,0	1,8	3,7	4,0	7,6	15,6	0,5	1,3	75,4	127,0	244,0
0524	4	65,0	107,7	2,0	8,4	13,5	1,0	1,8	3,7	4,0	7,6	15,6	0,5	1,3	83,3	142,0	298,0
0604	4	70,2	118,9	3,0	12,6	20,3	1,0	1,8	3,7	4,0	7,6	15,6	0,5	1,3	92,7	160,0	316,0

HR/F, HR/B FUNCTIONS

Size	Compresssors			Supply fans			Axial-flow exhaust air fans			Axial-flow outside air fans			Auxiliary		Total		
	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [A]
0262	2	30,3	44,5	1,0	4,2	6,8	1,0	4,2	6,8	2,0	3,9	6,6	0,5	1,3	43,1	66,0	183,0
0302	2	37,3	54,0	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	58,5	89,0	206,0
0382	2	39,9	59,6	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	61,1	95,0	251,0
0402	2	44,0	64,6	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	65,2	100,0	305,0
0444	4	50,1	83,6	2,0	8,4	13,5	2,0	8,4	13,5	3,0	5,7	11,7	0,5	1,3	73,1	124,0	248,0
0484	4	57,1	93,1	2,0	8,4	13,5	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	82,0	137,0	254,0
0524	4	65,0	107,7	2,0	8,4	13,5	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	89,9	152,0	308,0
0604	4	70,2	118,9	3,0	12,6	20,3	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	99,3	170,0	326,0

HR/P, HR/E FUNCTIONS

Size	Compresssors			Supply fans			Axial-flow exhaust air fans			Axial-flow outside air fans			Auxiliary		Total		
	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	No.	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	F.L.I. [kW]	F.L.A. [A]	S.A. [A]
0262	2	30,3	44,5	2,0	8,4	13,5	1,0	4,2	6,8	2,0	3,9	6,6	0,5	1,3	47,3	73,0	190,0
0302	2	37,3	54,0	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	58,5	89,0	206,0
0382	2	39,9	59,6	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	61,1	95,0	251,0
0402	2	44,0	64,6	2,0	8,4	13,5	2,0	8,4	13,5	2,0	3,9	6,6	0,5	1,3	65,2	100,0	305,0
0444	4	50,1	83,6	3,0	12,6	20,3	2,0	8,4	13,5	3,0	5,7	11,7	0,5	1,3	77,3	131,0	255,0
0484	4	57,1	93,1	3,0	12,6	20,3	2,0	8,4	13,5	4,0	7,6	15,6	0,5	1,3	86,2	144,0	261,0
0524	4	65,0	107,7	3,0	12,6	20,3	3,0	15,0	24,0	4,0	7,6	15,6	0,5	1,3	100,7	169,0	325,0
0604	4	70,2	118,9	4,0	16,8	27,0	3,0	15,0	24,0	4,0	7,6	15,6	0,5	1,3	110,1	187,0	343,0

General note:
The electrical data shown are total values.
F.L.I. Power consumption in max. admissible conditions. [kW]
F.L.A. Current draw in max. admissible conditions. [A]
L.R.A. Locked rotor current
S.A. Peak current of unit with standard fan motors.

Power supply:
- 400/3/50 NO NEUTRAL
- Permissible voltage variation 10%
- Maximum voltage imbalance between phases 3%

ACCESSORIES – WATER HEATING COILS (FOR AR, MF, AX/F, HR/F, HR/B VERSIONS)

		Sizes	0262	0302	0382	0402	0444	0484	0524	0604
	Air flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
2-ROW COIL	Heating capacity	kW	104	112	129	137	150	157	183	198
	Water flow-rate	l/s	1,27	1,36	1,58	1,67	1,83	1,92	2,24	2,42
	Water side pressure drop	kPa	45,9	51,4	47,1	51,6	27,8	29,9	26,9	30,3
	Air side pressure drop	Pa	33	39	33	39	28	32	26	33
	Water content	dm³	13	13	16	16	21	21	27	27
	Type of water connections		Male threaded connections							
	DN - Nominal diameter IN	mm	DN25				DN32		DN40	
	DN - Nominal diameter OUT	mm	DN25				DN32		DN40	
3-ROW COIL	Heating capacity	kW	109	123	136	150	164	177	198	225
	Water flow-rate	l/s	1,71	1,85	2,13	2,26	2,48	2,62	3,04	3,30
	Water side pressure drop	kPa	40,6	45,8	41,3	45,5	23,5	25,4	22,8	25,8
	Air side pressure drop	Pa	49	60	51	59	42	48	40	49
	Water content	dm³	19	19	24	24	32	32	40	40
	Type of water connections		Male threaded connections							
	DN - Nominal diameter IN	mm	DN32				DN40		DN50	
	DN - Nominal diameter OUT	mm	DN32				DN40		DN50	

Rated capacity calculated with coil air inlet at 20°C, at the specified flow-rate and water IN/OUT 80/60°C

ACCESSORIES – 3-WAY WATER VALVES

		Sizes	0262	0302	0382	0402	0444	0484	0524	0604
2-ROW COIL	Valve kvs	[m³/h]	10	10	10	10	16	16	25	25
	DN - Nominal diameter	mm	25	25	25	25	32	32	40	40
3-ROW COIL	Valve kvs	[m³/h]	16	16	16	16	25	25	40	40
	DN - Nominal diameter	mm	32	32	32	32	40	40	50	50
Type of actuator			0-10 V proportional control (managed by AIR 3000+ controller)							
Type of valve connection			Threaded connections							

ACCESSORIES – ELECTRIC HEATING COILS

Combinations of units / electric heating coil:

Electric Heating Coil					Model							
Option code	Size	Heating capacity [kW]	Current draw [A]	Step	0262	0302	0382	0402	0444	0484	0524	0604
1314	24	24		0-50-100%	X	X	X					
1314A	30	30		0-50-100%	X	X	X	X	X	X		
1315	36	36		0-50-100%	X	X	X	X	X	X	X	X
1318	45	45		0-50-100%			X	X	X	X	X	X
1319	60	60		0-50-100%							X	X

3-phase power supply with star connection, no neutral

Note: The possible combinations are marked with an **X**

ACCESSORIES – WATER HEATING COILS (FOR HR/P, HR/E VERSIONS)

		Sizes	0262	0302	0382	0402	0444	0484	0524	0604
	Air flow-rate	[m³/h]	16.000	18.000	20.000	22.000	24.000	26.000	29.000	33.000
2-ROW COIL	Heating capacity	kW	104	112	129	137	150	157	183	198
	Water flow-rate	l/s	1,27	1,36	1,58	1,67	1,83	1,92	2,24	2,42
	Water side pressure drop	kPa	45,9	51,4	47,1	51,6	27,8	29,9	26,9	30,3
	Air side pressure drop	Pa	33	39	33	39	28	32	26	33
	Water content	dm³	13	13	16	16	22	22	29	29
	Type of water connections		Male threaded connections							
	DN - Nominal diameter IN	mm	DN25				DN32			
	DN - Nominal diameter OUT	mm	DN25				DN32			
3-ROW COIL	Heating capacity	kW	109	123	136	150	164	177	198	225
	Water flow-rate	l/s	1,71	1,85	2,13	2,26	2,48	2,62	3,04	3,30
	Water side pressure drop	kPa	40,6	45,8	41,3	45,5	23,5	25,4	22,8	25,8
	Air side pressure drop	Pa	49	60	51	59	42	48	40	49
	Water content	dm³	19	19	24	24	33	33	43	43
	Type of water connections		Male threaded connections							
	DN - Nominal diameter IN	mm	DN32						DN40	
	DN - Nominal diameter OUT	mm	DN32						DN40	

Rated capacity calculated with coil air inlet at 20°C, at the specified flow-rate and water IN/OUT 80/60°C

ACCESSORIES – 3-WAY WATER VALVES

		Sizes	0262	0302	0382	0402	0444	0484	0524	0604
2-ROW COIL	Valve kvs	[m³/h]	10	10	10	10	16	16	16	16
	DN - Nominal diameter	mm	25	25	25	25	32	32	32	32
3-ROW COIL	Valve kvs	[m³/h]	16	16	16	16	16	16	25	25
	DN - Nominal diameter	mm	32	32	32	32	32	32	40	40
Type of actuator			0-10 V proportional control (managed by AIR 3000+ controller)							
Type of valve connection			Threaded connections							

ACCESSORIES – ELECTRIC HEATING COILS

Combinations of units/electric heating coil:

Electric Heating Coil					Model							
Option code	Size	Heating capacity [kW]	Current draw [A]	Step	0262	0302	0382	0402	0444	0484	0524	0604
1314	24	24		0-50-100%	X	X	X					
1314A	30	30		0-50-100%	X	X	X	X	X	X		
1315	36	36		0-50-100%	X	X	X	X	X	X	X	X
1318	45	45		0-50-100%			X	X	X	X	X	X
1319	60	60		0-50-100%							X	X

3-phase power supply with star connection, no neutral

Note: The possible combinations are marked with an **X**

ACCESSORY – HEATING MODULE

Heating performance:

Heating Module with CONTINUOUS MODULATING CONTROL		MT-M 40		MT-M 60		MT-M 80		MT-M 130		MT-M 160		MT-M 200		MT-M 300	
Heat output min/max	[kW]	9	40,4	13,4	62,93	17,77	80,03	13,4	125,86	17,77	160,06	22,8	194,3	22,77	291,45
Heat input (Hi) min/max	[kW]	8,5	42	12,4	65	16,4	82	12,4	130	16,4	164	21	200	21	300
Efficiency Hi (LCV) min/max	[%]	105,88	96,19	108,06	96,82	108,35	97,6	108,1	96,8	108,35	97,6	108,4	97,2	108,4	97,2
Efficiency Hs (HCV) min/max	[%]	95,39	86,66	97,36	87,22	97,62	87,93	97,4	87,2	97,62	87,93	97,7	87,5	97,7	87,5
Number of burners	[n°]	1		1		1		2		2		2		3	
Supply pressure (G20)	[mbar]	20 [min 17-max 25]													
Gas consumption (G20) min/max	[m³/h]	0,9	4,44	1,31	6,88	1,74	8,68	1,31	13,76	1,74	17,36	1,9	21,2	1,9	31,8
Supply pressure (G30)	[mbar]	30 [min 25-max 35] - 50 [min 42,5-max 57,5]													
Gas consumption (G30) min/max	[kg/h]	0,71	3,49	1,03	5,39	1,49	6,8	1,31	10,78	1,49	13,6	1,7	16,6	1,7	24,9
Supply pressure (G31)	[mbar]	30 [min 25-max 35] - 37 [min 25-max 45] - 50 [min 42,5-max 57,5]													
Gas consumption (G31) min/max	[kg/h]	0,7	3,43	1,01	5,31	1,34	6,7	1,31	10,62	1,34	13,4	1,47	16,36	1,47	24,54

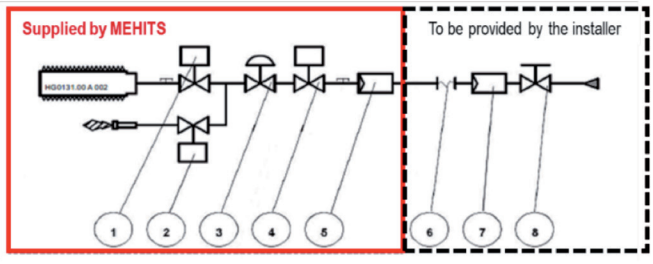
Possible combinations

Option code	Accessory name	0262	0302	0382	0402	0444	0484	0524	0604
1642	MODULATING HEAT. MOD. MT-M 40								
1643	MODULATING HEAT. MOD. MT-M 60								
1644	MODULATING HEAT. MOD. MT-M 80								
1645A	MODULATING HEAT. MOD. MT-M 130	x	x	x	x				
1646	MODULATING HEAT. MOD. MT-M 160	x	x	x	x	x	x	x	x
1647	MODULATING HEAT. MOD. MT-M 200	x	x	x	x	x	x	x	x
1647A	MODULATING HEAT. MOD. MT-M 300								

Note:
The possible combinations are marked with an **x**
The heating module accessory includes:
- Condensing heat generator with modulating control, fired by methane gas;
- LPG supply kit (Liquid Propane Gas, Ref. Installation, User and Maintenance Manual);
- Safety and control devices (Ref. Installation, User and Maintenance Manual).

The customer is responsible for the supply of the evacuation kit for combustion products, to be sized according to the positioning of the unit and applicable local regulations.

The heating module accessory is not available for versions HR-F and HR-B.

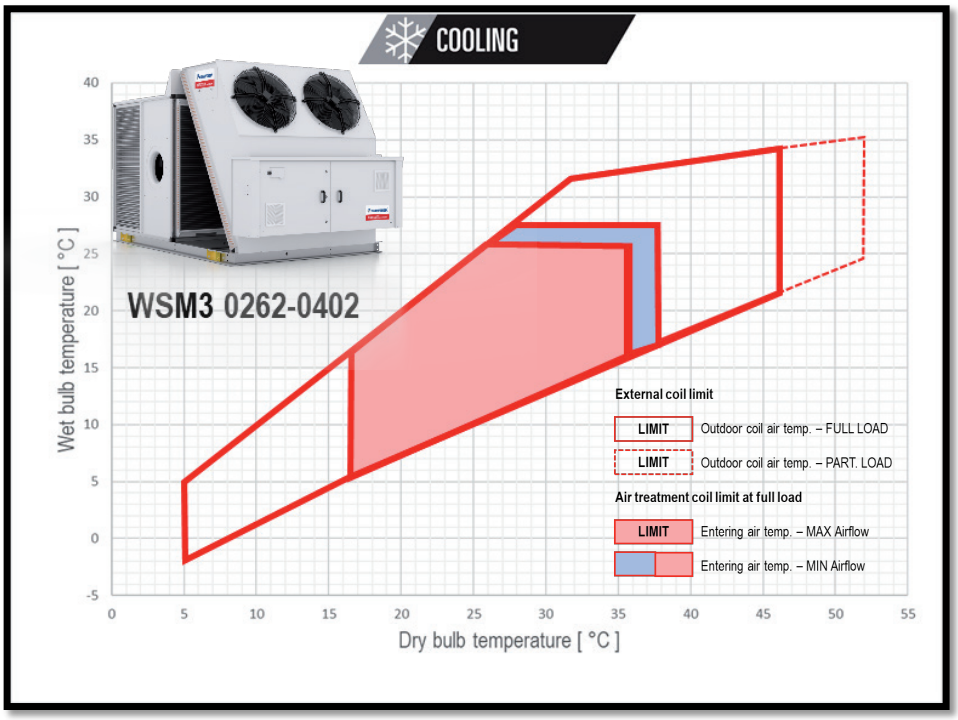


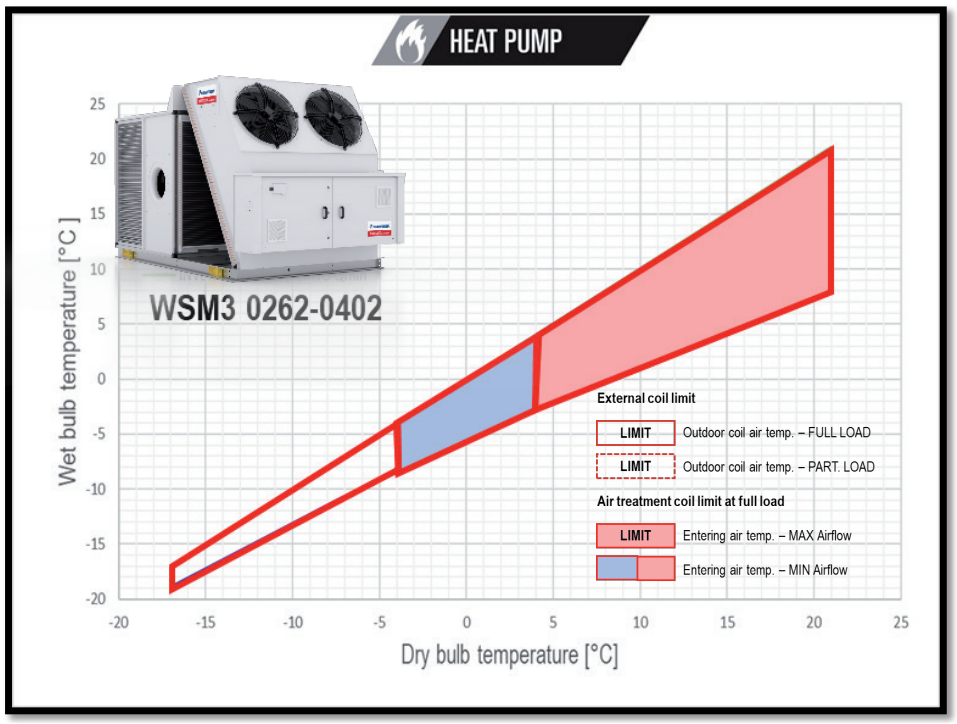
1. Main burner gas solenoid valve
2. Pilot burner gas solenoid valve
3. Pressure stabiliser
4. Safety gas solenoid valve
5. Gas filter (small section)
6. Anti-vibration joint
7. Gas filter (large section)
8. Gas valve

OPERATING LIMITS CALCULATED AS FOLLOWS
- Unit installed and used in accordance with the instructions given in the Installation, Use and Maintenance Manual.
- Unit operating in steady conditions.

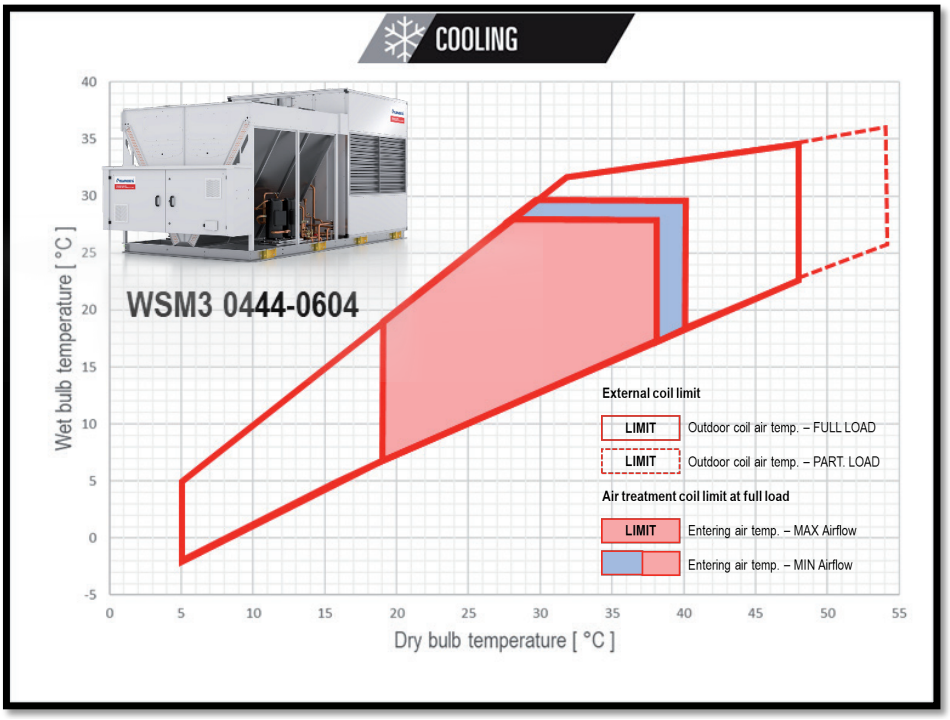
Warning:
1. When the unit must work in cooling mode with an outdoor temperature of less than 12°C, it is recommended that option 865 – EC-type outdoor axial fans (standard for sizes 0262-0402) be used;
2. For detailed operating limits, reference should be made to the software selected by Elca World.

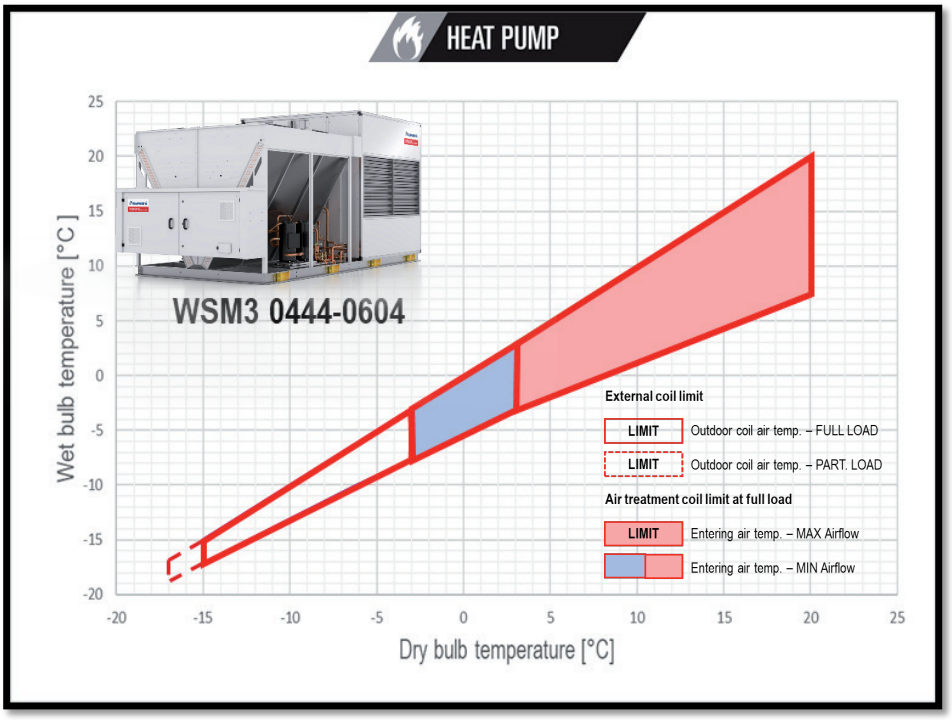
6.1 Sizes 0262-0402





6.2 Sizes 0444-0604

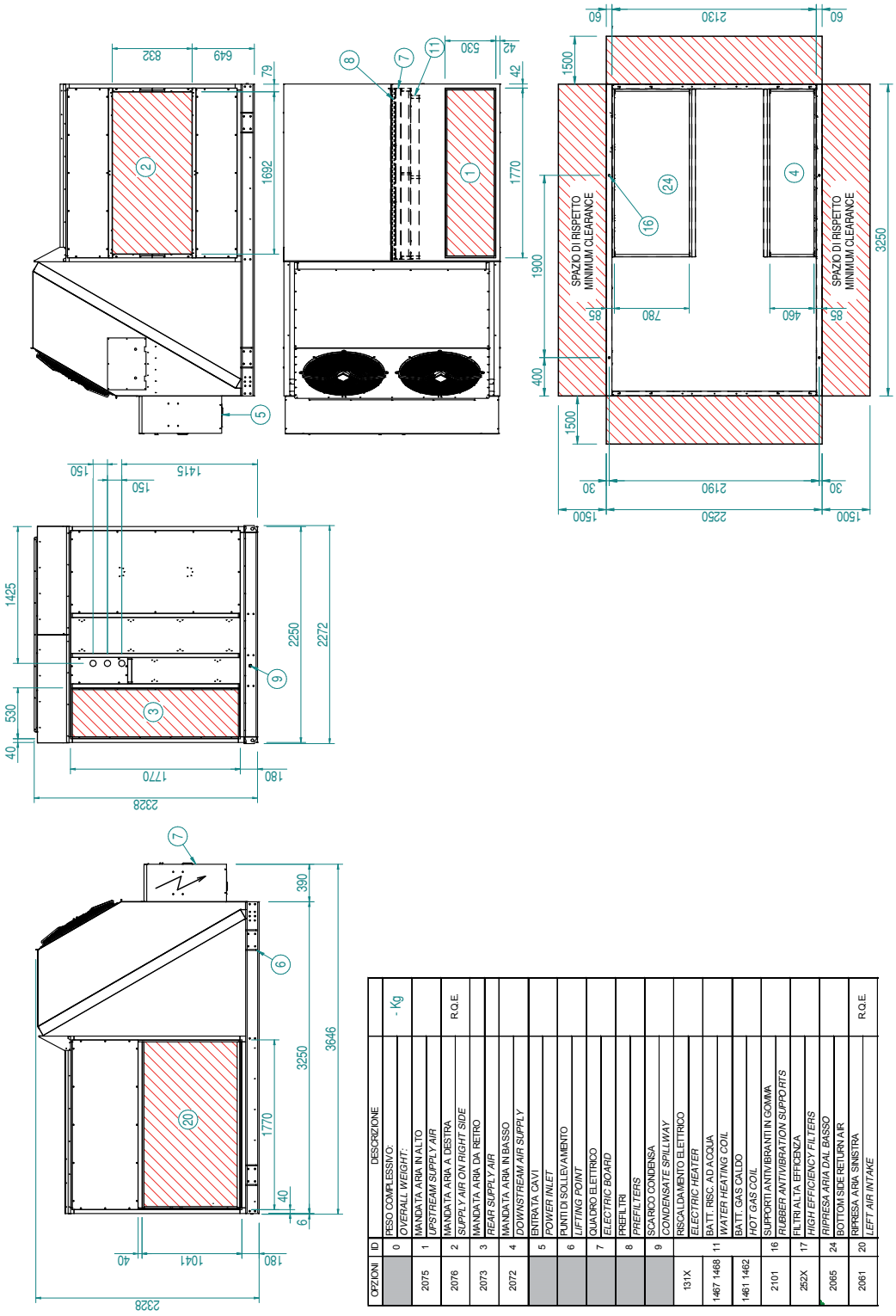




Note:
Minimum heat pump operating limit equal to -17°C (partial loads) without additional heating devices.
To achieve lower operating limits, choose the hearing module accessory (1645A – 1647).

Note: For installation, reference should be made to the documentation sent after the purchase agreement was finalised.
The technical data contained herein are to be considered as indicative only.
Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. reserves the right to change these characteristics at any time.
Data relating to standard units without any selected accessories. Hoods not included.

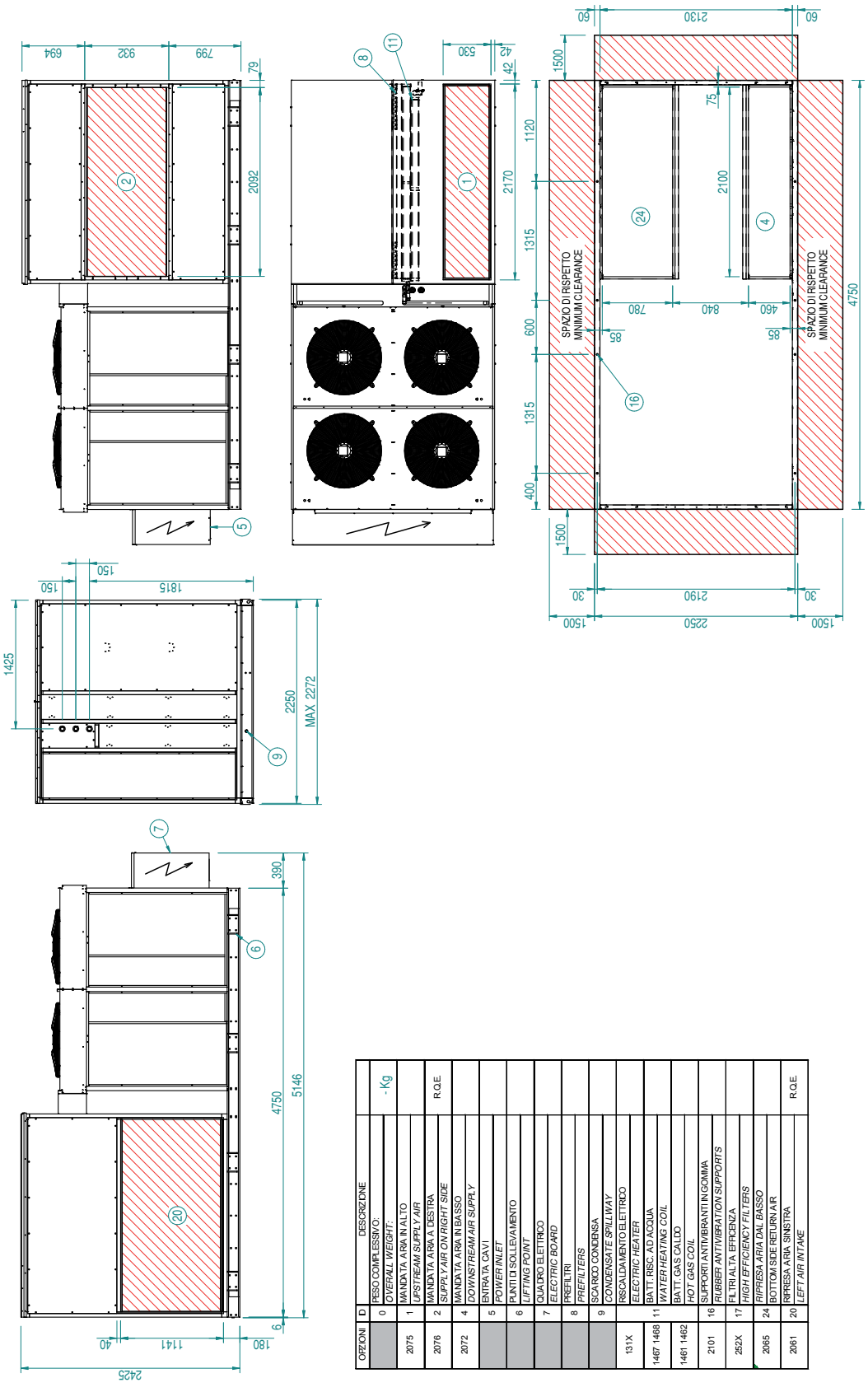
WSM3 AR 0262-0402



OPZIONI	ID	DESCRIZIONE	- Kg	
	0	PESO COMPLESSIVO:		
		OVERALL WEIGHT:		
2075	1	MANDATA ARIA IN ALTO		
		UPSTREAM SUPPLY AIR		
2076	2	MANDATA ARIA A DESTRA		R.Q.E.
		SUPPLY AIR ON RIGHT SIDE		
2073	3	MANDATA ARIA DA RETRO		
		REAR SUPPLY AIR		
2072	4	MANDATA ARIA IN BASSO		
		DOWNSTREAM AIR SUPPLY		
	5	ENTRATA CAVI		
		POWER INLET		
	6	PUNTI DI SOLLEVAMENTO		
		LIFTING POINT		
	7	QUADRO ELETTRICO		
		ELECTRIC BOARD		
	8	PREFILTRI		
		PREFILTERS		
	9	SCARICO CONDENSA		
		CONDENSATE SPILLWAY		
131X		RISCALDAMENTO ELETTRICO		
		ELECTRIC HEATER		
1467 1468	11	BATT. RISC. AD ACQUA		
		WATER HEATING COIL		
1461 1462		BATT. GAS CALDO		
		HOT GAS COIL		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA		
		RUBBER ANTIVIBRATION SUPPORTS		
252X	17	FILTRI ALTA EFFICIENZA		
		HIGH EFFICIENCY FILTERS		
2065	24	*RIPRESA ARIA DAL BASSO*		
		BOTTOM SIDE RETURN AIR		
2061	20	RIPRESA ARIA SINISTRA		R.Q.E.
		LEFT AIR INTAKE		

Note:
- The sizes shown here do not include any additional modules.

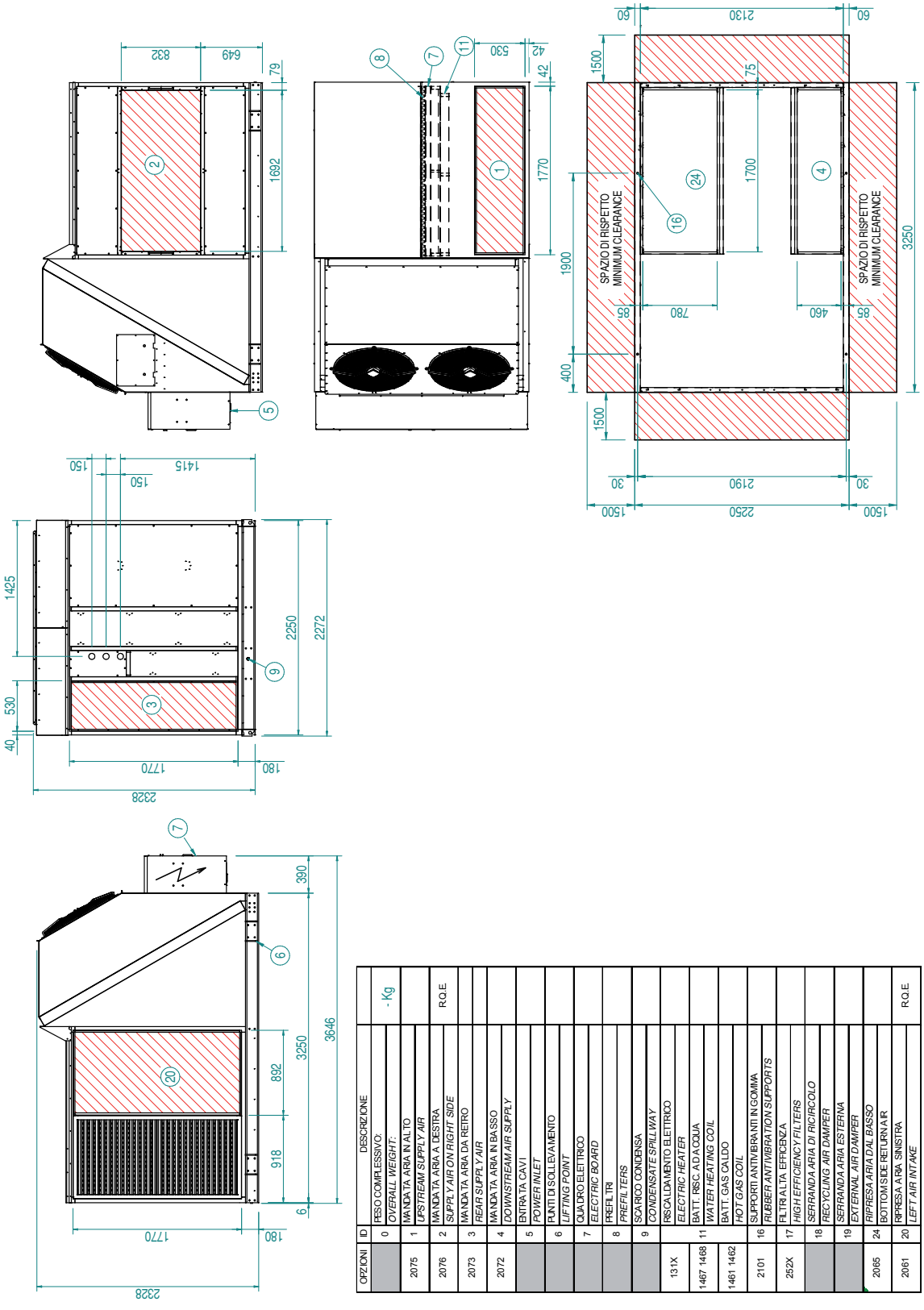
WSM3 AR 0444-0604



OPZIONI	ID	DESCRIZIONE	- Kg	
	0	PESO COMPLESSIVO:		
		OVERALL WEIGHT:		
2075	1	MANDATA ARIA IN ALTO		
		UPSTREAM SUPPLY AIR		
2076	2	MANDATA ARIA A DESTRA		R.Q.E.
		SUPPLY AIR ON RIGHT SIDE		
2072	4	MANDATA ARIA IN BASSO		
		DOWNSTREAM AIR SUPPLY		
	5	ENTRATA CAVI		
		POWER INLET		
	6	PUNTI DI SOLLEVAMENTO		
		LIFTING POINT		
	7	QUADRO ELETTRICO		
		ELECTRIC BOARD		
	8	PREFILTRI		
		PREFILTERS		
	9	SCARICO CONDENSA		
		CONDENSATE SPILLWAY		
131X		RISCALDAMENTO ELETTRICO		
		ELECTRIC HEATER		
1467 1468	11	BATT. RISC. AD ACQUA		
		WATER HEATING COIL		
1461 1462		BATT. GAS CALDO		
		HOT GAS COIL		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA		
		RUBBER ANTIVIBRATION SUPPORTS		
252X	17	FILTRI ALTA EFFICIENZA		
		HIGH EFFICIENCY FILTERS		
2065	24	*RIPRESA ARIA DAL BASSO*		
		BOTTOM SIDE RETURN AIR		
2061	20	RIPRESA ARIA SINISTRA		R.Q.E.
		LEFT AIR INTAKE		

Note:
- The sizes shown here do not include any additional modules.

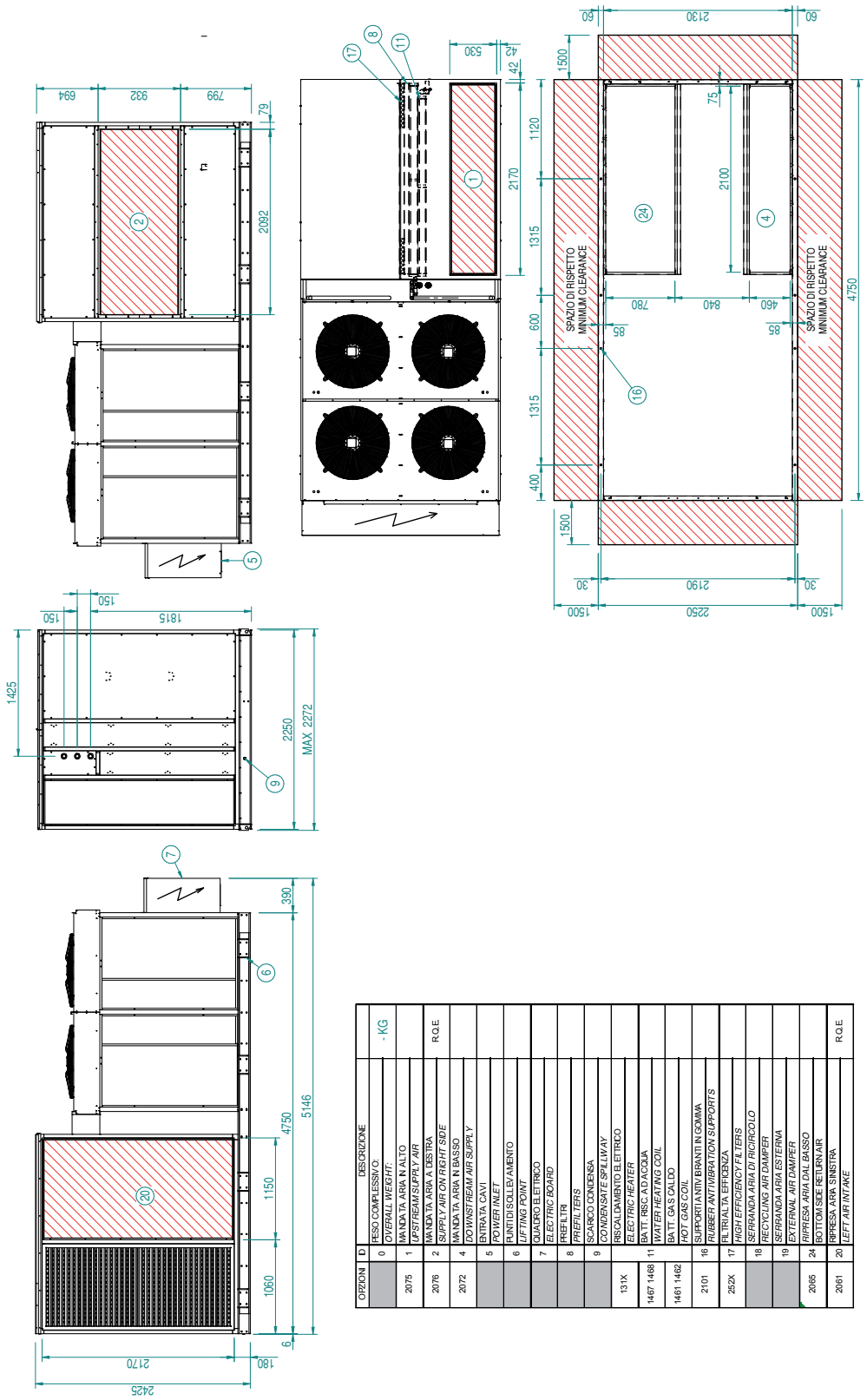
WSM3 MF, AX-F, HR-F, HR-B 0262-0402



OPZIONI	ID	DESCRIZIONE	- Kg		R.Q.E
	0	PESO COMPLESSIVO:			
		OVERALL WEIGHT:			
2075	1	MANDATA ARIA IN ALTO			
		UPSTREAM SUPPLY AIR			
2076	2	MANDATA ARIA A DESTRA			R.Q.E
		SUPPLY AIR ON RIGHT SIDE			
2073	3	MANDATA ARIA DA RETRO			
		REAR SUPPLY AIR			
2072	4	MANDATA ARIA IN BASSO			
		DOWNSTREAM AIR SUPPLY			
	5	ENTRATA CAVI			
		POWER INLET			
	6	PUNTI DI SOLLEVAMENTO			
		LIFTING POINT			
	7	QUADRO ELETTRICO			
		ELECTRIC BOARD			
	8	PREFILTRI			
		PREFILTERS			
	9	SCARICO CONDENSA			
		CONDENSATE SPILLWAY			
131X		RISCALDAMENTO ELETTRICO			
		ELECTRIC HEATER			
1467 1468	11	BATT. RISC. AD ACQUA			
		WATER HEATING COIL			
1461 1462		BATT. GAS CALDO			
		HOT GAS COIL			
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA			
		RUBBER ANTIVIBRATION SUPPORTS			
252X	17	FILTRI ALTA EFFICIENZA			
		HIGH EFFICIENCY FILTERS			
	18	SERRANDA ARIA DI RICIRCOLO			
		RECYCLING AIR DAMPER			
	19	SERRANDA ARIA ESTERNA			
		EXTERNAL AIR DAMPER			
2065	24	RIPRESA ARIA DAL BASSO			
		BOTTOM SIDE RETURN AIR			
2061	20	RIPRESA ARIA SINISTRA			R.Q.E
		LEFT AIR INTAKE			

Note:
- The sizes shown here do not include any additional modules.
- For the AX-F, HR-F e HR-B units with bottom side return air, an additional deflector must be installed downstream of the exhaust damper which is supplied with the unit.

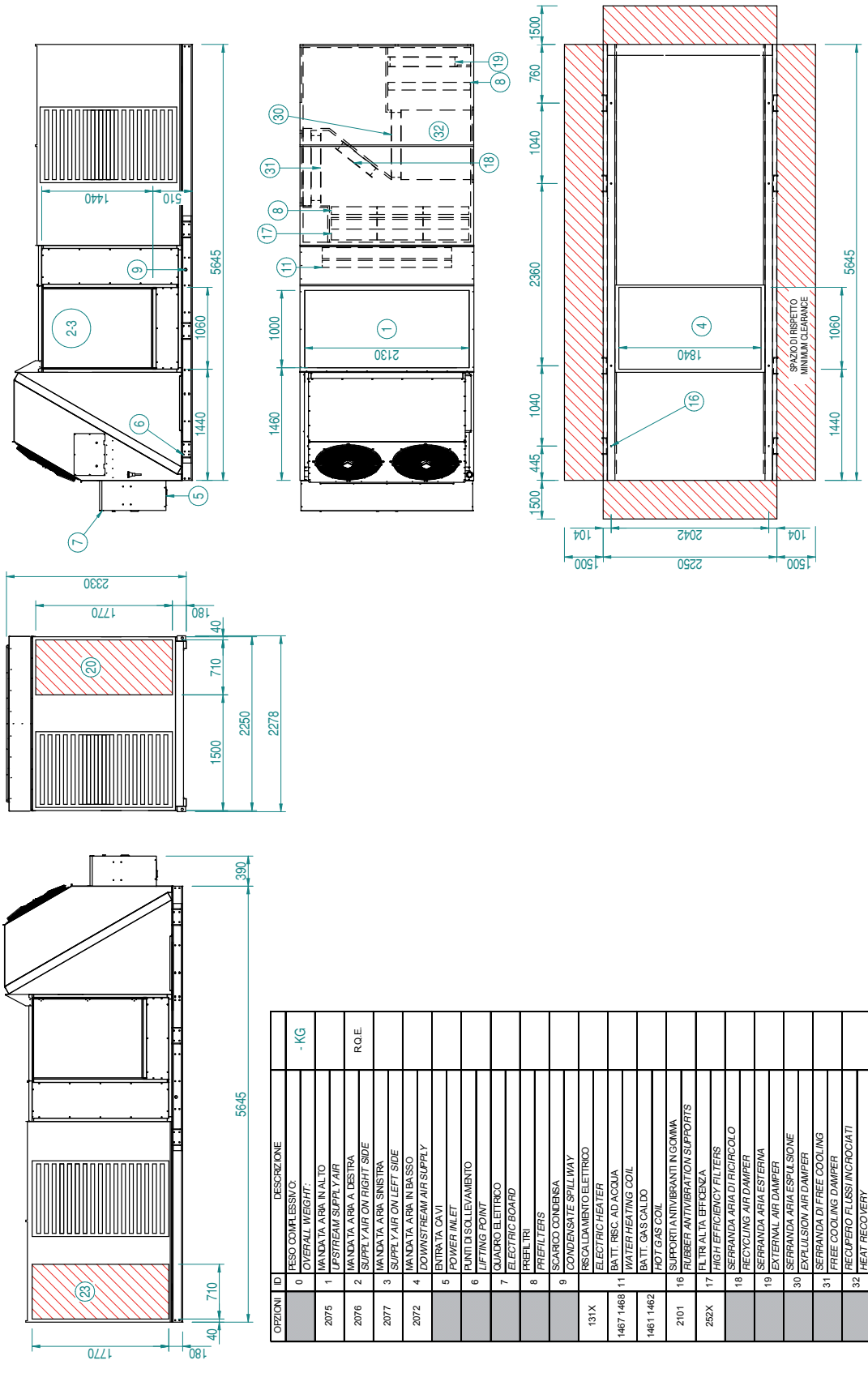
WSM3 MF, AX-F, HR-F, HR-B 0444-0604



OPZIONI	ID	DESCRIZIONE	- KG	
	0	PESO COMPLESSIVO		
	0	OVERALL WEIGHT		
2075	1	MANDATA ARIA IN ALTO		
	1	UPSTREAM SUPPLY AIR		
2076	2	MANDATA ARIA A DESTRA		R.Q.E
	2	SUPPLY AIR ON RIGHT SIDE		
2072	4	MANDATA ARIA IN BASSO		
	4	DOWNSTREAM AIR SUPPLY		
	5	ENTRATA CAVI		
	5	POWER INLET		
	6	PUNTI DI SOLLEVAMENTO		
	6	LIFTING POINT		
	7	QUADRO ELETTRICO		
	7	ELECTRIC BOARD		
	8	PREFILTRI		
	8	PREFILTERS		
	9	SCARICO CONDENSA		
	9	CONDENSATE SPILLWAY		
131X		RISCALDAMENTO ELETTRICO		
		ELECTRIC HEATER		
1467 1468	11	BATT. RISC. AD ACQUA		
	11	WATER HEATING COIL		
1461 1462		BATT. GAS CALDO		
		HOT GAS COIL		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA		
	16	RUBBER ANTIVIBRATION SUPPORTS		
	17	FILTRI ALTA EFFICENZA		
252X	17	HIGH EFFICIENCY FILTERS		
	18	SERRANDA ARIA DI RICIRCOLO		
	18	RECYCLING AIR DAMPER		
	19	SERRANDA ARIA ESTERNA		
	19	EXTERNAL AIR DAMPER		
2065	24	RIPRESA ARIA DAL BASSO		
	24	BOTTOM SIDE RETURN AIR		
	20	RIPRESA ARIA SINISTRA		R.Q.E
2061	20	LEFT AIR INTAKE		

Note:
- The sizes shown here do not include any additional modules.
- For the AX-F, HR-F e HR-B units with bottom side return air, an additional deflector must be installed downstream of the exhaust damper which is supplied with the unit.

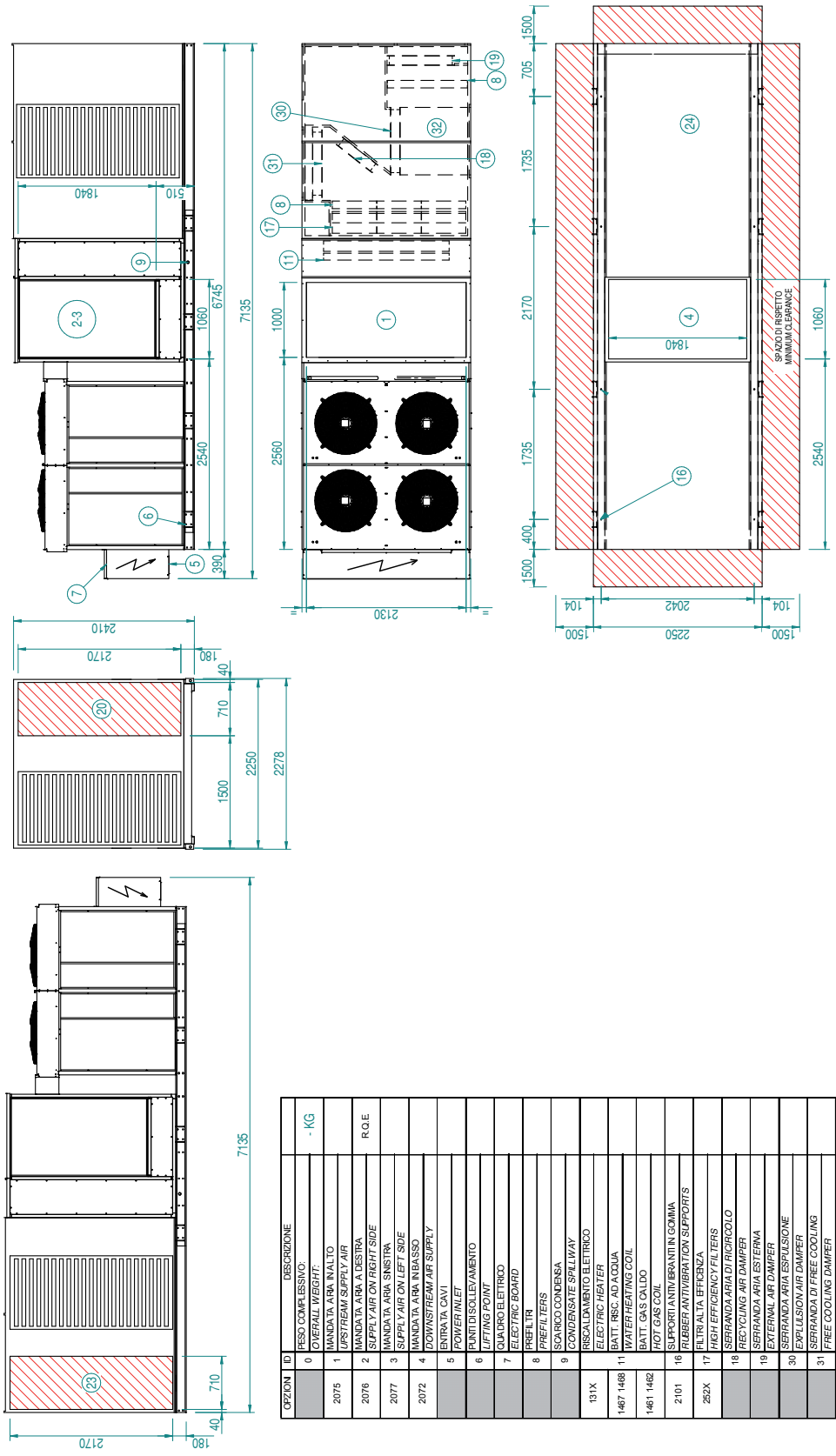
WSM3 HR-P 0262-0402



OPZIONI	ID	DESCRIZIONE	- KG	
	0	PESO COMPLESSIVO: *OVERALL WEIGHT:*		
2075	1	MANDATA ARIA IN ALTO *UPSTREAM SUPPLY AIR*		
2076	2	MANDATA ARIA A DESTRA *SUPPLY AIR ON RIGHT SIDE*		R.Q.E.
2077	3	MANDATA ARIA SINISTRA *SUPPLY AIR ON LEFT SIDE*		
2072	4	MANDATA ARIA IN BASSO *DOWNSTREAM AIR SUPPLY*		
	5	ENTRATA CAVI *POWER INLET*		
	6	PUNTI DI SOLLEVAMENTO *LIFTING POINT*		
	7	QUADRO ELETTRICO *ELECTRIC BOARD*		
	8	PREFILTRI *PREFILTERS*		
	9	SCARICO CONDENSA *CONDENSATE SPILLWAY*		
131X		RISCALDAMENTO ELETTRICO *ELECTRIC HEATER*		
1467 1468	11	BATT. RISC. AD ACQUA *WATER HEATING COIL*		
1461 1462		BATT. GAS CALDO *HOT GAS COIL*		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA *RUBBER ANTIVIBRATION SUPPORTS*		
252X	17	FILTRI ALTA EFFICIENZA *HIGH EFFICIENCY FILTERS*		
	18	SERRANDA ARIA DI RICIRCOLO *RECYCLING AIR DAMPER*		
	19	SERRANDA ARIA ESTERNA *EXTERNAL AIR DAMPER*		
	30	SERRANDA ARIA ESPULSIONE *EXPULSION AIR DAMPER*		
	31	SERRANDA DI FREE COOLING *FREE COOLING DAMPER*		
	32	RECUPERO FLUSSI INCROCIATI *HEAT RECOVERY*		
2061	20	RIPRESA ARIA DA RETRO *REAR AIR INTAKE*		
2065	23	RIPRESA ARIA LATERALE SINISTRA *LEFT AIR INTAKE*		R.Q.E.

Note:
- The sizes shown here do not include any additional modules.

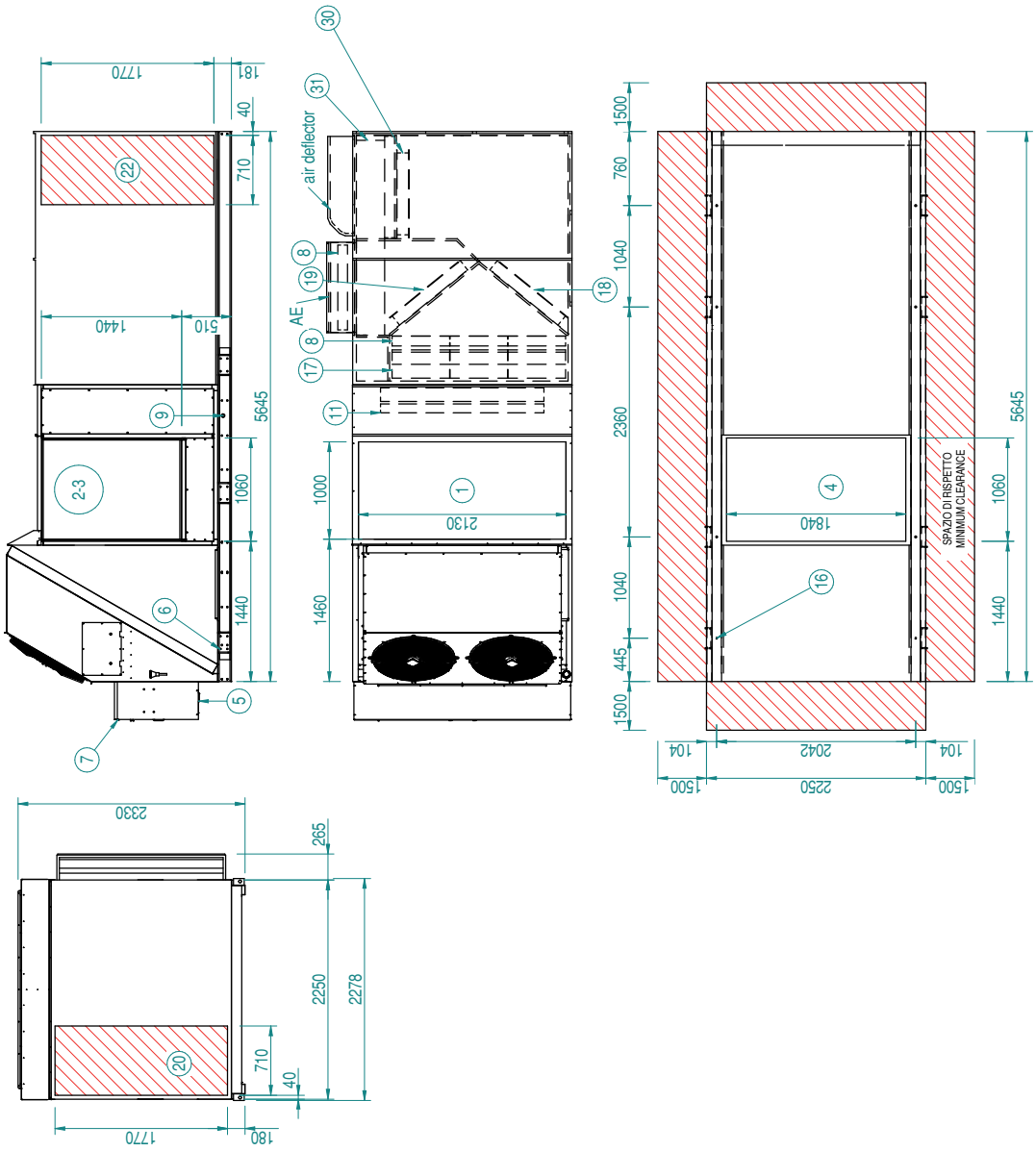
WSM3 HR-P 0444-0604



OPZION	ID	DESCRIZIONE	- KG	
	0	PESO COMPLESSIVO:		
		OVERALL WEIGHT:		
	1	MANDATA ARIA IN ALTO		
2075		*UPSTREAM SUPPLY AIR*		
	2	MANDATA ARIA A DESTRA		R.Q.E.
2076		*SUPPLY AIR ON RIGHT SIDE*		
	3	MANDATA ARIA SINISTRA		
2077		*SUPPLY AIR ON LEFT SIDE*		
	4	MANDATA ARIA IN BASSO		
2072		*DOWNSTREAM AIR SUPPLY*		
	5	ENTRATA CAVI		
		POWER INLET		
	6	PUNTI DI SOLLEVAMENTO		
		LIFTING POINT		
	7	QUADRO ELETTRICO		
		ELECTRIC BOARD		
	8	PREFILTRI		
		PREFILTERS		
	9	SCARICO CONDENSA		
		CONDENSATE SPILLWAY		
131X		RISCALDAMENTO ELETTRICO		
		ELECTRIC HEATER		
1467 1468	11	BATT. RISC. AD ACQUA		
		WATER HEATING COIL		
1461 1462		BATT. GAS CALDO		
		HOT GAS COIL		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA		
		RUBBER ANTIVIBRATION SUPPORTS		
252X	17	FILTRI ALTA EFFICIENZA		
		HIGH EFFICIENCY FILTERS		
	18	SERRANDA ARIA DI RICIRCOLO		
		RECYCLING AIR DAMPER		
	19	SERRANDA ARIA ESTERNA		
		EXTERNAL AIR DAMPER		
	30	SERRANDA ARIA ESPULSIONE		
		EXPULSION AIR DAMPER		
	31	SERRANDA DI FREE COOLING		
		FREE COOLING DAMPER		
	32	RECUPERO FLUSSI INCROCIATI		
		HEAT RECOVERY		
2061	20	RIPRESA ARIA DA RETRO		
		REAR AIR INTAKE		
2065	23	*RIPRESA ARIA LATERALE SINISTRA*		R.Q.E.
		LEFT AIR INTAKE		

Note:
- The sizes shown here do not include any additional modules.

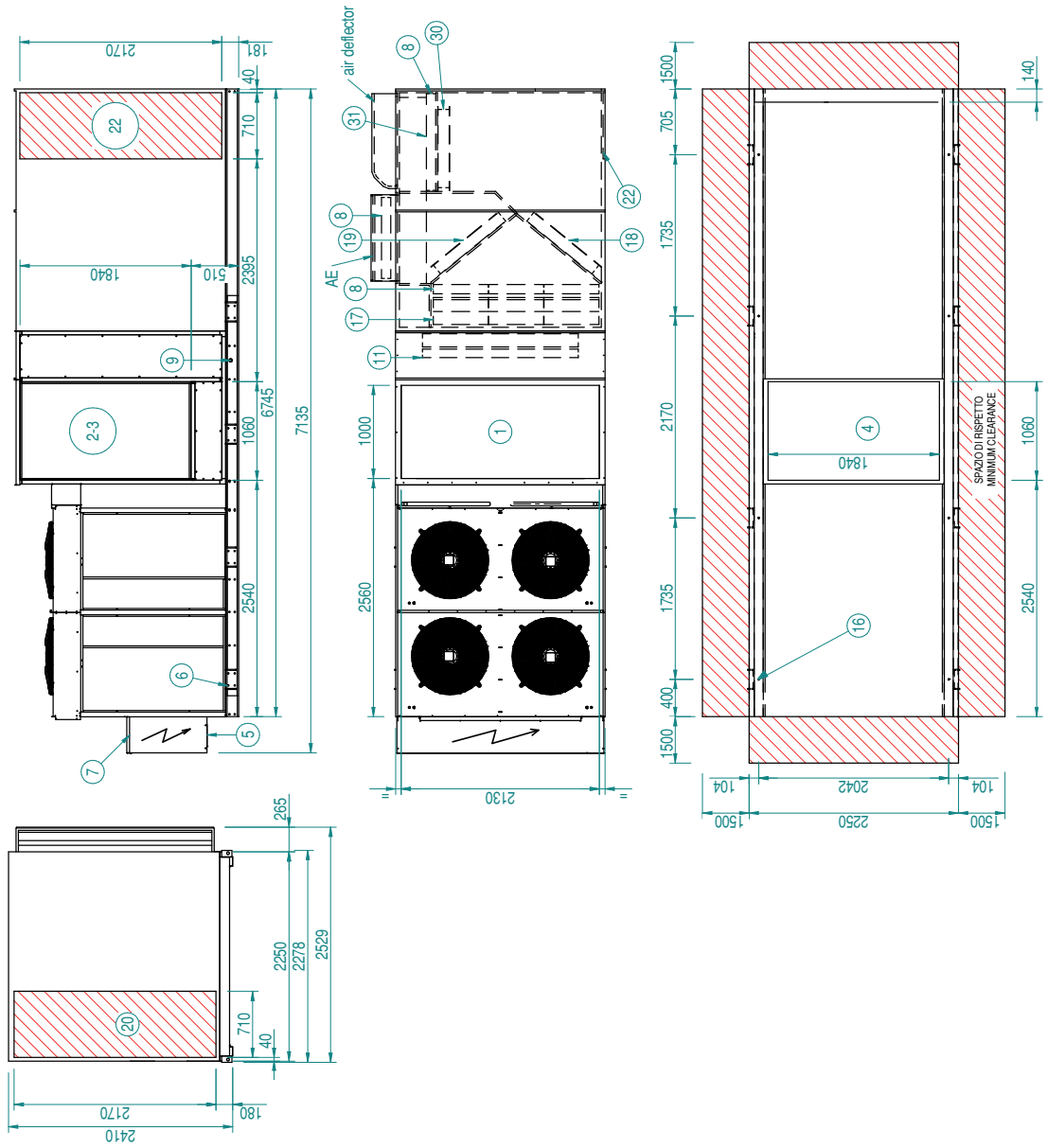
WSM3 HR-E 0262-0402



OPZIONI	ID	DESCRIZIONE	- KG	R.Q.E
	0	PESO COMPLESSIVO: *OVERALL WEIGHT:*		
2075	1	MANDATA ARIA IN ALTO *UPSTREAM SUPPLY AIR*		
2076	2	MANDATA ARIA A DESTRA *SUPPLY AIR ON RIGHT SIDE*		R.Q.E
2077	3	MANDATA ARIA SINISTRA *SUPPLY AIR ON LEFT SIDE*		
2072	4	MANDATA ARIA IN BASSO *DOWNSTREAM AIR SUPPLY*		
	5	ENTRATA CAVI *POWER INLET*		
	6	PUNTI DI SOLLEVAMENTO *LIFTING POINT*		
	7	QUADRO ELETTRICO *ELECTRIC BOARD*		
	8	PREFILTRI *PREFILTERS*		
	9	SCARICO CONDENSA *CONDENSATE SPILLWAY*		
131X		RISCALDAMENTO ELETTRICO *ELECTRIC HEATER*		
1467 1468	11	BATT. RISC. AD ACQUA *WATER HEATING COIL*		
1461 1462		BATT. GAS CALDO *HOT GAS COIL*		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA *RUBBER ANTIVIBRATION SUPPORTS*		
252X	17	FILTRI ALTA EFFICIENZA *HIGH EFFICIENCY FILTERS*		
	18	SERRANDA ARIA DI RICIRCOLO *RECYCLING AIR DAMPER*		
	19	SERRANDA ARIA ESTERNA *EXTERNAL AIR DAMPER*		
	30	SERRANDA ARIA ESPULSIONE *EXPULSION AIR DAMPER*		
	31	RECUPERO ROTATIVO *ROTARY HEAT RECOVERY*		
2061	20	RIPRESA ARIA DA RETRO *REAR AIR INTAKE*		
2062	22	RIPRESA ARIA LATERALE DESTRA *RIGHT AIR INTAKE*		R.Q.E

Note:
- The sizes shown here do not include any additional modules.

WSM3 HR-E 0444-0604



OPZIONI	ID	DESCRIZIONE	- KG	R.Q.E.
	0	PESO COMPLESSIVO:		
	0	*OVERALL WEIGHT:*		
2075	1	MANDATA ARIA IN ALTO		
	1	*UPSTREAM SUPPLY AIR*		
2076	2	MANDATA ARIA A DESTRA		R.Q.E.
	2	*SUPPLY AIR ON RIGHT SIDE*		
2077	3	MANDATA ARIA SINISTRA		
	3	*SUPPLY AIR ON LEFT SIDE*		
2072	4	MANDATA ARIA IN BASSO		
	4	*DOWNSTREAM AIR SUPPLY*		
	5	ENTRATA CAVI		
	5	*POWER INLET*		
	6	PUNTI DI SOLLEVAMENTO		
	6	*LIFTING POINT*		
	7	QUADRO ELETTRICO		
	7	*ELECTRIC BOARD*		
	8	PREFILTRI		
	8	*PREFILTERS*		
	9	SCARICO CONDENSA		
	9	*CONDENSATE SPILLWAY*		
131X		RISCALDAMENTO ELETTRICO		
		ELECTRIC HEATER		
1467 1468	11	BATT. RISC. AD ACQUA		
	11	*WATER HEATING COIL*		
1461 1462		BATT. GAS CALDO		
		HOT GAS COIL		
2101	16	SUPPORTI ANTIVIBRANTI IN GOMMA		
	16	*RUBBER ANTIVIBRATION SUPPORTS*		
252X	17	FILTRI ALTA EFFICIENZA		
	17	*HIGH EFFICIENCY FILTERS*		
	18	SERRANDA ARIA DI RICIRCOLO		
	18	*RECYCLING AIR DAMPER*		
	19	SERRANDA ARIA ESTERNA		
	19	*EXTERNAL AIR DAMPER*		
	30	SERRANDA ARIA ESPULSIONE		
	30	*EXPULSION AIR DAMPER*		
	31	RECUPERO ROTATIVO		
	31	*ROTARY HEAT RECOVERY*		
2061	20	RIPRESA ARIA DA RETRO		
	20	*REAR AIR INTAKE*		
2062	22	RIPRESA ARIA LATERALE DESTRA		R.Q.E.
	22	*RIGHT AIR INTAKE*		

Note:
- The sizes shown here do not include any additional modules.

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