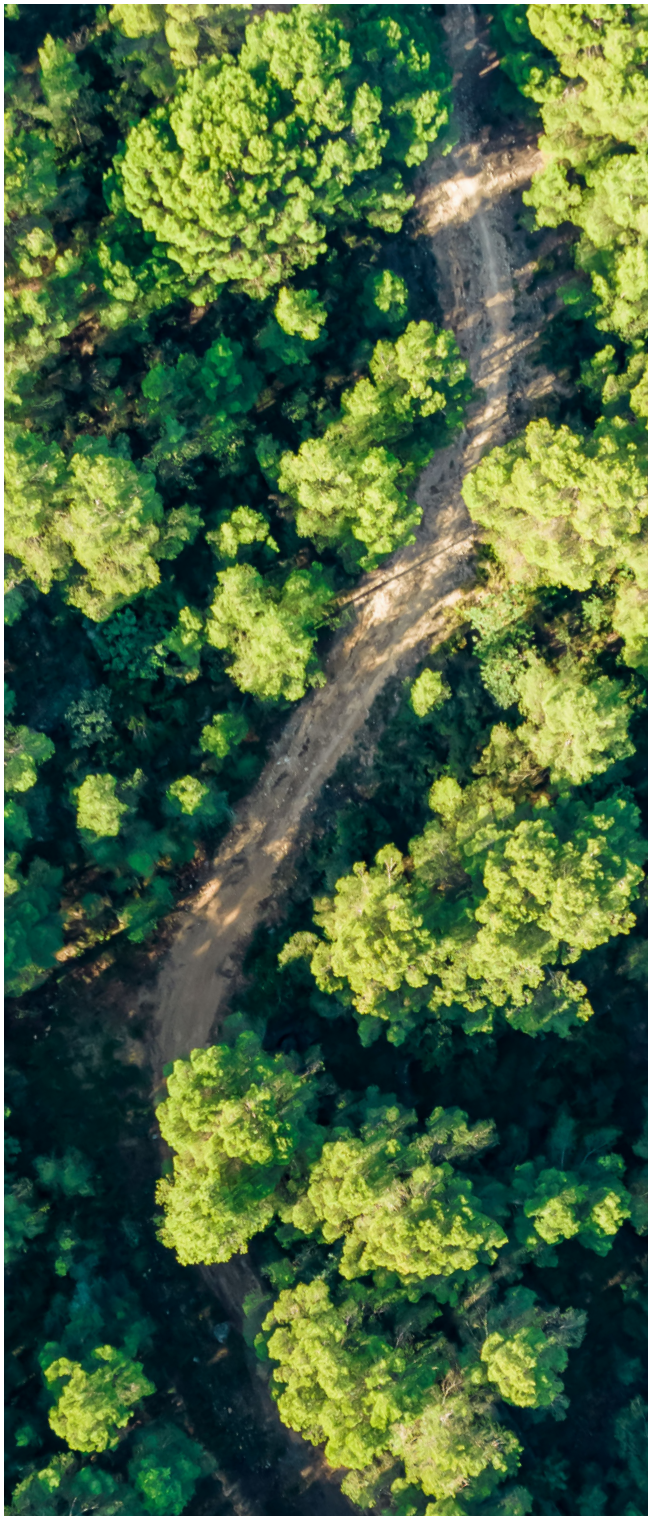
HEAT PUMP

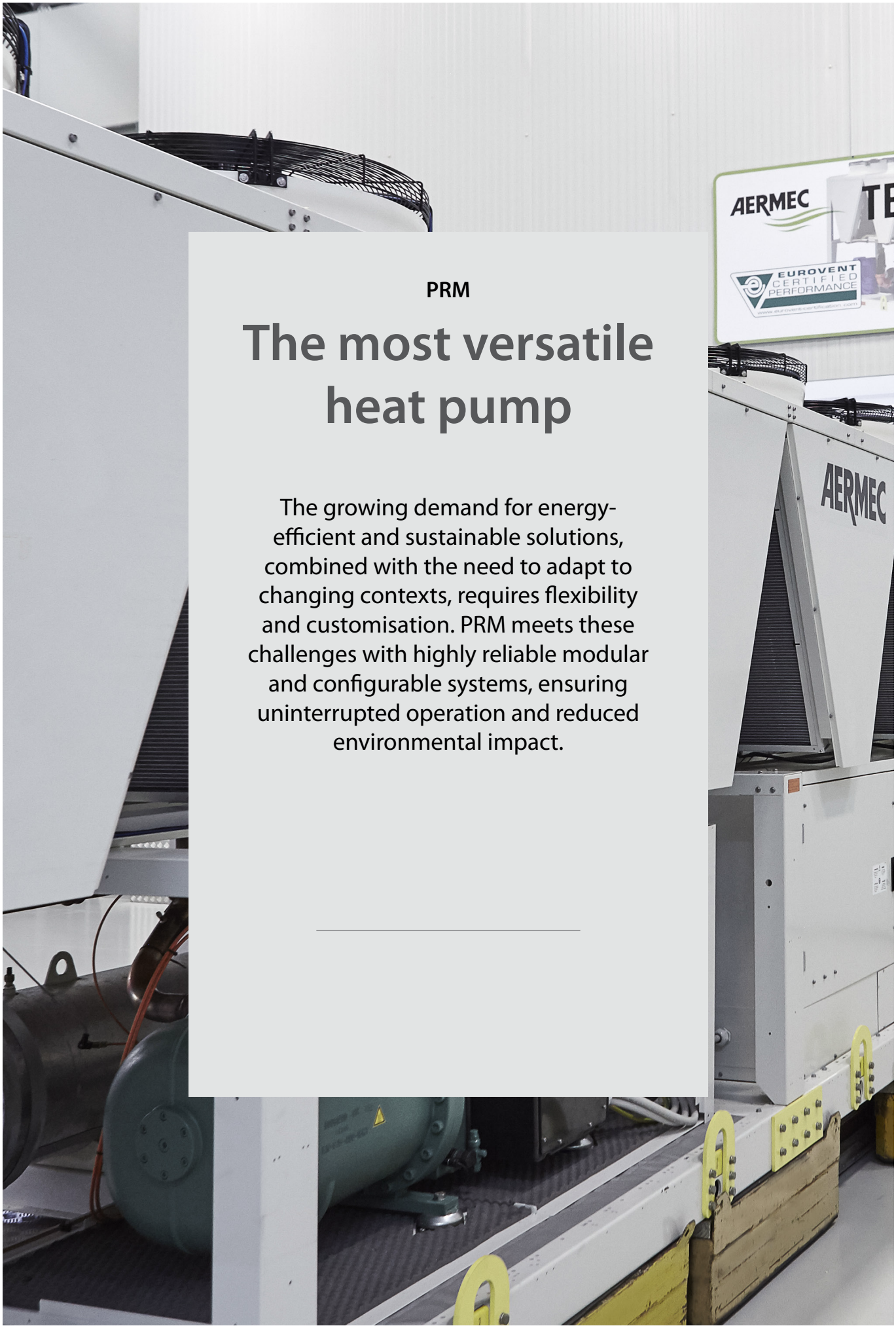
PRM

AIR-COOLED REVERSIBLE MODULAR HEAT PUMP

Modular hydronic units, designed to maximise energy efficiency and reduce environmental impact, with a wide range of configurations.

AERMEC



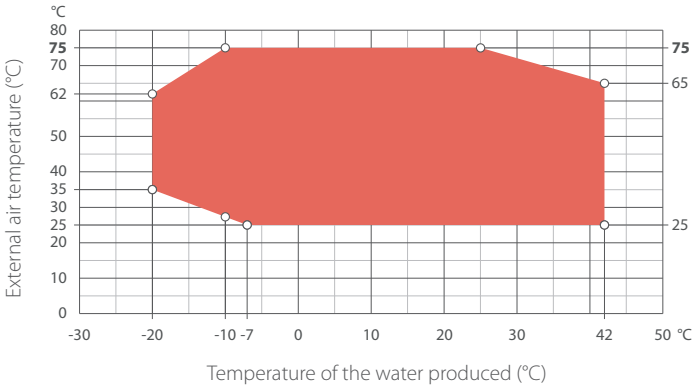


PRM

The most versatile heat pump

The growing demand for energy-efficient and sustainable solutions, combined with the need to adapt to changing contexts, requires flexibility and customisation. PRM meets these challenges with highly reliable modular and configurable systems, ensuring uninterrupted operation and reduced environmental impact.

Wide operating range



Refrigerant HC R290

Low refrigerant charge: less than 5 kg per circuit. The low refrigerant charge contributes to the safety of the installation; PRM heat pumps are suitable for use within indirectly ventilated systems serving all rooms and for all civil and industrial applications.

Environmentally friendly

Thanks to the natural refrigerant R290, the direct greenhouse effect and GWP associated with the unit is drastically reduced.

PRM
Key Points

Reliability and modularity

The safety solutions adopted and the electronic control system allow up to 9 units to be installed in hydraulic parallel, guaranteeing optimal and reliable operation of the system even in the event of load variations.

High temperature

Production of hot water up to 75 °C. Working at full load as low as -20°C outdoor air temperature in winter, and up to 48°C in the summer.

High efficiency

Double cooling circuit, two scroll compressors per circuit, optimised for high efficiency in all operating conditions.

Innovative finned exchangers

New finned pack heat exchangers optimised for operation with reduced refrigerant charge.

Intelligent ventilation control

Standard condensation check for extended operating range, reduced noise level and fan power consumption.

PRM Focus

High-efficiency, low-noise EC fans as standard

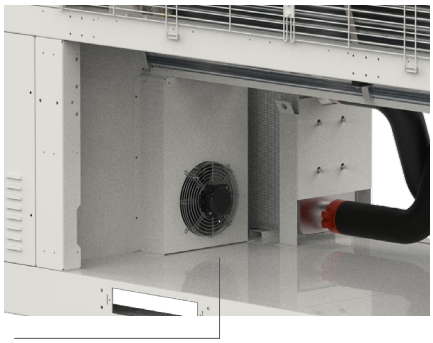
Batteries optimised for R290 and equipped with accident-protection grids

Cooling circuit with regenerative heat exchanger: maximum cooling efficiency and circuit efficiency

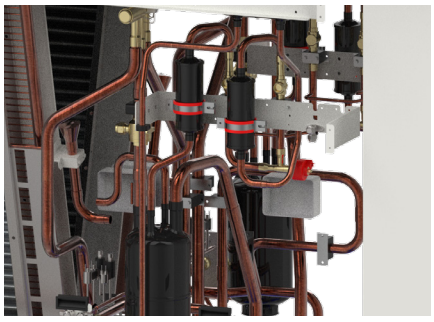
Option with on-board intermediate heat exchanger for double indirect circuit class III according to EN 378-1

Wide choice of hydronic kits on board the machine

Units available with the on-board collector option

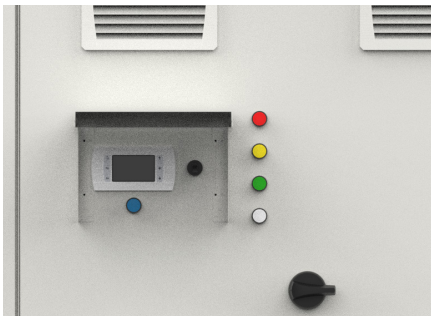


High safety design: permanently ventilated compressor compartment with ATEX fan and leak detector as standard



Quality of processes and strictness of controls in production

Electronic valve as standard



Safe management of parallel units, with automatic disconnection in case of refrigerant leakage and activation of on-site ventilation

PRM Plus

01 | High efficiency and optimisation of the cooling circuit

Seasonal efficiency through the use of the standard electronic valve, compressors optimised for R290 connected in tandem, the presence of the regenerative exchanger within the cooling circuit, and the use of optimised air-side and water-side exchangers.

02 | Flexibility and modularity

With the set-up for parallel connection and the use of control components, the installation can be adapted to the actual needs of the plant and the power can be increased over time simply and economically.

03 | Safety

The careful design of the cooling circuit, with the choice of braze-welded connections on the majority of components, the presence of leak detectors on board the machine, the continuous ventilation of the compressor compartment and the stringent testing and checks in the process at the end of the line, make PRM units reliable and safe.

04 | Easy system connection

The capable of providing on-board integrated hydronic kits with different options and configurations (low or high static pressure pumps, inertial storage, stand-by pumps, intermediate exchangers, pre-mounted manifolds) allows easy connection to the hydronic system, saving space and costs.

05 | Low noise emission

Thanks to the choice of optimised fans and the floating HP and LP control logics, machine operation is particularly quiet, especially at low loads and at night.

06 | Easy control and supervision

The wide choice of accessories allows the convenient and safe management of stand-alone and parallel units; an accessory for data logging and system operation supervision is also available.

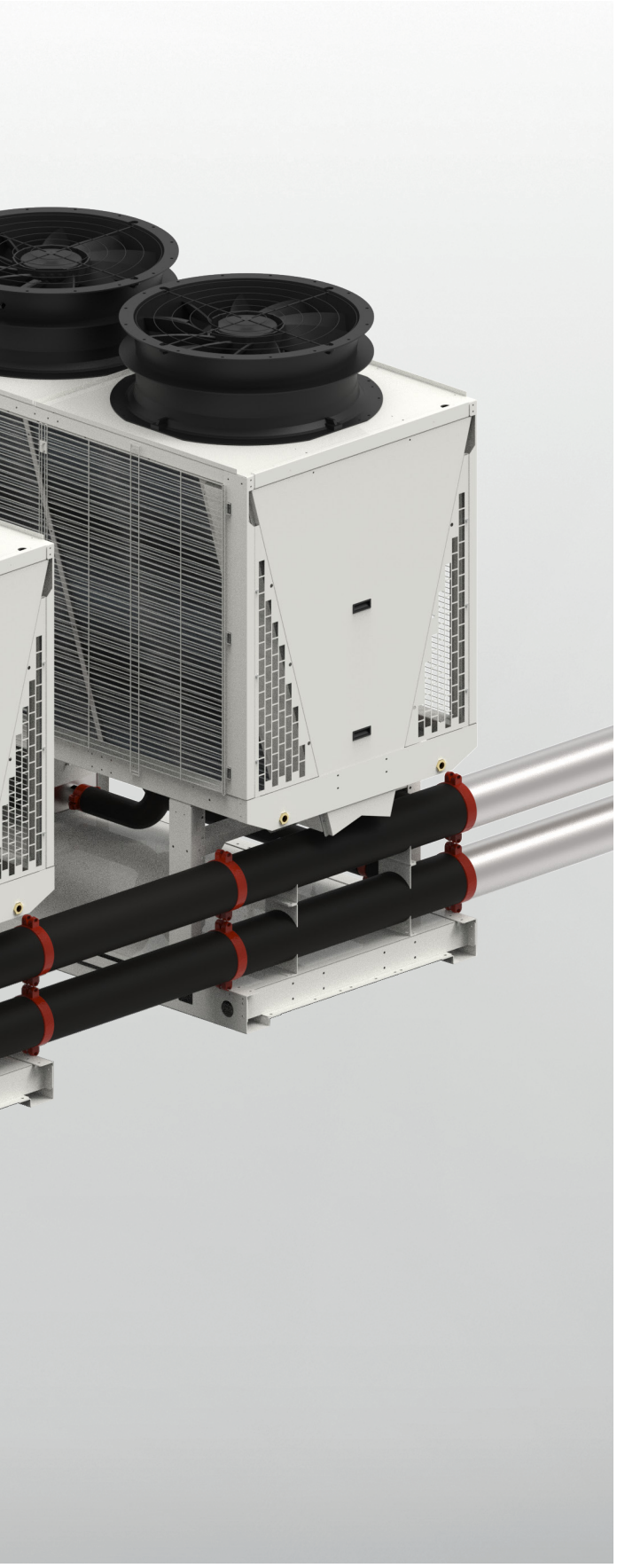
07 | Smart Regulation

Proprietary electronic control, also specifically for modular management of up to 9 units.

Dedicated management devices, with optimised management logic of the heating and cooling plant according to the system load.

Customisable set-point logics.

Options and accessories



Possibility of coupling up to 9 units designed to minimise the overall footprint.

- MULTICHILLER-EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max 9), always ensuring constant flow rate to the exchangers.
- AERNET: The device remotely controls, manages and monitors a chiller using a PC, smartphone or table via a Cloud connection. AERNET is the Master while any other unit connected, up to a maximum of 6, is configured as a Slave. A file log containing all of the data for the units connected can also be saved on your terminal with a simple click..
- Capable of controlling two units in parallel Master - Slave. In this case, only one PGD1 accessory can be used for both units.
- AERLINK is a WiFi gateway with an RS485 serial port that allows a wide range of Aermec products (heat pumps/ chillers/system controllers) equipped with this interface to connect easily and securely to a WiFi network. Functioning both as an access point (AP access point) and as a client (WiFi Station), it can be connected to a single generator or plant centraliser, allowing it to be easily integrated into any network. Thanks to the AerApp and AerPlants apps, which can be used on Android and iOS platforms, remote management of Aermec-developed air conditioning systems can be made intuitive and simple.

PRM Technical data

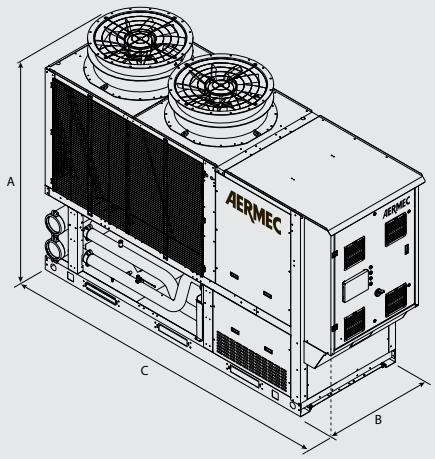
Size		0504
Fans: °		
Performance in cooling mode 12 °C / 7 °C (1)		
Cooling capacity	kW	95.6
Input power	kW	35.4
Total input current when cold	A	70.0
EER	W/W	2.70
Utility water flow rate	l/h	16360
Utility side pressure drop	kPa	22
Performance in heating mode 40 °C / 45 °C (2)		
Heating capacity	kW	101.7
Input power	kW	31.8
Total input current when hot	A	66.0
COP	W/W	3.20
Utility water flow rate	l/h	17185
Utility side pressure drop	kPa	24

(1) Data EN 14511:2022; User-side heat exchanger water 12 °C / 7 °C; Outside air 35 °C
(2) Data EN 14511:2022; User-side heat exchanger water 40 °C / 45 °C; Outside air 7 °C d.b. / 6 °C w.b.

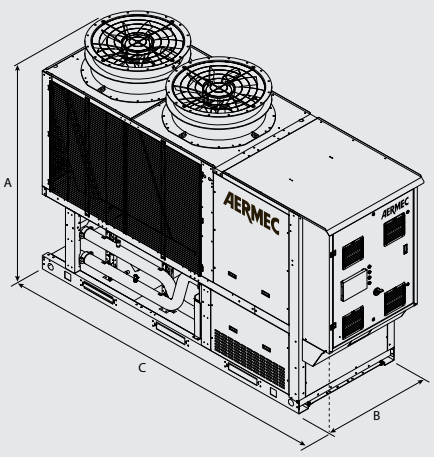
Size			0504
Integrated hydronic kit: 00			
Dimensions and weights			
A	A-E	mm	2520
B	A-E	mm	1198
C	A-E	mm	3583

Size			0504
Integrated hydronic kit: 00			
Modular version (°)			
Vacuum weight	A-E	kg	1365
Functioning weight	A-E	kg	1430
Version without modular tubes (N)			
Vacuum weight	A-E	kg	1310
Functioning weight	A-E	kg	1320

Modular version



Version without modular tubes



Energy data - Standard/inverter fans

Size			0504
Fans: °			
SEER - 12/7 (EN 14825: 2018) (1)			
SEER	A	W/W	3.96
	E	W/W	-
Seasonal Efficiency	A	%	155,55
	E	%	-
SEER - 23/18 (EN 14825: 2018) (1)			
SEER	A	W/W	4.85
	E	W/W	-
Seasonal Efficiency	A	%	190,96
	E	%	-

(1) Calculation performed with VARIABLE water flow rate

Size			0504
Fans: J			
SEER - 12/7 (EN 14825: 2018) (1)			
SEER	A	W/W	4.08
	E	W/W	4.03
Seasonal Efficiency	A	%	160.00
	E	%	158.10
SEER - 23/18 (EN 14825: 2018) (1)			
SEER	A	W/W	4.93
	E	W/W	4.82
Seasonal Efficiency	A	%	194.26
	E	%	189.80

(1) Calculation performed with VARIABLE water flow rate

Aermec and the environment

The green solution

The use of Aermec heat pumps and chillers, especially when combined with new-generation fan coils, provides comfort and energy efficiency for people's well-being and the sustainable use of energy resources.

Thanks to the natural refrigerant R290, whose classification according to ISO817 is A3 (non-toxic, odourless and highly flammable refrigerant), the environmental impact of the units is drastically reduced.

Combining a low refrigerant charge (less than 5 kg per circuit) with a very low global warming potential (GWP), these units boast virtually negligible direct emissions of CO_2 equivalent.

- **Environmentally friendly**
- **Energy saving**
- **Attention to health**
- **Sound emission control**

The company

Aermec is a company deeply rooted in the territory that has allowed it to be founded, to grow and arrive where it is today, counting on a 'family heritage' that represents an extremely important added value, together with the team spirit it has been able to create.

Respect for these values, which become the ethical values of a brand, underpins the international success of Aermec, which in designing and producing its machines takes care of every detail to respect the environment, save energy, safeguard health and improve well-being.

In 2015, Aermec invested in a specific, newly designed training centre capable of accommodating hundreds of participants and equipped with the latest training and presentation tools. In addition, Aermec periodically organises seminars specifically dedicated to HVAC specialists, also making use of external consultants and internationally renowned university professors.

The future is innovation. Aermec has met the challenge of global competition with determination by focusing on all-round innovation.

Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italia
Tel. 0442633111 - Telefax 044293577
www.aermec.com