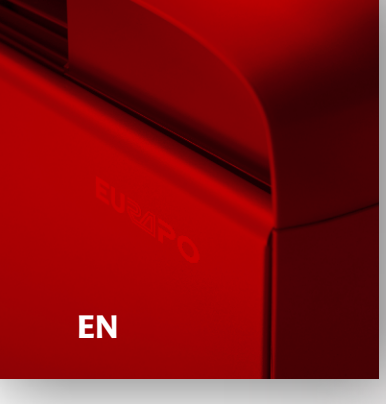


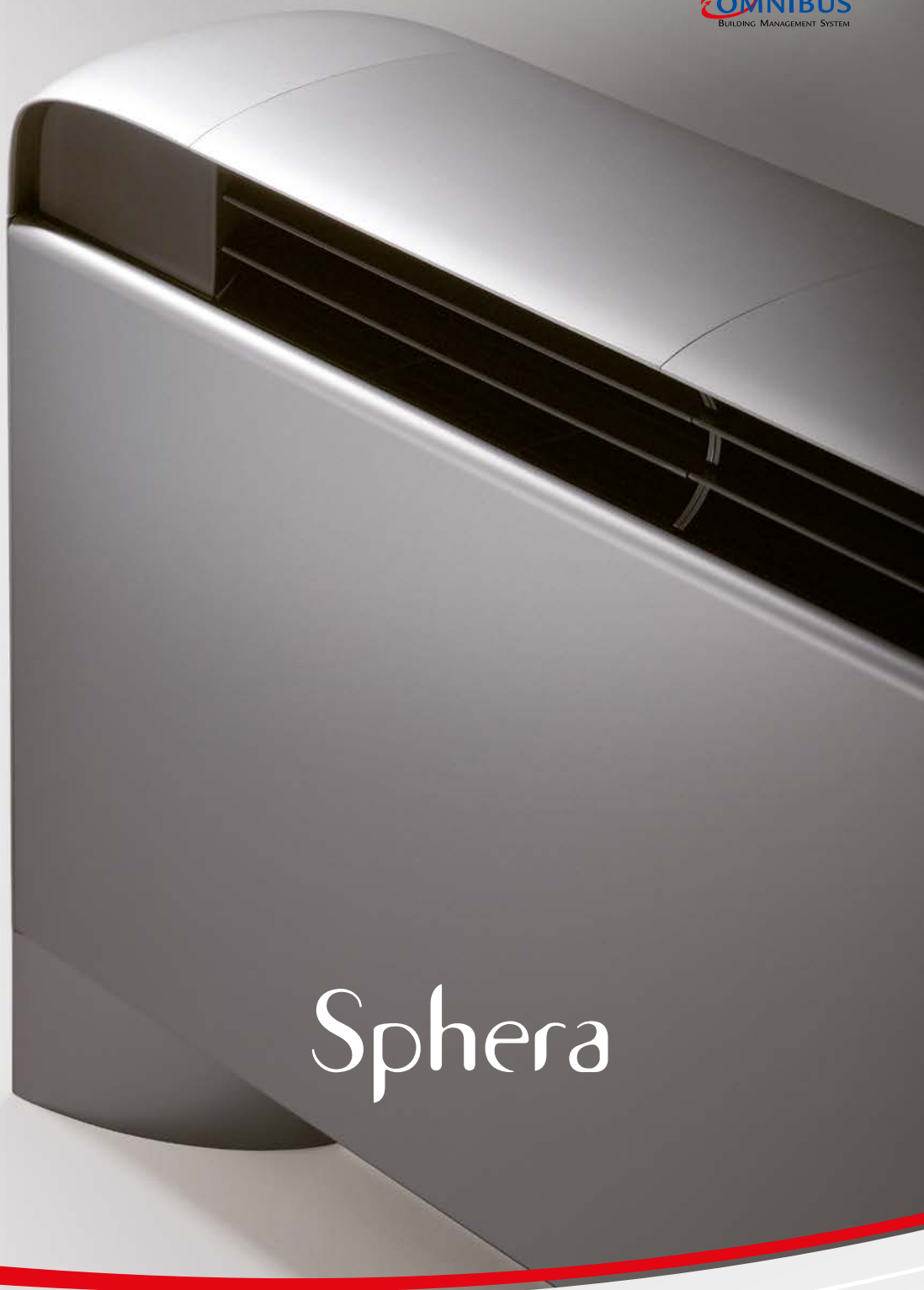
EN

EURAPO

INTEGRATED
COMFORT
SYSTEMS

EST INVERTER
ENERGY SAVING TECHNOLOGY

OMNIBUS 360
BUILDING MANAGEMENT SYSTEM



Sphera

SPHERA

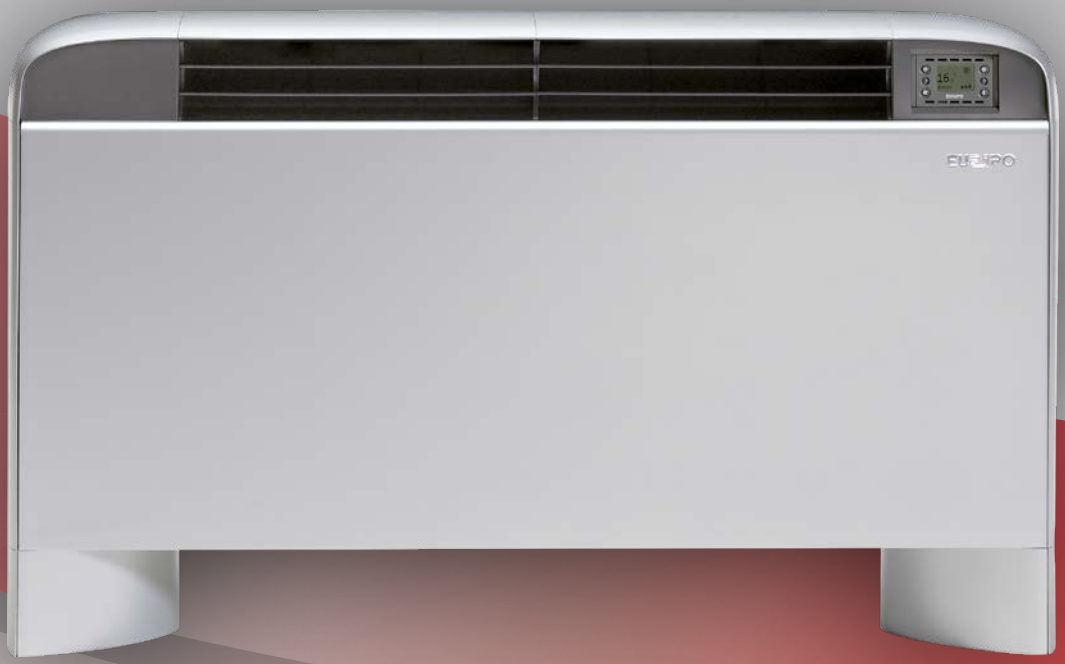
FAN COIL UNIT

Usually fan coil units must have a discreet and neutral look, so that they can «disappear» in their surrounding environment. But can they also fit out the premises and apartments in which they are installed, increasing their value?

The EURAPO answer to this question is Sphera, a fan coil unit with an extremely innovative design, but also simple and harmonious in order to keep it always modern. The very small sizes (in spite of the centrifugal fan) and the possibility to customize the colours allow the installation in every kind of environment, meeting even the more refined aesthetic requirements of consultants and users.

Designing Sphera called the best attention to the quality of materials and components, together with a meticulous care even on the smallest details, in order to offer high reliability, safety and high performances, which are the most important requirements of all EURAPO fan coil units.

Sphera is not a simple exercise of aesthetic style, but a complete and integrated study of industrial design, aiming at the research of the optimization and integration of all the projected components.



Sphera

STYLE AND SOBRIETY

Sphera presents shapes and lines which are very revolutionary for the fan coil units market. The simple, harmonious and symmetric style makes the unit elegant and discreet, suitable for every kind of environment, either classic or modern.

The symmetry of the foot set, standard for ESF model, express the particular care for all the details. Also the digital controller (available as optional) conforms to the aesthetic balance of the unit.

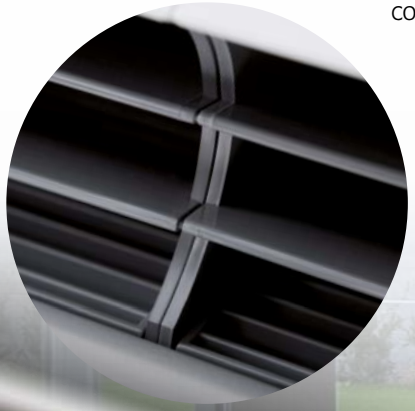
SMALL DIMENSIONS

ESF and ESW models, with only 190 mm depth, combine the reduced size, typical of a tangential fan coil unit, with the reliability and the performances of a centrifugal fan.
The concealed models (ECH, ECV), with 186 mm depth, allow to project buildings reducing the areas for false ceilings and walls.
The Sphera fan coil offers, despite its extremely small dimensions, performances well over the average.

SAFETY

Sphera has been designed with maximum attention to the safety requirements for installers and end users. As it is available also for domestic applications, the fan coil unit is equipped with a safety grill in order to prevent people from touching the inner components: this makes the unit very safe also for children.

Sphera complies with the following standards: Low Voltage Standard 72/23 CEE, Electromagnetic Compatibility Standard EMC 89/336 CEE, EN55014-1, EN55014-2, EN61000-3, EN60335-1, EN60335-2.



EASY MAINTENANCE

By sliding upward the frontal panel it is possible to have direct access to the filter, so that the cleaning operations are extremely simple and safe.

Qualified and skilled technicians can remove the panel, by sliding it upward and releasing the safety system, so that they can access to all the inner components of the unit.

Both the fan deck, which includes also the condensate tray, and the coil can be easily removed, independently of the inner frame, in order to control, clean or replace them in a very simple way.

THE MODELS

ESF

Vertical unit for installation on the floor, provided with feet.

ESW

Vertical unit for wall installation, with the air intake group equal to the air delivery group.

ECV

Vertical unit for concealed installation.

ECH

Horizontal unit for concealed installation.

All Sphera fan coil units are suitable for 2 and 4 pipe water systems, for heating and cooling.

STANDARD FEATURES

- Inner frame, made of galvanized steel and lined with self-extinguishing thermal insulation material.
- Coil for 2 pipe systems, independent of the inner frame and provided with antitorsion structure. Standard water connections are on the right side of the unit, facing the air outlet; however they can be supplied left hand side on request; all water connections are ½" G female.
- Centrifugal fan deck with two aluminum impellers and galvanized steel scrolls, dynamically balanced; it includes the insulated condensate tray. It is independent of the inner frame.
- 6 speeds single phase motor, with permanently connected capacitor and thermal protection for the windings. 3 speeds are wired as standard.
- Terminal board for the electric connections, fitted into a plastic box (ABS), mounted on the left side of the inner structure and easily removable.
- Outer casing, made of white RAL 9003 ABS plastic (ESF and ESW models).
- Frontal panel made of sheet steel and painted with epoxy powders, of the same colour of the casing (ESF and ESW models).
- Feet set (only ESF model), made of the same material and colour of the casing.
- Available for 2 and 4 pipe systems, heating and cooling applications, 2 sizes (20 - 40).
- Air intake/delivery group and protection grill are made of heat-resistant ABS plastic.
- Foldaway filter, easily removable, consisting of either an ABS plastic structure (ESW model) or a metallic structure (all other models), with a filter element made of polypropylene.

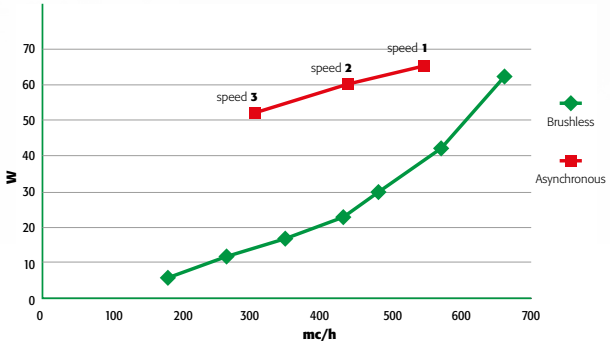
EST INVERTER
ENERGY SAVING TECHNOLOGY

EST (Energy Saving Technology) is applied to the **EURAPO** fan coil units and cassette units. It permits to obtain extremely low electrical absorption and a continuous modulation of the air flow, constantly related to the concrete need of energy in the room.

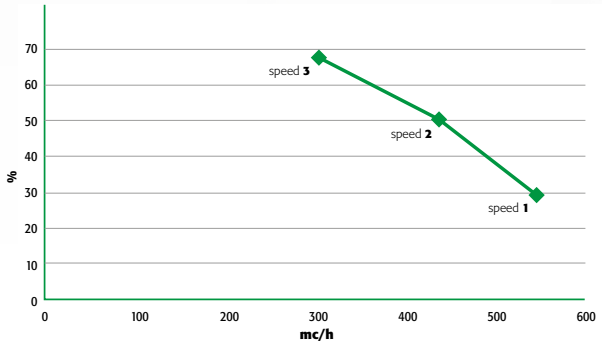
EST technology is composed by a brushless motor combined to a dedicated electronic device (inverter), managed by specific regulators developed by **EURAPO.**

In comparison to the traditional units equipped with asynchronous three-speed-motors, the fan coil and cassette units with brushless motors can obtain a considerable **energy saving,** by reducing the power consumption **up to 70%.**

Comparison electrical absorption asynchronous/EC motors



Saving electric power consumption as a percentage between asynchronous model and similar EST model



Thanks to the step-less modulation of the fan speeds it is possible to accurately regulate the air volume in a very precise way, in strict relation to the real need of air conditioning in the room. Oscillations in the temperature and relative humidity are reduced at lowest level: a guarantee for the **highest comfort in the room.**

The possibility to reach very low air volumes makes the units **extremely quiet** at the lowest motor revolutions.

EST technology is designed in particular for offices, hospitals, nursing homes and hotels. It is available for the **EURAPO** range of fan coil units, cassette units and ducted units.

TECHNICAL DATA (3 rows-EST)

EST INVERTER
ENERGY SAVING TECHNOLOGY

				20	40
Cooling 2 pipes	Air temperature 27 °C d.b., 19 °C w.b. Water temperature 7/12 °C	Total cooling capacity [kW]	9 V	2,03	3,46
			6 V	1,38	2,49
			3 V	0,69	1,14
		Sensible cooling capacity [kW]	9 V	1,69	2,83
			6 V	1,15	1,98
			3 V	0,57	0,93
		Water flow [l/h]	9 V	349	596
			6 V	238	429
			3 V	119	196
		Pressure drop [kPa]	9 V	3,5	16,4
			6 V	1,7	9,1
			3 V	0,6	2,1
Heating 2 pipes	Air temperature 20 °C Inlet water temperature 45/40 °C	Heating capacity [kW]	9 V	2,55	3,75
			6 V	1,85	2,59
			3 V	0,90	1,28
		Water flow [l/h]	9 V	439	645
			6 V	318	446
			3 V	155	220
		Pressure drop [kPa]	9 V	4,6	16,5
			6 V	2,8	9,0
			3 V	0,5	1,5
Heating 2 pipes	Air temperature 20 °C Inlet water temperature 65/55 °C	Heating capacity [kW]	9 V	4,38	7,11
			6 V	3,03	4,91
			3 V	1,48	2,37
		Water flow [l/h]	9 V	381	619
			6 V	264	427
			3 V	128	206
		Pressure drop [kPa]	9 V	3,4	11,4
			6 V	1,8	6,0
			3 V	0,5	1,7
Heating 4 pipes	Air temperature 20 °C Inlet air temperature 65/55 °C	Heating capacity [kW]	9 V	1,95	2,97
			6 V	1,58	2,45
			3 V	0,98	1,52
		Water flow [l/h]	9 V	168	255
			6 V	136	211
			3 V	84	131
		Pressure drop [kPa]	9 V	3,7	6,9
			6 V	2,2	4,8
			3 V	0,8	2,0
Further data		Air flow [m³/h]	9 V	387	618
			6 V	249	398
			3 V	110	175
		Sound power level [dB(A)]	9 V	56,0	62,0
			6 V	46,0	51,0
			3 V	29,0	31,0
		Sound pressure level [dB(A)] (1)	9 V	46,6	52,6
			6 V	36,6	41,6
			3 V	20,5	21,6
		Power input [W] (2)	9 V	33	50
		Absorbed current [A] (2)	9 V	0,33	0,46
		Water content [l]		0,87	1,32

(1) Sound pressure level in a 100 m³ room, 1,5 m distance and reverberating time of 0,3 s.
(2) Power supply: 230-1-50/60 [V-ph-Hz].

If greater accuracy or not standard conditions are required, please contact EURAPO staff.
The printed data could be modified without any notice.

TECHNICAL DATA (3 rows-asynchronous)

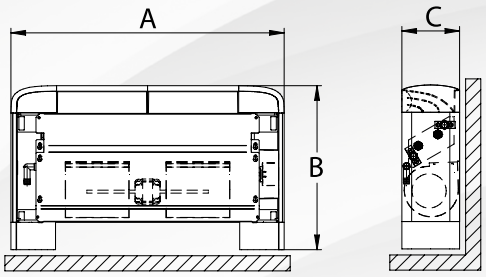
				20	40
Cooling 2 pipes	Air temperature 27 °C d.b., 19 °C w.b. Water temperature 7/12 °C	Total cooling capacity [kW]	MAX	1,94	3,12
			MED	1,43	2,85
			MIN	1,12	2,29
		Sensible cooling capacity [kW]	MAX	1,58	2,48
			MED	1,17	2,26
			MIN	0,90	1,76
		Water flow [l/h]	MAX	334	537
			MED	246	491
			MIN	193	394
		Pressure drop[kPa]	MAX	3,3	13,6
			MED	1,9	11,6
			MIN	1,2	7,7
Heating 2 pipes	Air temperature 20 °C Inlet water temperature 45/40 °C	Heating capacity [kW]	MAX	2,21	3,44
			MED	1,67	3,16
			MIN	1,28	2,49
		Water flow [l/h]	MAX	380	592
			MED	287	544
			MIN	220	428
		Pressure drop [kPa]	MAX	4,7	14,0
			MED	3,1	11,7
			MIN	1,9	7,9
Heating 2 pipes	Air temperature 20 °C Water temperature 65/55 °C	Heating capacity [kW]	MAX	4,00	6,07
			MED	3,00	5,40
			MIN	2,26	4,22
		Water flow [l/h]	MAX	348	528
			MED	261	470
			MIN	196	367
		Pressure drop [kPa]	MAX	2,9	7,5
			MED	1,8	6,1
			MIN	1,1	4,0
Heating 4 pipes	Air temperature 20 °C Water temperature 65/55 °C	Heating capacity [kW]	MAX	1,84	2,71
			MED	1,51	2,63
			MIN	1,28	2,27
		Water flow[l/h]	MAX	158	233
			MED	130	226
			MIN	110	195
		Pressure drop [kPa]	MAX	2,7	5,7
			MED	1,9	5,2
			MIN	1,3	4,0
Further data		Air flow [m³/h]	MAX	346	511
			MED	246	445
			MIN	177	334
		Sound power level [dB(A)]	MAX	52,0	58,0
			MED	45,0	54,0
			MIN	36,0	45,0
		Sound pressure level [dB(A)] (1)	MAX	42,6	48,6
			MED	35,6	44,6
			MIN	26,6	35,6
		Power input [W] (2)	MAX	54	85
		Absorbed current [A] (2)	MAX	0,24	0,38
		Water content [l]		0,87	1,32

(1) Sound pressure level in a 100 m³ room, a 1,5 m distance and reverberating time of 0,3 s.
(2) Power supply: 230-1-50/60 [V-ph-Hz].

If greater accuracy or not standard conditions are required, please contact EURAPO staff.
The printed data could be modified without any notice.

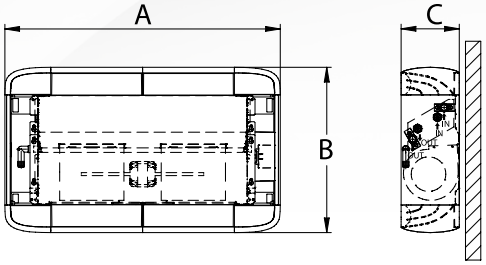
DIMENSIONS AND WEIGHTS

mod. ESF



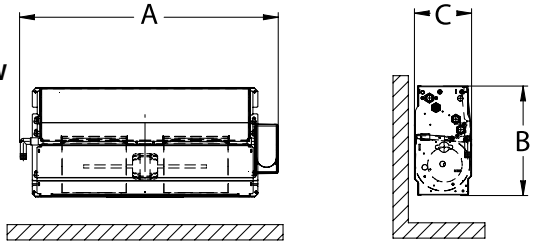
ESF	20	40
A	900	1200
B	540	540
C	190	190
Kg	19	27
WATER CONNECTIONS 1/2" G F		

mod. ESW

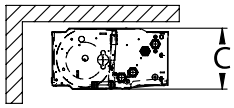


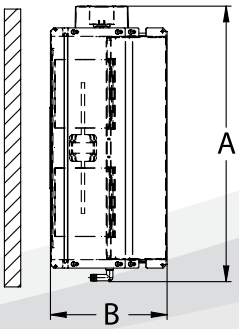
ESW	20	40
A	900	1200
B	540	540
C	190	190
Kg	20	29
WATER CONNECTIONS 1/2" G F		

mod. ECV



mod. ECH





ECV - ECH	20	40
A	843	1143
B	357	357
C	186	186
Kg	14	20
WATER CONNECTIONS 1/2" G F		

NOTES

All dimensions are measured in mm.
Water connections are 1/2" G female, right hand side.
Left hand side water connections are available on request.

OMNIBUS 360
BUILDING MANAGEMENT SYSTEM

OPower, the technology

TECHNOLOGICAL INTELLIGENCE AT THE HEART OF AN ADVANCED SYSTEM

The mind of the system is located in the OPower card, an exceptionally versatile hardware installed on board of the water terminal units. OPower is able to receive and process a large amount of input and output data. It is equipped with a very performing microprocessor and 3 independent MODBUS lines. It can be easily programmed and configured according to the user requests and on the basis of the type of system where the unit is installed.

OPower can measure the following input values:

- room temperature;
- water temperature;
- air outlet temperature;
- Economy/Occupancy contact status;
- failure status;
- window contact status.

OPower can manage the following outputs:

- opening/closing of modulating water valves;
- fan operation in "thermostated" or "continuous" mode;
- integration of a radiant system with a hydronic terminal unit;
- control of a primary electric heater;
- activation of the water circulation pump;
- control of other OPower cards in slave mode.

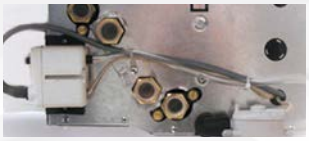
ACCESSORIES

KREL

Electric heater
Electric heater supplied with 2 safety thermostats, one with automatic resetting and the other one with manual resetting (in accordance with 2006/95/CE, and 2004/108/CE Directives).

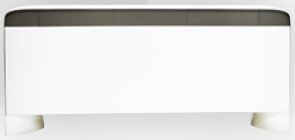
DTH2902

Valve and shut off valve
Insulated ON/OFF 2 ways valve with shut-off valve for 2 and 4 pipe system.



PC

Condensate pump
The condensate pump is necessary when the natural water discharge is not allowed.



PPV

Vertical back panel
It is a back panel made of steel painted in the same color as the casing. It is mounted on vertical units with housing when the back side of the unit is in view.

CONTROLS

Round Analog

Interface for remote installation, suitable for the selection of the main functions of the unit. It allows to set the ON/Off status, the room temperature setpoint, the fan speed and the Summer/Winter changeover.

Round Inside

Interface for built-in installation, with an ergonomic design. It allows to set the ON/Off status, the room temperature setpoint, the fan speed and the Summer/Winter changeover.

Round Cabin

Simplified interface for remote installation, which permits to set the On/Off status and the room temperature setpoint. It is particularly suitable for installations where a simplified user interface is required, such as naval cabins and hotel rooms.

Round Display

Digital remote interface with 3.5-inch backlit screen, which allows to set the functions of the unit (setpoint, fan speed, status, etc.). It permits to visualize and modify the setting of the main parameters of the system.

Round Touch

Digital interface with backlit touch screen (4.3 inches), which allows to set the functions of the unit, to visualize and modify the setting of the main parameters of the system and in addition can set also daily and weekly programs.

Round Master

Supervisor for medium-size systems with a 7-inch screen and capacitive touch. It allows to manage up to 100 OPower cards connected to the network via the MODBUS RTU serial bus. With Round Master it is possible to configure complex scenarios and set up seasonal system programming.

Round Clima

Mobile application for the remote management of the system. It is compatible with Android and iOS operating systems.
It is available only in presence of one of the OSuper devices: Round Manager, Round Master.

EDCR

Remote microprocessor control for "on wall" installation, designed for water terminal units equipped with Brushless motors (EST Inverter Technology). It permits to control the type of ventilation, the fan speeds, Summer/Winter switch and room temperature thermostat.

Visit our website www.eurapo.it for the complete range of accessories and controls.

carecom.it

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