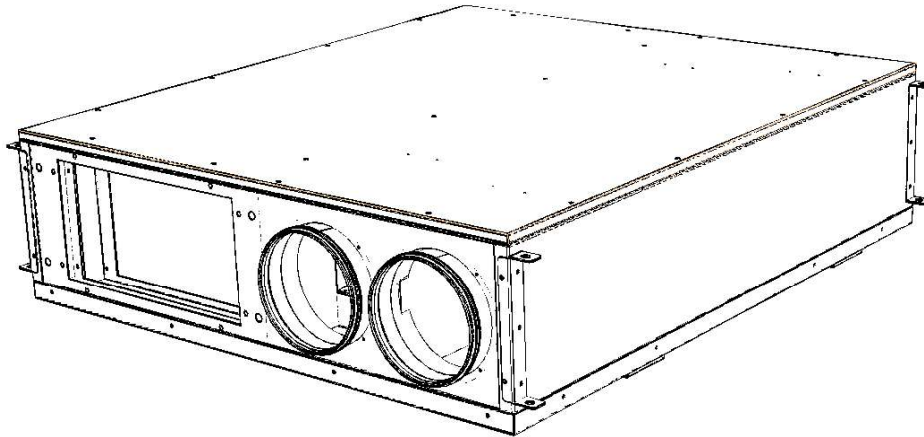


URA R DOMO

Compact controlled mechanical ventilation, dehumidification and air treatment unit with high efficiency heat recovery for application with radiant panels



VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024

GENERAL CHARACTERISTICS

STRUCTURE

Highly resistant structure with self-supporting frame painted sheet metal.

Choice of materials with high performance characteristics thermal and acoustic insulation



FANS

The unit is equipped with Erp2018 centrifugal fans with electronic motor with low energy consumption e constant flow control



RECOVERY

Cross flow polypropylene heat exchanger in countercurrent with high efficiency.



COMPRESSOR

High efficiency reciprocating compressor



FILTRATION

There are flat filters with PM1 filtration class on the external air inlet and supply while on the recirculation they are Coarse filters;



ELECTRONICS

The management of the system is entrusted to an advanced but simple to manage electronic system. An online help ensures via the control keyboard a correct use.

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



TECHNICAL CHARACTERISTICS

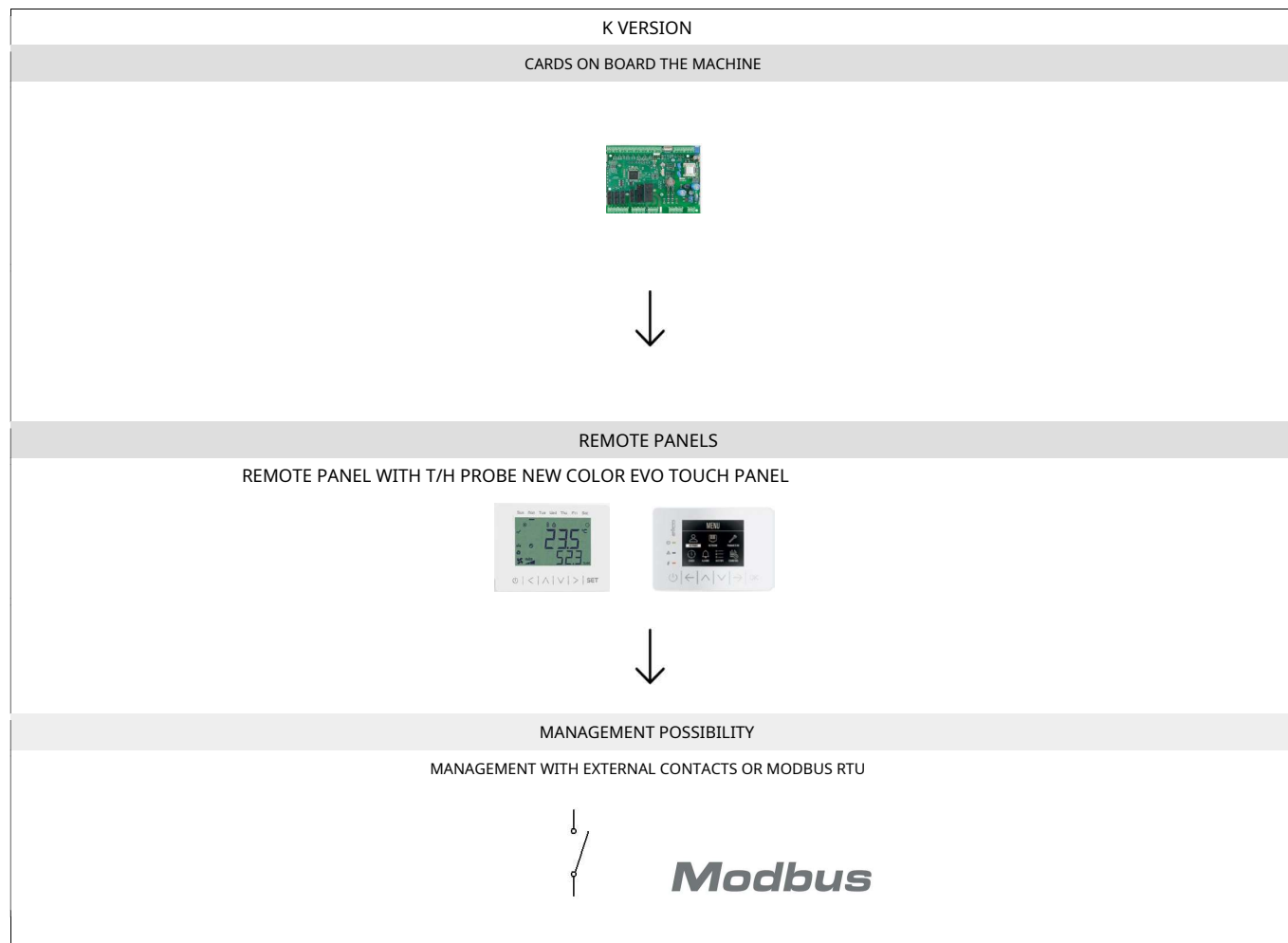
THE URAR DOMO Kit is a controlled mechanical ventilation unit with high efficiency heat recuperator, air treatment section with dehumidification, cooling and heating. The unit is particularly suitable for residential, commercial or collective residential buildings and is supplied plug-and-play for quick and simplified installation.

The unit is made up of a monobloc including every component for correct operation and allows operation with wide external temperature ranges.

RECOVERY SECTION:	High efficiency countercurrent polypropylene exchanger >90%. Summer and winter operation.
VENTILATION:	Brushless centrifugal fans with electronic motor and modulating control. Very high efficiency and low noise levels Compliant with the Erp2018 regulation. Constant flow regulation
AIR TREATMENT SECTION:	The unit can be equipped with a refrigeration circuit for dehumidification or the integration of cooling and heating. In the various configurations, it will be possible to select the desired type of air treatment between dehumidification only or dehumidification with heating and cooling of the primary air.
FILTRATION:	PM1 80% filters easily removable on the external air intake on the extraction air. Coarse filters with low pressure drop easily removable on the recirculated air.
STRUCTURE:	Paneling made of self-supporting sheet metal painted matt RAL9003 with high density EPS interior. Self-supporting perimeter structure in galvanized sheet metal. The insulation of the panels is made with high performance insulation 20 and 30mm thick.
REFRIGERATING CIRCUIT:	Made of brazed copper complete with: High efficiency compressor, Dryer filter, finned coils, water exchanger, solenoid valves, lamination device, liquid receiver, high and low pressure switches and thermal insulation of pipes.
ADJUSTMENT:	K VERSION Electrical panel on board the unit with microprocessor and dedicated regulation. Fan management, display of internal machine temperature probes, timed dirty filter management, management of recirculation and renewal air. Possibility of controlling the unit with these three solutions: 1: Management through external commands and 0-10vdc signal to control air flow from minimum to maximum; 2: Management via remote panel with integrated T/H sensor 3 : MODBUS RTU RS 485 communication

COMMAND FUNCTIONALITY

The composition of the unit's electronics and possible management are defined below



ECODESIGN CLASSIFICATION

The regulation, which came into force on 15 December 2014, defines the energy consumption labels to be applied to ventilation units and the information to be placed in the appliances' instruction booklets, so that consumers are fully informed about energy consumption and efficiency of the devices.

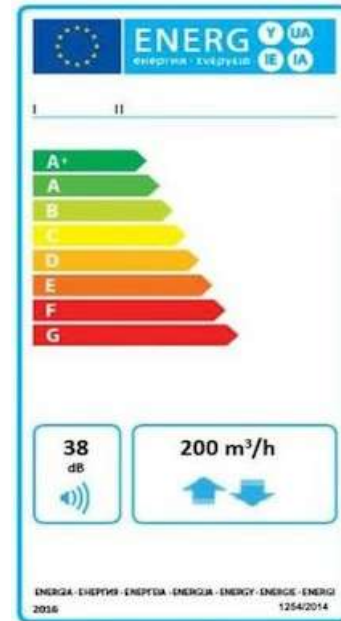
DEFINITIONS:By "ventilation unit" we mean an electrically powered appliance equipped with at least one impeller, a motor and a casing, intended to replace exhausted air with air coming from outside a building or part of it. The residential ventilation units subject to the obligation are those with a maximum flow rate of 250 m³/h. The rules are extended to those with a flow rate between 250 and 1,000 m³/h only if they are intended, as declared by the manufacturer, exclusively for the ventilation of residential buildings.

LABEL:The label will inform the consumer about the supplier's name or brand, supplier's model identifier, energy efficiency class of the appliance, sound power level (LWA), in dB and maximum flow rate, in m³/h.

SUPPLIER RESPONSIBILITIES:Suppliers who place residential ventilation units on the market shall ensure that, starting from 1 January 2016, the following conditions are respected:1.Each residential ventilation unit is accompanied by a printed label, in the format indicated in Annex III, and containing the information indicated therein; the label must be present at least in the packaging of the unit. For each model of residential ventilation unit, an electronic label of the format and with the information referred to in Annex III; 2.A product sheet is available as indicated in the annex IV. The card is present at least in the packaging of the unit. For each model of residential ventilation unit, an electronic product sheet is available to distributors and on public websites, as described in Annex IV; 3.The technical documentation referred to in annex V is provided upon request to the authorities of the Member States and the Commission;4.Instructions for use are provided;

5.Any advertisement relating to a specific model of residential ventilation unit that contains information regarding energy or price indicates the specific energy consumption class of that model;6.Any technical promotional material relating to a specific model of residential ventilation unit, which describes its specific technical parameters, indicates its specific energy consumption class.

DISTRIBUTORS' RESPONSIBILITIES:Distributors instead:1. At the point of sale, each residential ventilation unit bears the label made available by the suppliers pursuant to the Article 3(1)(a) outside the front or top of the appliance so that it is clearly visible;2.The residential ventilation units offered for sale, for rental or installment sale in situations in which the end user is not expected to be able to view the displayed product, are marketed accompanied by the information provided by the suppliers pursuant to the annex VI, unless the offer is made via the Internet, in which case the provisions of the Annex VII; 3.Any advertisement relating to a specific model of residential ventilation unit that contains energy or price information shall indicate the specific energy consumption class of the unit;4.Any technical promotional material relating to a specific model, which describes the technical parameters of a residential ventilation unit, includes the model-specific energy consumption class, as well as the instruction manual provided by the supplier.



Below is a summary of the classification of the various models according to European regulation 1253/2014 and 1254/2014

Size	30/15	50/25
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	A	A
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VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024

UNIT CONFIGURATION

	- 1-	- 2-	- 3-	- 4-
URAR-DOMO	50/25	H	K	D

(1) Defines the total flow rate and the fresh air flow rate
Models from 400/200 m³/h to 600/300 m³/h

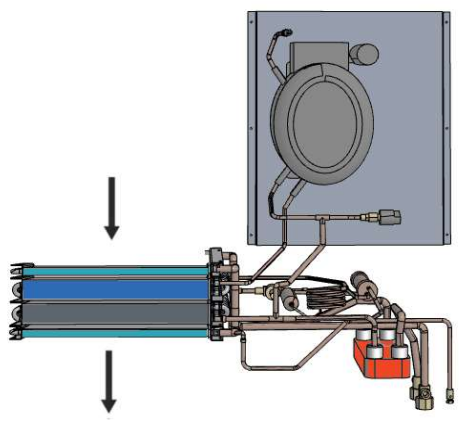
H: Horizontal

2) Type of installation

3) Electronic type K : K electronics

4) Construction type
D: Version for neutral air dehumidification (isothermal)
DC: Version for dehumidification and integration in cold and heat

BRIEF DESCRIPTION OF THE VERSIONS

<p>Version For dehumidifies and integration in cooling/heating (DC) Unit for the renewal of ambient air with external air through a high efficiency recuperator, the air flow rate is increased by partially recirculating the ambient air, thus allowing the air to be dehumidified and providing an integration of the cooling/heating power to the radiant air conditioning system. During the summer period (compressor active) the unit can operate in 2 modes:</p> <p>1 Renewal + Dehumidify: The unit condenses partially in air and partially in water via the plate condenser, obtaining dehumidified air;</p> <p>2 Renewal + Dehumidify + Cooling integration: The unit condenses entirely in water, thus obtaining dehumidified and cooled air.</p> <p>During the winter period (compressor off) the hydronic battery is fed with hot water from the heating system and behaves like a thermoventilator with recuperator.</p>	 <p style="text-align: center;">DC version undergoing summer integration</p>
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VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



COMPOSITION OF THE UNIT

	Version -D-	-DC- version
REFRIGERATING CIRCUIT		
Hermetic reciprocating compressor	•	•
Copper tube air condenser with aluminum fins	•	•
Hydronic condenser with stainless steel exchanger	/	•
Copper tube heat exchanger with aluminum fins	•	•
Rolling organ	•	•
Filter drier	•	•
High pressure switches	•	•
Low pressure switches	•	•
HYDRAULIC CIRCUIT		
Post-cooling/heating hydronic battery	•	•
Hydronic pre-cooling/heating coil	•	•
AIR CIRCUIT		
Polypropylene heat exchanger	•	•
N°2 Centrifugal fans with Brushless motors	•	•
PM1 filters on the fresh air intake and supply air	•	•
Coarse filters on the recirculation air intake	•	•
Recirculation damper with 230 on off motor	•	•
External air damper with 0-10v modulating motor	•	•
ELECTRICAL CIRCUIT		
Microprocessor	•	•

• = Installato di serie

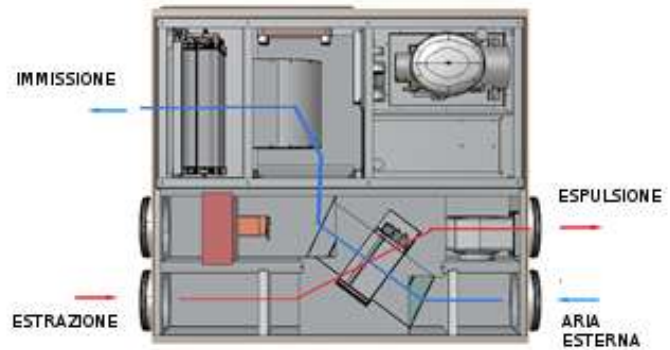
/ = Non disponibile

UNIT OPERATION

VENTILATION ONLY OPERATION

The unit URAR DOMO K will satisfy the mechanical ventilation with high efficiency heat recovery. It will be possible to select the fan speeds in order to obtain the desired flow rate to satisfy the air renewal requests.

The selectable flow rates are: On size 30-15 from 0 to 200m³/h On size 50-25 from 0 to 300m³/h



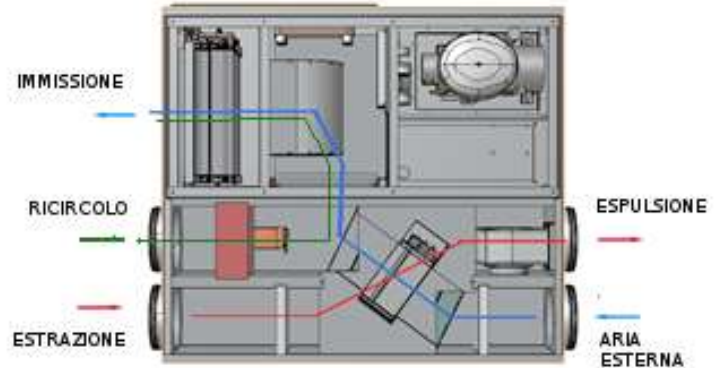
VENTILATION, DEHUMIDIFICATION AND INTEGRATION OPERATION

The unit URAR DOMO K will continue to satisfy there mechanical ventilation with high efficiency heat recovery but will increase the air flow, recirculating from a dedicated room air duct to increase the air volume on the integration part.

The integration part can be made up of a version with dehumidification (Version D), a version with dehumidification and integration (Version DC) and hydronic integrative batteries.

The DC version finds its most common application in radiant systems where there is a need for dehumidification and the integration of cooling in the summer period. During operation, the unit uses humidity and temperature probes to activate the refrigeration circuit composed of the compressor, the air evaporation coil and the air and water condenser powered by the radiant system, thus realizing the dehumidification of the air and the integration of cooling.

In the winter period, it is however possible to use the unit to integrate the radiant heating by feeding the hydronic hot water battery, obtaining a rapid heat input to the room.



VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



UNIT PERFORMANCE

GENERAL TECHNICAL DATA

Size		30/15	50/25
Nominal winter efficiency of recuperator:	%	80.9	80.6
Nominal external air flow	m ³ /h	210	299
Total air flow	m ³ /h	375	605

(1) External air temperature 7°; relative humidity 72%. room temperature 20°C; relative humidity 28%, nominal air flow

VERSION D-

Useful dehumidification capacity	l/24h	30.5	56
Cooling capacity rendered by hydronic battery:	kW	0.7	1.56
Thermal power outputs	kW	0.86	1.4
Water flow rate	m ³ /h	0.25	0.35
Pressure drop	Kpa	8.5	10.5
Lp sound pressure at 3 m	dB(A)	39.7	43.2
Electrical supply	V/Ph/Hz	230 / 1 / 50	230 / 1 / 50
Maximum current absorbed	TO	5.5	7

(1) External air temperature 30°; relative humidity 60%. room temperature 25°C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25°C; relative humidity 60%, nominal air flow; Water at 16°C;

(3) Ambient temperature 20°C; relative humidity 60%, nominal air flow; Water at 35°C;

DC VERSION-

Useful dehumidification capacity	l/24h	30.5	56
Compressor cooling capacity output:	kW	1.55	2.4
Cooling capacity rendered by hydronic battery:	kW	0.7	1.56
Thermal power outputs	kW	0.86	1.4
Water flow rate	m ³ /h	0.25	0.35
Pressure drop	Kpa	8.5	10.5
Lp sound pressure at 3 m	dB(A)	39.7	43.2
Electrical supply	V/Ph/Hz	230 / 1 / 50	230 / 1 / 50
Maximum current absorbed	TO	5.5	7

(1) External air temperature 30°; relative humidity 60%. room temperature 25°C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25°C; relative humidity 60%, nominal air flow; Water at 16°C;

(3) Ambient temperature 20°C; relative humidity 60%, nominal air flow; Water at 35°C

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



URA R DOMO K 30/15 H D/DC

Fans

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of Fans	No	2
Ventilation air flow	m ³ /h	210
Integration air flow	m ³ /h	375
Nominal useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counterflow plates - polypropylene material
Number of Exchangers	No	1
Recovery efficiency ¹	%	80.9

(1) External air temperature 7°C; relative humidity 72%. room temperature 20°C; relative humidity 28%, nominal air flow

Data Heating and cooling capacities / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air):	l/24h	30.5
Cooling capacity rendered by hydronic battery ²	kW	0.7
Water flow rate for summer operation	m ³ /h	0.25
Pressure drop in summer operation	Kpa	8.5
Summer compressor cooling capacity	kW	1.55 (DC VERSION ONLY)
Compressor absorbed power	kW	0.47
Thermal power output	kW	0.86
Water flow rate for winter operation	m ³ /h	0.25
Winter operation pressure drop	Kpa	8.5
Refrigerant gas		R134a

(1) External air temperature 30 °C; relative humidity 60%. ambient temperature 25 °C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 °C; relative humidity 60%, nominal air flow; Water at 16 °C

(3) Ambient temperature 20 °C; relative humidity 60%, nominal air flow; Water at 35°C

Filters

Type of filters		Flat Filters
Filtration class		Coarse + ePM1 80% + ePM10 80%

Acoustic data

Sound power Lw transmitted by the structure	dB(A)	61.2
Sound power Lw radiated into the canal	dB(A)	63.5
Average sound pressure Lp at 1Mt	dB(A)	46.7
Average sound pressure Lp at 3Mt	dB (A)	39.7

Electrical Data

Supply voltage	V	230/1/50Hz.
Current absorbed	TO	5.5
Degree of protection	IP	44

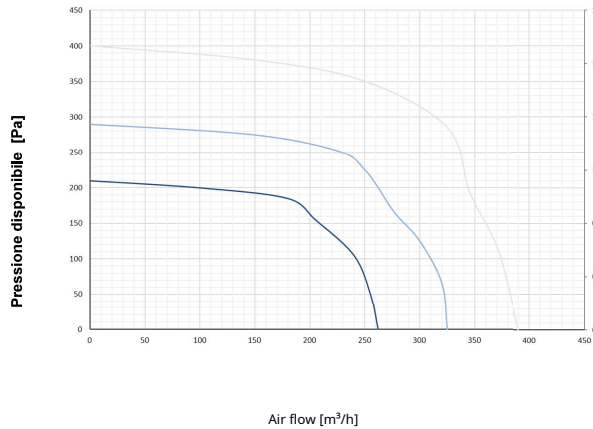
VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024

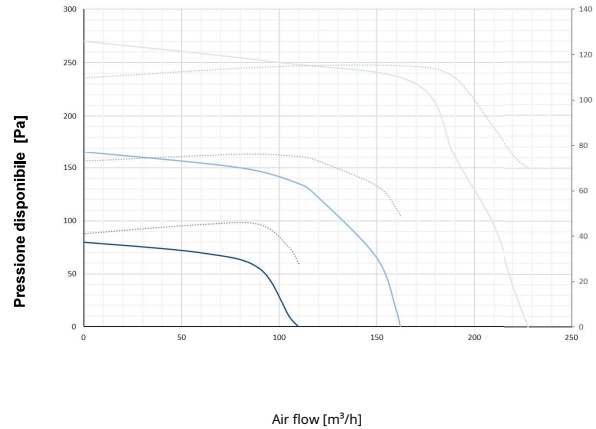


CURVES 30/15

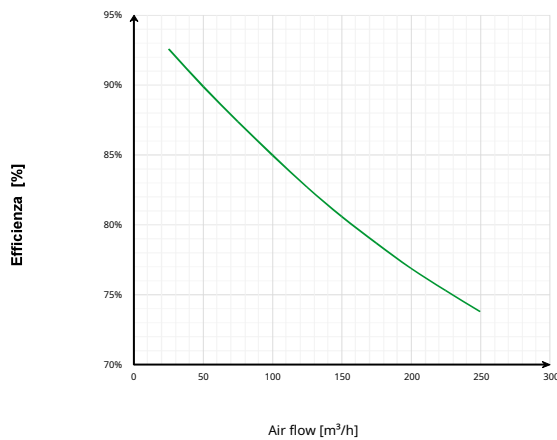
**AERAULIC PERFORMANCE
INTEGRATION/DEHUMIDIFICATION**



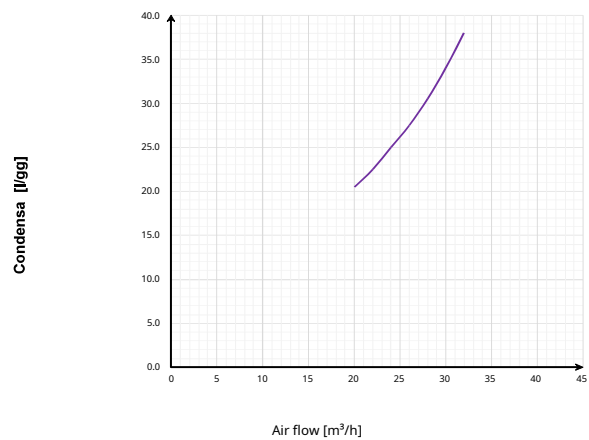
AERAULIC VENTILATION PERFORMANCE



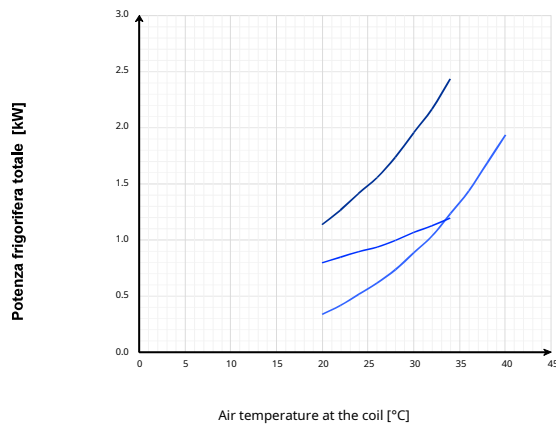
THERMAL EFFICIENCY (1)



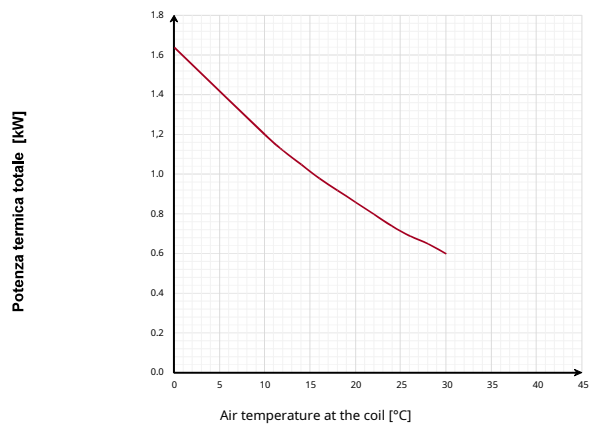
DEHUMIDIFICATION CAPACITY (2)



COOLING OUTPUT (3)



THERMAL OUTPUT (4)




- 1) - External air temperature 7°; relative humidity 72%. ambient temperature 20°C; relative humidity 28%, nominal air flow
- (2) External air temperature 30°; relative humidity 60%. room temperature 25°C; relative humidity 50%; water inlet temperature 16°C nominal air flow
- 3) - Room temperature 25°; relative humidity 60%, nominal external air flow, water inlet temperature 16°C, nominal air flow;
- 4) - Room temperature 20°; relative humidity 60%, nominal external air flow, water inlet temperature 35°C, nominal air flow;

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



ERP DATA ECODESIGN 30/15 HD/DC

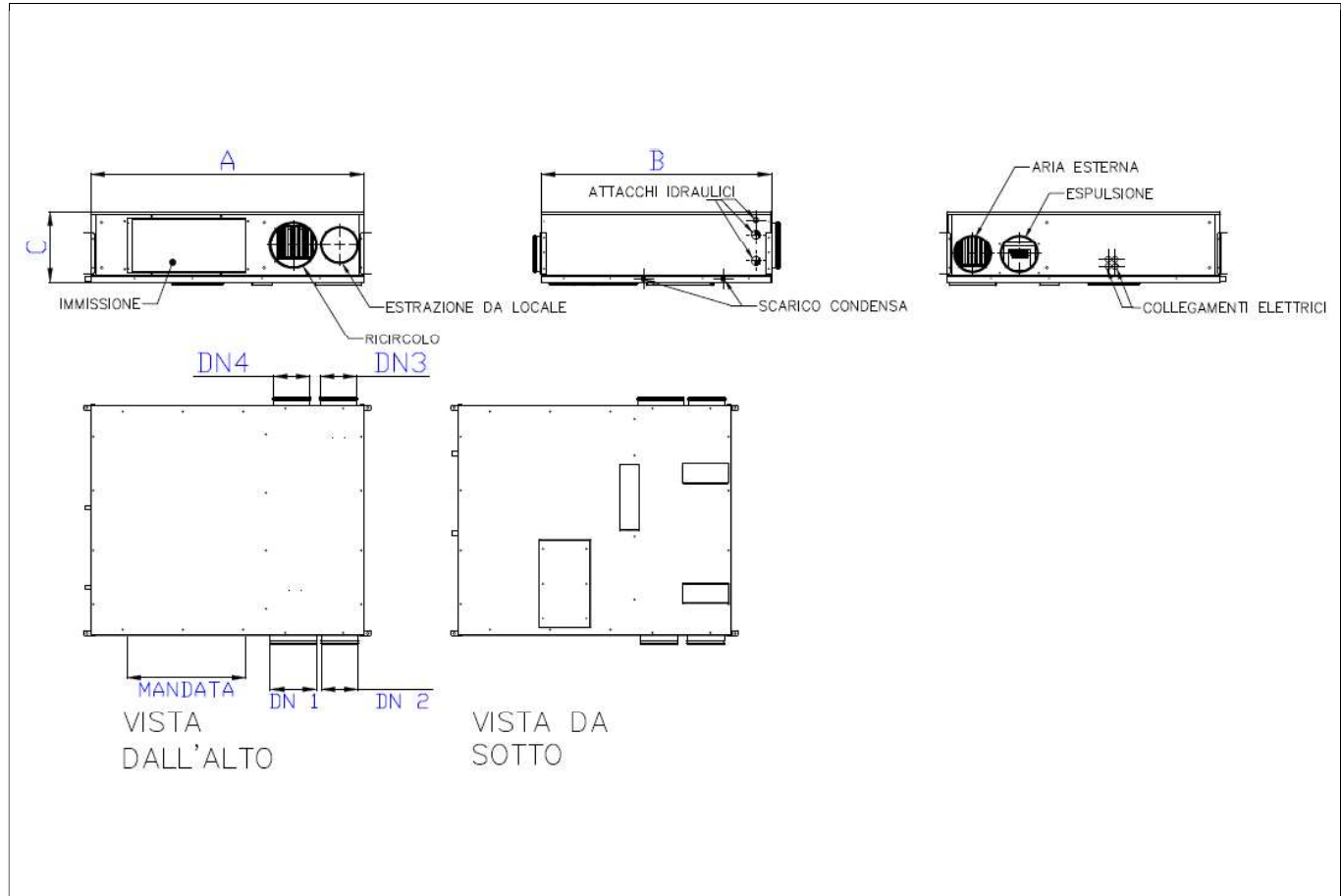
TO	Supplier's name or trademark			AIR CONTROL SRL
B	Model identifier			URAR DOMO K30/15 HKD /URAR DOMO K30/15 HK DC
C	Version			Central demand control
	SEC	kwh/m2.a	COLD	- 70.6
			AVERAGE	- 34.1
			WARM	- 10.5
SEC CLASS				
D	Declared typology			UVR - Bidirectional
AND	Type of drive installed			Speed variator
F	Heat recovery system			To recovery
G	Thermal efficiency of heat recovery	%		80.9
H	Maximum range	m³/s		0.058
THE	Electrical power absorbed at maximum flow rate	W/h		90
J	Sound power level	Lwa		48
K	Reference flow rate	m³/s		0.04
THE	Reference pressure	Pa		50
M	SPI	W / m³/h		0.41
No	Control factor	CLTR		0.85
OR	Maximum declared leakage percentages	%		4.3 ext. / 5.5 int.
Q	Position and description of the signal relating to the filter			Shown on the unit and remote control display e in the instruction manual
S	Internet address for disassembly instructions			
V	AEC	kWh/a	COLD	953.10
			AVERAGE	416.10
			WARM	371.10
W	AHS	kWh/a	COLD	8574.90
			AVERAGE	4383.30
			WARM	1982.10

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024

DIMENSIONAL AND FUNCTIONAL SPACES

UNIT'



Model	URAR DOMO K	30/15
Width A	mm	880
Depth B	mm	1070
Height C	mm	251
DN1 recirculation air inlet	mm	160
Stale air inlet DN2	mm	160
DN3 fresh air inlet	mm	160
DN4 stale air expulsion	mm	160
Send b x h	mm	350x180
Delivery/return water connections	OR	1/2" - 1/2"
Condensation	OR	18
Weight	Kg	74

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



URA R DOMOK2 50/25 HD/DC

Fans

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of Fans	No	2
Ventilation air flow	m ³ /h	299
Integration air flow	m ³ /h	605
Nominal useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counterflow plates - polypropylene material
Number of Exchangers	No	1
Recovery efficiency	%	80.6

(1) External air temperature 7°; relative humidity 72%. room temperature 20°C; relative humidity 28%, nominal air flow

Data Heating and cooling capacities / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air):	l/24h	56
Cooling capacity rendered by hydronic battery:	kW	1.56
Water flow rate for summer operation	m ³ /h	0.35
Pressure drop in summer operation	Kpa	10.5
Summer compressor cooling capacity	kW	2.4 (DC VERSION ONLY)
Compressor absorbed power	kW	0.77
Thermal power outputs	kW	1.4
Water flow rate for winter operation	m ³ /h	0.35
Winter operation pressure drop	Kpa	10.5
Refrigerant gas		R134a

(1) External air temperature 30°; relative humidity 60%. room temperature 25°C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25°C; relative humidity 60%, nominal air flow; Water at 16°C

(3) Ambient temperature 20°C; relative humidity 60%, nominal air flow; Water at 35°C

Filters

Type of filters		Flat Filters
Filtration class		Coarse + ePM1 80% + ePM1 80%

Acoustic data

Sound power Lw transmitted by the structure	dB(A)	64.6
Sound power Lw radiated into the canal	dB(A)	67.5
Average sound pressure Lp at 1Mt	dB(A)	49.9
Average sound pressure Lp at 3Mt	dB(A)	43.2

Electrical Data

Supply voltage	V	230/1/50Hz.
Current absorbed	TO	7
Degree of protection	IP	44

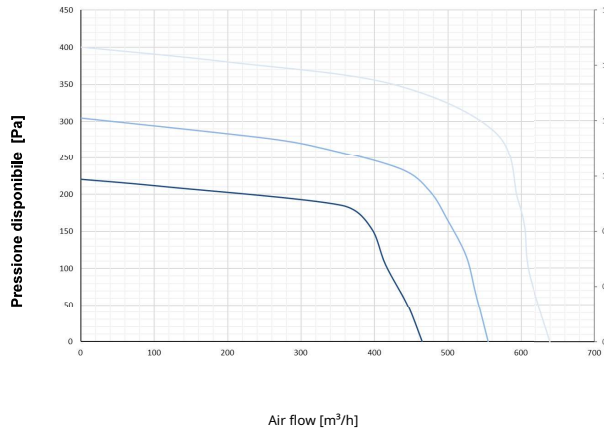
VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024

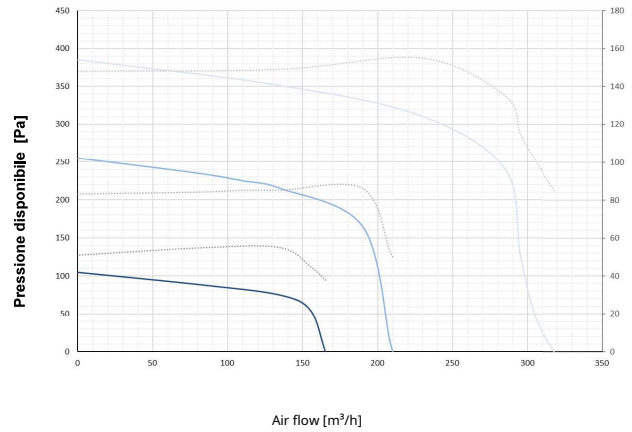


CURVES 50/25 HKD/DC

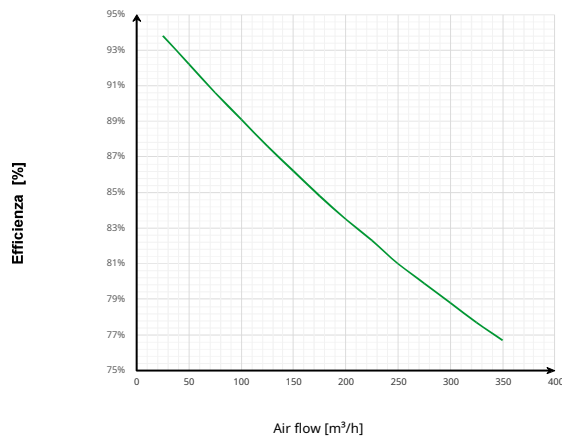
AEREAULIC PERFORMANCE
INTEGRATION/DEHUMIDIFICATION



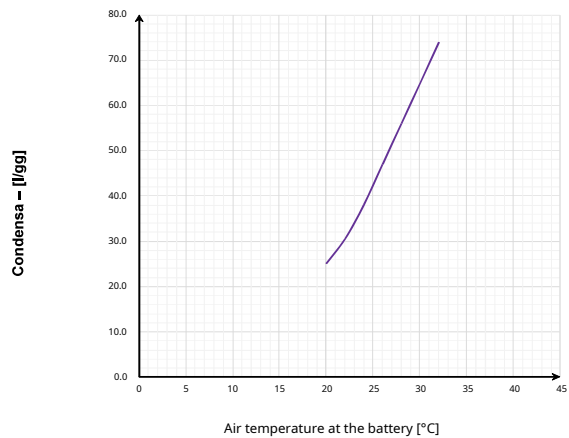
AEREAULIC VENTILATION PERFORMANCE



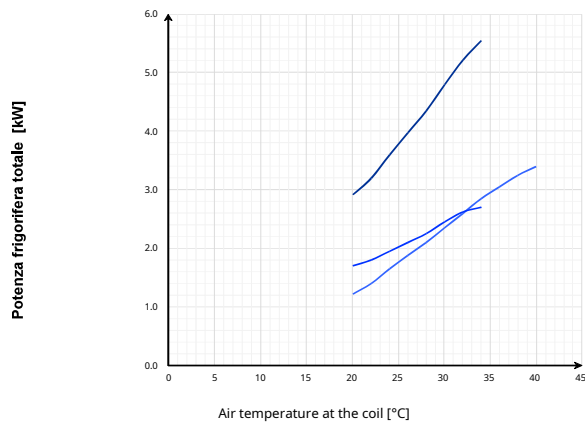
THERMAL EFFICIENCY (1)



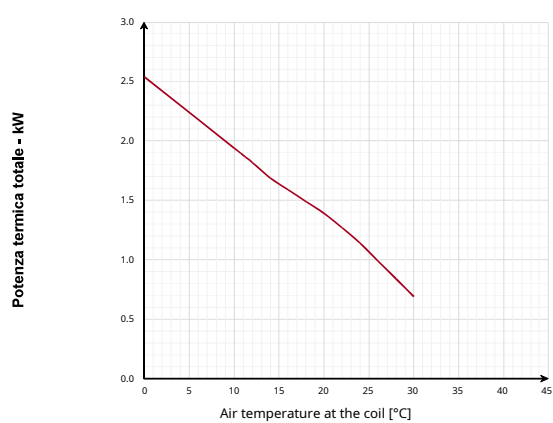
DEHUMIDIFICATION CAPACITY (2)



COOLING OUTPUT (3)



THERMAL OUTPUT (4)




- 1) - External air temperature 7°; relative humidity 72%. ambient temperature 20°C; relative humidity 28%,
- 2) - Room temperature 25°; relative humidity 60%, nominal external air flow, water inlet temperature 16°C.
- 3) - Room temperature 25°; relative humidity 60%, nominal external air flow, water inlet temperature 16°C
- 4) - Room temperature 20°; relative humidity 60%, nominal external air flow, water inlet temperature 35°

VENTILATION AND AIR HANDLING UNIT

TECHNICAL DATA SHEET 2024



ERP DATA ECODESIGN 50/25 HKD/DC

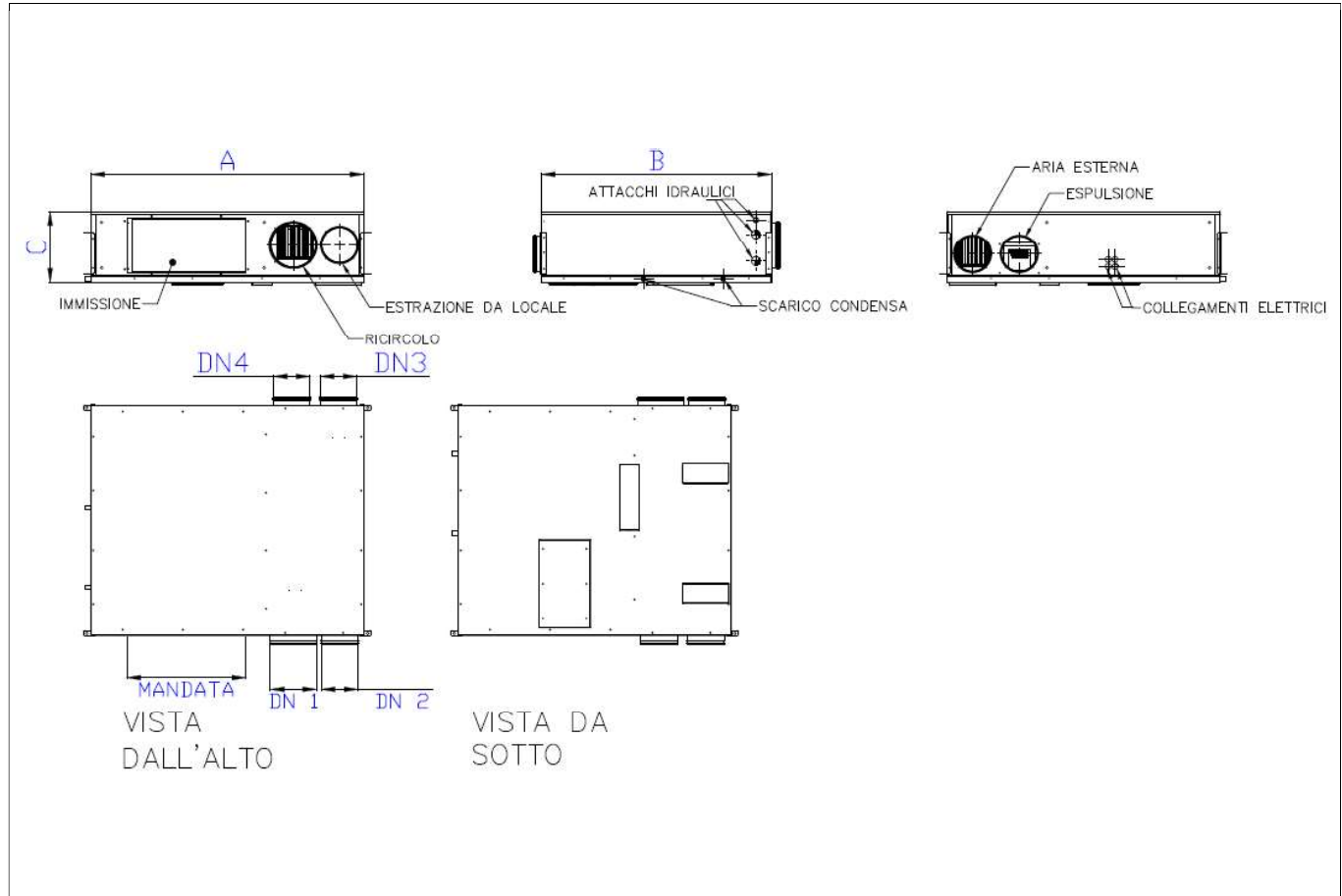
TO	Supplier's name or trademark		AIR CONTROL SRL	
B	Model identifier		URAR DOMO K 50/25 HKD /URAR DOMO K50/25 HK DC	
C	Version		Central demand control	
	SEC	Kwh/m2.a	COLD	- 70.9
			AVERAGE	- 34.5
			WARM	- 11.0
SEC CLASS				
D	Declared typology		UVR - Bidirectional	
AND	Type of drive installed		Speed variator	
F	Heat recovery system		To recovery	
G	Thermal efficiency of heat recovery	%	80.6	
H	Maximum range	m ³ /s	0.083	
THE	Electrical power absorbed at maximum flow rate	W/h	230	
J	Sound power level	Lwa	50	
K	Reference flow rate	m ³ /s	0.058	
THE	Reference pressure	Pa	50	
M	SPI	W / m ³ /h	0.39	
No	Control factor	CLTR	0.65	
OR	Maximum declared leakage percentages	%	5.0 ext. / 5.3nt.	
Q	Position and description of the signal relating to the filter		Shown on the unit and remote control display e in the instruction manual	
S	Internet address for disassembly instructions			
V	AEC	kWh/a	COLD	935.00
			AVERAGE	398.00
			WARM	353.00
W	AHS	kWh/a	COLD	8559.00
			AVERAGE	4375.20
			WARM	1978,40

VENTILATION AND AIR HANDLING UNIT

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DIMENSIONAL AND FUNCTIONAL SPACES

UNIT'



Model	URAR DOMO K	50/25
Width A	mm	995
Depth B	mm	1180
Height C	mm	309
DN1 recirculation air inlet	mm	200
Stale air inlet DN2	mm	160
DN3 fresh air inlet	mm	160
DN4 stale air expulsion	mm	160
Send bxh	mm	515x240
Delivery/return water connections	OR	1/2" - 1/2"
Condensation	OR	18
Weight	Kg	90

VENTILATION AND AIR HANDLING UNIT

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OPERATING LIMITS



Size		30/15	50/25
HEATING		Indoor Air	External Air
	°C - U%	15° / 30° - 40% / 90%	- 20° / 20°
COOLING		Indoor Air	External Air
	°C - U%	18° / 30° - 40% / 90%	20° / 40°
WATER TEMPERATURE		Winter min/max	Summer min/max
	°C	25 - 35 °C	15 - 25 °C
BRING WATER		Winter min/max with the indicated T values	Summer min/max with the indicated T values
	m ³ /h	0.20 - 0.30	0.28 - 0.42

VENTILATION AND AIR HANDLING UNIT



TECHNICAL DATA SHEET 2024

LIST OF ACCESSORIES

K VERSION ADJUSTMENT

CNU – DIGITAL REMOTE CONTROL WITH T/H SENSOR for K electronics	
Remote panel for placement on a horizontal 503 box or on the wall with graphic interface and various unit control functions. Maximum connection length 15 m with power supply from the unit while 50 m with power supply from the outside 12 Vac;	
CNU2 – DIGITAL REMOTE CONTROL WITH T/H SENSOR for K electronics	
Remote panel for placement on a horizontal 503 box or on the wall with graphic interface and various unit control functions. Maximum connection length 15 m with power supply from the unit while 50 m with power supply from the outside 12 Vac; Touch screen panel with new graphic menus	

ACCESSORIES

VDZ2 – 2-WAY VALVE	
2-way zone valve operated directly by the unit to allow the hydronic battery to be powered.	
VDZ3 – 3-WAY VALVE	
3-way zone valve operated directly by the unit to allow the hydronic coil to be powered.	

The CE marking (present on each machine) certifies compliance with the following community standards:

- Low Voltage Directive Electromagnetic 2014/35/EC
- Compatibility Directive Ecodesign 2014/30/EC
- 2009/125/EC

Dealer

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