

TECHNICAL SHEET



Isothermal dehumidifier designed for the control of indoor relative humidity in underfloor/ceiling/wall radiant cooling systems. It consists of a complete refrigerant unit with pre and post treatment hydronic batteries that can use the chilled water supplied to radiant systems. Mandatory condensate drain kit. The unit is available in 2 versions, depending from the accessories used:

- version for embedded installation in the wall (composed by recessed box, dehumidification unit and front panel);
- version for external installation on the wall (composed by dehumidification unit and cabinet);

- Galvanised sheet metal structure
- Stainless steel condensate collection tray
- Finned heat exchangers with hydrophilic treatment
- Refrigerant: R134a (260 g)
- Dehumidification capacity: 24 l/g (26 °C RH 65%)
- Water flow rate at 15 °C: 240 l/h
- Nominal Air flow rate: 200 m³/h
- Elect. power supply: 230 Vac - 50/60 Hz
- Max. electrical power: 340 W
- Hydraulic connections 1/2" F
- Condensate drain Ø 14 mm

Package content

- RNW 204 CoRe
- Installation / Technical Manual

Description	Dimensions	Weight	Code
RNW 204 CoRe	721,5x573x206 mm	31,7 kg	7040023

Components description

- **Compressor:** hermetically sealed with a bipolar single-phase asynchronous motor coupled with an alternative single cylinder compressor
- **Pre-cooling coil:** copper pipe (2 sets) and aluminium fins with hydrophilic treatment
- **Evaporating coil:** copper pipes and aluminium fins with hydrophilic treatment
- **Post-heating coil:** copper pipes and aluminium fins with hydrophilic treatment
- **Fan:** double suction centrifugal fan with with 3-speed directly coupled motor
- **Air filter:** With filtering material made of synthetic fibres - class G3 (EN779:2002)
- **Condenser temperature probe:** NTC sensor which measures the temperature of the condenser
- **Water temperature probe:** NTC sensor which measures the temperature of the water
- **Evaporator temperature probe:** NTC sensor which measures the temperature of the evaporator
- **Circuit board fuse:** 250V - 10 A

COMPONENTS

AIR FLOWS



Supply Air



Recirculation Air

AIR FILTERS



e(PM10) min ≤50 %
Hairs



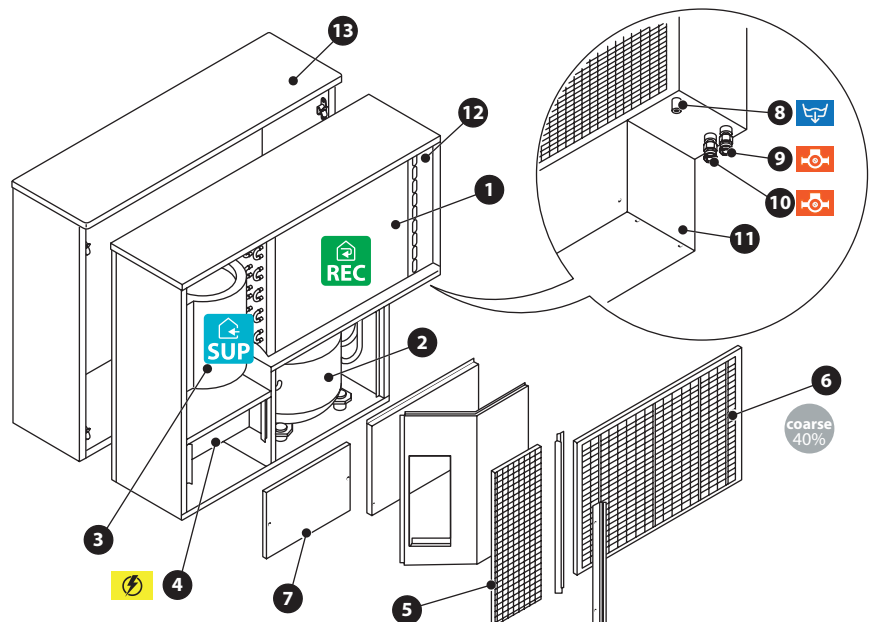
Ø 14 mm Condensation Drain



1/2" F Hydraulic connection




Wiring Box



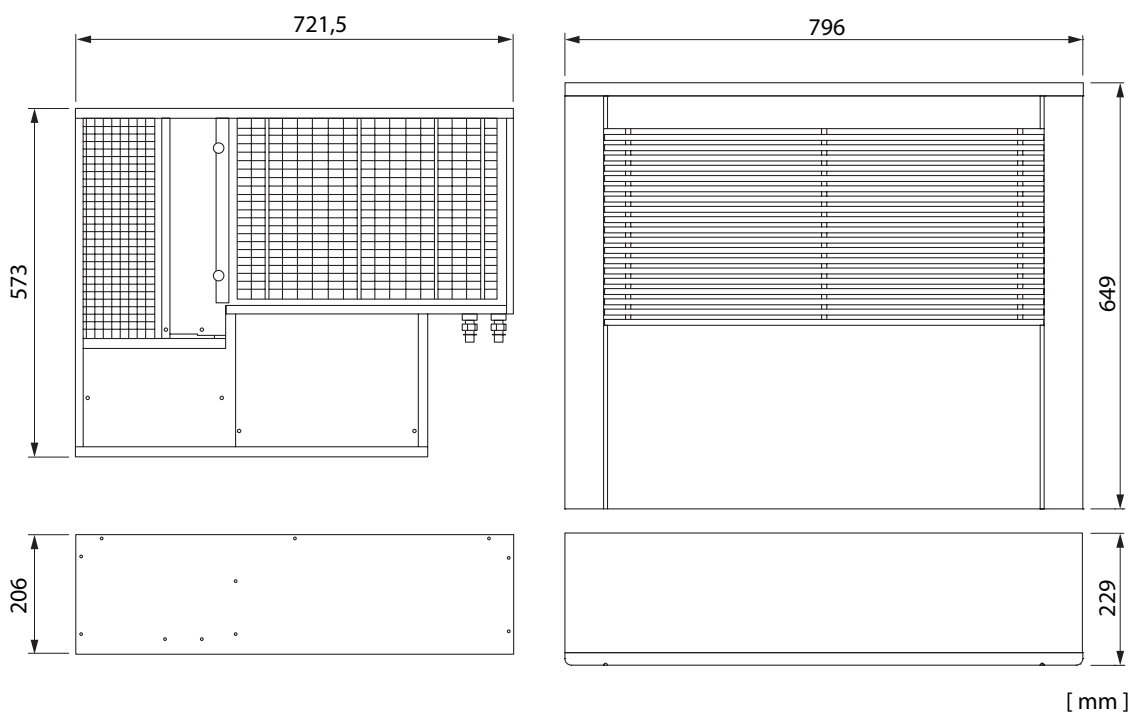
Rif.	Description	Rif.	Description
1	Exchangers	7	Switchboard
2	Compressor	8	Ø 14 mm condensation drain
3	Fan	9	Water inlet (1/2" F)
4	Electronic card	10	Water outlet (1/2" F)
5	Fan grille	11	Access to electric components
6	Filter for air inlet	12	Air vent (it is placed behind the filter, a screw in a hole makes it possible to vent the air)

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SPARE PART

Air filters kit	Code
 <p>RNW 204 CoRe FILTER KIT Kit for complete replacement of unit filters containing: - 1 ISO Coarse 40% filter - Size 460x320x10 mm</p>	7044130

DIMENSIONS AND TECHNICAL DATA



Technical characteristics		
Technical specifications		
Condensation (26° - 65%)	l/day	24
Rated electrical power	W	340
Electric power absorbed by the fan	W	30
Total water flow rate	l/h	240 (*)
Pressure loss on the hydraulic circuit	DaPa	570
Nominal air flow rate (free outlet)	m ³ /h	200
Refrigerant (R134a)	gr	260
Overall machine dimensions		
Height	mm	573
Width	mm	721,5
Depth	mm	206
Overall size of cabinet + front panel		
Height	mm	649
Width	mm	796
Depth	mm	229
RNW 204 CoRe packaging		
Height	mm	680
Width	mm	825
Depth	mm	260
Weight	kg	50

(*) Flow rate value with +20% and -20% than the mentioned value.

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ACOUSTIC CHARACTERISTICS

The equivalent pressure level depends on the room where the unit is installed. Usually this value is 7-10 db(A) inferior to the one referring to the sound power.

Acoustic Characteristics				
Band centre frequency [Hz]		Sound power level [dB]		
		Dehumidification		Ventilation
100	125	50,9	53,5	41,4
125		46,4		39,6
160		47,7		37,3
200	250	53,0	53,8	40,2
250		44,8		37,8
315		39,4		33,2
400	500	35,2	39,5	32,0
500		35,6		33,7
630		32,9		30,3
800	1000	31,8	36,2	30,5
1000		31,9		31,1
1250		30,3		28,7
1600	2000	27,8	30,9	25,2
2000		26,5		25,2
2500		22,3		20,5
3150	4000	20,3	24,5	16,0
4000		19,3		11,0
5000		19,4		8,1
6300	8000	18,5	23,6	6,4
8000		17,6		5,0
10000		20,0		3,9
db(A)		46,9		40

PERFORMANCE

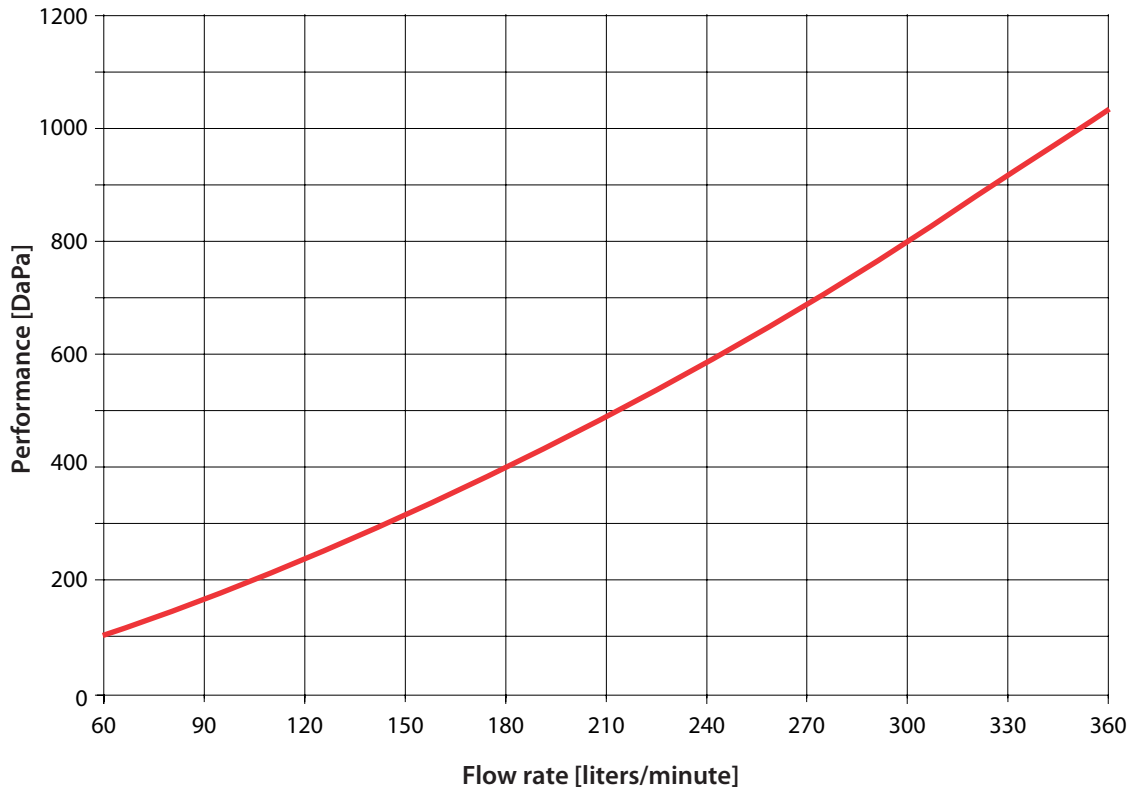
Performance in dehumidification mode, according to the room temperature, relative humidity and temperature of the chilled water.
The refrigerating power to supply to the dehumidifier through the coils with chilled water (to neutralise the sensitive heat and send neutral air into the room) is 800 W on average.

Performance in dehumidification mode		
Room Temperature: 26 °C		
	Liters/Day	
Water Temperature	55% UR	65% UR
21	11,6	12,6
18	13,8	17,9
15	16,7	24,0
Room Temperature: 24 °C		
	Liters/Day	
Water Temperature	55% UR	65% UR
21	9,5	12,2
18	10,6	15,2
15	14,3	18,0

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PRESSURE LOSS ON THE HYDRAULIC CIRCUIT

Considering the water temperature of 15 °C, the ideal flow rate for the right functioning of the unit is 240 l/h, which implies 570 DaPa as pressure loss for the hydraulic circuit in the machine.



CHARACTERISTIC CURVES

