

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: 240l/h
- Nominal Air flow rate: 200 m³/h
- Summer sensible power integration: 860 W
- Elect. power supply: 230 Vac - 50/60 Hz
- Max. electrical power: 340W
- Hydraulic connections 1/2" F
- Condensate drain Ø 14 mm

Package content

- RNW 214 CoRe
- Installation / Technical Manual

Description	Dimensions	Weight	Code
RNW 214 CoRe	721,5x573x206 mm	33,4 kg	7040121

Descrizione dei componenti

- **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-eating 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)
- **Water temperature probe:** NTC sensor which measures the temperature of the water
- **Evaporator temperature probe:** NTC sensor which measures the temperature of the evaporator
- Pressure switch
- Circuit board fuse: 250V- 10 A

COMPONENTS

AIR FLOWS



Supply Air



Recirculation Air

AIR FILTERS



e(PM10) min ≤50 %
Hairs



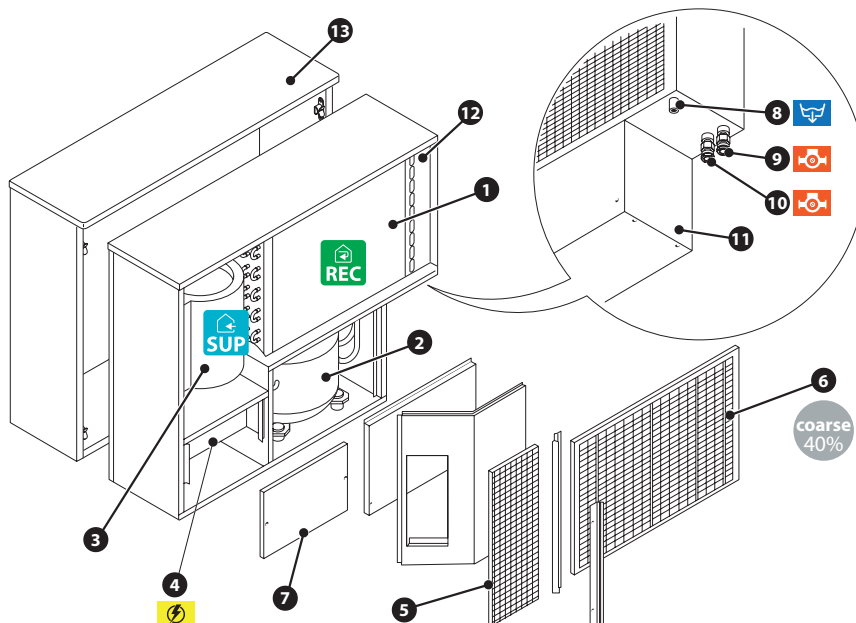
Ø 14 mm Condensation Drain



1/2" F Hydraulic connection



Wiring Box



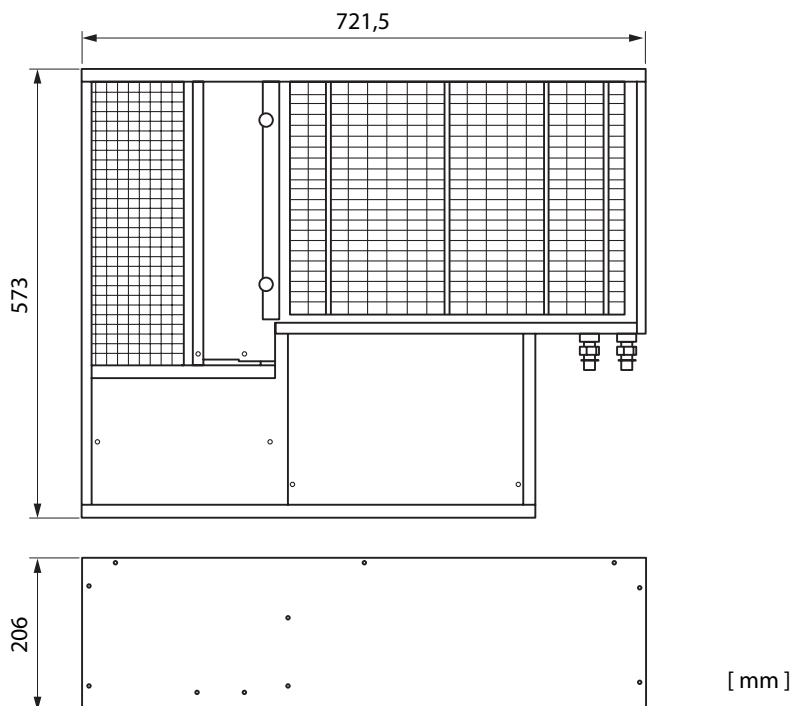
Rif.	Description	Rif.	Description
1	Exchangers	7	Switchboard
2	Compressor	8	Ø 14 mm condensation drain
3	Fan	9	Water inlet (1/2" F)
4	Electronic card	10	Water outlet (1/2" F)
5	Fan grille	11	Access to electric components
6	Filter for air inlet	12	Air vent (it is placed behind the filter, a screw in a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

TECHNICAL SHEET

SPARE PART

Air filter kit		Code
	RNW 214 CoRe FILTER KIT Kit for complete replacement of unit filters containing: - 1 ISO Coarse 40% filter - Size 460x320x10 mm	7044130

DIMENSIONS AND TECHNICAL DATA



Technical characteristics		
Technical specifications		
Condensation (26° - 65%)	l/day	24
Rated electrical power	W	390
Electric power absorbed by the fan	W	30
Total water flow rate	l/h	240 (*)
Pressure loss on the hydraulic circuit	DaPa	1200
Dehumidification air flow rate	m ³ /h	200
Integration air flow rate	m ³ /h	300
Refrigerant (R134a)	gr	260
Overall machine dimensions		
Height	mm	573
Width	mm	721,5
Depth	mm	206
Machine packaging		
Height	mm	600
Width	mm	770
Depth	mm	240
Weight	kg	35

(*) Flow rate value with +20% and -20% than the mentioned value.
 If flow rate is inferior to 185 L/h the unit can be damaged.

TECHNICAL SHEET

ACOUSTIC CHARACTERISTICS

Note: 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.

Sound power while working in integration mode is **52 db(A)**.

Acoustic Characteristics					
Band centre frequency [Hz]		Sound power level [dB]			
		Dehumidification		Ventilation	
100	125	50,9	53,5	41,4	44,5
125		46,4		39,6	
160		47,7		37,3	
200	250	53,0	53,8	40,2	42,7
250		44,8		37,8	
315		39,4		33,2	
400	500	35,2	39,5	32,0	37
500		35,6		33,7	
630		32,9		30,3	
800	1000	31,8	36,2	30,5	35
1000		31,9		31,1	
1250		30,3		28,7	
1600	2000	27,8	30,9	25,2	28,9
2000		26,5		25,2	
2500		22,3		20,5	
3150	4000	20,3	24,5	16,0	17,7
4000		19,3		11,0	
5000		19,4		8,1	
6300	8000	18,5	23,6	6,4	8,9
8000		17,6		5,0	
10000		20,0		3,9	
db(A)		46,9		40	

PERFORMANCE

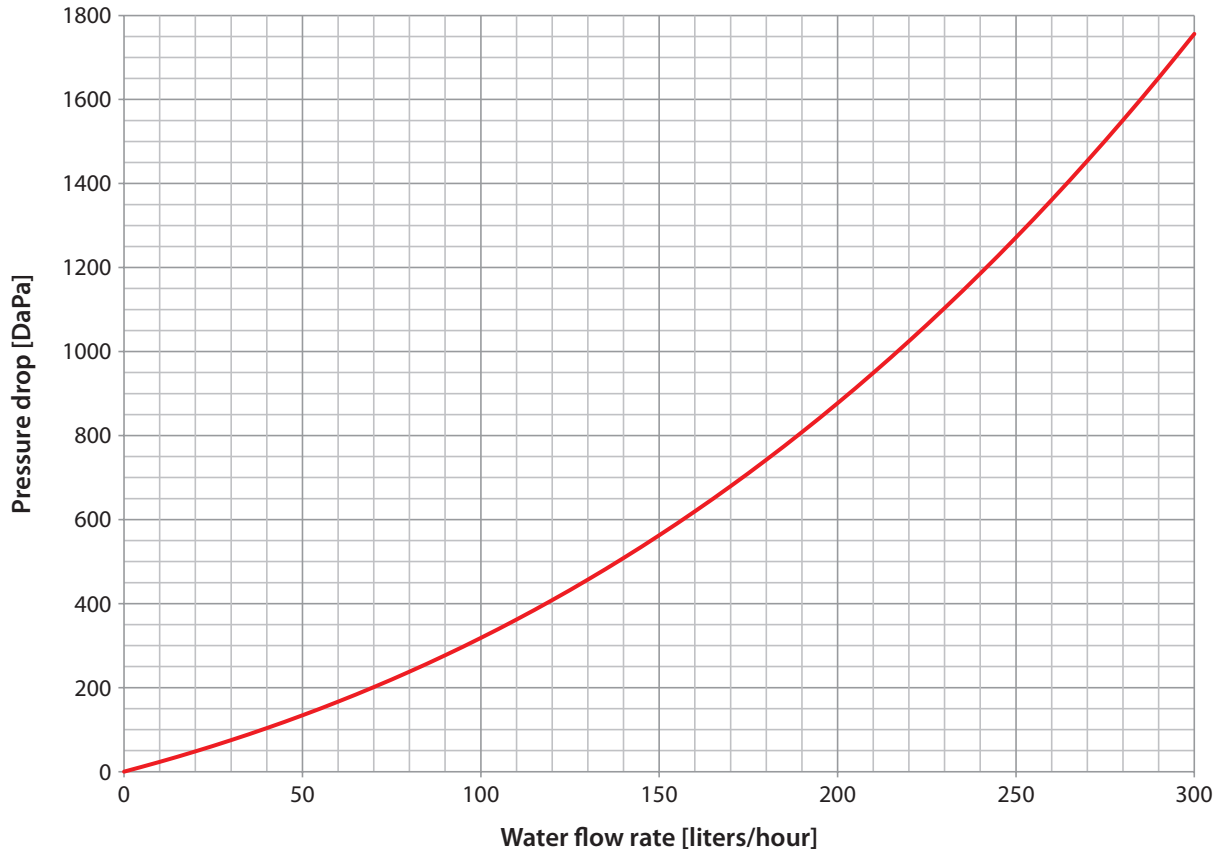
Performance in dehumidification mode, according to the room temperature, relative humidity and temperature of the chilled water. The refrigerating power to supply to the dehumidifier through the coils with chilled water (to neutralise the sensitive heat and send neutral air into the room) is 800 W on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

Performance in dehumidification mode					
Water supply temperature	Inflow air conditions	Total cooling power	Sensible cooling capacity	Latent cooling capacity	Condensed humidity
°C	°C - H.R.%	W	W	W	l/g
15	24 - 55	1340	874	420	14,3
	24 - 65	1410	836	530	18,0
	26 - 55	1480	950	480	16,7
	26 - 65	1600	855	700	24,0

TECHNICAL SHEET

PRESSURE DROP ON THE HYDRAULIC CIRCUIT

The ideal flow rate for the correct functioning of the unit (considering water temperature of 15 °C) is 240 L/h. The relevant head loss of the hydraulic circuit inside the unit is about 1200 DaPa.



CHARACTERISTIC CURVES

