

TECHNICAL SHEET



| Description | Dimensions | Weight | Code |
|--------------|---------------|--------|---------|
| RNW 404 CoRe | 721x242x550mm | 34 kg | 7040032 |

Ductable isothermal dehumidifier designed and sized to control room relative humidity in radiant floor/ceiling/wall cooling systems. It consists of a complete refrigeration unit equipped with pre-treatment coils fed with the chilled water used in the radiant system. Intended for horizontal ceiling installation. It is mandatory to use 1 condensate drain kit (SF-P).

Package content

- RNW 404 CoRe
- Installation / Technical Manual

- Galvanised sheet metal structure
- Stainless steel condensate collection tray
- Finned heat exchangers with hydrophilic treatment
- Dehumidification capacity: 26,6 l/g
- Removable electrical box
- Water flow rate at 15 °C: 240 l/h
- Nominal Air flow rate: 200 m³/h
- Refrigerant: R134a (220 g)
- Elect. power supply 230 Vac - 50/60 Hz
- Max. electrical power: 360 W
- SUP Air duct connection 416x213 mm or supply plenum
- REC Air duct connection 452x117 mm
- Hydraulic connections: 1/2" F
- Condensate drain Ø 14 mm

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



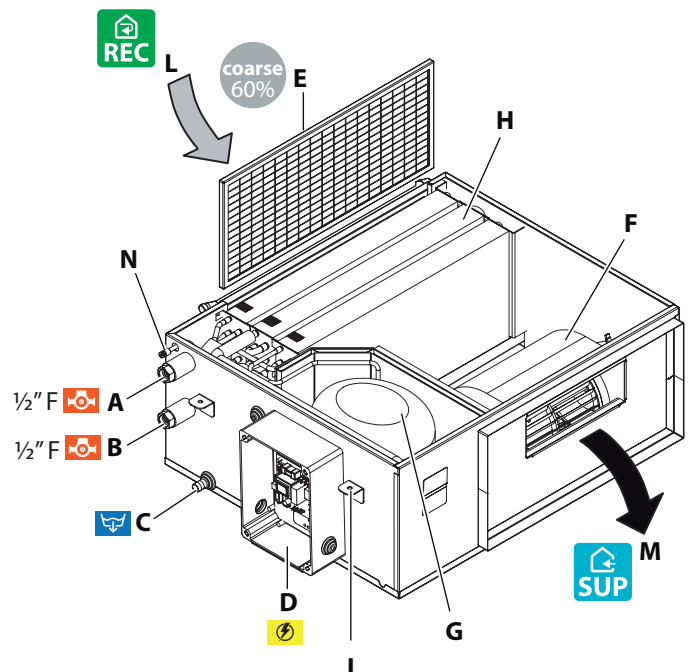
Ø 14 mm Condensation Drain



1/2" F Hydraulic connection



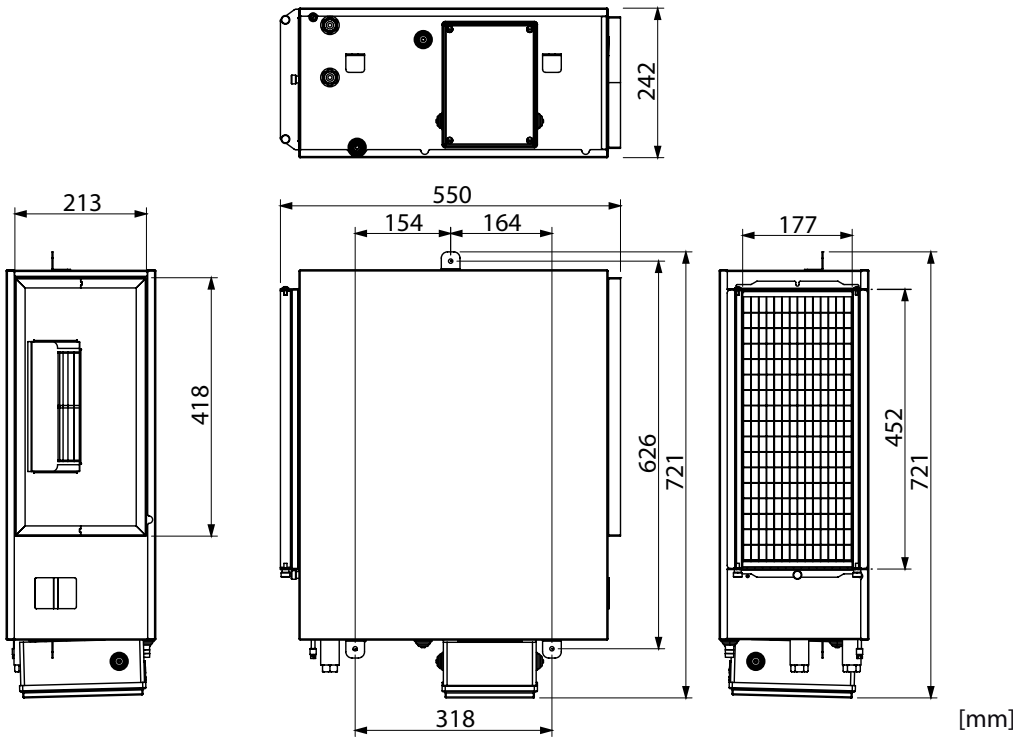
Wiring Box



| Rif. | Description | Rif. | Description |
|------|----------------------------|------|-----------------------------|
| A | Water outlet (1/2" F) | G | Compressor |
| B | Water inlet (1/2" F) | H | Exchangers |
| C | Ø 14 mm condensation drain | I | Ø 8 mm hole fixing brackets |
| D | Electrical panel | L | Air inlet |
| E | Filter | M | Dehumidified air outlet |
| F | Fan | N | Vent |

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DIMENSIONS AND TECHNICAL DATA



| Overall machine dimensions | |
|----------------------------|--------|
| Height | 247 mm |
| Width | 721 mm |
| Depth | 550 mm |
| Weight | 37 kg |
| Machine packaging | |
| Height | 290 mm |
| Width | 760 mm |
| Depth | 600 mm |



Technical characteristics

Technical specifications


| | |
|---|-----------------------|
| Condensation (26° - 65%) | 26,6 l/day |
| Rated electrical power | 360 W |
| Electric power absorbed by the fan | 30 W |
| Total water flow rate (Flow rate value with +20% and -20% than the mentioned value) | 240 l/h |
| Pressure loss on the hydraulic circuit | 940 DaPa |
| Nominal air flow rate | 200 m ³ /h |
| Minimum head (Speed 1) | 10 Pa |
| Average head (Speed 2) | 50 Pa |
| Maximum head (Speed 3) | 78 Pa |
| Refrigerant (R134a) | 220 gr |

MANDATORY COMPLEMENTS


The installation of no. 1 Condensate drain choosing, according to the needs, among those proposed.

| Condensate drain | | Code |
|---|---|----------------|
|  | SF-M 13 Condensate drain kit consisting of a siphon with silicone membrane, hose and fitting, to be used in combination with RDZ air handling units. | 3600401 |
|  | SF-P Condensate drain kit with casing, designed for wall installation. It can be used in combination with RDZ air handling units, and it is suitable for Ø 20-32 mm piping. The external shell can be adjusted considering the thickness of the wall. Washable Internal Cartridge. | 7045504 |

SPARE PART

| Air filters kit | Code |
|---|----------------|
|  KIT FILTRI RNW 404 CoRe: Kit for complete replacement of unit filters containing: • 1 ISO Coarse 60% filter Size 448x197x10 mm | 7044135 |

ACCESSORIES

| Hydraulics | Code |
|--|----------------|
|  MP 2-8 Ø ¾" Flow Meter - Kv 1,8 | 7045554 |

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ACOUSTIC CHARACTERISTICS

The presence of canalisation and/or plenums further reduces the sound pressure level measured. The sound pressure levels of the equipment were measured in a reverberation chamber with the dehumidifier fully open without plenum. The measurements, shown in table", were taken at the three different fan speeds with the equipment operating in dehumidification or ventilation mode only.

| Acoustic Characteristics | | | | | | | | | | | | | |
|----------------------------|------|------------------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-------------|----|
| Band centre frequency [Hz] | | Sound power level [dB] | | | | | | | | | | | |
| | | Dehumidification | | | | | | Ventilation | | | | | |
| | | Speed 1 | | Speed 2 | | Speed 3 | | Speed 1 | | Speed 2 | | Speed 3 | |
| 100 | 125 | 50,9 | 53,5 | 48,7 | 54,5 | 50,9 | 58,3 | 41,4 | 44,5 | 44,0 | 48,8 | 47,5 | 54 |
| 125 | | 46,4 | | 50,1 | | 53,5 | | 39,6 | | 44,8 | | 50,3 | |
| 160 | | 47,7 | | 50,2 | | 55,2 | | 37,3 | | 43,0 | | 48,8 | |
| 200 | 250 | 53,0 | 53,8 | 50,7 | 52,1 | 52,0 | 54 | 40,2 | 42,7 | 45,2 | 47,5 | 50,2 | 52 |
| 250 | | 44,8 | | 45,3 | | 48,6 | | 37,8 | | 42,4 | | 47,3 | |
| 315 | | 39,4 | | 40,2 | | 43,2 | | 33,2 | | 37,6 | | 42,3 | |
| 400 | 500 | 35,2 | 39,5 | 37,6 | 42,5 | 41,1 | 46,2 | 32,0 | 37 | 36,2 | 41,5 | 40,6 | 46 |
| 500 | | 35,6 | | 39,1 | | 42,7 | | 33,7 | | 38,3 | | 42,5 | |
| 630 | | 32,9 | | 35,7 | | 40,0 | | 30,3 | | 35,0 | | 39,9 | |
| 800 | 1000 | 31,8 | 36,2 | 35,9 | 41 | 40,3 | 45,8 | 30,5 | 35 | 35,7 | 40,8 | 40,4 | 46 |
| 1000 | | 31,9 | | 37,1 | | 41,9 | | 31,1 | | 37,1 | | 42,0 | |
| 1250 | | 30,3 | | 35,6 | | 40,7 | | 28,7 | | 35,2 | | 40,6 | |
| 1600 | 2000 | 27,8 | 30,9 | 32,7 | 36,1 | 38,2 | 41,7 | 25,2 | 28,9 | 32,2 | 35,8 | 38,2 | 42 |
| 2000 | | 26,5 | | 31,9 | | 37,7 | | 25,2 | | 31,8 | | 37,7 | |
| 2500 | | 22,3 | | 28,0 | | 33,9 | | 20,5 | | 27,8 | | 34,0 | |
| 3150 | 4000 | 20,3 | 24,5 | 24,9 | 27,3 | 30,9 | 33,2 | 16,0 | 17,7 | 24,4 | 26,7 | 30,7 | 33 |
| 4000 | | 19,3 | | 21,6 | | 27,3 | | 11,0 | | 20,6 | | 26,9 | |
| 5000 | | 19,4 | | 18,9 | | 24,9 | | 8,1 | | 18,9 | | 24,3 | |
| 6300 | 8000 | 18,5 | 23,6 | 16,7 | 20 | 23,5 | 26,6 | 6,4 | 8,9 | 17,7 | 29,7 | 23,1 | 26 |
| 8000 | | 17,6 | | 14,9 | | 21,4 | | 5,0 | | 18,6 | | 20,7 | |
| 10000 | | 20,0 | | 13,7 | | 19,7 | | 3,9 | | 29,0 | | 18,9 | |
| db(A) | | 46,9 | | 47,5 | | 51,2 | | 40 | | 45,4 | | 50,4 | |

PERFORMANCE

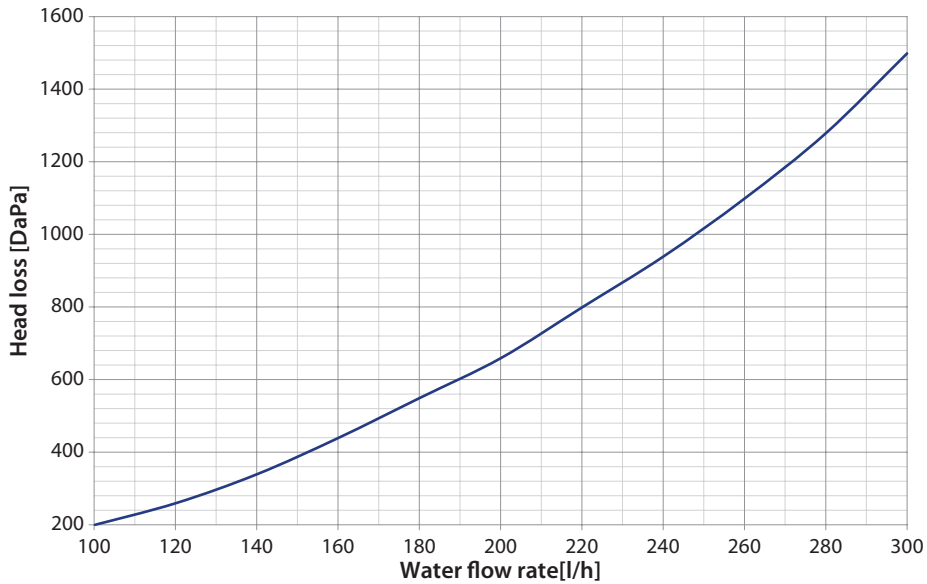
Performance in dehumidification mode, according to the room temperature, relative humidity and temperature of the chilled water. The refrigerating power to supply to the dehumidifier through the coils with chilled water (to neutralise the sensitive heat and send neutral air into the room) is 800 W on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

| Performance in dehumidification mode | | | |
|--------------------------------------|------------|--|----------|
| Room Temperature: 26 °C | | | |
| Water temperature | Liters/Day | | |
| | 55% H.R. | | 65% H.R. |
| 21 | 14,3 | | 17,6 |
| 18 | 17,8 | | 21,7 |
| 15 | 21,0 | | 26,6 |
| TRoom Temperature: 24 °C | | | |
| Water temperature acqua | Liters/Day | | |
| | 55% H.R. | | 65% H.R. |
| 21 | 10,4 | | 14,8 |
| 18 | 13,4 | | 18,8 |
| 15 | 16,9 | | 23,1 |

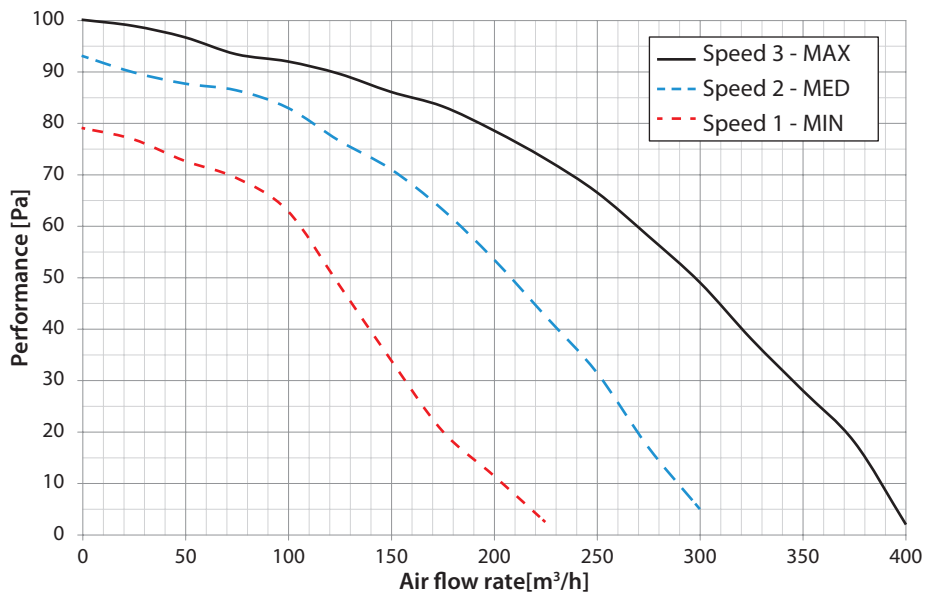
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PRESSURE LOSS OF THE HYDRAULIC CIRCUIT

The ideal flow rate for the correct functioning of the unit (considering water temperature of 15 °C) is 240 L/h, that is 4 L/ min. The relevant head loss of the hydraulic circuit inside the unit is about 940 DaPa.



CHARACTERISTIC CURVES



POSITIONING TO THE CEILING

