

## TECHNICAL SHEET



| Description  | Dimension     | Weight | Code    |
|--------------|---------------|--------|---------|
| RNW 411 CoRe | 721x247x605mm | 34 kg  | 7041401 |

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. In addition to dehumidification, summer thermal integration management is provided. Intended for horizontal ceiling installation. It is mandatory to use 1 condensate drain kit (SF-P).

- Galvanised sheet metal structure
- Stainless steel condensate collection tray
- Finned heat exchangers with hydrophilic treatment
- Dehumidification capacity: 32,2 l/g
- Removable electrical box
- Water flow rate at 15 °C: 240 l/h
- Nominal Air flow rate: 200 m3/h
- Refrigerant: R134a (190 g)
- Summer sensible power integration: 1200 W (300 m<sup>3</sup>/h)
- Elect. power supply 230 Vac - 50/60 Hz
- Max. electrical power: 520 W
- SUP Air duct connection 416x211 mm or supply plenum
- REC Air duct connection 450x177 mm
- Hydraulic connections: 1/2" F
- Condensate drain Ø 14 mm

### Package content

- RNW 411 CoRe
- Installation / Technical Manual

### 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 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 air after the evaporator
- **Pressure switch**
- **Circuit board fuse:** 250V- 10 A

### COMPONENTS

#### AIR FLOWS



Supply Air



Recirculation Air

#### AIR FILTERS



e(PM10) min ≤50 %  
Hairs



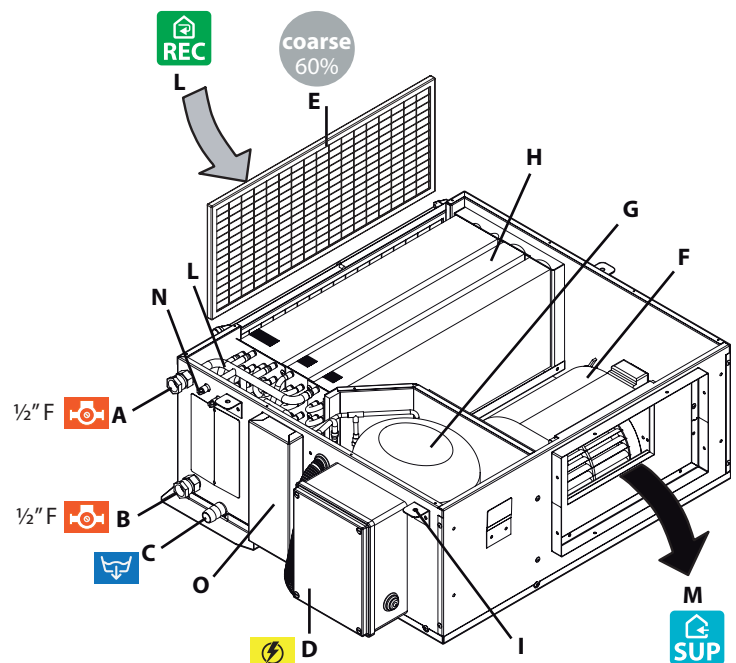
Ø 14 mm Condensation Drain



1/2" F Hydraulic connection



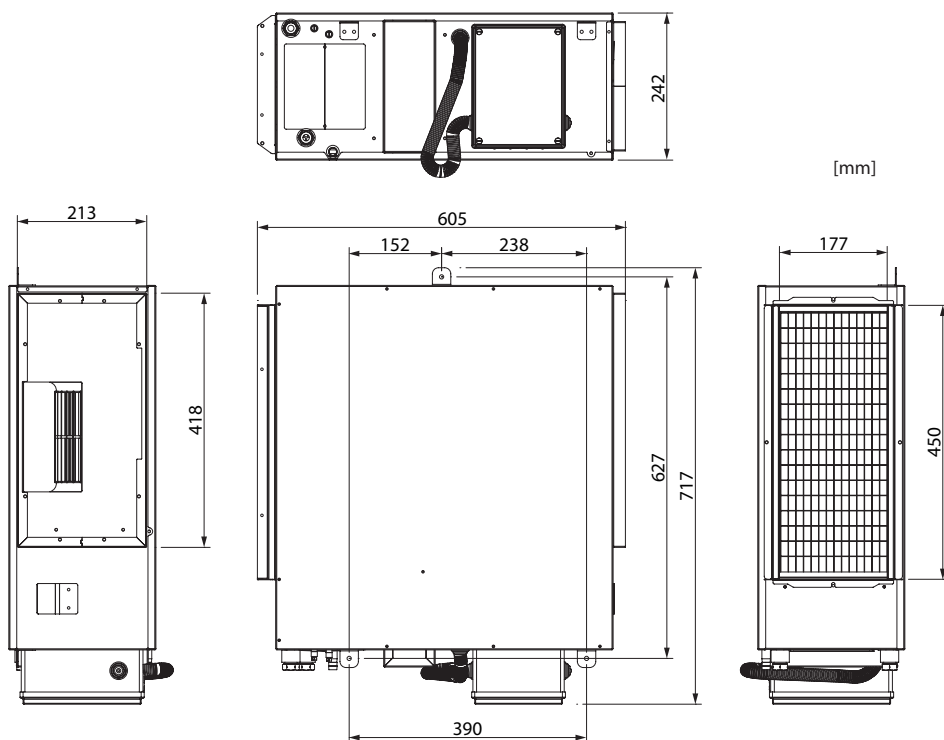
Wiring Box



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

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## DIMENSIONS AND TECHNICAL DATA



### Overall machine dimensions

|        |        |
|--------|--------|
| Height | 247 mm |
| Width  | 721 mm |
| Depth  | 605 mm |
| Weight | 34 kg  |

### Machine packaging

|        |        |
|--------|--------|
| Height | 320 mm |
| Width  | 765 mm |
| Depth  | 670 mm |

## Technical characteristics



### Technical specifications

|  |                   |         |
|--|-------------------|---------|
| Condensation (26° - 65%)               | l/day             | 32,2    |
| Current consumption                    | A                 | 4,6     |
| Nominal electric power                 | W                 | 520     |
| Electric power absorbed by the fan     | W                 | 30      |
| Total water flow rate                  | l/h               | 240 (*) |
| Pressure loss on the hydraulic circuit | DaPa              | 700     |
| Nominal Air flow rate (Speed 5)        | m <sup>3</sup> /h | 200     |
| Pressure (Speed 5)                     | Pa                | 87      |
| Refrigerant (R134a)                    | gr                | 190     |


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

## MANDATORY COMPLEMENTS


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

| Condensate drain  |   | Code           |
|---|---|----------------|
|  | <b>SF-M 13</b> Condensate drain kit consisting of a siphon with silicone membrane, hose and fitting, to be used in combination with RDZ air handling units.   | <b>3600401</b> |
|  | <b>SF-P</b> 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. | <b>7045504</b> |

## SPARE PART

| Air filters kit   | Code           |
|---|----------------|
|  <b>RNW 411 CoRe FILTER KIT:</b> Kit for complete replacement of unit filters containing:<br>• 1 ISO Coarse 60% filter<br>Size 448x197x10 mm | <b>7044135</b> |

## ACCESSORIES

| HYDRAULICS   | Code           |
|--|----------------|
|  <b>MP 2-8</b> Ø 3/4" Flow Meter - Kv 1,8 | <b>7045554</b> |

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## ACOUSTIC CHARACTERISTICS

The presence of canalisation and/or plenums further reduces the sound pressure level measured.

| Levels of sound power |                 |                                |             |
|-----------------------|-----------------|--------------------------------|-------------|
| FREQUENCY             | Speed 5 Default | DEHUMIDIFICATION - INTEGRATION | Speed 2     |
| [ Hz ]                |                 | [ dB ]                         | [ dB ]      |
| 100                   |                 | 56,9                           | 66,3        |
| 125                   |                 | 42,8                           | 45,4        |
| 160                   |                 | 47,7                           | 48,0        |
| 200                   |                 | 40,2                           | 41,0        |
| 250                   |                 | 41,6                           | 41,5        |
| 315                   |                 | 40,3                           | 41,1        |
| 400                   |                 | 40,7                           | 40,8        |
| 500                   |                 | 41,3                           | 41,7        |
| 630                   |                 | 39,9                           | 41,3        |
| 800                   |                 | 38,5                           | 38,2        |
| 1000                  |                 | 39,5                           | 39,4        |
| 1250                  |                 | 37,0                           | 37,0        |
| <b>Lw</b>             |                 | <b>58,2</b>                    | <b>66,5</b> |
| <b>Lwa</b>            |                 | <b>47,1</b>                    | <b>50,0</b> |

**Lw:** Global linear sound power level (dB ref. 1 pW)

**Lwa:** Global mean sound power level A (dBA)

| Sound pressure level in the free field – calculated on isotropic hemispheric distribution at 1,5m |                 |                                |             |
|---|-----------------|--------------------------------|-------------|
| FREQUENCY   | Speed 5 Default | DEHUMIDIFICATION - INTEGRATION | Speed 2     |
| [ Hz ]  |                 | [ dB ]                         | [ dB ]      |
| 100   |                 | 45,4                           | 54,8        |
| 125   |                 | 31,3                           | 33,9        |
| 160   |                 | 36,2                           | 36,5        |
| 200   |                 | 28,7                           | 29,5        |
| 250   |                 | 30,1                           | 30,0        |
| 315   |                 | 28,8                           | 29,6        |
| 400   |                 | 29,2                           | 29,3        |
| 500   |                 | 29,8                           | 30,2        |
| 630   |                 | 28,4                           | 29,8        |
| 800   |                 | 27,0                           | 26,7        |
| 1000  |                 | 28,0                           | 27,9        |
| 1250  |                 | 25,5                           | 25,5        |
| <b>Lp1,5m</b>   |                 | <b>46,7</b>                    | <b>55,0</b> |
| <b>Lpa1,5m</b>  |                 | <b>35,6</b>                    | <b>38,6</b> |

**Lp1,5 m:** Global sound pressure level in the free field (dB)

**Lpa1,5 m:** Global mean sound pressure level A in the free field (dBA)

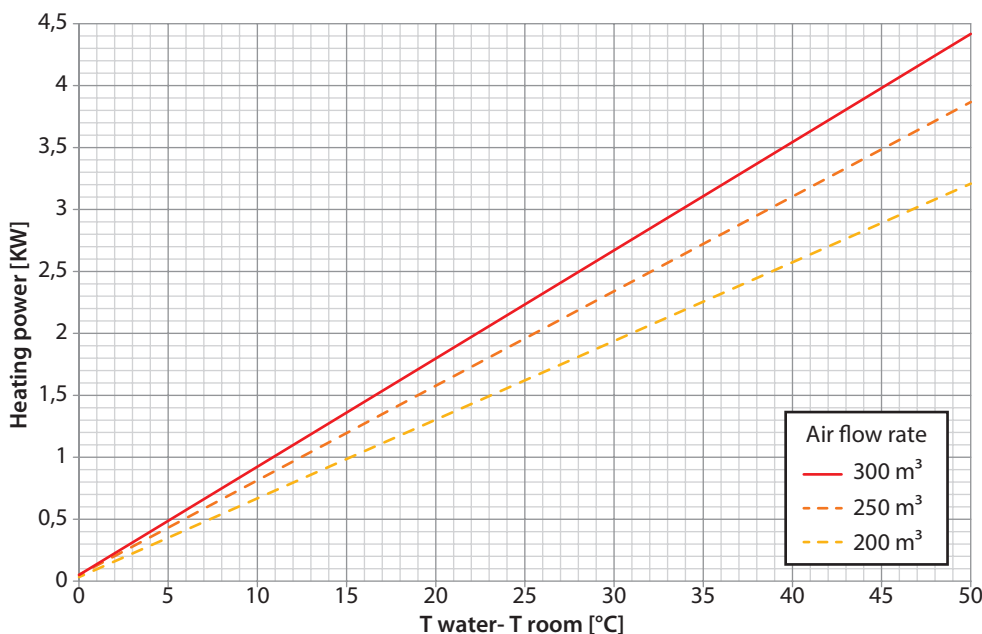
## PERFORMANCE

Performance in dehumidification and integration mode according to the room temperature, relative humidity and temperature of the chilled water. The refrigerating power to be supplied to the dehumidifier through the coils with chilled water (to neutralise the sensible heat and send neutral air into the room) is 1350 W on average, while the power to be supplied to the coils for integration is 2650 W on average.

| Performance in dehumidification mode (200 m <sup>3</sup> /h) |    |            |      |                      |      |
|--|----|------------|------|----------------------|------|
| Inlet air  |    | Outlet air |      | Latent cooling power |      |
| °C   | %  | °C         | %    | W                    | l/g  |
| 26   | 55 | 26         | 37,5 | 644                  | 22,3 |
| 26   | 65 | 26         | 39,5 | 932                  | 32,2 |

| Performance in integration mode (300 m <sup>3</sup> /h) |    |            |    |                      |      |                |
|---|----|------------|----|----------------------|------|----------------|
| Inlet air   |    | Outlet air |    | Latent cooling power |      | Sensible power |
| °C  | %  | °C         | %  | W                    | l/g  | W              |
| 26  | 55 | 13,1       | 97 | 629                  | 21,7 | 1353           |
| 26  | 65 | 14,2       | 97 | 990                  | 34,2 | 1235           |

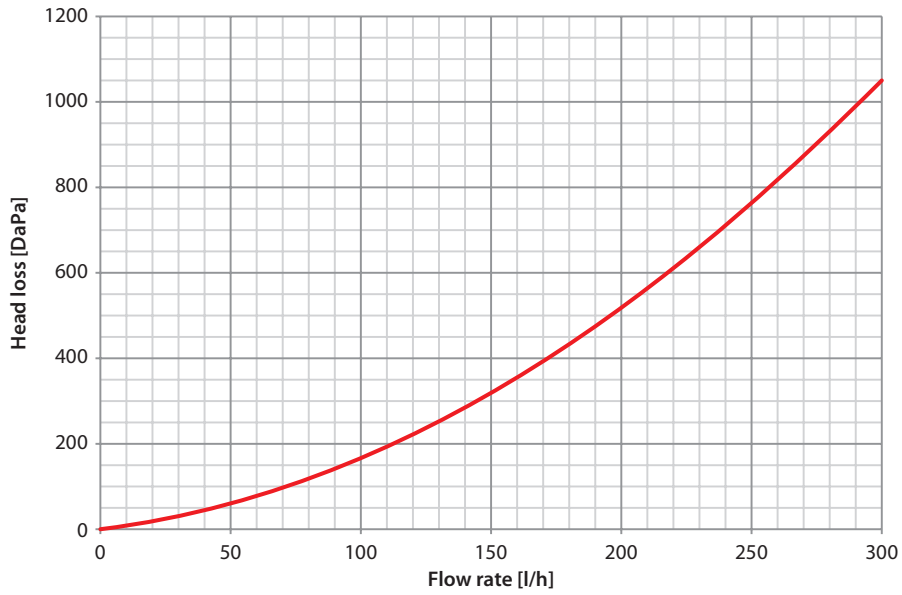
## OPERATION IN VENTILATION MODE ONLY



If the ventilation option is activated, keeping the circulation of the chilled water used in dehumidification, the dehumidifier can emit a considerable amount of heat into the room. The same happens by feeding the machine with hot water in the winter period. In this situation, the dehumidification function is automatically excluded.

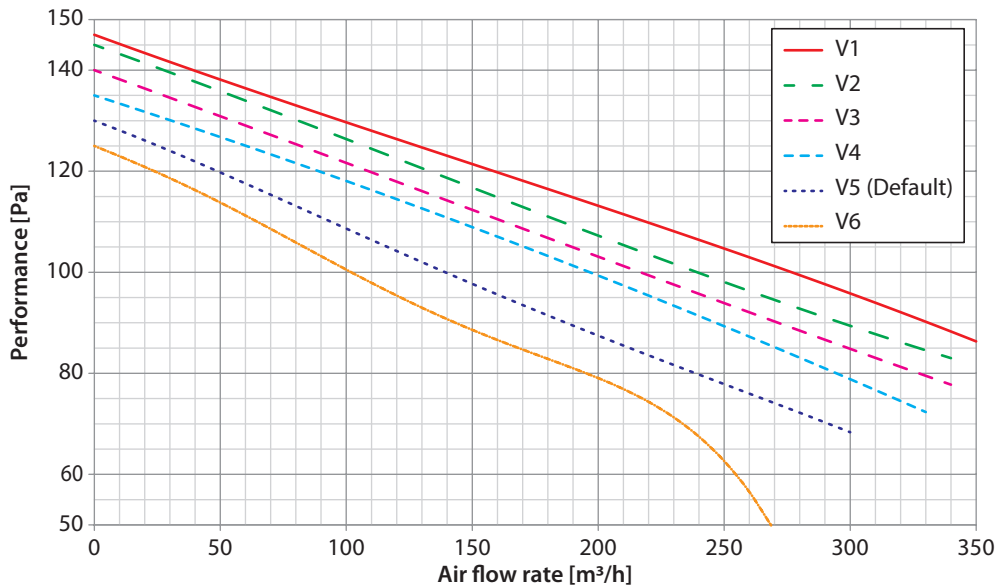
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## PRESSURE LOSS OF THE HYDRAULIC CIRCUIT



## CHARACTERISTIC CURVES

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 700 DaPa.



## POSITIONING TO THE CEILING

