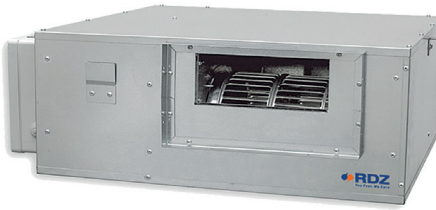


## TECHNICAL SHEET



Description	Dimensions	Weight	Code
RNW 508	826x287x635 mm	47 kg	7040050

Ductable isothermal dehumidifier with summer and winter integration for horizontal ceiling installation. It consists in a complete cooling unit (with refrigerant R134a), centrifugal fan and pre and post-treatment coils to be supplied separately with cooled water (15 °C).  
**Siphon on condensate drain mandatory.**

### Package content

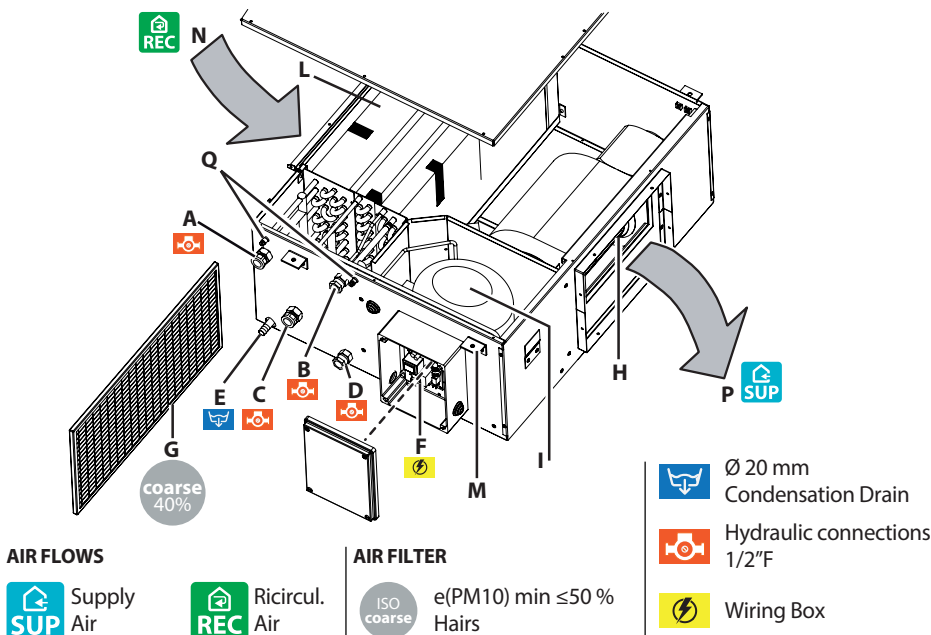
- RNW 508
- Installation / Technical Manual

- Max. electrical power: 515 W
- Power supply 230 Vac - 50 Hz
- Pre-treatment coils water temp. 15 °C 360 l/h
- Post-treatment coil water temp. 15 °C 170 l/h
- Nominal air flow rate 500 m<sup>3</sup>/h
- Refrigerant: R134a (300 g)

### Component description

- **Compressor:** hermetically sealed with a bipolar single-phase asynchronous motor coupled with an alternative single cylinder compressor.
- **Condenser temperature probe:** NTC sensor which measures the temperature of the air after 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 air after the condenser
- **Circuit board fuse:** 250V- 8 A

## COMPONENTS



Rif.	Description
A	Water exit pre-treatment (1/2" F)
B	Water exit post-treatment (1/2" F)
C	Water inlet pre-treatment (1/2" F)
D	Water inlet post-treatment (1/2" F)
E	Discharge Ø 20 mm for condensation
F	Electrical panel
G	Filter
H	Fan
I	Compressor
L	Exchanger
M	Fixing brackets
N	Air inlet
P	Exit dehumidified air
Q	Vent

## Technical characteristics

### Technical specifications

Condensed humidity (26 °C - 65%)	l/day	42
Nominal electrical power	W	515
Nominal air flow	m <sup>3</sup> /h	500
Min. performance (Speed 1)	Pa	12
Med. performance (Speed 2)	Pa	52
Max performance (Speed 3)	Pa	68
Refrigerant (R134a)	gr	300

## SPARE PARTS

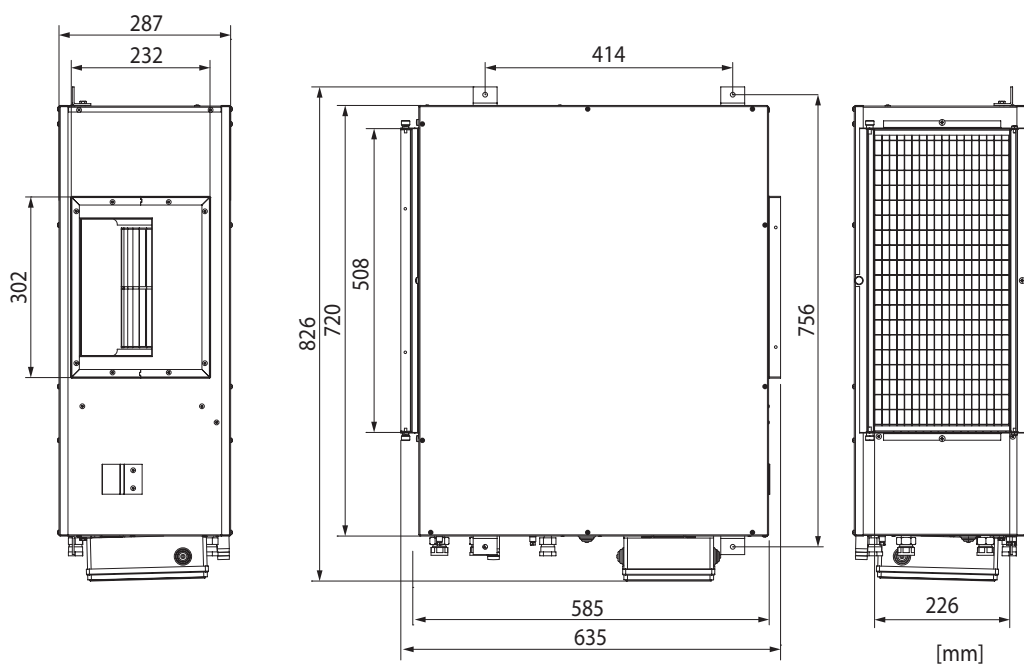
Air filter kit	Code
<b>RNW 508-CS FILTERS KIT</b> Kit for complete replacement of unit filters containing: • 1 ISO Coarse 40% filter - size: 506x246x10 mm	<b>7044138</b>

## MANDATORY COMPLEMENTS

Condensate drain	Code
<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>

# TECHNICAL SHEET

## DIMENSIONS



Overall dimensions	
Height	287 mm
Width	635 mm
Depth	826 mm
Weight	47 kg
Unit packaging	
Height	325 mm
Width	675 mm
Depth	830 mm

## 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 mode only.

Acoustic features						
Frequency of central band [Hz]	Values measured in the outside reverberation chamber					
	LEVEL OF SOUND PRESSURE			LEVEL OF SOUND POWER		
	Speed 1 (dB)	Speed 2 (dB)	Speed 3 (dB)	Speed 1 (dB)	Speed 2 (dB)	Speed 3 (dB)
100	43,0	48,4	51,2	52,5	57,8	60,7
125	40,4	45,8	48,7	46,2	51,5	54,5
160	47,2	51,3	53,5	50,6	54,7	56,9
200	42,4	48,7	51,6	47,5	53,7	56,6
250	38,3	44,0	46,6	41,9	47,7	50,3
315	38,4	44,0	46,7	41,7	47,3	50,0
400	40,8	46,7	49,4	44,0	49,8	52,6
500	38,5	44,1	46,7	41,2	46,8	49,4
630	38,4	44,2	46,6	41,2	47,0	49,4
800	40,6	46,9	49,6	43,5	49,8	52,6
1000	41,2	47,6	50,8	44,2	50,6	53,8
1250	39,4	45,5	48,4	42,5	48,6	51,5
1600	39,5	46,1	49,2	42,6	49,2	52,2
2000	36,6	43,7	49,6	39,5	46,7	49,9
2500	33,8	41,4	44,8	36,8	44,4	47,8
3150	31,3	39,3	42,8	35,0	43,0	46,6
4000	29,1	37,3	41,1	33,5	41,8	45,5
5000	26,1	35,4	39,3	31,1	40,5	44,4
6300	23,0	33,3	37,7	28,9	39,3	43,7
8000	20,8	30,6	35,5	27,4	37,5	42,3
10000	16,5	26,2	31,3	24,8	35,2	40,4
<b>Lp</b>	<b>52,9</b>	<b>58,5</b>	<b>61,3</b>	-	-	-
<b>Lpa</b>	<b>48,8</b>	<b>55,2</b>	<b>58,3</b>	-	-	-
<b>Lw</b>	-	-	-	<b>57,6</b>	<b>63,2</b>	<b>66,0</b>
<b>Lwa</b>	-	-	-	<b>52,0</b>	<b>58,5</b>	<b>61,5</b>

# TECHNICAL SHEET

## PERFORMANCE

**Total refrigerating power** (reserved to dehumidifier pre-treatment and post-treatment batteries) to the **dehumidification yield**, depending on the ambient temperature, relative humidity and temperature of the chilled water.

The data reported in table refer to equipment dehumidification conditions of operation with emission of neutral air or of sensible heat levels. Feeding in parallel the pre-treatment and posttreatment coils with a flow rate of 6 l/min and 2,8 l/min, there is a comprehensive pressure loss of about 1 m, the different geometrical characteristics of the coils automatically divide water flow. In the case of emission made with sensible heat levels, the comprehensive maximum water flow to the coils is a total of 8,8 liters/minute. Dividing the water flow to the post-treatment coil, with a calibrating valve, it is possible to reduce or annul the significant contribution of refrigerating power while maintaining a high level of dehumidification.

Power and cooling performance in dehumidification								
Room Temp.	Relative Humidity	Inflow water temperature	Water flow on pre-treatment coil	Water flow on post-treatment coil	Refrigerating power coil	Sensilbe power	Latent power subtracted from the air	Condensed water
Performance with emission of neutral air into the room								
(°C)	%	(°C)	(l/min)	(l/min)	(kW)	(kW)	(kW)	(l/giorno)
26	55	7	1,1	-	1,11	-	0,66	22,5
		15	3,0	-	1,07	-	0,64	21,6
		18	6,0	-	1,02	-	0,61	20,7
	65	7	1,8	-	1,64	-	1,25	42,3
		15	4,8	-	1,52	-	1,15	38,9
		18	6,0	0,60	1,28	-	0,87	29,4
24	55	7	0,9	-	0,91	-	0,54	18,1
		15	3,6	-	0,97	-	0,54	18,1
		18	6,0	0,36	0,93	-	0,43	14,7
	65	7	1,8	-	1,43	-	1,02	34,6
		15	6,6	-	1,28	-	0,92	31,1
		18	6,0	1,50	1,11	-	0,69	23,3
Performance with emission of sensible heat into the room								
(°C)	%	(°C)	(l/min)	(l/min)	(kW)	(kW)	(kW)	(l/giorno)
26	55	7	6,0	2,8	3,66	1,67	1,58	53,6
		12	6,0	2,8	2,55	1,05	1,05	35,4
		15	6,0	2,8	1,89	0,70	0,74	25,1
	65	7	6,0	2,8	4,07	1,49	2,17	73,4
		12	6,0	2,8	2,97	0,89	1,63	55,3
		15	6,0	2,8	2,26	0,55	1,25	42,3
24	55	7	6,0	2,8	3,15	1,47	1,28	43,2
		12	6,0	2,8	2,07	0,85	0,79	26,8
		15	6,0	2,8	1,56	0,54	0,59	19,9
	65	7	6,0	2,8	3,55	1,33	1,81	61,3
		12	6,0	2,8	2,44	0,74	1,28	43,2
		15	6,0	2,8	1,73	0,36	0,92	31,1

Summer mode										
Functioning with ventilation mode only										
Room temp.	Relative Humid.	Inflow water temp.	Water flow on pre-treatment coil	Water flow on post-treatment coil	Sensible power	Latent power	Cooling power of the pre-treat. coil	Conden. power on the pre-treat. coil	Cooling power of the post-treat. coil	Conden. power on the post-treat. coil
(°C)	%	(°C)	(l/min)	(l/min)	(KW)	(KW)	(KW)	(g/s)	(KW)	(g/s)
26	55	7	3	1,5	1,77	0,59	1,91	0,14	0,45	0,09
		7	6	2,8	2,19	1,20	2,96	0,38	0,43	0,09
		15	3	1,5	1,27	0,00	1,07	0,00	0,20	0,00
		15	6	2,8	1,46	0,08	1,38	0,01	0,16	0,02
	65	7	3	1,5	1,57	1,05	2,09	0,29	0,53	0,12
		7	6	2,8	2,05	1,76	3,30	0,58	0,51	0,11
		15	3	1,5	1,14	0,23	1,12	0,05	0,25	0,04
		15	6	2,8	1,33	0,56	1,66	0,17	0,23	0,05
24	55	7	3	1,5	1,65	0,41	1,68	0,09	0,38	0,07
		7	6	2,8	2,04	0,87	2,54	0,27	0,37	0,07
		15	3	1,5	1,03	0,00	0,87	0,00	0,16	0,00
		15	6	2,8	1,24	0,00	1,12	0,00	0,12	0,00
	65	7	3	1,5	1,47	0,79	1,81	0,21	0,45	0,10
		7	6	2,8	1,89	1,38	2,84	0,45	0,43	0,09
		15	3	1,5	1,00	0,05	0,87	0,00	0,18	0,02
		15	6	2,8	1,17	0,20	1,21	0,05	0,16	0,03

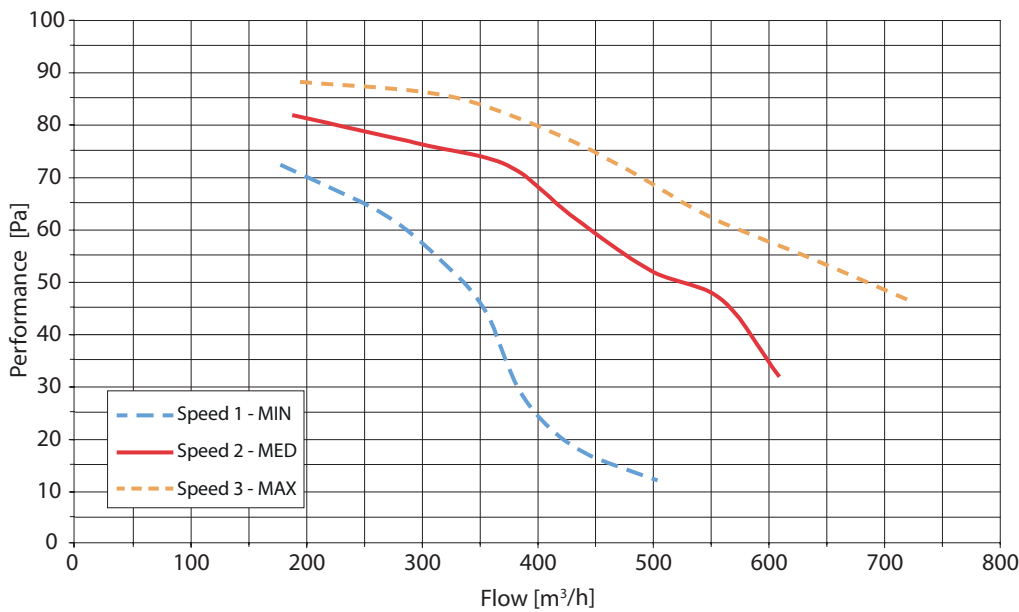
# TECHNICAL SHEET

In the next table the values are supplied of the significant power performance in ventilation winter mode only, varying the comprehensive flow supplied to the coils and to the temperature of exit hot water.

The stated powers refer to a room temperature of 20°C.

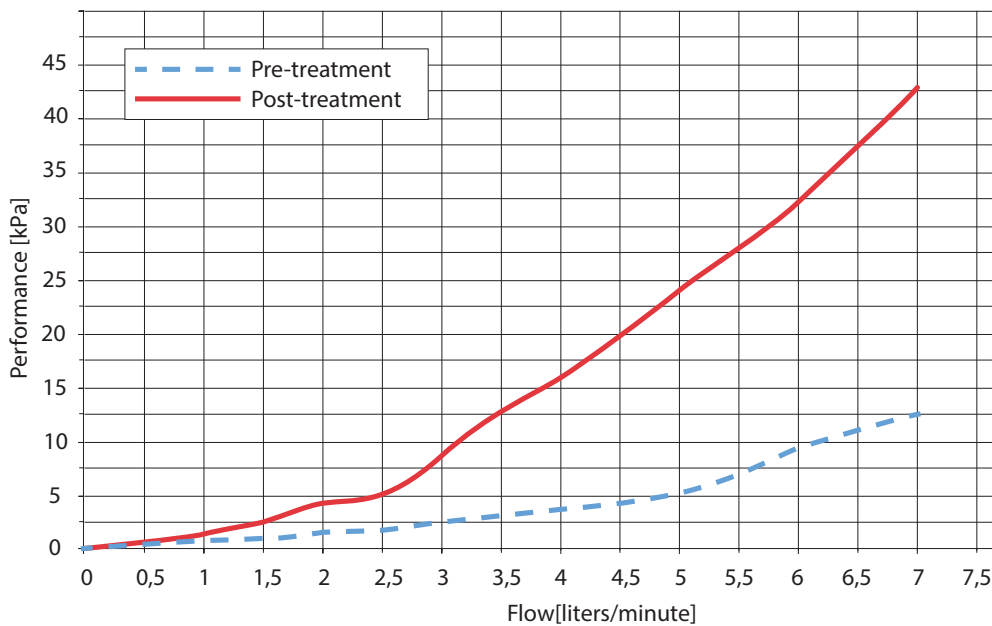
Winter mode									
Functioning with ventilation mode only									
Water temperature	Thermal power with a flow rate of 3 l/min	Thermal power with a flow rate of 4 l/min	Thermal power with a flow rate of 6 l/min	Pre-treatment thermal power	Post-treatment thermal power	Pre-treatment thermal power	Post-treatment thermal power	Pre-treatment thermal power	Post-treatment thermal power
(°C)	(KW)	(KW)	(KW)	3 l/min		4 l/min		5 l/min	
30	1,01	1,15	1,32	0,82	0,19	0,97	0,18	1,16	0,16
40	2,05	2,36	2,65	1,67	0,38	2,01	0,35	2,35	0,30
50	3,19	3,59	4,01	2,63	0,56	3,08	0,51	3,57	0,44
60	4,32	4,84	5,4	3,58	0,74	4,16	0,68	4,80	0,60

## CHARACTERISTIC CURVES



The diagram shows the curves of the prevalence available to the ventilator of the apparatus. The ductwork of the dehumidifier must be sized according to this parameter. The pressure available is expressed as a value of the air flow (nominal flow of 500 m³/h) and in the three possible speed settings. The fan medium speed setting is made at the factory (MED).

## PRESSURE LOSS OF THE HYDRAULIC CIRCUIT



The two curves represented in the diagram below indicate the pressure drop on the battery to the water of pre-treatment and post-treatment of the air in the dehumidifier. The dehumidifier is fitted with separate external attacks for pre-treatment and post-treatment coils. It is possible, therefore, to feed the batteries separately with two independent lines of adduction or connected in parallel near the dehumidifier. The particular geometric configuration automatically shares the flow on the two batteries at a rate of 2/3 on that of the pre-treatment and 1/3 on that of post-treatment whenever the feed is in parallel on the two coils.

