

## TECHNICAL SHEET



Ductable isothermal dehumidification module designed for horizontal ceiling installation. It shall be combined with controlled mechanical ventilation units with suitable air flow since it does not include any fans. It consists of a refrigerant circuit (R410A) and pre and post-treatment coils to be supplied with cooled water (15 °C). The unit has no fan. Control with RDZ control systems.

- Nominal air flow rate: 400 m<sup>3</sup>/h
- Water flow rate at 15 °C: 680 l/h
- Dehumidification capacity: 91,2 l/24h (35 °C H.R. 50%)
- Max. electrical power: 800 W

### Components description

- **Compressor:** hermetically sealed with a bipolar single-phase asynchronous motor coupled with an alternative single cylinder compressor.
- **Coolant pressure transducer:** this is installed on the compressor delivery pipe and is designed to control the high pressure value of the chiller circuit and as an approximate pressure switch
- **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

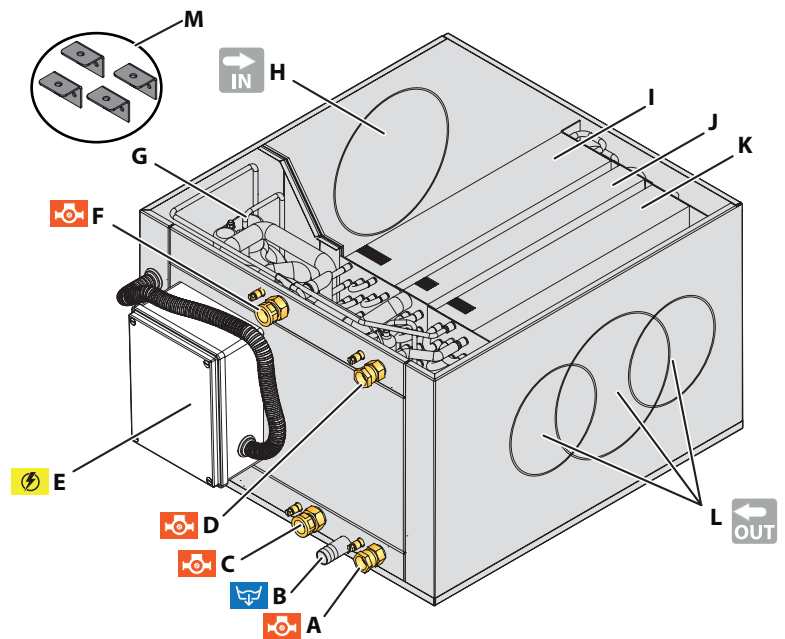
### Package content

- DWF 400
- Installation / Technical Manual

Description	Dimensions	Weight	Code
DWF 400	578x344x635 mm	32,5 kg	7044012

### COMPONENTS

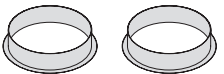
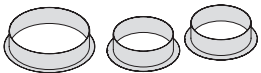
- Air Inlet from MVHR unit
- Air Outlet for supply to room
- Wiring Box
- Ø 20 mm Condensation Drain
- 1/2" F Hydraulic connection





Rif.	Description
A	Water inlet for post-treatment coil
B	Condensation drain
C	Water inlet for pre-treatment coil
D	Water outlet for post-treatment coil
E	Wiring box
F	Water outlet for pre-treatment coil
G	Compressor
H	Air inlet
I	Pre-treatment coil
J	Evaporating coil
K	Condensing/post-treatment coil
L	Room air outlets
M	Fixing brackets

# TECHNICAL SHEET

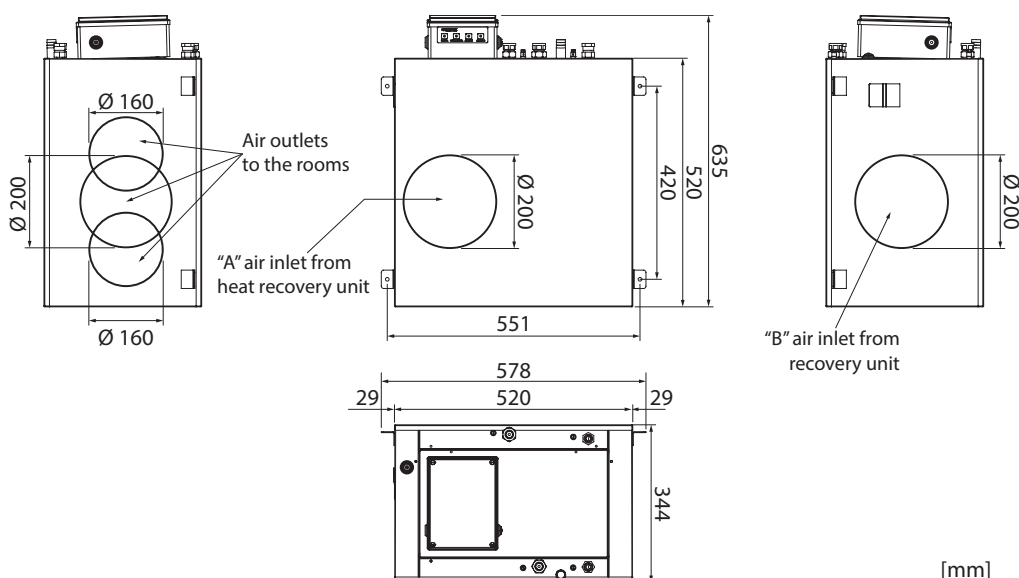
## MANDATORY COMPLEMENTS

Collars kit	Code
 <b>COLLARS KIT</b> 2x Ø 200 mm	<b>7044020</b>
 <b>COLLARS KIT</b> 1x Ø 200 mm + 2x Ø 160 mm	<b>7044016</b>

## ACCESSORIES

Condensate drain	Code
 <b>MP 5-42</b> Ø1" Flow Meter - Kv 9,7	<b>7045557</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>7045502</b>

## DIMENSIONS AND TECHNICAL DATA



Overall unit dimensions	
Height	344 mm
Width	520 mm
Length	570 mm
Weight	31 kg

## Technical characteristics

### Technical specifications

Max absorbed electrical power	800	W
Standard air flow	400	m <sup>3</sup> /h
Chilled water flow (15 °C)	Pre-treatment coil Post-treatment coil	500 200 l/h l/h
Dehumidification power:	Outdoor air at 35°C 50% RH 300 m <sup>3</sup> /h Outdoor air at 35°C 50% RH 400 m <sup>3</sup> /h	2,4 2,7 kW kW
Dehumidification capacity:	Outdoor air at 35°C 50% RH 300 m <sup>3</sup> /h Outdoor air at 35°C 50% RH 400 m <sup>3</sup> /h	83 94 l/day l/day
Air pressure drop in the unit:	300 m <sup>3</sup> /h 400 m <sup>3</sup> /h	43 61 Pa Pa
Hydraulic pressure drop (15 °C):	Pre-treatment coil Post-treatment coil	2178 1747 DaPa DaPa
Refrigerant (R410A)	480	g

## ACOUSTIC CHARACTERISTICS

The detected acoustic value can be further improved thanks to the noise reduction offered by the presence of the plasterboard ceiling where the machine is installed.

Sound power detected	
DWF 400	<b>L<sub>w</sub> = 50 dBA</b>



**Sound power value measured on the DWF with the compressor switched on without taking into account the noise of the coupled fan unit.**

# TECHNICAL SHEET

## OPERATING LIMITS

**Summer operation:** maximum permissible water temperature in operation **18 °C**. Above 30 °C, the compressor is excluded.

**Winter operation:** permissible water temperature in operation **<55 °C**. At higher temperatures, the appliance may be damaged.

## SUMMER PERFORMANCE

Dehumidification performance according to the outdoor conditions. Inlet values to DWF 400 are based on the performance of HRX2 recovery unit, installed before the air circuit (temperature after the heat recovery unit ~27 °C).

Pre-treatment water flow: 500 l/h

### Performance with water at 15 °C

External air		Outlet air (POST 200 l/h)		Neutral air 25 °C		Latent cooling power		Cooling power to be supplied to the unit
				POST Flow rate	H.R.			
°C	% UR	°C	% UR	l/h	%	W	l/g	W
<b>300 m³/h</b>								
30	50	22,0	47	64	39	1438	49,7	2400
33	50	22,5	48	79	41	2003	69,2	2936
35	50	22,9	49	93	43	2398	82,8	3324
<b>350 m³/h</b>								
30	50	21,9	50	59	42	1516	52,3	2552
33	50	22,6	52	78	45	2105	72,7	3135
35	50	23,1	53	95	47	2582	89,2	3563
<b>400 m³/h</b>								
30	50	21,9	54	54	44	1561	53,9	2687
33	50	22,6	55	76	48	2206	76,2	3313
35	50	23,2	56	96	50	2709	93,5	3775

### Performance with water at 18 °C

External air		Outlet air (POST 200 l/h)		Latent cooling power		Cooling power to be supplied to the unit
°C	% UR	°C	% UR	W	l/g	W
<b>300 m³/h</b>						
30	50	25,0	45	1157	40,0	1849
33	50	25,5	46	1704	58,8	2370
35	50	25,9	46	2100	72,5	2765
<b>350 m³/h</b>						
30	50	24,8	48	1194	61,2	1923
33	50	25,4	49	1778	61,4	2496
35	50	25,9	50	2220	76,7	2929
<b>400 m³/h</b>						
30	50	24,2	52	1201	41,5	2050
33	50	24,9	54	1837	63,4	2662
35	50	25,9	53	2301	79,5	3058

Pre-treatment water flow: 200 l/h

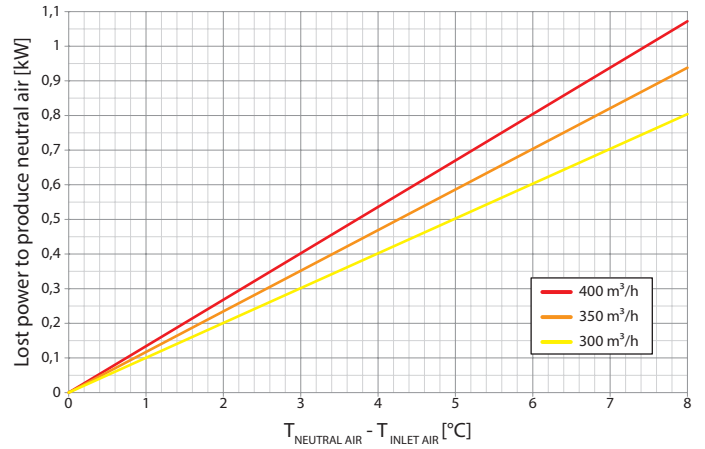
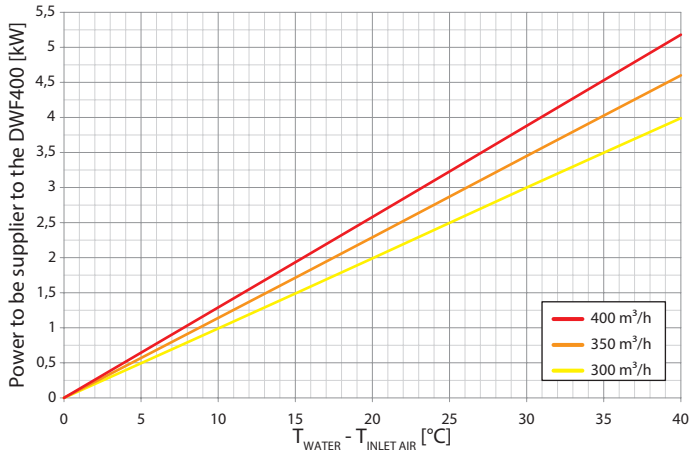
### Performance with water at 10 °C

External air		Outlet air (POST 75 l/h)		Neutral air 25 °C		Latent cooling power		cooling power to be supplied to the unit
				POST flow rate	H.R.			
°C	% UR	°C	% UR	l/h	%	W	l/g	W
<b>300 m³/h</b>								
30	50	21,6	46	32	37	1537	53,1	2522
33	50	22,7	47	48	41	2030	70,1	2941
35	50	23,7	47	60	44	2366	81,7	3216
<b>350 m³/h</b>								
30	50	21,8	49	31	41	1601	55,3	2648
33	50	23,1	50	51	45	2106	72,7	3069
35	50	24,2	51	65	48	2501	86,4	3361
<b>400 m³/h</b>								
30	50	21,9	52	30	44	1617	55,8	2731
33	50	23,6	52	52	48	2179	75,3	3138
35	50	24,7	53	68	52	2574	88,9	3453

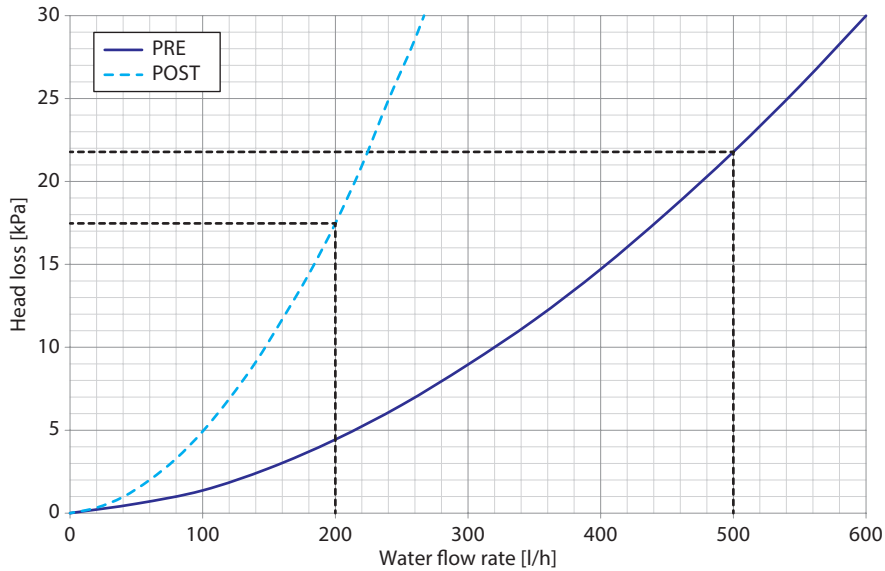
# TECHNICAL SHEET

## WINTER PERFORMANCE

If hot water circulation and fresh air ventilation are ON during winter running, the unit can supply addition sensible heat into the room.



## PRESSURE LOSS OF THE HYDRAULIC CIRCUIT



## HEAD LOSS IN THE AIR CIRCUIT

