

## RTX 01-08

## Rooftop

Cooling capacity 12,1 ÷ 51,1 kW  
Heating capacity 12,4 ÷ 52,9 kW

- Fan treatment section Plug fans coupled with ec brushless motors
- Thermodynamic heat recovery
- Free-cooling/enthalpic free-cooling option
- For medium density applications



Independent Roof-Top air-cooled air conditioner to treat, filter and re-new air based on the selected configuration. Being fitted to function with 30% external and expelled air (MB4 versions), RTX units are designed for medium density applications like shopping malls, shops, offices and production areas.

Based on the version and accessories selected, the units allow you to manage free-cooling mode and, in the MB4 versions, there is thermodynamic recovery of the energy contained in the expelled air, allowing for higher performance and efficiency.

### VERSIONS

**RTX\_F** cold only  
**RTX\_H** heat pump

### CONFIGURATIONS

**MB1** single ventilating section for recirculation only  
**MB2** single ventilating section for return air and external air  
**MB4** double ventilating section for return air, external air and expelled air. Partial free-cooling function (up to 50% of the external air) and standard thermodynamic recovery function.

Each of the different configurations can be further customised thanks to a wide selection of accessories.

- 1 Cooling circuit
- Scroll compressor with high performance and low electric absorption
- Finned pack direct expansion internal and external exchangers.
- Plug type (EC) flow and recovery fans (if any). The impellers are facing so as to ensure that the air flows through all the internal components with minimum noise.
- Axial fan unit for extremely silent functioning positioned on the condensing section.
- G4 air filter installed upstream of the components to ensure low pressure drops.

### CONTROL

Microprocessor control able to manage the different functioning modes, ensuring maximum energy savings in any conditions of use. Interfaces to connect to remote supervision and control systems available as options.

### ACCESSORIES

**RS:** RS485 BMS serial card  
**LW:** LonWorks interface card  
**BIP:** Ethernet-pCOWeb interface card (BACNET IP)  
**BAC:** BACnet MS/TP pCOnet interface card  
**FACT:** Partial Temperature Free-Cooling for MB2, MB4 versions  
**PSTEP:** Constant flow rate adjustment, flow rate steps based on cooling circuit modulation.  
**FT7:** F7 efficiency pocket filters positioned on the supply air flow  
**FT9:** F9 efficiency pocket filters positioned on the supply air flow  
**FTE:** Electronic filters positioned on the supply air flow.  
**PSF4:** Differential pressure switch signalling dirty recovery and renewal filters (if any)  
**BW:** Two-row hot water heating coil.  
**BWV2V:** Two-row hot water heating coil, with 2-way modulating valve  
**BWV3V:** Two-row hot water heating coil, with 3-way modulating valve  
**BE:** 2-stage electric heating coil  
**BPGC:** Hot gas post-heating coil  
**VELC:** Electronic thermostatic valve  
**DCPR:** AC fans with pressure switch device to regulate revolutions based on the condensation and evaporation pressure.  
**AXEC:** Axial fans featuring EC motors with the function of regulating revolutions based on the condensation and evaporation pressure  
**MAN:** High and low pressure gauges  
**CUR:** Humidification control (recovery humidity probe, flow humidity limit probe, ON/OFF contact and modulating analogue output)  
**DP:** Dehumidification (recovery humidity probe) and post-heating (if any) control  
**SCO2:** CO2 probe (**not available on MB1 model**)

**SVOC:** VOC Probe (**not available on MB1 model**)

**STA:** Room temperature probe

**SUA:** Relative humidity probe

**RF:** Smoke detector

**RFC:** smoke detector and damper management

**PRT1:** Wall/recessed (up to 50 m) remote control panel

**PRT2:** Wall/recessed (up to 200 m) remote control panel

**SCM:** modulating servo-controls (standard on MB3 model or if temperature or enthalpic free-cooling is present)

**SCMRM:** Modulating servo-controls with spring return

**CA:** Waterproof covers on external air intake

**GP:** External coil protection grid

**VT:** anti-vibration mounts

■ *Note: for more details on accessories and equipment, please refer to the technical manual*

## TECHNOLOGICAL FUNCTIONS AND ADVANTAGES

RTX units are designed with the aim of reducing the energy consumption that subsequently dictated the technological choices made on the unit we will now introduce in brief.

### EXTREMELY HIGH-EFFICIENCY VENTILATION

As ventilation is one of the major power consumption factors, we dedicated particular attention to designing and constructing the ventilation system.

Both in flow and in recovery (if any), EC brushless motor plug fans were used, which enable high performance and reduced consumption. Furthermore, compared to conventional centrifugal fans, they have no belts or pulleys, thus facilitating flow adjustment and resulting in compactness, versatility and easy maintenance.

Special adaptive logic allows you to adjust the air flow rate to actual system demand with further resulting advantages in terms of consumption reduction.

Axial fans for the external section of the unit are helical. Electronic condensation control is available as an accessory, which regulates fan speed based on the load required, allowing for noise reduction.

As an option, the motors can have electronic control (EC) to reduce consumption even in the condensing part.

### AIR QUALITY IN THE ROOM

Naturally, we also paid special attention to the quality of the air in the room, a task **entrusted to the standard G4 efficiency filters**.

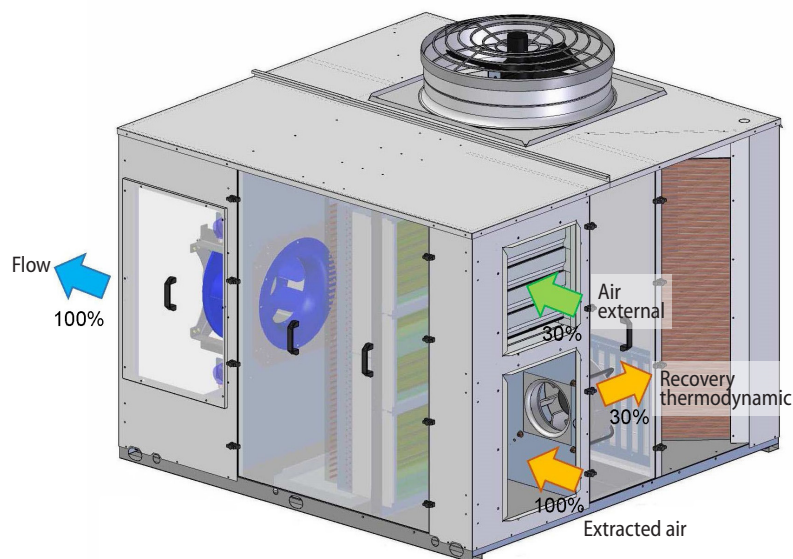
F7 and F9 or electronic H10 filters are also optionally available on the fresh air flow.

### ACTIVE THERMODYNAMIC RECOVERY

**In the MB4 configurations**, the units have a thermodynamic recovery function to recover the energy contained in the exhaust air, causing the expelled air flow to hit the external finned pack exchanger, allowing for higher performance and efficiency.

Obviously, all of these technological advantages are controlled by cutting edge thermoregulation that is able to manage the different functioning modes, ensuring maximum energy savings in all conditions of use via dedicated software.

## MB4 CONFIGURATION WITH DOUBLE VENTILATING SECTION FOR RETURN AIR, EXTERNAL AIR AND EXPELLED AIR. STANDARD FREE-COOLING AND THERMODYNAMIC HEAT RECOVERY FUNCTION.



## PERFORMANCE SPECIFICATIONS

### Mod. RTX (vers. MB1)

Size			01	02	03	04	05	06	07	08
Cooling capacity	(1)	kW	12,1	15,1	19,5	22,0	28,0	31,9	42,3	48,0
Sensitive cooling capacity		kW	8,7	10,8	13,8	15,3	19,4	22,3	29,3	32,7
Sensitive / total cooling power		kW/kW	0,72	0,71	0,71	0,70	0,69	0,70	0,69	0,68
Compressor input power		kW	2,8	3,9	4,8	5,8	6,7	8,8	10,1	12,0
EER	(2)	W/W	4,37	3,91	4,09	3,80	4,20	3,64	4,17	4,00
EER global		W/W	3,68	3,33	3,42	3,20	3,46	3,09	3,30	3,14
Heating capacity	(3)	kW	12,4	15,7	20,1	23,2	28,9	33,9	44,2	50,3
Compressor input power		kW	2,6	3,4	4,3	5,0	5,9	7,5	9,2	10,5
COP	(2)	W/W	4,68	4,61	4,71	4,61	4,90	4,54	4,78	4,77
COP global		W/W	3,90	3,82	3,86	3,78	3,94	3,74	3,69	3,64

### Mod. RTX (vers. MB2)

Size			01	02	03	04	05	06	07	08
Cooling capacity	(1)	kW	13,0	16,2	20,8	23,4	29,6	33,8	45,0	50,7
Sensitive cooling capacity		kW	9,2	11,4	14,7	16,3	20,6	23,3	30,9	34,5
Compressor input power		W/W	2,8	3,9	4,8	5,9	6,8	8,9	10,3	12,2
EER	(2)	W/W	4,64	4,16	4,31	3,96	4,37	3,81	4,38	4,15
EER global		kW	3,88	3,50	3,56	3,33	3,60	3,21	3,45	3,26
Heating capacity	(3)	kW	12,8	16,1	20,6	23,7	29,4	34,4	45,2	51,0
Compressor input power		W/W	2,45	3,15	3,93	4,64	5,41	6,91	8,59	9,76
COP	(2)	W/W	5,21	5,10	5,25	5,11	5,44	4,98	5,26	5,23
COP global		W/W	4,25	4,15	4,18	4,11	4,28	4,03	3,98	3,90

### Mod. RTX (vers. MB4 dynamic)

Taglia			01	02	03	04	05	06	07	08
Cooling capacity	(1)	kW	13,0	16,3	21,0	23,6	29,9	34,1	45,4	51,1
Sensitive cooling capacity		kW	9,3	11,4	14,8	16,3	20,6	23,6	31,0	34,6
Compressor input power		W/W	2,7	3,8	4,7	5,8	6,6	8,6	10,1	12,0
EER	(2)	W/W	4,75	4,28	4,44	4,10	4,50	3,95	4,50	4,28
EER global		kW	3,81	3,42	3,45	3,23	3,50	3,08	3,25	3,07
Heating capacity	(3)	kW	13,1	16,7	21,3	24,6	30,4	35,7	46,5	52,9
Compressor input power		W/W	2,48	3,19	3,99	4,74	5,51	6,97	8,73	9,96
COP	(2)	W/W	5,29	5,23	5,34	5,19	5,52	5,11	5,33	5,31
COP global		W/W	4,15	4,01	3,98	3,91	4,10	3,80	3,70	3,61

Date 14511: Cooling (performance is the same also for the cold only versions)

(1) Internal temperature 27°C d.b., 19°C w.b.; External temperature 35°C d.b., 24°C w.b.; U.R. 40%;

(2) Only compressors

Heating

(3) Internal temperature 20°C d.b., 15°C w.b.; External temperature 7°C d.b. 6°C w.b.;

## GENERAL TECHNICAL DATA

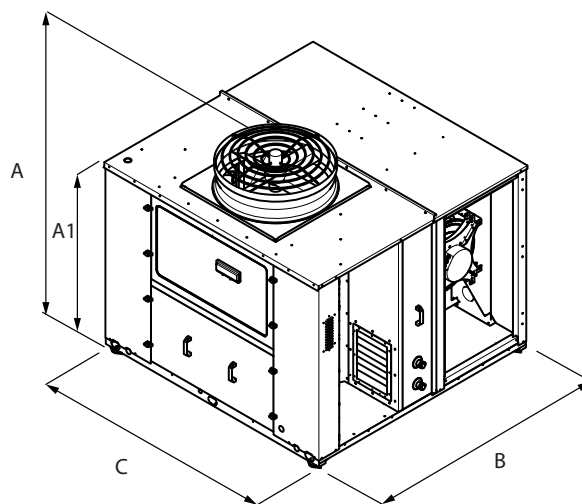
Size		01	02	03	04	05	06	07	08	
<b>Compressors</b>										
Compressors	type	Scroll								
	n°	1	1	1	1	1	1	1	1	
Circuits	n°	1	1	1	1	1	1	1	1	
Partialisation steps	%	1	1	1	1	1	1	1	1	
Refrigerant gas	type	R410A								
<b>Fans</b>										
External fans	type	Axials AC								
	n°	1	1	1	1	1	1	1	1	
Internal flow fans	type	RAD EC								
	n°	1	1	1	1	1	1	1	1	
	Ø mm	355	355	355	400	400	450	450	500	
Expulsion fans (MB4)	type	RAD EC								
	n°	1	1	1	1	1	1	1	1	
	Ø mm	250	250	280	280	355	355	400	400	
Air flow rate	min	m <sup>3</sup> /h	1800	1800	2700	2700	4000	4000	6500	6500
	nom	m <sup>3</sup> /h	2000	2700	3500	4000	5200	6500	8000	9500
	max	m <sup>3</sup> /h	2900	2900	4100	4100	6900	6900	10100	10100
Flow available static pressure <sup>(1)</sup>	max	Pa	760	569	473	561	424	570	634	681
<b>Sound data</b>										
Sound power		dB(A)	71	71	71	72	77	74	80	81
Sound Pressure <sup>(2)</sup>		dB(A)	63	63	63	64	69	66	72	73
Power supply	V/ph/Hz	400V / 3Ph+N / 50Hz					400V / 3Ph / 50Hz			

(1) At nominal/maximum flow rate, new clean G4 filter

(2) Sound Pressure: Sound pressure measured in free field (1m, Q=2) away from the outer surface of the ducted unit, Available static pressure 50Pa. (UNI EN ISO 9614-2)

■ Note: For further information, refer to the technical documentation available at [www.aermec.com](http://www.aermec.com)

## DIMENSIONS



Size		Vers.	01	02	03	04	05	06	07	08	
<b>Dimensions and weights</b>											
Height	mm	A	All	1150	1150	1450	1450	1670	1670	1780	1780
Total height	mm	A1	All	910	910	1210	1210	1410	1410	1510	1510
Length	mm	B	All	1460	1460	1460	1460	1860	1860	2310	2310
Width	mm	C	All	1560	1560	1560	1560	1910	1910	1910	1910
Weight	kg		MB2	305	305	345	345	535	535	615	615
			MB4	315	315	365	365	560	560	645	645

Aermec reserves the right to make any modifications deemed necessary.  
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