

## RTE ROOF-TOP cooling only and heat pump unit Cooling capacities from 10 up to 52 kW Heating capacities from 11 up to 53 kW

### R410A



#### Features

The RTE rooftop units represent the ideal solution for air conditioning medium-small applications for tertiary and commercial use.

The units offer noteworthy advantages in terms of air quality and environmental comfort, easy installation and low noise level.

The availability of many accessories also confers great versatility, thus making the range perfectly suitable for the varied system requirements.

They are reversible air-cooled, used in winter and summer, scroll compressors with R410A refrigerant fluid.

#### Structure:

For 025, 030, 040, 050 sizes it is self-supporting with simple aluminium alloy panelling with isolation of the air handling section via closed cell expanded polyethylene (density 30 kg/m<sup>3</sup>).

For 080, 090, 100, 150, 200 sizes it is self-supporting with internal and external aluminium alloy sandwich-type panelling with

thickness of 25 mm and injected polyurethane insulation (density 42 kg/m<sup>3</sup>) for the perimeter panels and for the roof of the air handling section.

#### Handling section fans:

for sizes 025, 030, 040, 050, the fans are the centrifugal double intake type directly coupled with the electronic device for variation of the number of revs

as per standard. For sizes 080, 090, 100, 150, 200 the fans are the double intake centrifugal type coupled using belts and pulleys with variable pitch.

The direction of delivery air flow can be:

#### RTE 020...050

- Rear

#### RTE 080...200

- Rear / lower / upper

Helical condensation section fans:

statically and dynamically balanced helical

type, protected electrically by magnet circuit breakers and mechanically by grids.

#### Cooling circuit:

Fitted with scroll compressors that guarantee low noise level and high efficiency thanks to the use of R410A gas, internal and external coil with copper pipes and high efficiency aluminium louvers. Air filtering using synthetic pleated filters with G4 efficiency (EN779).

#### Microprocessor adjustment

complete with electric control board, probes and actuators for all components.

#### models available

##### RTE F

Cooling only version.

##### RTE H

Heat pump version.

## Accessories

**SM** - Mixing chamber 2 dampers.  
Including damper servocontrols and rain-proof hoods.

**SM3P** - Mixing chamber 3 dampers.  
3-damper mixing chamber with return fan and rear intake, including damper servocontrols, rain-proof hoods and management of the free-cooling for temperature.

**SM3I** - Mixing chamber 3 dampers.  
3-damper mixing chamber with return fan and lower intake, including damper servocontrols, rain-proof hoods and management of the free-cooling for temperature.

**SCSM** - Mixing chamber 2 dampers.  
Including servocontrols with dampers spring return and rain-proof hoods.

**SCSM3P** - Mixing chamber 3 dampers.  
3-damper mixing chamber with return fan and rear intake, including spring return servocontrols, dampers, rain-proof hoods and management of the free-cooling for temperature.

**SCSM3I** - Mixing chamber 3 dampers.  
3-damper mixing chamber with return fan and lower intake, including spring return servocontrols, dampers, rain-proof hoods and management of the free-cooling for temperature.

**P** - filters pressure switch.

**BRT2** - 2 row water coils .  
Water coils for two row heating.

**BRT3** - 3 row water coils

Water coil for three row post-heating.  
**BRE** - Electric coils.  
Electric coil. See the table below.

**TP** - Pressure transducers.  
As per standard on all heat pump models.

**DCPR** - PRESSURE CONTROL device.  
Extends the functioning range of the rooftop in the summer cycle (minimum temperature of the external air up to 10 °C) and in the winter cycle in heat pump mode (maximum temperature of the external air up to 25 °C). Moreover, it makes functioning silent with partial loads. A regulation circuit board varies the number of the motor condensing fan revs on the basis of the condensation pressure, read by the relevant transducers, thus guaranteeing correct power supply of the thermostatic valve.

**DP** - dehumidification and post-heating kit.  
Kit for management of dehumidification and post-heating. It can be coupled with the PUC accessory (Humidification contact).

**FCH** - enthalpy freecooling.  
Only for models from 100 to 200 and the 3-damper mixing chamber, if present.

It can be coupled with:  
- the DP accessory (dehumidification and post-heating management kit) only in presence of the 3-shutter mixing chamber and water or electric coil.  
- the PUC accessory (Humidification contact) only with 3-damper mixing chamber.

puc - humidification contact  
Only for 100, 150, 200 models.  
ON/OFF contact (normally open) for humidification consent. In this case, the unit is complete with one humidity probe positioned in the environment air

return. A humidity probe is also supplied to be positioned downstream from the humidification section.

sqa Air quality probe.  
Only for 100, 200 models.

**PR2** - REMOTE panel.  
Allows to control the rooftop at a distance.

**GP** - protection grid.  
Protects the external coil from blows and to prevents access to the underlying area where the compressors and the chiller circuit are housed.

**VT** - Rubber anti-vibration mounts.  
Rubber anti-vibration mounts. Select the VT model from the compatibility table.

**AVX** - Spring anti-vibration mounts.  
Spring anti-vibration mounts. Select the AVX model from the compatibility table.

**RC Roof-curb**.  
Only for models from 080 to 200.

Attention: The standard configuration control is however able to manage the following accessories, which can also be added at a later date, SM, PF, SSV (supervisor), PR2, TP. For any other accessory, change the electric control board. Independently from the type of control, GP , VT, AVX, RC can be supplied at a later date.

Mod.	025	030	040	050	080	090	100	150	200
SM	✓	✓	✓	✓	✓	✓	✓	✓	✓
SM3P	✓	✓	✓	✓	✓	✓	✓	✓	✓
SM3I					✓	✓	✓	✓	✓
SCSM	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCSM3P	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCSM3I				✓	✓	✓	✓	✓	✓
PF	✓	✓	✓	✓	✓	✓	✓	✓	✓
BRT2	✓	✓	✓	✓	✓	✓	✓	✓	✓
BRT3	✓	✓	✓	✓	✓	✓	✓	✓	✓
BRE103 (4)	✓	✓	✓	✓					
BRE106	✓	✓	✓	✓					
BRE109	✓	✓	✓	✓					
BRE107					✓	✓			
BRE112					✓	✓			
BRE118					✓	✓			
BRE212						✓	✓	✓	
BRE218						✓	✓	✓	
BRE224						✓	✓	✓	
BRE236						✓	✓	✓	
TP	✓	✓	✓	✓	✓	✓	✓	✓	✓
DCPR	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP	✓	✓	✓	✓	✓	✓	✓	✓	✓
DP+FCH (1)						✓	✓	✓	
PUC+FCH (2)						✓	✓	✓	
PUC+DP (3)						✓	✓	✓	
FCH							✓	✓	✓
PUC							✓	✓	✓
SQA							✓	✓	✓
PR2	✓	✓	✓	✓	✓	✓	✓	✓	✓
GP	✓	✓	✓	✓	✓	✓	✓	✓	✓
VT	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX	✓	✓	✓	✓	✓	✓	✓	✓	✓
RC					✓	✓	✓	✓	✓

(1) Only if 3-damper mixing chamber and water or electric coil present.

(2) Only with 3-damper mixing chamber.

(3) Only if electric or water coil present.

(4) BRE103 = electric coils, the first indicates the stages, the last two characters indicate the power (e.g.: 1 stage, 3 kW).

## Technical data

RTE F		025	030	040	050	080	090	100	150	200
<b>COOLING CAPACITY</b>										
Cooling capacity	kW	10.5	12.4	15.7	18.5	23.6	27.9	37.1	45.2	52.3
Sensitive nominal cooling capacity	kW	6.7	8.2	10.1	11.9	15.5	18.1	24.1	30.7	34.0
Cooling input power	kW	2.4	2.8	3.3	3.9	5.3	6.0	7.9	10.6	12.1
Cooling input current	kW	4.7	5.0	5.8	7.2	10.4	11.6	15.3	19.1	24.5
E.E.R.		4.4	4.4	4.8	4.7	4.5	4.7	4.7	4.3	4.3
<b>MOTOR CONDENSING SECTION</b>										
<b>Compressors</b>										
Type		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
Number/circuits	n°/n°	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Partialisation steps	%	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100
<b>Fans</b>										
Number x input power	n°. x kW	1 x 0.15	1 x 0.15	1 x 0.25	1 x 0.25	1 x 0.52	1 x 0.52	4 x 0.15	4 x 0.15	4 x 0.15
Air flow rate	m³/h	3500	3500	4800	6200	8000	8000	14000	14000	14000
<b>HANDLING SECTION</b>										
<b>Evaporator</b>										
Number	n°	1	1	1	1	1	1	1	1	1
<b>fan</b>										
Nominal air flow rate	m³/h	1500	1900	2400	2900	4000	4500	6000	8000	9000
Number	n°	1	1	1	1	2	2	2	2	2
Useful static pressure guaranteed	Pa	200	200	200	200	200	200	200	200	200
<b>Air filters</b>										
Thickness	mm	50	50	50	50	50	50	50	50	50
Efficiency		G4	G4	G4	G4	G4	G4	G4	G4	G4
Sound pressure	dB(A)	58	58	61	61	64	64	67	67	67
<b>ELECTRIC POWER SUPPLY</b>										
Type	V/ph/Hz	400V-3N-50Hz								
<b>RTE H</b>										
<b>COOLING CAPACITY</b>										
Cooling capacity	kW	10.4	12.3	15.4	18.4	23.6	27.6	36.7	44.7	51.8
Sensitive nominal cooling capacity	kW	6.7	8.1	9.6	11.9	15.4	18.5	25.5	29.2	34.3
Cooling input power	kW	2.4	2.9	3.3	3.9	5.3	6.1	8.0	10.7	12.2
Cooling input current	kW	4.7	5.1	5.8	7.3	10.5	11.7	15.4	19.2	24.6
E.E.R.		4.3	4.2	4.7	4.7	4.5	4.5	4.6	4.2	4.3
<b>HEATING CAPACITY</b>										
HEATING capacity	kW	11.0	12.4	16.1	18.4	24.2	27.9	37.0	46.6	53.2
Heating input power	kW	2.5	2.6	3.6	3.7	5.1	5.6	7.5	9.7	10.9
Heating input current	kW	4.8	4.55	6.1	6.8	9.9	11.0	14.5	17.5	22.9
C.O.P.		4.4	4.8	4.5	5.0	4.7	5.0	4.9	4.8	4.9
<b>MOTOR CONDENSING SECTION</b>										
<b>Compressors</b>										
Type		scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
Number/circuits	n°/n°	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Partialisation steps	%	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100
<b>Fans</b>										
Number x input power	n°. x kW	1 x 0.15	1 x 0.15	1 x 0.25	1 x 0.25	1 x 0.52	1 x 0.52	4 x 0.15	4 x 0.15	4 X 0.15
Air flow rate	m³/h	3500	3500	4800	6200	8000	8000	14000	14000	14000
<b>HANDLING SECTION</b>										
<b>Evaporator</b>										
Number of rows	n°	1	1	1	1	2	2	2	2	2
<b>fan</b>										
Nominal air flow rate	m³/h	1500	1900	2400	2900	4000	4500	6000	8000	9000
Number	n°	1	1	1	1	2	2	2	2	2
Useful static pressure guaranteed	Pa	200	200	200	200	200	200	200	200	200
<b>Air filters</b>										
Thickness	mm	50	50	50	50	50	50	50	50	50
Efficiency		G4	G4	G4	G4	G4	G4	G4	G4	G4
Sound pressure	dB(A)	58	58	61	61	64	64	67	67	67
<b>ELECTRIC POWER SUPPLY</b>										
Type	V/ph/Hz	400V-3N-50Hz								

The performance refers to the following conditions:

■ Cooling:

- Cooling capacity Tin 27°C RH 50% (Twb 19°C), Text 35°C RH 50%;

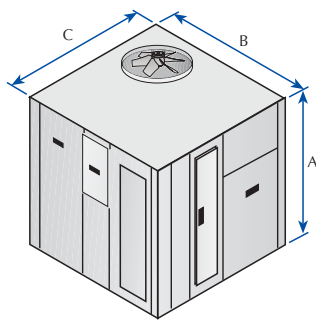
■ Heating:

- Heating capacity Tin 20°C RH 50%, Text 7°C RH 70%.

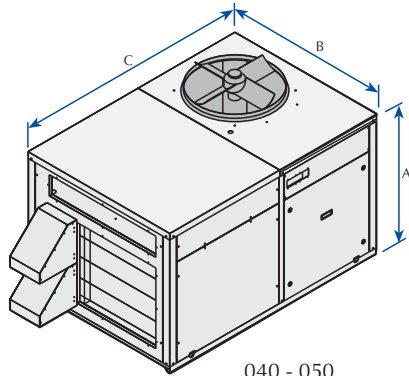
Sound power:

Sound pressure level at 1 m from the unit, directionality factor Q=2, ducted delivery.

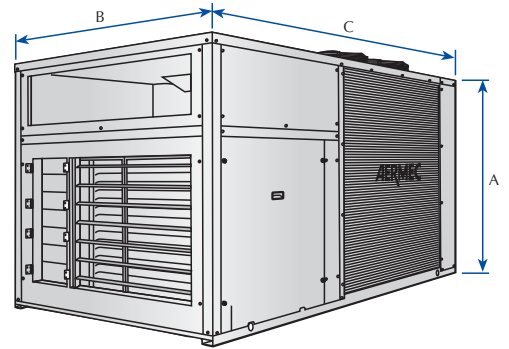
## Dimensional data (mm)



025 - 030



040 - 050



080 - 200

RTE			025	030	040	050	080	090	100	150	200
Height	A	mm	1,040	1,040	1,040	1,040	1,175	1,175	1,500	1,500	1,500
Width	B	mm	1,175	1,175	1,175	1,175	1,240	1,240	1,510	1,510	1,510
Depth	C	mm	1,155	1,155	1,155	1,155	1,805	1,805	2,710	2,710	2,710
RTE F weight		kg	235	250	270	285	435	450	650	675	735
RTE H weight		kg	245	260	280	300	455	470	690	710	770

Dimensions and weights of the basic set-up unit.