



RMXCBA RCF

Heat pump

RMXCA RCF

Cooling only



ROOF TOP AIR - AIR UNITS | RCF | RCF MTQ
Axial fans

A different Roof Top unit

The units of the KUBIC RCF series are Roof Top units with heating cooling recovery and thermal freecooling as standard, especially designed for installation on rooftops, roof terraces or in any other outdoor location.

MAIN FEATURES

- Cooling capacities: from 64 to 178.4 kW
- Heating capacities: from 67.4 to 193.5 kW
- R-410A refrigerant
- Scroll compressors, specially designed for heat pump applications; they provide very wide operational limits
- EER: up to 3.26
- COP: up to 3.94
- Condenser hermetic axial fans, with aluminium blades designed to produce low noise levels
- Cabinet: built from galvanised steel plate with a polymerised polyester resin finish (RAL 1013); high corrosion resistance and protection from the elements
- Thermal freecooling

APPLICATIONS

- Specially designed to be installed outdoors (rooftops, roof terraces, etc.) for large areas with air duct installation

ADVANTAGES

- Extra-compact unit: high versatility for both installation and operation, which can be adapted to each and every project
- Units will be delivered completely finished and tested, with the appropriate load of R-410A refrigerant for their correct operation
- Anti-vibration operation thanks to the internal damping system in each compressor and the assembly over the dampers in the chassis

AVAILABLE VERSIONS

- Cooling only
- Heat pump
- RCF MTQ: version with gas burner

REGULATION

Controls available:
PGD



MINI PGD

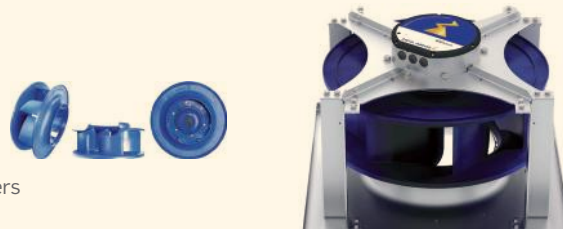


See regulation and control on page 22.

AVAILABLE OPTIONAL FEATURES

OPTIONAL FEATURES: PLUG FAN FOR DISCHARGE AND/OR RETURN

- Greater energy efficiency
- Lower consumption
- Quieter
- High pressures available
- Low maintenance cost
- Lower installation cost
- Plug and play: the flow is adjusted to the installation
- The flow can be modified on-site just by changing a few parameters



MORE OPTIONS

- Enthalpy freecooling
- Compressor soft-start
- Air quality sensor
- High-performance thermo-acoustic insulation
- Compressor acoustic insulation
- External pressure taps
- Detector of dirty filters
- Motor protection by means of magneto-thermal switches
- Overpowered indoor ventilation group for higher pressure
- Heating coils for backup and hot water
- Electrical resistance to provide auxiliary heating
- Thermal insulation Euroclass A1 (M0)
- Copper-copper coils
- Anti-corrosion treated coils
- Proportional condensation control through the axial fans speed shifter
- Condensation tray in outside section
- G4, F6 to F9 combinable filters
- Economiser
- Protective grille in outdoor section exchangers
- Smoke detection
- Remote run/stop
- Unit without thermostat
- Ambient temperature or wall-mounted sensor
- Return temperature sensor in duct
- Centralised control for up to 90 units
- Centralised control for up to 300 units
- Operation without neutral
- ModBus IP/RTU, BacNet IP, WebServer, etc. connections (check chapter on thermostats)

As well as these options, please check with our Commercial Department for any other configuration or function not described as available.

AVAILABLE VERSIONS

KUBIC RCF

Roof top with thermodynamic recovery



The thermodynamic recovery module includes an additional circuit which operates at high cooling capacities. This circuit uses the extraction air to recover part of the wasted heat. Through heat recovery we can increase both the power and the nominal and seasonal performance of the unit.

KUBIC RCF MTQ

Roof top with thermodynamic recovery and gas burner

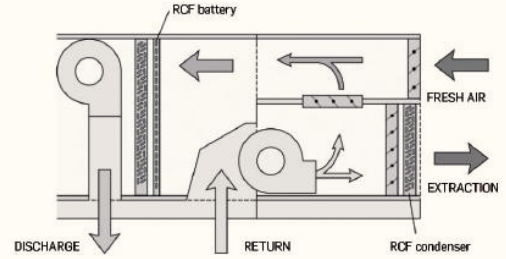


The module with a gas burner is especially designed for the climate control of large areas in the industrial and commercial sectors, and in areas with extremely low temperatures.

KUBIC RCF

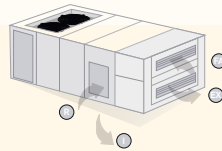
DESCRIPTION

The thermodynamic recovery module includes an additional circuit which operates at high cooling capacities. This circuit uses the extraction air to recover part of the wasted heat. Through heat recovery we can increase both the power and the nominal and seasonal performance of the unit. It is necessary to change to regulation μ PC and PGD.

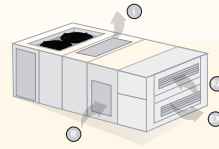


POSSIBLE AIR INLET/OUTLET CONFIGURATIONS

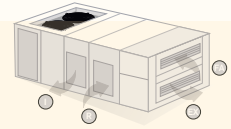
RETURN SIDE CONFIGURATIONS



LOWER DISCHARGE



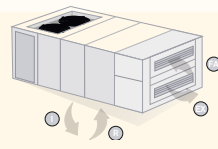
UPPER DISCHARGE



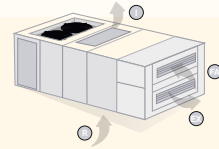
SIDE DISCHARGE

RETURN LOWER CONFIGURATIONS

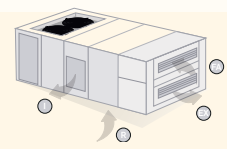
I: DISCHARGE
R: RETURN
FA: NEW AIR
EX: EXTRACTION AIR



LOWER DISCHARGE



UPPER DISCHARGE



SIDE DISCHARGE

KUBIC RCF SERIES

MODEL		1402.2	1602.2	2002.2	2402.2	3002.2	3502.2	4002.2	4502.2
CAPACITIES		20% air recovery							
Total cooling capacity (1)	kW	56.10	62.40	76.00	90.80	101.40	133.80	145.70	157.10
Cooling power input total (3)	kW	11.60	20.60	23.10	28.00	34.20	44.70	47.30	53.30
EER coefficient		4.8	3.0	3.3	3.2	3.0	3.0	3.1	2.9
Total heating capacity (2)	kW	59.20	68.30	78.80	95.00	108.20	147.70	159.90	173.80
Pump power input total (3)	kW	15.10	17.30	19.00	23.30	28.00	38.20	41.90	46.80
COP coefficient		3.9	3.9	4.1	4.1	3.9	3.9	3.8	3.7
		40% air recovery							
Total cooling capacity (1)	kW	57.60	64.00	79.30	94.40	105.00	138.50	149.90	161.50
Cooling power input total (3)	kW	17.30	20.00	21.40	26.80	32.40	42.40	45.30	51.40
EER coefficient		3.3	3.2	3.7	3.5	3.2	3.3	3.3	3.1
Total heating capacity (2)	kW	61.90	70.50	81.80	97.20	111.40	152.00	164.40	178.70
Pump power input total (3)	kW	14.70	16.80	18.30	22.40	27.20	37.00	40.50	45.30
COP coefficient		4.2	4.2	4.5	4.3	4.1	4.1	4.1	3.9
		60% air recovery							
Total cooling capacity (1)	kW	59.20	66.00	81.50	95.80	107.10	141.80	153.20	165.50
Cooling power input total (3)	kW	16.80	19.60	20.90	26.50	32.10	41.80	44.90	50.30
EER coefficient		3.5	3.4	3.9	3.6	3.3	3.4	3.4	3.3
Total heating capacity (2)	kW	62.70	71.80	83.50	99.30	113.40	154.70	167.20	181.80
Pump power input total (3)	kW	14.00	16.10	17.50	21.30	26.10	35.50	38.90	43.50
COP coefficient		4.5	4.5	4.8	4.7	4.3	4.4	4.3	4.2
		90% air recovery							
Total cooling capacity (1)	kW	61.40	68.00	83.50	98.80	109.70	145.30	157.70	169.40
Cooling power input total (3)	kW	16.50	19.30	20.70	26.30	31.90	41.60	44.60	50.10
EER coefficient		3.7	3.5	4.0	3.8	3.4	3.5	3.5	3.4
Total heating capacity (2)	kW	64.50	73.80	86.20	101.70	116.50	158.90	171.60	186.60
Pump power input total (3)	kW	13.10	15.10	16.60	19.90	24.60	33.50	36.60	41.00
COP coefficient		4.9	4.9	5.2	5.1	4.7	4.7	4.7	4.6

(1) Nominal cooling conditions: outside air temperature: 35 °C. Return temperature 27 °C (dry bulb) / 19 °C (wet bulb).
 (2) Nominal heating conditions: outdoor air temperature 7 °C (dry bulb) / 6 °C (wet bulb). Return temperature 20 °C.
 (3) Total power input for compressors (not taking in to account ventilation)

KUBIC RCF SERIES

MODEL		1402.2	1602.2	2002.2	2402.2	3002.2	3502.2	4002.2	4502.2
REFRIGERANTS									
Type		R-410A							
PCA (4)		1720							
Load	kg	12.6 + 3.3	13.2 + 3.5	14 + 4	15.6 + 4	16 + 4.3	31 + 6	32 + 6	33 + 6.5
COMPRESSOR									
Type		Scroll							
Number		3							
Number of cooling circuits		3							
Number of stages (5)		3							
Oil type		POE 160 SZ, FV68S							
OUTDOOR CIRCUIT FAN									
Type		Outdoor axial rotor							
Number		2						4	
Nominal airflow	m ³ /h	31,724	31,724	39,332	39,332	39,332	46,556	60,088	60,088
Available static pressure	Pa	0							
Diameter	mm	710		800				710	
Power	kW	1.25/0.97		2.06/1.33				1.25/0.97	
Speed	rpm	950/825		890/690				950/825	
INDOOR CIRCUIT									
Nominal airflow	m ³ /h	9,000	10,200	11,500	14,000	15,500	21,000	23,000	25,000
Available static pressure	Pa	100	100	125	125	125	150	150	150
Quantity/Dimensions		15/15		2x15/11			2x18/18		
Power	kW	1.5	2.2	2.2	4	4	5.5	5.5	7.5
Speed	rpm	649	726	712	802	860	716	756	798
Condensate evacuation	∅	Junction 3/4" M							
RETURN CIRCUIT									
Nominal airflow	m ³ /h	9,000	10,200	11,500	14,000	15,500	21,000	23,000	25,000
Available static pressure	Pa	75	75	100	100	100	100	100	100
Quantity/Dimensions		15/15		2x15/11			2x18/18		
Power	kW	1.5	2.2	2.2	4	5.5	4	5.5	7.5
Speed	rpm	616	681	731	835	897	661	703	746
Condensate evacuation	∅	Junction 3/4" M							
ELECTRICAL SPECIFICATIONS									
Power supply		400V - 3N 50Hz							
DIMENSIONS									
Length	mm	3,988						5,845	
Width	mm	2,219						2,219	
Height	mm	1,240						1,900	
Weight	kg	1,315	1,353	1,417	1,445	1,531	2,373	2,519	2,549

(4) Climate warming potential of a kg of fluorinated greenhouse gas in relation to a kg of carbon dioxide gas over a period of 100 years.

(5) The number of stages increases with freecooling (FC).