RoofTech
RTCL 100 to 160/ RTCH 100 to 220

Cooling Capacity: from 101 to 221 kW
Heating Capacity: from 97 to 220 kW
Refrigerant: R410A
Airflow range: from 20 000 to 30 000 m³/h (40 000 m³/h with RTCH)
Sizes: 4 (coolong only) - 7 (heat pump)
Insulation: 50 mm Glasswool

R410A

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DESCRIPTION

- Pre-assembled weatherproof single package, designed to save energy and for long life durability thanks to an efficient double wall aluminium casing, less weight and prevent insulation fibber from entering the building and from harmful build-up of bacteria or contaminants.

PRODUCT ADVANTAGES

- Inspired by Premi@ir Air Handling Unit, all the internal features on air side are designed to fulfill the requierments and the quality requiered on Air Handling Unit thanks to double-skin panels 50mm thick, a filter frame F9 conform regarding EN1886, or, hinged doors composed of none-corrosive polyamide hinges and external progressive rotors without thermal bridge as used on Premi@ir and @irTwin 400 to 1000.
- RoofTech is also develloped to facilitate the maintenance operation thanks to two technical compartments:
  - Main weatherproof technical compartment with left and right hinged service doors, double floor with 50 mm insulation to reduce noise disturbance to buildingand, and, walk-in service to compressors, electrical and control devices with no interference to unit operation (TC1). Control and electrical board with a distinctive sliding door to shield from wind-and rain disturbances with natural ventilation of the electrical board to stop overheating in summer.
  - Indoor technical compartment (TC2) divided from the air flow with access door giving an access to sight-glass and expansion device with no interference to unit operation.
- An other advatage of RoofTech range is his efficient pre-mixing gas burner to hold air-gas mixture-ratio constant (13/1) throughout the complete heat capacity-modulation or -staging with a variable speed combustion air blower (600 to 1500 rpm) ensures modulation between 30 and 100% of maximal heating capacity ensuring an optimal pre-mixture of gas/oxygen at the required capacity.

OPERATING LIMIT

COOLING MODE	
Maximum outdoor air temperature	46°C
Minimum outdoor air temperature (6)	20°C

HEATING MODE	
Maximum outdoor air temperature	21°C
Minimum outdoor air temperature	-7°C

MAIN

- Factory-fitted protective grilles for air entering fin surfaces of outdoorcoils.
- Factory-fitted low-ambient control to ensure cooling operation down to +10 °C outdoor temperature (RTCL only).
- High efficiency filter assembly G4+ F7 bag filters compliant with EN 779.
- Factory fitted clogged filter switch wired to the IATC.
- Smoke detector downstream the filters.
- Factory fitted economizer with 2 dampers* and one supply blower.
- Enthalpy control taking the moisture of the outdoor air in consideration to reference entalpy setting.
- Air quality control (VOC: Volatile Organic Compound) (optional and placed at return side) to trace high population density in the building and provides sufficient ventilation.
- Droplets eliminator on fresh air (optional).
- Optional exhaust air blower kit to be used in association with the 2 damper economizer, with R1 return only.
- Manual 0-25% fresh air kit.
- Factory fitted economizer with 3 dampers and with return fan.
- Heat recovery system by run around coils with glycol.
- Hot water, Electric, or, Gas heat.

SORIES

- Electronic expansion valve (EEV) on heat pump model.
- 2-dampers and 3-dampers economizer with Weather hood integrated.
- Electric heater CH1 & CH2.
- Heat recovery run around coils.
- Manual 0-25% fresh air kit with Weather hood integrated.
- Droplet eliminator for manual fresh air kit or for 2-damper economizer.
- Condenser protective grilles.
- Standard or ERP roof curb.

ROOFTECH MODELS

		100 to 160	180 to 220
Burner type		Modulating gas burner with condensation	
Gas		G20 (G25 & G30 upon request)	
Supply pressure	mbar	Min: 17 - Max: 25	
Minimum capacity	kW	42.4	55.7
Gas consumption	m³/h	4.66	5.61
Maximum efficiency	%	103.5	105.1
Maximum capacity	kW	156.3	197
Gas consumption	m³/h	16.4	22.75
Maximum efficiency	%	93	91.6
Condensation produced	l/h	3.87	4.9
Ø gas connection	inches	UNI ISO 7/1 - 1"M	
Ø condensation drain	mm	20	
CE approval		0694 BM 3433	

COOLING ONLY VERSION

RTCL MODELS		100	120	140	160	180	200	220
Cooling capacity (1)	kW	101	115.2	135.4	158.1	N/A	N/A	N/A
Power input	kW	34.9	40.9	46.8	54.2	N/A	N/A	N/A
EER (2)		2.89	2.82	2.89	2.92	N/A	N/A	N/A

HEAT PUMP VERSION

RTCH MODEL		100	120	140	160	180	200	220
Cooling capacity (1)	kW	98.5	112.4	132.1	154.2	176.4	198.8	221.1
Power input	kW	34.9	40.9	46.8	54.2	61.9	68.4	74.8
EER (2)		2.83	2.75	2.82	2.84	2.85	2.91	2.96
Heating capacity (3)	kW	97.4	114.6	134.7	155.3	175.2	197.5	220.0
Power input	kW	31.9	37.2	44.4	51.5	59.3	66.2	73.1
COP (4)		3.06	3.08	3.03	3.01	2.95	2.98	3.01

COMMON DATA - RANGE RTCL/RTCH

REFRIGERANT								
Type		R410A	R410A	R410A	R410A	R410A	R410A	R410A
Number of circuit		2	2	2	2	2	2	2
COMPRESSOR								
Number of compressor		4	4	4	4	4	4	4
Assembly type		Tandem	Tandem	Tandem	Tandem	Tandem	Tandem	Tandem
Compressor type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Capacity control	%	100-75-50-25-0						
INDOOR COIL								
Tube type		Copper 3/8" and aluminium fins						
Number of row		3	3	3	3	4	4	4
Airflow area	m²	3.24	3.24	3.24	3.24	3.24	3.24	3.24
SUPPLY FAN								
Type		Centrifugal						
Number		1	1	1	1	1	1	1
Nominal air flow	m³/h	20000	22500	27500	30000	34000	37000	40000
Standard fan		ADH 500	ADH 560	ADH 560	ADH 560	ADH710	ADH710	ADH710
Nominal external static pressure	Pa	250	350	350	350	350	350	350
Motor power	kW	7.5	7.5	11.0	11.0	11.0	11.0	11.0
High pressure fan (optional)		RDH 500	RDH 560	RDH 560	RDH 560	RDH710	RDH710	RDH710
Nominal external static pressure	Pa	500	550	550	550	550	600	600
Motor power	kW	7.5	7.5	11.0	11.0	11.0	15.0	15.0
RETURN FAN (3-DAMPER SYSTEM ONLY)								
Type		Centrifugal						
Number		1	1	1	1	1	1	1
Nominal air flow	m³/h	20000	22500	27500	30000	34000	37000	40000
Standard fan		ADH 500	ADH 560	ADH 560	ADH 560	ADH710	ADH710	ADH710
Nominal external static pressure	Pa	100	100	100	100	300	300	300
Motor power	kW	7.5	7.5	11.0	11.0	11.0	11.0	11.0
OUTDOOR COIL								
Coil type		Copper 3/8" and treated aluminium fins						
Number of row		2	2	2	2	3	3	3
Airflow area	m²	3.78	3.78	4.14	4.14	4.14	4.14	4.14
OUTDOOR FAN								
Type		Propeller						
Diameter	mm	800	800	800	800	910	910	910
Quantity		2	2	2	2	2	2	2
Fan RPM	tr/mn	820	820	895	895	850	850	850
Nominal outdoor airflow	m³/h	19000	19000	20500	20500	28000	28000	28000
Motor power (total)	kW	2 x 1.85	2 x 1.85	2 x 1.85	2 x 1.85	2 x 3.5	2 x 3.5	2 x 3.5
SYNTHETIC FLAT FILTERS (OPTIONAL)								
Number of filters		9	9	9	9	9	9	9
Efficiency/Filter class		> 90%/G4						
BAG FILTERS (OPTIONAL)								
Number of filters		9	9	9	9	9	9	9
Efficiency/Filter class		< 90%/F7						
DIMENSIONS & WEIGHT (5)								
Length (without fresh hood)	mm	4743	4743	4743	4743	5444	5444	5444
Width	mm	2209	2209	2209	2209	2209	2209	2209
Height	mm	2229	2229	2229	2229	2229	2229	2229
Foot print	m²	10.46	10.46	10.46	10.46	12.03	12.03	12.03
Weight	kg	1720	1740	1760	1780	2080	2190	2270

ELECTRICAL DATA (7)

RoofTech Models		100		120		140		160		180		200		220	
		PE	GE	PE	GE	PE	GE	PE	GE	PE	GE	PE	GE	PE	GE
Supply voltage		400 V/3 Ph/50 Hz + Neutral													
Total running current	A	124	124	128	128	152	152	153	153	178	178	198	205	218	225
Maximum starting current	A	214	214	236	236	245	245	286	286	345	345	383	390	393	400
Unit aM fuses	A	160	160	160	160	160	160	160	160	200	200	250	250	250	250

PE: Standard ventilation. GE: High static presssure ventilation.
(1) Cooling capacity with Eurovent conditions: 35 °C dry bulb outdoor, 27 °C dry bulb/19 °C wet bulb entering indoor. (2) EER = Cooling capacity/Unit power input. (3) Heating capacity with Eurovent conditions: 7 °C dry bulb/6 °C wet bulb outdoor, 20 °C entering indoor. (4) COP = Heating capacity/Unit power input. (5) For basic units without 2-damper economizer. (6) For lower outdoor air temperature (+10 °C), in cooling mode, use low ambient kit (optional). (7) Unit without electric heater.