

Roofair

Rooftop unit cooling and heating

RTL/RTH 30-110



32.5-108 kW



410A



33.3-108 kW



Scroll

Technical features

- Cooling Capacity from 32.5 to 108 kW
- Heating Capacity from 33.3 to 108 kW
- Refrigerant: R410A
- Airflow range: from 5,500 to 20,000 m³/h
- 8 sizes
- Insulation: 25 mm Glasswool

Product Advantages

- Technical compartments for RTL/RTH 100-110
- Weatherproof technical compartment independent from the airflow with a natural ventilation of the electrical board to stop overheating in summer. All electric cables and wires are protected
- Refrigeration system:
 - R410A benefits: best heat transfer and environmental friendly refrigerant with zero ODP (Ozone Depleting Potential). Stable composition compared to R407C (2 refrigerant mixture instead of 3 with R407C). Temperature glide less than 0,2 K during evaporation, smaller liquid line pipe and lower refrigerant charge.
 - Refrigeration circuit: cooling only or heat pump version designed to satisfy comfort and commercial applications with scroll compressors for higher efficiency with better resistance to liquid return and less vibration. Crankcase heater on each compressor to eliminate refrigerant migration and improve start up in winter. Tandem compressors on 1-circuit and single compressor on dualcircuits provide 2-stage cooling/heating capacity. Refrigerant brazing, fittings, and indoor coil headers are assembled in one technical compartment to ease service without disturbing unit operation

Main options and accessories

- Filters:
 - Universal cells' dimensions mounted on sliding rail for easy service
 - 2 options of flat filters: G4 filter & High efficiency filter G4+F6 compliant with EN 779



- Factory fitted clogged filter switch wired to the IATC (option)
- F-damper economizer (R1 and R2 configurations): economizer allows using the greatest obtainable quantity of outdoor air energy to minimize compressor consumption
- Economizer is equipped with 2 counteracting dampers linked together to one proportional actuator wired to IATC
- Adjustable minimum position of outdoor air damper to control hygienic ventilation.
- The economizer is equipped with sensors wired to the IATC
- According to control type, 3 combinations of sensors are available: Sensible, Enthalpy, or, Air quality contro.
- Additional options:
 - Standard or ERP conform Roof Curb
 - Antivibration mounts, Smoke detector & Double skin
 - Bi-flow devices (expansion device, filter-dryer, sight glass) are used on each circuit
 - Outdoor coils designed for low air resistance to reduce axial fan power consumption and noise level
 - Hydrophilic blue fins provided on outdoor coils (heat pump version only) for better removal of water droplets on defrost cycle
 - Holes in the unit floor under the outdoor coils to drain defrost and rain water beyond the roof curb to the roof
 - Indoor coil (blue fins) allows for commercial or industrial applications with higher dehumidification rate
 - Extractible drain pan under indoor coil, to allow for hygienic cleaning
 - Optional low ambient operation kit ensures cooling operation down to -10 °C outdoor temperature
 - Optional electric heater CH1 & CH2, and, hot water coil

Operating limit (for standard unit) (to be confirmed following selection software issue)

| 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 | -10°C |


EUROCLIMATIC

Technical feature

| RTL/RTH | | 30 | 40 | 50 | 60 | 70 | 80 | 100 | 110 |
|--|-------------------|-----------------------------------|----------------------------|-------------|-----------|-----------------------------|-----------|-----------|-----------|
| Cooling capacity ¹ | kW | 32,5 | 41,5 | 50,9 | 59,8 | 67,7 | 84,9 | 96,6 | 108,4 |
| Power input | kW | 10,4 | 12,8 | 16 | 18,4 | 20,9 | 26 | 30,9 | 36,5 |
| EER ² | | 3,12 | 3,3 | 3,2 | 3,3 | 3,2 | 3,3 | 3,1 | 3 |
| Power supply | | 400V - 3ph + N - 50Hz | | | | | | | |
| Heat Pump Version | | | | | | | | | |
| Cooling capacity ¹ | kW | 32 | 41 | 48,6 | 59 | 66 | 83,4 | 94,8 | 106,1 |
| Power input | kW | 10,4 | 12,8 | 16 | 18,4 | 20,9 | 26 | 30,9 | 36,5 |
| EER (Cooling mode) ² | | 3,1 | 3,2 | 3 | 3,2 | 3,2 | 3,2 | 3,1 | 2,9 |
| Heating capacity ³ | kW | 33,3 | 42,9 | 50,2 | 58,2 | 66,5 | 84 | 96 | 108 |
| Power input | kW | 9,5 | 12,2 | 15,1 | 17,8 | 20,3 | 24,1 | 28,5 | 33,7 |
| COP (Heating mode) ⁴ | | 3,5 | 3,5 | 3,3 | 3,3 | 3,3 | 3,5 | 3,4 | 3,2 |
| Refrigerant | | | | | | | | | |
| Type | | HFC 410A | | | | | | | |
| Number of circuits | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| Compressors | | | | | | | | | |
| Number of compressors | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Assembly type | | Tandem | Tandem | Tandem | Single | Single | Single | Single | Single |
| Capacity step | % | 0-50-100 | 0-50-100 | 0-50-100 | 0-50-100 | 0-50-100 | 0-50-100 | 0-50-100 | 0-50-100 |
| Indoor coil | | | | | | | | | |
| Type | | Copper tubes & aluminium fins | | | | | | | |
| Number of rows | | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| Indoor fan | | | | | | | | | |
| Type (standard) | | Forward curved centrifugal | | | | | | | |
| Quantity/Model | | 1 | 1/AT 15-15S | 1/AT 15-15S | 1/ADH 450 | 1/ADH 450 | 1/ADH 500 | 1/ADH 500 | 1/ADH 500 |
| Air flow | m ³ /h | 5.500 | 7.650 | 9.200 | 11.500 | 12.500 | 16.500 | 18.650 | 20.000 |
| Nominal static pressure | Pa | 250 | 250 | 250 | 300 | 300 | 350 | 350 | 350 |
| Motor power | kW | 1,5 | 1,5 | 2,5 | 5,5 | 5,5 | 7,5 | 7,5 | 7,5 |
| Type (optional) | | Back curved | Forward curved centrifugal | | | Backward curved centrifugal | | | |
| Quantity/Model | | 1 | 1/AT 15-15S | 1/AT 15-15S | 1/RDH 450 | 1/RDH 450 | 1/RDH 500 | 1/RDH 500 | 1/RDH 500 |
| Air flow | m ³ /h | 5.500 | 7.650 | 9.200 | 11.500 | 12.500 | 16.500 | 18.650 | 20.000 |
| Nominal static pressure | Pa | 400 | 400 | 400 | 450 | 450 | 500 | 500 | 500 |
| Motor power | kW | 2,2 | 4 | 5,5 | 5,5 | 5,5 | 7,5 | 7,5 | 7,5 |
| Outdoor coil | | | | | | | | | |
| Type / Number of rows | | Copper tubes & aluminium fins / 2 | | | | | | | |
| Outdoor fans | | | | | | | | | |
| Type | | Propeller | | | | | | | |
| Diameter | mm | 610 | 610 | 610 | 610 | 610 | 610 | 800 | 800 |
| Quantity | | 2 | 2 | 2 | 4 | 4 | 4 | 2 | 2 |
| Fan rotational speed | rpm | 850 | 850 | 850 | 850 | 850 | 850 | 670 | 670 |
| Nominal air flow | m ³ /h | 16.000 | 16.000 | 16.000 | 32.000 | 32.000 | 32.000 | 34.000 | 34.000 |
| Total motor power | kW | 1,14 | 1,14 | 1,14 | 2,28 | 2,28 | 2,28 | 2 | 2 |
| Synthetic Flat Filters (Optional) | | | | | | | | | |
| Number of filters | | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 9 |
| Efficiency/Filter class | | > 90%/G4 | | | | | | | |
| Type | | Universal cells | | | | | | | |
| Synthetic Flat Filters (Optional) | | | | | | | | | |
| Number of filters | | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 9 |
| Efficiency/Filter class | | > 90%/F6 | | | | | | | |
| Type | | Universal cells | | | | | | | |
| Casing | | | | | | | | | |
| Min, casing thickness | mm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Painting type / RAL | | Powder coating / 9001 | | | | | | | |
| Fire resistance class | | M0 | | | | | | | |
| Dimensions & Weight | | | | | | | | | |
| Length | mm | 2.484 | 2.484 | 2.484 | 3.400 | 3.400 | 3.400 | 3.400 | 3.400 |
| Width | mm | 1.877 | 1.877 | 1.877 | 2.227 | 2.227 | 2.227 | 2.227 | 2.227 |
| Height | mm | 1.450 | 1.450 | 1.450 | 1.771 | 1.771 | 1.771 | 1.813 | 1.813 |
| Weight ⁵ | kg | 600 | 650 | 700 | 1.100 | 1.150 | 1.200 | 1.300 | 1.350 |

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/Effective 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/Power input.

⁵ Without option.

⁶ For lower outdoor air temperature (-10 °C), in cooling mode, use low ambient kit (optional).