Engineering Data Manual

RoofTech

Rooftop Units
Cooling Only and Heat Pump Versions

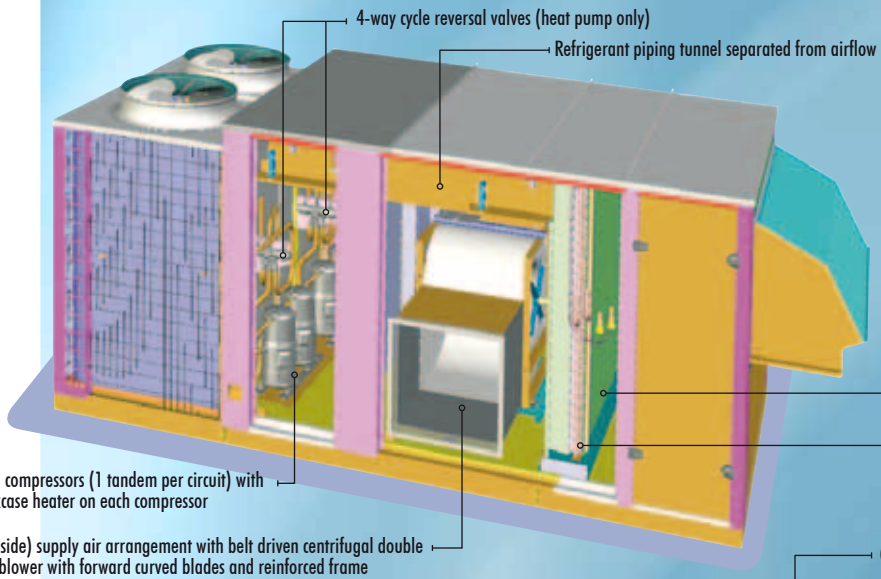
Models RTCL 100 to 160
Models RTCH 100 to 220

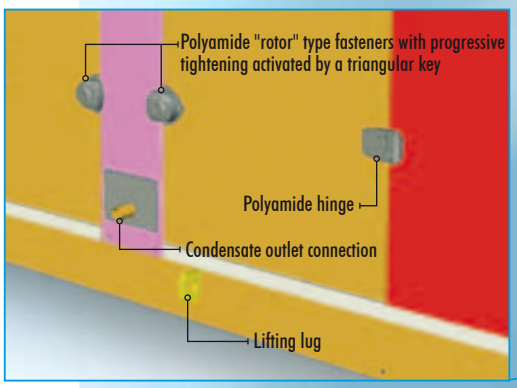
101 to 221 kW

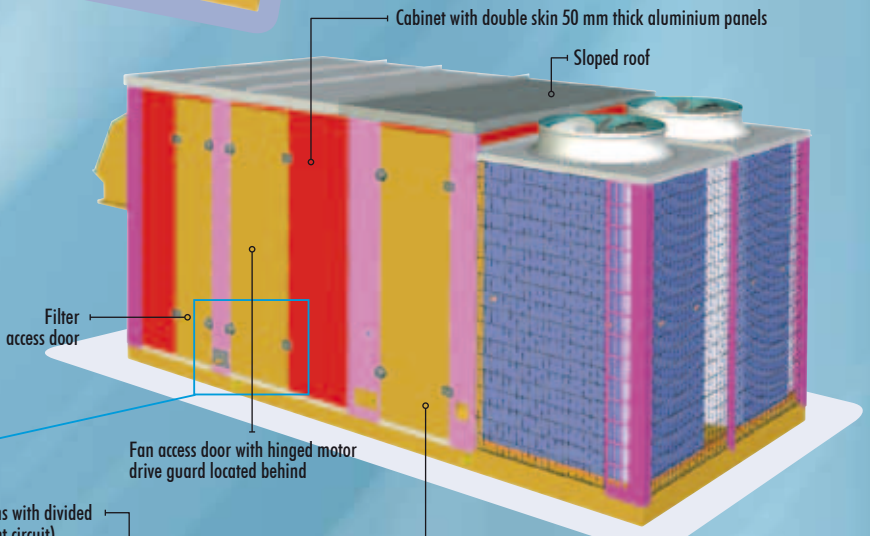
97 to 220 kW

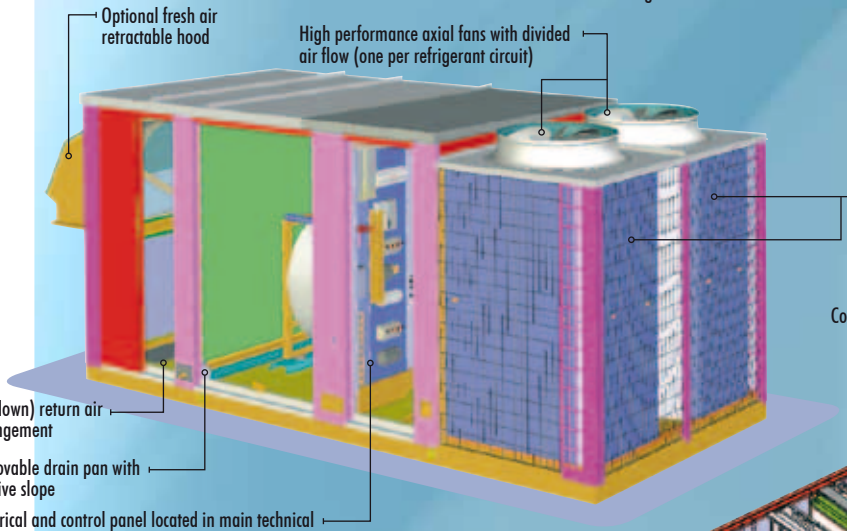
HFC 410A

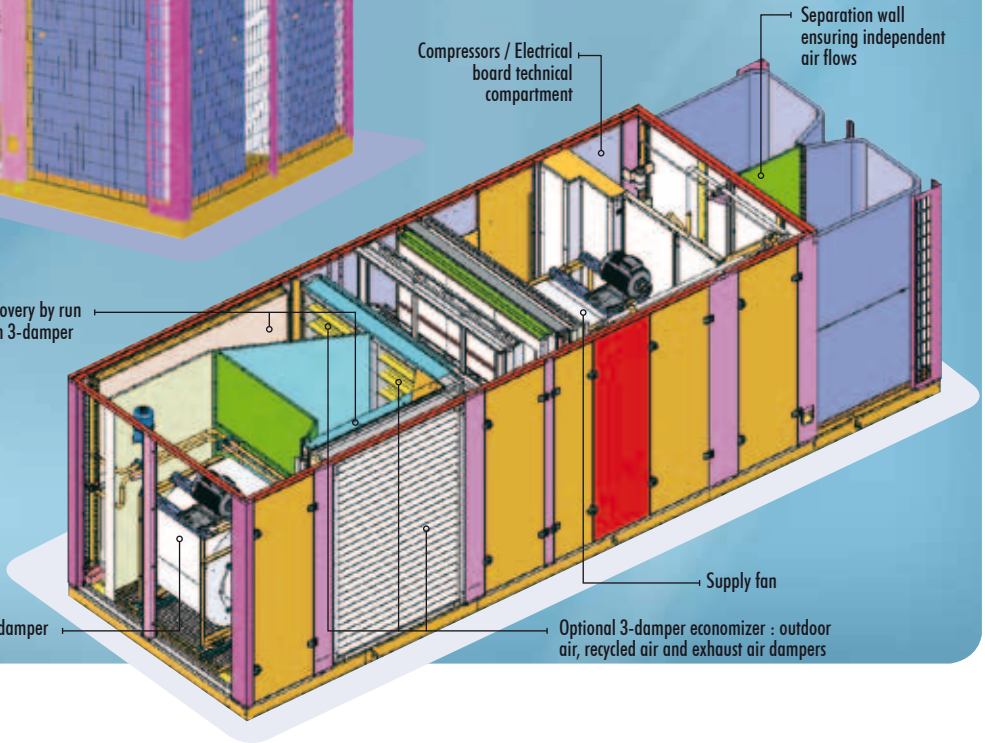
Unit Description









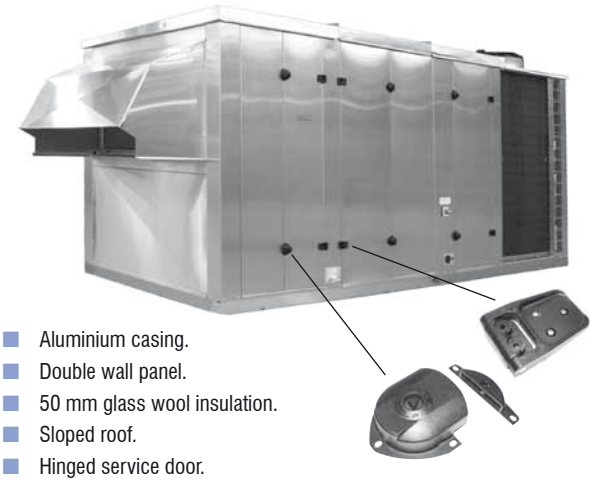


Technical Features

General

- Pre-assembled weatherproof single package, designed to save energy.
- Using R410A refrigerant to improve EER and be environmentally responsible.
- Made of aluminum the **RoofTech** is designed for long life durability.
- 50 mm insulation provides the best thermal and acoustical protection.
- Double wall design for roof, floor, doors and side panels prevents insulation fiber from entering the building and from harmful build-up of bacteria or contaminants.
- "Cooling only" or heat pump unit with extra heating by electric heater, hot water coil or gas heating.
- Applied-configurations with two blowers (supply and return) with 2 or 3 dampers.
- High efficiency filtration (bag filters) and variable air volume (frequency-inverters).
- A full run test is performed at the factory before shipping for time saving and eases commissioning on site.

Cabinet



- Aluminium casing.
- Double wall panel.
- 50 mm glass wool insulation.
- Sloped roof.
- Hinged service door.
- Technical compartment for servicing.

- Watertight and airtight cabinet to allow for outdoor and roof mounted applications.
- Compact and light monobloc cabinet.
- Modular in the length to suit applied applications.
- Hygienic designed cabinet to ease cleaning.
- Double wall to avoid damaging of insulation, virus dissemination and carcinogen hazards.
- Air treatment channel with 50 mm fully insulated to reduce energy loss (0.035 W/m.K), thermal bridge and sound disturbance.
- Glass wool MO 32 kg/m^3 insulation - CE certified.
- All panels and roof exposed to weather, are made of aluminum inside and outside to prevent corrosion.
- No visible screw or bolt on the cabinet improve aesthetic and eliminate risk of punctuated corrosion.
- All metal-to-metal surfaces exposed to the weather are sealed with closed cell neoprene gaskets.
- Miter-square edges on all doors to improve air and water sealing gaskets and ease opening.
- Sloped roof to ease rain water drainage.
- Hinged service doors for full unit access.
- Quarter turn rotor locking fasteners with progressive clamps to ensure perfect air and water tightness.
- Hinges and "rotor" fasteners made of non corrosive polyamide material attached to the cabinet without thermal bridge.
- Triangular handle to open rotor fasteners.
- Heavy gauge galvanized steel single base rail with high structural rigidity.
- 4 to 6 lifting points on the base rail to prevent from deflection during rigging.

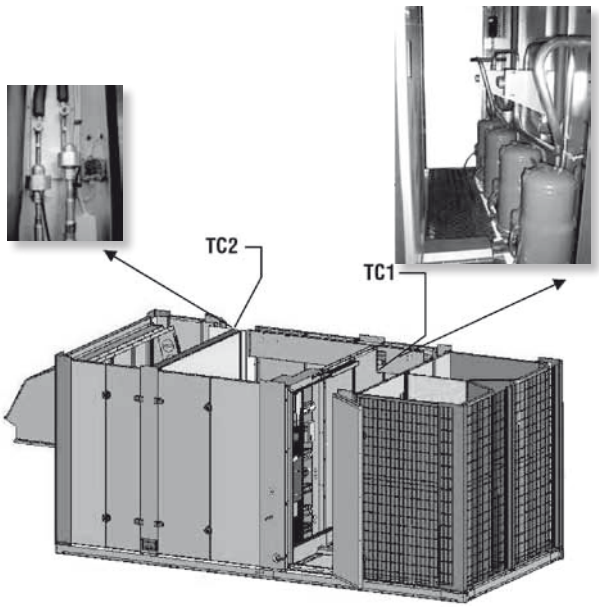
Two technical compartments

Main technical compartment

- Weatherproof technical compartment independent from the airflow.
- Walk-in service to compressors, electrical and control devices with no interference to unit operation **(TC1)**.
- Left and right access to technical compartment with hinged service doors are standard.
- Control and electrical board with a distinctive sliding door to shield from wind-and rain disturbances.
- Double floor with 50 mm insulation to reduce noise disturbance to building.
- Natural ventilation of the electrical board to stop overheating in summer.
- Run of cables and wires protected by metallic conduits to ease walk-in.
- IP55 protection of electrical and control board from rain.
- Optional light.
- Optional socket plug.

Indoor technical compartment

- Compartment **(TC2)** divided from the air flow with access door.
- Access to sight-glass and expansion device with no interference to unit operation.



- Main technical compartment 1 (TC1).
- Service door on each side.
- Indoor technical compartment 2 (TC2) with access to sight-glass and expansion device.

Technical Features (continued)

Refrigeration system

R410A benefits

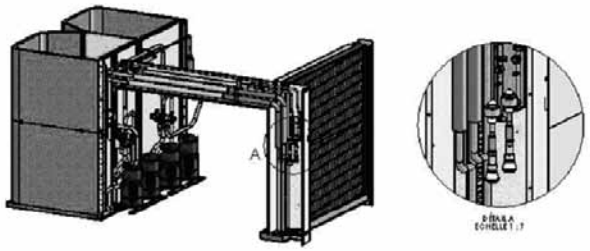
- Higher heat transfer.
- Environmental friendly refrigerant with zero ODP (Ozone Depleting Potential).
- Stable composition compared to R407C (2 refrigerant mixture instead of 3 with R407C).
- Temperature glide during evaporation phase is less than 0.2 K.
- Lower refrigerant charge.

Refrigeration circuit

- Each circuit is equipped with tandem scroll compressors to increase seasonal efficiency on part-load operation.
- Scroll compressors for higher efficiency with better resistance to liquid return.
- Tandem compressor excludes total cooling cut-off with overheating condenser on very hot summer days.
- Part load operation on oversized outdoor coil with one compressor reduces energy consumption and increases EER.
- Crankcase heater on each compressor to eliminate refrigerant migration and allow for safe start up in winter.
- Bi-flow devices (expansion device, filters dryer, sight glass) are used on each circuit to reduce brazing joints and risk of leakage.
- Outdoor coils with pre-coated blue fins for better removal of water droplets on defrost cycle (heat pump only).
- One high performance axial fan per refrigerant circuit with divided air flow to eliminate short-circuit and improve EER.
- Holes in the unit floor under the outdoor coils to drain defrost and rain water beyond the roof curb to the roof.
- Outdoor coil designed for low air resistance to reduce axial fan power consumption and noise level.
- Indoor coil allows for commercial or industrial applications with higher dehumidification rate.
- Droplet eliminator downstream of indoor coil (from size 140).
- Condensate drain pan under indoor coil and eliminator, removable, with positive slope, to allow hygienic cleaning.
- Refrigerant brazing, fittings, devices, and outdoor coil collectors are assembled in one technical compartment to ease service without disturbing unit operation.

Electronic expansion valve (EEV) on heat pump model

- Monitoring of temperature and pressure on compressors suction to modulate electronically the valve.
- EEV operates within a wider range of condensing and evaporating pressures with more safety at lower superheat settings.
- Superheat controlled by IATC which operate by anticipating unit modes of operation and loading.
- Energy savings due to reduced temperature lift in winter.
- Energy-saving by improving EER.
- Eliminates hunting problems.
- Reduces lubrication problems.



- EEV - Sight glass on TC2.
- 2 circuits - 1 scroll tandem per circuit.
- Bi-flow filter drier.

Options

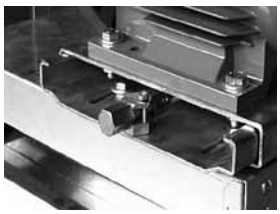
- Factory-fitted protective grilles for air entering fin surfaces of outdoor-coils.
- Factory-fitted low-ambient control to ensure cooling operation down to +10 °C outdoor temperature (RTCL only).

Technical Features (continued)

Blowers and drives

- Standard belt driven centrifugal dual inlet blower with forward curved blades and reinforced frame for supply air and return air (3-damper system only).
- Optional centrifugal blower with backward curved blades for industrial applications and higher external static pressure.
- Single speed motors supplied with adjustable pulleys for a wide performance range.
- Motors with permanently lubricated sleeve bearings to assure long lasting operation.
- Motor mounted on an independent platform with adjusting spanner screw to ease alignment and belt tension.
- Blower with flexible connection to eliminate vibration transfer to cabinet.
- 2-groove belt-drives to improve power transmission and reduce wearing.
- Oversized motor overcome unexpected problems on site with higher external pressure.
- Factory fitted lack of airflow switch located between entry and exit of blower for correct control, wired to the IATC (optional).
- Factory fitted variable frequency drive for variable air volume (VAV) (optional).
- Inverter with shielded cables to eliminate inductive interference.
- Hinged motor-drive guard behind the service door according to EN 292.2, to protect from injuries.
- Choice of factory-fitted supply air arrangements (depending on selected options) : Down (S1), Side Left (S2L), Side Right (S2R), Up (S3).
- Choice of factory-fitted return air arrangements (depending on selected options) : Down (R1), Side Left (R2L), Side Right (R2R), Horizontal (R3), Up (R4).

◀ Blower-motor assembly



Motor platform with adjusting screw ▶

◀ Flexible connection between cabinet panel and fan outlet

Hinged motor drive guard ▶

Options

Air filters

- Sliding rails upstream from indoor coil.
- Service hinged door with ¼ turn rotor lock fasteners.
- Air filters options compliant with EN 779.
- Filtering elements with universal dimensions 610 x 610.
- G4, 50 mm flat filter suitable as main or pre-filter.
- High efficiency filter assembly G4+ F7 bag filters (option).
- Low bypass leakage holding frame for bag filters with tensioning clamps compatible with F9 class (EN1886).
- Factory fitted clogged filter switch wired to the IATC (option).
- Smoke detector downstream the filters (optional).

◀ Flat filter

High efficiency bag filter ▶

◀ Bag filter holding frame

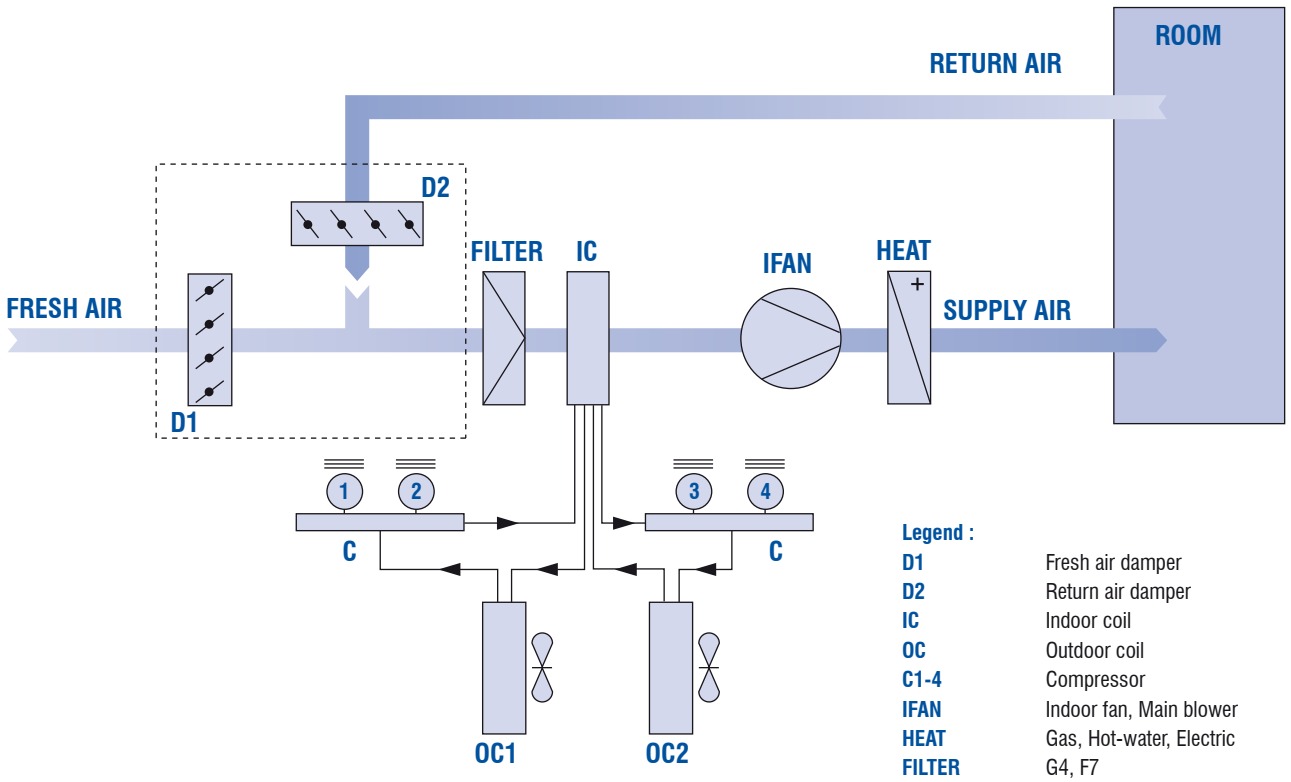
Clogged filter switch ▶

Technical Features (continued)

Options (continued)

Economizer : 2-damper system with 1 blower

- Factory fitted economizer with 2 dampers* and one supply blower (optional).
- Retractable rain hood to ease transportation. It is equipped with a bird screen.
- Economizer control scheme optimized to utilize the greatest possible quantity of outdoor air to save compressor energy.
- Counteracting dampers, monobloc, to modulate re-circulated and outdoor air.
- Proportional acting actuator wired to controller.
- The minimum position (value can be adjusted) of outdoor air damper to control hygienic ventilation.
- Sensible control to compare the outdoor dry bulb temperature to reference temperature setting.
- Outdoor air, return air and discharge air sensors wired to controller.
- Enthalpy control (optional) 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.
- Outdoor air damper closed on OFF periods.
- Outdoor air damper closed on start-up, morning-warm-up and night-set-back modes to save energy.
- Droplets eliminator on fresh air (optional).



* The 2 damper configuration is suitable for bottom or rear intake of re-circulated air (R1 and R3 only).

Exhaust air blower for 2-damper system

- Optional exhaust air blower kit to be used in association with the 2 damper economizer, with R1 return only.
- Mechanical removal of used air from the building when the ducted return air is designed at pressure drop higher than the building natural leakage rate.
- The blower exhausts up to 25% of the nominal air volume on closed return-air damper (activated in free cooling mode : 100% fresh air).
- The exhaust air outlet is placed at 90° from the outdoor air intake to avoid short-circuiting.

Technical Features (continued)

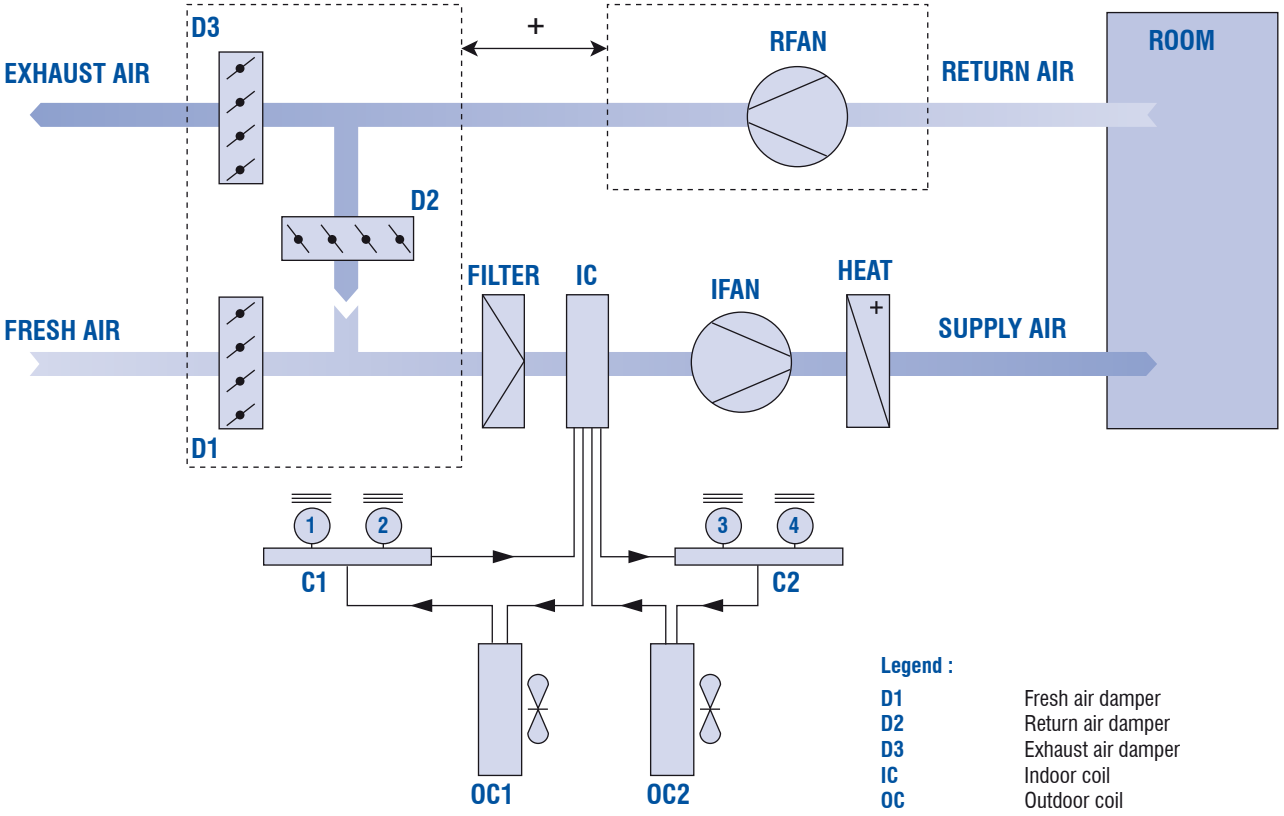
Options (continued)

Manual 0-25% fresh air kit

- Factory fitted manual outdoor air system to ventilate the building with outdoor air up to 25% of nominal air volume.
- Not compatible with the 2-damper economizer.
- A non-return shutter allows to stop unwanted outdoor air infiltrations during OFF periods.
- Retractable rain hood to ease transportation. It is equipped with a bird screen.
- Optional droplet eliminator (factory or field installed).

Economizer : 3-damper system with return fan

- Factory fitted economizer with 3 dampers and with return fan.
- Economizer increases compressor part-load operation and improves SEER with a proportional acting controller.
- Combination of 3 dampers with proportional control on outdoor/ recirculated/exhaust air.
- Suitable to exhaust up to 100% of global air volume (in equal quantity to outdoor air intake).
- Return air blower to overcome pressure drop in return air duct and ensure air removal from the building.
- Insures real energy saving while economizing by controlling the air-changes per hour.
- Eliminates uncomfortable over pressurization of the building.
- Ensures under pressure in the building if required.
- Exhaust air flow outlet opposite to outdoor air flow inlet to eliminate danger of short-circuiting.
- Outdoor-and exhaust air dampers closed on OFF periods.
- Enthalpy control (optional) taking the moisture of the outdoor air in consideration to reference entalpy setting.
- Air quality control (VOC : Volatile Organic Compound) (optional) to trace high population density in the building and provides sufficient ventilation.



Legend :

D1	Fresh air damper
D2	Return air damper
D3	Exhaust air damper
IC	Indoor coil
OC	Outdoor coil
C1-4	Compressor
IFAN	Indoor fan, Main blower
RFAN	Return fan
HEAT	Gas, Hot-water, Electric
FILTER	G4, F7

Technical Features (continued)

Options (continued)

Heat recovery system by run around coils with glycol

This option is available only on unit equipped with 3-damper economizer system without any length increase on the unit.

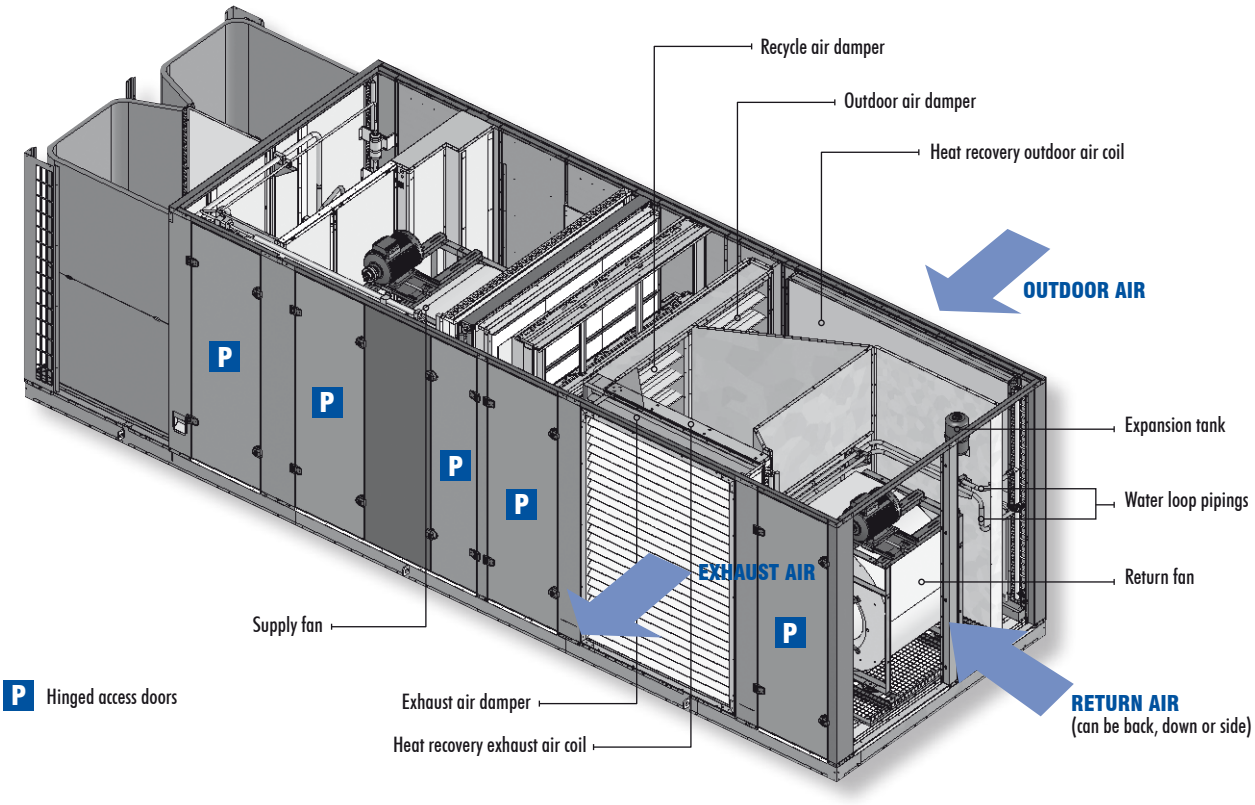
Other benefits of the heat recovery system :

- Free-cooling possible with 100% of total air volume.
- Very low air pressure drop.
- Efficiency up to 50% (please consult your representative for its performance).

The heat recovery system is delivered fully factory mounted, charged with 30% of glycol (freezing point : -15 °C) and tested. The system is composed of :

- Two finned coils : one is located in the exhaust air stream, another one in the fresh air stream : there is no contact between the two air streams (one is in the opposite side of the other); thus, no contamination.
- Extractable condensate drain pan located below the fresh air coil (in case of condensation during the system shutdown in summer; coil will act as droplet eliminator),
- Water loop pipings,
- Pump,
- Safety valve,
- Expansion tank,
- Air vent and drain..

Unit with 3-damper economizer (optional) and heat recovery by run around coils (optional)



Technical Features (continued)

Options (continued)

Hot water heat

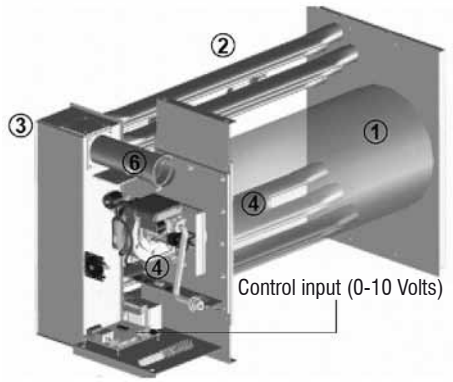
- Hot water heat available on all configurations.
- 1 or 2 row coil mounted on sliding rail covering the entire face area of the indoor coil.
- Low air face velocity to reduce blower energy consumption and noise level.
- Access hinged door with rotor fasteners to ease service.
- 3-way modulating valve and freeze-stat factory fitted.

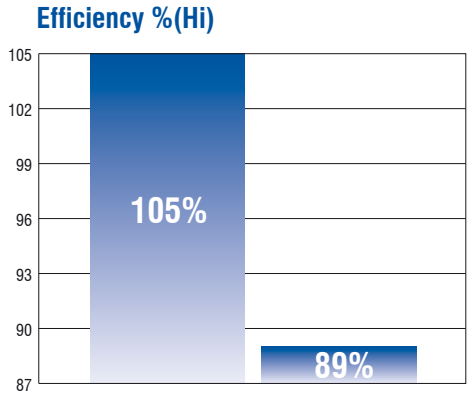
Electric heat

- Electric heat available on down flow (S1) and side (S2L & S2R) supply air.
- Electric heaters made of smooth steel tubes.
- Two capacities per model, are available.
- Each size suitable for 2-stage heat.
- Electric heaters supplied with one circuit breaker per stage.
- Two thermal securities with automatic and manual reset placed in the air stream.
- Airflow switch.

Gas heat

- CE certificate.
- Factory presetting of combustion for different gas quality (G20, G30…).
- Efficiency improved by condensation combustion up to 105% on part-load by saving up to 16% fossil energy.
- Latent heat of smokes converted in sensible heat.
- Clean combustion at 0 ppm CO (carbon monoxide).
- NOx pollution lower than 35 ppm with 30% excess-air.
- Pre-mixing gas burner to hold air-gas mixture-ratio constant (13/1) throughout the complete heat capacity-modulation or -staging.
- 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.
- Curved design of heat exchanger to increase surface exposure and heat transfer in the air flow.
- Flame driver made of stainless steel to control the flame inside the combustion chamber and increase the efficiency.
- Gas burner unaffected by hostile winds or atmospheric conditions.
- Direct spark ignition, pilot and flame sensor to insure safe operation.
- Gas burner factory pre-adjusted, eliminating field rectification.
- Stainless steel for superior resistance to corrosion.
- Application with high quantity of outdoor air (up to 100%) and low temperature (down to -20 °C)
- Low flue gas temperature (from130 to 40 °C) reduces heat loss to environment.
- Very wide range of temperature rise of the airflow between 1 and 50 K.
- Collection of flue condensate from vent and heat exchanger in one point and relief outside unit.
- Neutralization (CaCo3 Box) to eliminate acidity before condensate leaves the unit (option).





1	Combustion chamber made of stainless steel (AISI 430) for extensive durability
2	Secondary tubes made of stainless steel (AISI 304L) for better resistance to condensation
3	Flue-gas collector made of stainless steel to improve resistance to corrosion
4	Secondary tubes shaped to wind the flue gas stream and increase the heat transfer
5	Pre-mix burner, combustion air blower with variable speed to enhance combustion quality
6	Stainless steel flue exhaust

Roof mounting curb

- Made of galvanized steel for S1/R1 configuration only.
- Gasket supplied to join the perimeter of the curb and the unit to stop vibration and thermal bridge.
- Insulation and flashing of the curb on the roof are field furnished.
- Two types of roof curb are available :
  - Standard roof curb,
  - ERP roof curb.

Anti-vibration mounts

- Optional steel-rubber anti-vibration mounts for the uses without roof mounting curb.

Electrical Panel & Control Features

The RTCL/RTCH is assembled and wired with all controls necessary to be fully tested at the factory and shipped READY-TO-START.

Controls are located in a watertight compartment isolated from the air stream. Internal wiring and cables are identified to ease trouble shooting.

The electric is compliant to CE Standards and EN 60204-1.

A lockable main disconnect switch is accessible from outside the RTCL/RTCH without opening the casing. The single main disconnect switch is sized at the factory for all options supplied.

A single power connection for side inlet is standard. A power supply through the bottom of the RTCL/RTCH is optional.

A direct digital controller programmed at the factory (the **Intelligent Air Technology Control, IATC**) manages and optimises all year-round operation with dedication to comfort and energy conservation.

The IATC stages heating and cooling to desired ambient load, monitoring compressor cycling and rotation as well as defrost, protecting from overloading, high and low pressure, observing minimum ventilation requirements and blower mode, continuous or intermittent.

A winter-summer ambient temperature compensation as well as min./max. ambient setting are standard.

Maintenance parameters and unit/compressors operation hours are also available.

The IATC can be supplied (option) with a day-week timer board. The scheduling is field programmed for occupied-unoccupied modes with ambient temperature set-back.

The last 150 alarms are always stored. The optional board also allows to store the date and hour of each alarm appearance.

The user interface (optional) has general parameters (set points…) and password protected menus (maintenance…). It is field installed on a wall or a panel.

The user interface is provided with a 6 button key pad for field programming of set-points, proportional bands, and alarm threshold. The display screen is a semi graphic LCD with 4 line 20 columns and backlight, edits actual values, set-points, hours of operation and alarms.

The user interface must be located at a maximum distance of 200 m from the RTCL/RTCH. According to the alarm type, each can be reset using the user interface (high pressure lockout…) alarm or directly in the unit (compressor overload…). An SMS alarm warning option via **GSM modem** card is available.

ON/OFF and Summer/Winter digital inputs (dry contact) are available for remotely controlling the unit as well as a digital output for general alarm.

A Building Management System made by others can communicate via ModBUS with an optional **RS-485 type** card to be mounted in the IATC board.

The unit parameters are then transmitted and changeable from a remote Supervision and Servicing station.

User interface

	Alarm	↑	Up
Prg	Prog	↵	Enter
Esc	Escape	↓	Down

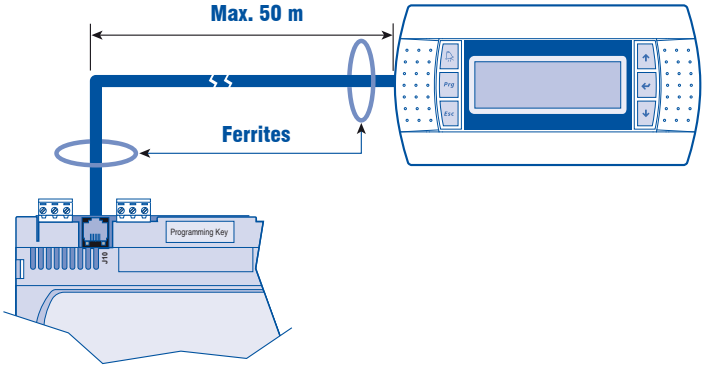
Electrical Panel & Control Features (continued)

User interface connection

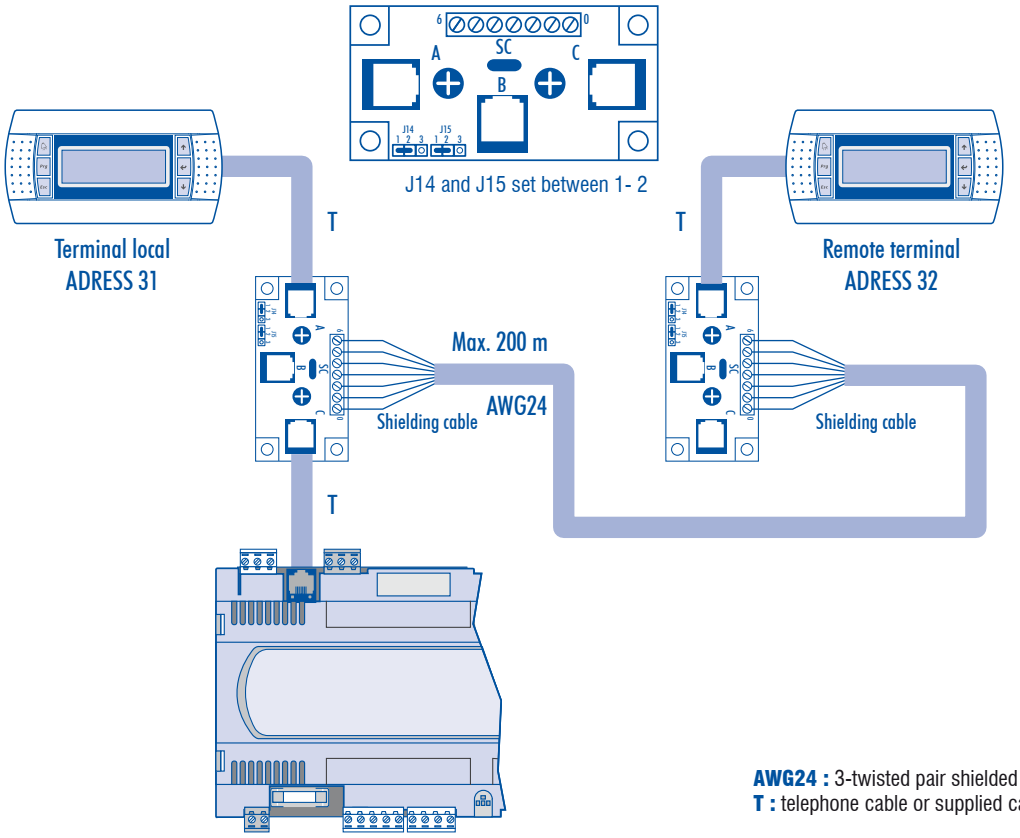
The semi-graphic terminal is connected to the controller using the supplied 80 cm telephone cable between the back of the terminal and the J10 plug of the controller.

For other applications, it is possible to extend the distance between the terminal and the controller :

Up to 50 m using a 6-wire shielded telephone type cable, 2 telephone 6-pin connectors (straight pin to pin connection) and 2 ferrites mounted on the telephone cable, one on the terminal side and the other on the controller side. The shield has to be connected on the GND pin of J11.



Up to 200 m, with the same shielded cable, two communication boards (optional) have to be added at controller and display sides to relay the signal.



AWG24 : 3-twisted pair shielded cable
T : telephone cable or supplied cable

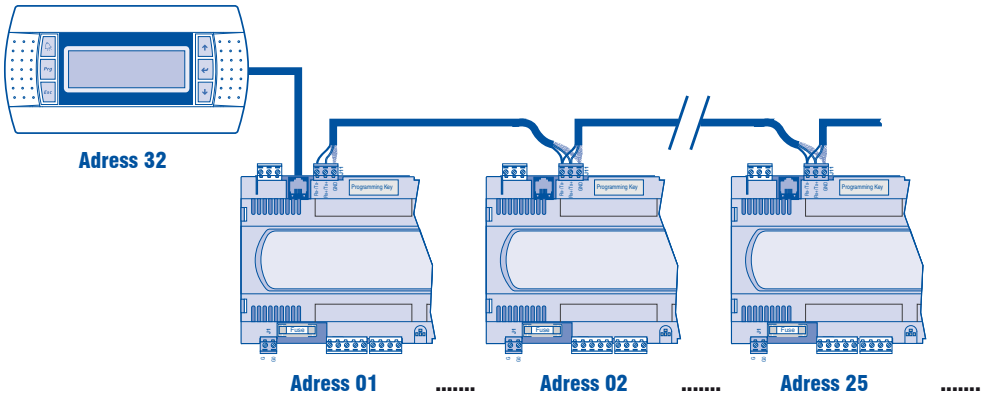
Electrical Panel & Control Features (continued)

Multi-rooftop installation

For several rooftop installation (in different zones/groups or not), it is possible to display each unit parameters using only one interface display for the whole installation. The principle is to connect all the units in parallel via one pLAN bus (internal protocol), while the display is connected to one master controller by using the J10 plug. This IATC will centralize certain certain operation modes, such as "occupied/unoccupied" mode.

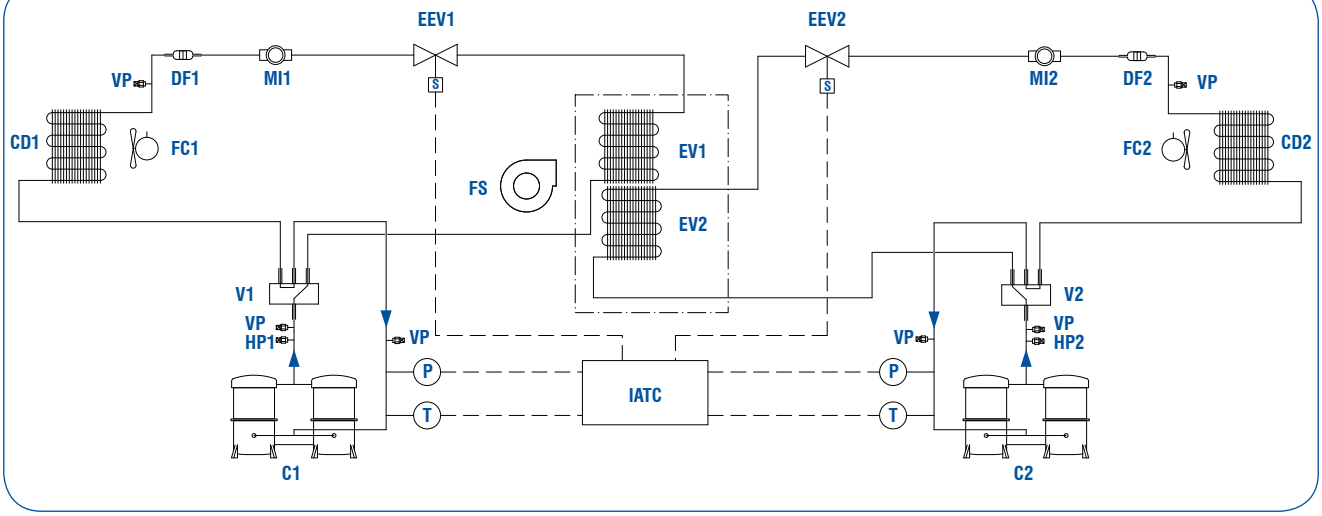
In pLAN, it is possible to connect up to 31 RTCL/RTCH rooftops identified by their individual address, the 32nd adress has to be dedicated to the display.

Connections example



The connection between boards in pLAN is carried out using a 0.33 to 0.5 mm² (AWG20/22) shielded cable, twisted pair + shield.

Refrigerant Flow Diagram



C1	Compressor 1	DF1	Filter-drier 1
C2	Compressor 2	DF2	Filter-drier 2
CD1	Condenser 1	MI1	Moisture indicator 1
CD2	Condenser 2	MI2	Moisture indicator 2
EV1	Evaporator 1	EEV1	Electronic expansion valve 1
EV2	Evaporator 2	EEV2	Electronic expansion valve 1
FC1	Propeller fan 1	V1	4-way valve 1 (heat pump version only)
FC2	Propeller fan 2	V2	4-way valve 2 (heat pump version only)
FS	Centrifugal fan	VP	Pump down tapping point
HP1	Condensing pressure tap 1		
HP2	Condensing pressure tap 2		

Physical Data - RTCL - Cooling Only

RTCL MODEL		100	120	140	160
Cooling capacity (1)	kW	101	115.2	135.4	158.1
Power input	kW	34.9	40.9	46.8	54.2
EER (2)		2.89	2.82	2.89	2.92
REFRIGERANT					
Type		R410A	R410A	R410A	R410A
Number of circuit		2	2	2	2
COMPRESSOR					
Number of compressor	Nb	4	4	4	4
Assembly type		Tandem	Tandem	Tandem	Tandem
Compressor type		Scroll	Scroll	Scroll	Scroll
Capacity control	%	100-75-50-25-0	100-75-50-25-0	100-75-50-25-0	100-75-50-25-0
INDOOR COIL					
Tube type		Copper 3/8" and aluminium fins			
Number of row	Nb	3	3	3	3
Airflow area	m^2	3.24	3.24	3.24	3.24
SUPPLY FAN					
Type		Centrifugal			
Number		1	1	1	1
Nominal air flow	m^3/h	20000	22500	27500	30000
Standard fan		ADH 500	ADH 560	ADH 560	ADH 560
Nominal external static pressure	Pa	250	350	350	350
Motor power	kW	7.5	7.5	11.0	11.0
High pressure fan (optional)		RDH 500	RDH 560	RDH 560	RDH 560
Nominal external static pressure	Pa	500	550	550	550
Motor power	kW	7.5	7.5	11.0	11.0
RETURN FAN (3-DAMPER SYSTEM ONLY)					
Type		Centrifugal			
Number		1	1	1	1
Nominal air flow	m^3/h	20000	22500	27500	30000
Standard fan		ADH 500	ADH 560	ADH 560	ADH 560
Nominal external static pressure	Pa	100	100	100	100
Motor power	kW	7.5	7.5	11.0	11.0
OUTDOOR COIL					
Coil type		Copper 3/8" and treated aluminium fins			
Number of row	Nb	2	2	2	2
Airflow area	m^2	3.78	3.78	4.14	4.14
OUTDOOR FAN					
Type		Propeller			
Diameter	mm	800	800	800	800
Quantity	Nb	2	2	2	2
Fan RPM	rpm	820	820	895	895
Nominal outdoor airflow	m^3/h	19000	19000	20500	20500
Motor power (total)	kW	2 x 1.85	2 x 1.85	2 x 1.85	2 x 1.85
SYNTHETIC FLAT FILTERS (OPTIONAL)					
Number of filters	Nb	9	9	9	9
Efficiency / Filter class		> 90% / G4			
BAG FILTERS (OPTIONAL)					
Number of filters	Nb	9	9	9	9
Efficiency / Filter class		< 90% / F7			
DIMENSIONS & WEIGHT (3)					
Length (without fresh hood)	mm	4743	4743	4743	4743
Width	mm	2209	2209	2209	2209
Height	mm	2229	2229	2229	2229
Foot print	m^2	10.46	10.46	10.46	10.46
Weight	kg	1720	1740	1760	1780
COOLING MODE OPERATING LIMITS					
Maximum outdoor air temperature	°C	46	46	46	46
Minimum outdoor air temperature (4)	°C	20	20	20	20

(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) For basic units without 2-damper economizer.
(4) For lower outdoor air temperature (+10 °C), in cooling mode, use low ambient kit (optional).

Physical Data - RTCH - Heat Pump

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
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	m^2	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	m^3/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	m^3/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	m^2	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	m^3/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	m^2	10.46	10.46	10.46	10.46	12.03	12.03	12.03
Weight	kg	1720	1740	1760	1780	2080	2190	2270
COOLING MODE OPERATING LIMITS								
Maximum outdoor air temperature	°C	46	46	46	46	46	46	46
Minimum outdoor air temperature (6)	°C	20	20	20	20	20	20	20
HEATING MODE OPERATING LIMITS								
Maximum outdoor air temperature	°C	21	21	21	21	21	21	21
Minimum outdoor air temperature	°C	-7	-7	-7	-7	-7	-7	-7

(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).

Electrical Data

Unit without electric heater

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 pressure ventilation.

Unit with electric heater CH1

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													
Total running current	A	186	186	238	238	262	262	263	263	288	288	308	315	328	335
Maximum starting current	A	276	276	346	346	355	355	396	396	455	455	493	500	503	583
Unit aM fuses	A	200	200	250	250	315	315	315	315	315	315	315	400	400	400

PE Standard ventilation.
GE High static pressure ventilation.

Unit with electric heater CH2

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													
Total running current	A	202	202	311	311	335	335	337	337	361	361	381	388	401	408
Maximum starting current	A	292	292	419	419	428	428	469	469	528	528	566	573	576	583
Unit aM fuses	A	250	250	315	315	400	400	400	400	400	400	400	400	500	500

PE Standard ventilation.
GE High static pressure ventilation.

Optional Electric Heater Data

RoofTech Models	Electric heater type		CH1 (low capacity)	CH2 (high capacity)
RTC 100	Stage 1	kW	18	27
	Stage 2	kW	18	18
	Total capacity	kW	36	45
RoofTech Models	**Electric heater type**		**CH1 (low capacity)**	**CH2 (high capacity)**
RTC 120-220	Stage 1	kW	31.5	52.5
	Stage 2	kW	31.5	52.5
	Total capacity	kW	63	105

Optional Gas Heat Data

RoofTech Models		100	120	140	160	180	200	220
Nominal airflow	m^3/h	20 000	22 500	27 500	30 000	34 000	37 000	40 000
Burner type		Modulating gas burner with condensation						
Gas		G20 *						
Supply pressure	mbar	Min : 17 - Max : 25						
Minimum capacity	kW	42.4				55.7		
Gas consumption	m^3/h	4.66				5.61		
Maximum efficiency	%	103.5				105.1		
Maximum capacity	kW	156.3				197		
Gas consumption	m^3/h	16.4				22.75		
Maximum efficiency	%	93				91.6		
Condensation produced	l/h	3.87				4.9		
Ø gas connection	Inch	UNI ISO 7/1 - 1"M						
Ø condensation drain	mm	20						
CE approval		0694 BM 3433						

* G25 & G30 upon request.

Cooling Capacity - RTCL 100 - Nominal Airflow 20000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	100.6	96.8	93.0	89.2	85.4	81.7
		Total power input (kW)	29.0	30.6	32.3	34.0	35.6	37.3
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	65.0	66.3	67.7	69.1	70.5	71.9
	23 °C		73.3	74.9	76.5	78.0	79.6	81.2
	25 °C		81.7	83.5	93.0	89.2	85.4	81.7
	27 °C		100.6	96.8	93.0	89.2	85.4	81.7
	29 °C		100.6	96.8	93.0	89.2	85.4	81.7
	31 °C		100.6	96.8	93.0	89.2	85.4	81.7
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	106.9	102.9	99.0	95.1	91.1	87.2
		Total power input (kW)	29.2	30.9	32.6	34.3	36.0	37.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	62.1	63.4	64.8	66.1	67.4	68.7
	23 °C		71.1	72.6	74.1	75.6	77.1	78.6
	25 °C		80.0	81.7	83.4	85.1	86.8	87.2
	27 °C		88.9	100.6	99.0	95.1	91.1	87.2
	29 °C		105.8	102.9	99.0	95.1	91.1	87.2
	31 °C		106.9	102.9	99.0	95.1	91.1	87.2
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	113.2	109.1	105.1	**101.0**	96.9	92.8
		Total power input (kW)	29.6	31.4	33.1	**34.9**	36.6	38.3
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	49.3	50.4	51.4	52.5	53.5	54.6
	23 °C		58.8	60.1	61.3	62.6	63.8	65.1
	25 °C		68.3	69.8	71.2	72.7	74.1	75.6
	27 °C		77.8	79.4	81.1	**82.8**	84.4	86.1
	29 °C		87.3	89.1	91.0	92.9	94.7	92.8
	31 °C		110.0	109.0	105.1	101.0	96.9	92.8
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	119.9	115.6	111.4	107.1	102.8	98.5
		Total power input (kW)	30.9	32.7	34.5	36.3	38.1	39.9
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	44.7	45.7	46.6	47.6	48.5	49.5
	25 °C		54.8	55.9	57.1	58.3	59.4	60.6
	27 °C		64.8	66.2	67.6	69.0	70.4	71.7
	29 °C		74.9	76.5	78.1	79.7	81.3	82.9
	31 °C		85.0	86.8	88.6	90.4	92.2	94.0
	33 °C		95.0	97.1	99.1	101.1	106.6	103.1
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	126.7	122.2	117.7	113.2	108.7	104.2
		Total power input (kW)	32.4	34.3	36.1	38.0	39.8	41.7
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	39.3	40.1	40.9	41.8	42.6	43.4
	27 °C		49.9	51.0	52.0	53.1	54.1	55.2
	29 °C		60.5	61.8	63.1	64.4	65.7	67.0
	31 °C		71.2	72.7	74.2	75.7	77.2	78.8
	33 °C		81.8	83.6	85.3	87.0	88.8	90.5

Cooling Capacity - RTCH 100 - Nominal Airflow 20000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	98.1	94.4	90.7	87.1	83.4	79.7
		Total power input (kW)	29.0	30.6	32.3	34.0	35.6	37.3
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	63.4	64.7	66.1	67.4	68.8	70.1
	23 °C		71.6	73.1	74.6	76.1	77.6	79.2
	25 °C		79.7	81.4	90.7	87.1	83.4	79.7
	27 °C		98.1	94.4	90.7	87.1	83.4	79.7
	29 °C		98.1	94.4	90.7	87.1	83.4	79.7
	31 °C		98.1	94.4	90.7	87.1	83.4	79.7
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	104.3	100.4	96.6	92.8	88.9	85.1
		Total power input (kW)	29.2	30.9	32.6	34.3	36.0	37.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	60.6	61.9	63.2	64.5	65.8	67.1
	23 °C		69.3	70.8	72.3	73.7	75.2	76.7
	25 °C		78.0	79.7	81.4	83.0	84.7	85.1
	27 °C		86.8	98.1	96.5	92.8	88.9	85.1
	29 °C		103.2	100.4	96.6	92.8	88.9	85.1
	31 °C		104.3	100.4	96.6	92.8	88.9	85.1
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	110.5	106.5	102.5	**98.5**	94.5	90.5
		Total power input (kW)	29.6	31.4	33.1	**34.9**	36.6	38.3
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	48.1	49.1	50.2	51.2	52.2	53.2
	23 °C		57.4	58.6	59.8	61.0	62.3	63.5
	25 °C		66.6	68.1	69.5	70.9	72.3	73.7
	27 °C		75.9	77.5	79.1	**80.7**	82.4	84.0
	29 °C		85.2	87.0	88.8	90.6	92.4	90.5
	31 °C		107.3	106.4	102.5	98.5	94.5	90.5
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	117.0	112.8	108.6	104.5	100.3	96.1
		Total power input (kW)	30.9	32.7	34.5	36.3	38.1	39.9
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	43.6	44.5	45.5	46.4	47.3	48.3
	25 °C		53.4	54.6	55.7	56.8	58.0	59.1
	27 °C		63.3	64.6	65.9	67.3	68.6	70.0
	29 °C		73.1	74.6	76.2	77.7	79.3	80.9
	31 °C		82.9	84.7	86.4	88.2	89.9	91.7
	33 °C		92.7	94.7	96.7	98.6	104.0	100.6
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	123.6	119.2	114.8	110.5	106.1	101.7
		Total power input (kW)	32.4	34.3	36.1	38.0	39.8	41.7
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	38.3	39.1	39.9	40.7	41.6	42.4
	27 °C		48.7	49.7	50.8	51.8	52.8	53.9
	29 °C		59.1	60.3	61.6	62.8	64.1	65.3
	31 °C		69.4	70.9	72.4	73.9	75.4	76.8
	33 °C		79.8	81.5	83.2	84.9	86.6	88.3

Heating Capacity - RTCH 100 - Nominal Airflow 20000 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-7	-8	66.9	23.9	65.6	24.4	63.8	24.9	61.5	25.3
-6	-7	68.4	24.3	67.0	24.8	65.2	25.3	62.9	25.7
-5	-6	70.0	24.7	68.6	25.3	66.8	25.7	64.4	26.1
-4	-5	71.7	25.2	70.3	25.7	68.4	26.2	66.0	26.6
-3	-4	73.6	25.7	72.1	26.2	70.2	26.6	67.8	27.1
-2	-3	75.5	26.1	74.1	26.7	72.1	27.1	69.6	27.6
-1	-2	77.6	26.6	76.1	27.1	74.1	27.6	71.5	28.1
0	-1	79.8	27.1	78.3	27.7	76.2	28.1	73.6	28.6
1	0	82.2	27.6	80.6	28.2	78.4	28.7	75.8	29.1
2	1	84.6	28.2	83.0	28.7	80.8	29.2	78.0	29.7
3	2	87.2	28.7	85.5	29.3	83.2	29.8	80.4	30.2
4	3	89.9	29.2	88.2	29.8	85.8	30.4	82.9	30.8
5	4	92.8	29.8	90.9	30.4	88.5	31.0	85.5	31.4
6	5	95.7	30.4	93.8	31.0	91.3	31.6	88.2	32.0
7	6	98.8	31.0	**97.4**	**31.9**	94.2	32.2	91.0	32.6
8	7	102.0	31.5	100.0	32.3	97.3	32.9	93.9	33.3
9	8	105.3	32.1	103.2	32.9	100.4	33.5	96.9	33.9
10	9	108.7	32.8	106.6	33.6	103.7	34.2	100.1	34.6
11	10	112.3	33.4	110.0	34.3	107.1	34.9	103.3	35.3
12	11	115.9	34.0	113.7	35.0	110.6	35.6	106.7	36.0
13	12	119.7	34.7	117.4	35.7	114.2	36.4	110.1	36.7
14	13	123.7	35.3	121.2	36.4	117.9	37.1	113.7	37.5
15	14	127.7	36.0	125.2	37.1	121.7	37.9	117.3	38.2
16	15	131.9	36.7	129.3	37.9	125.7	38.7	121.1	39.0
17	16	136.2	37.4	133.5	38.7	129.7	39.5	125.0	39.7
18	17	140.6	38.1	137.8	39.5	133.9	40.3	129.0	40.5
19	18	145.1	38.8	142.2	40.3	138.2	41.1	133.1	41.3
20	19	149.8	39.5	146.8	41.1	142.6	42.0	137.3	42.2

Cooling Capacity - RTCL 120 - Nominal Airflow 22500 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	114.8	110.5	106.1	101.8	97.5	93.2
		Total power input (kW)	34.0	35.9	37.9	39.8	41.8	43.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	74.1	75.7	77.3	78.9	80.4	82.0
	23 °C		83.7	85.5	87.3	89.0	90.8	92.6
	25 °C		93.3	95.3	106.1	101.8	97.5	93.2
	27 °C		114.8	110.5	106.1	101.8	97.5	93.2
	29 °C		114.8	110.5	106.1	101.8	97.5	93.2
	31 °C		114.8	110.5	106.1	101.8	97.5	93.2
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	122.0	117.5	113.0	108.5	104.0	99.5
		Total power input (kW)	34.3	36.3	38.2	40.2	42.2	44.2
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	70.9	72.4	73.9	75.4	76.9	78.4
	23 °C		81.1	82.8	84.5	86.3	88.0	89.7
	25 °C		91.3	93.2	95.2	97.1	99.0	99.5
	27 °C		101.5	114.8	112.9	108.5	104.0	99.5
	29 °C		120.7	117.5	113.0	108.5	104.0	99.5
	31 °C		122.0	117.5	113.0	108.5	104.0	99.5
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	129.2	124.5	119.9	**115.2**	110.5	105.9
		Total power input (kW)	34.7	36.8	38.8	**40.9**	42.9	45.0
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	56.3	57.5	58.7	59.9	61.1	62.3
	23 °C		67.1	68.5	70.0	71.4	72.8	74.2
	25 °C		77.9	79.6	81.3	82.9	84.6	86.2
	27 °C		88.8	90.7	92.5	**94.4**	96.3	98.2
	29 °C		99.6	101.7	103.8	106.0	108.1	105.9
	31 °C		125.6	124.4	119.9	115.2	110.5	105.9
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	136.9	132.0	127.1	122.2	117.3	112.4
		Total power input (kW)	36.3	38.4	40.5	42.6	44.7	46.8
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	51.0	52.1	53.2	54.3	55.4	56.4
	25 °C		62.5	63.8	65.2	66.5	67.8	69.2
	27 °C		74.0	75.6	77.1	78.7	80.3	81.9
	29 °C		85.5	87.3	89.1	90.9	92.7	94.6
	31 °C		97.0	99.0	101.1	103.1	105.2	107.3
	33 °C		108.4	110.7	113.1	115.4	121.6	117.7
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	144.6	139.5	134.3	129.2	124.1	118.9
		Total power input (kW)	38.0	40.2	42.4	44.5	46.7	48.9
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	44.8	45.7	46.7	47.7	48.6	49.6
	27 °C		56.9	58.1	59.4	60.6	61.8	63.0
	29 °C		69.1	70.6	72.0	73.5	75.0	76.4
	31 °C		81.2	83.0	84.7	86.4	88.1	89.9
	33 °C		93.4	95.4	97.3	99.3	101.3	103.3

Cooling Capacity - RTCH 120 - Nominal Airflow 22500 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	112.0	107.8	103.6	99.3	95.1	90.9
		Total power input (kW)	34.0	35.9	37.9	39.8	41.8	43.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	72.3	73.9	75.4	76.9	78.5	80.0
	23 °C		81.7	83.4	85.1	86.9	88.6	90.3
	25 °C		91.0	92.9	103.6	99.3	95.1	90.9
	27 °C		112.0	107.8	103.6	99.3	95.1	90.9
	29 °C		112.0	107.8	103.6	99.3	95.1	90.9
	31 °C		112.0	107.8	103.6	99.3	95.1	90.9
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	119.0	114.6	110.2	105.8	101.5	97.1
		Total power input (kW)	34.3	36.3	38.2	40.2	42.2	44.2
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	69.2	70.6	72.1	73.6	75.0	76.5
	23 °C		79.1	80.8	82.5	84.2	85.8	87.5
	25 °C		89.1	90.9	92.8	94.7	96.6	97.1
	27 °C		99.0	112.0	110.2	105.8	101.5	97.1
	29 °C		117.8	114.6	110.2	105.8	101.5	97.1
	31 °C		119.0	114.6	110.2	105.8	101.5	97.1
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	126.1	121.5	117.0	**112.4**	107.8	103.3
		Total power input (kW)	34.7	36.8	38.8	**40.9**	42.9	45.0
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	54.9	56.1	57.2	58.4	59.6	60.7
	23 °C		65.5	66.9	68.3	69.7	71.0	72.4
	25 °C		76.0	77.7	79.3	80.9	82.5	84.1
	27 °C		86.6	88.4	90.3	**92.1**	94.0	95.8
	29 °C		97.2	99.2	101.3	103.4	105.4	103.3
	31 °C		122.5	121.4	117.0	112.4	107.8	103.3
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	133.5	128.8	124.0	119.2	114.4	109.6
		Total power input (kW)	36.3	38.4	40.5	42.6	44.7	46.8
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	49.8	50.8	51.9	53.0	54.0	55.1
	25 °C		61.0	62.3	63.6	64.9	66.2	67.5
	27 °C		72.2	73.7	75.3	76.8	78.3	79.9
	29 °C		83.4	85.2	86.9	88.7	90.5	92.3
	31 °C		94.6	96.6	98.6	100.6	102.6	104.7
	33 °C		105.8	108.0	110.3	112.6	118.6	114.8
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	141.1	136.1	131.1	126.1	121.1	116.0
		Total power input (kW)	38.0	40.2	42.4	44.5	46.7	48.9
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	43.7	44.6	45.6	46.5	47.4	48.3
	27 °C		55.5	56.7	57.9	59.1	60.3	61.5
	29 °C		67.4	68.8	70.3	71.7	73.1	74.6
	31 °C		79.2	80.9	82.6	84.3	86.0	87.7
	33 °C		91.1	93.0	95.0	96.9	98.8	100.8

Heating Capacity - RTCH 120 - Nominal Airflow 22500 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-7	-8	78.7	27.9	77.2	28.5	75.0	29.1	72.3	29.5
-6	-7	80.5	28.4	78.9	29.0	76.7	29.6	74.0	30.0
-5	-6	82.3	28.9	80.7	29.5	78.5	30.1	75.8	30.5
-4	-5	84.4	29.4	82.7	30.0	80.5	30.6	77.7	31.1
-3	-4	86.6	30.0	84.9	30.6	82.6	31.1	79.7	31.6
-2	-3	88.9	30.5	87.1	31.1	84.8	31.7	81.9	32.2
-1	-2	91.3	31.1	89.6	31.7	87.2	32.3	84.2	32.8
0	-1	93.9	31.7	92.1	32.3	89.7	32.9	86.6	33.4
1	0	96.7	32.3	94.8	32.9	92.3	33.5	89.1	34.0
2	1	99.6	32.9	97.6	33.5	95.1	34.1	91.8	34.7
3	2	102.6	33.5	100.6	34.2	97.9	34.8	94.6	35.3
4	3	105.8	34.2	103.7	34.9	101.0	35.5	97.5	36.0
5	4	109.1	34.8	107.0	35.5	104.1	36.2	100.6	36.7
6	5	112.6	35.5	110.4	36.2	107.4	36.9	103.8	37.4
7	6	116.2	36.2	**114.6**	**37.2**	110.9	37.6	107.1	38.1
8	7	120.0	36.9	117.6	37.7	114.5	38.4	110.5	38.9
9	8	123.9	37.6	121.4	38.5	118.2	39.2	114.1	39.7
10	9	127.9	38.3	125.4	39.2	122.0	40.0	117.7	40.4
11	10	132.1	39.0	129.5	40.0	126.0	40.8	121.6	41.2
12	11	136.4	39.7	133.7	40.8	130.1	41.6	125.5	42.1
13	12	140.9	40.5	138.1	41.7	134.3	42.5	129.6	42.9
14	13	145.5	41.3	142.6	42.5	138.7	43.4	133.7	43.8
15	14	150.3	42.1	147.3	43.4	143.2	44.3	138.1	44.6
16	15	155.2	42.9	152.1	44.3	147.9	45.2	142.5	45.5
17	16	160.2	43.7	157.0	45.2	152.6	46.1	147.1	46.4
18	17	165.4	44.5	162.1	46.1	157.6	47.1	151.8	47.4
19	18	170.7	45.3	167.3	47.0	162.6	48.0	156.6	48.3
20	19	176.2	46.2	172.7	48.0	167.8	49.0	161.6	49.3

Cooling Capacity - RTCL 140 - Nominal Airflow 27500 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	134.9	129.8	124.7	119.7	114.6	109.5
		Total power input (kW)	39.0	41.2	43.4	45.6	47.9	50.1
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	87.1	89.0	90.8	92.7	94.5	96.4
	23 °C		98.4	100.5	102.6	104.6	106.7	108.8
	25 °C		109.6	111.9	124.7	119.7	114.6	109.5
	27 °C		134.9	129.8	124.7	119.7	114.6	109.5
	29 °C		134.9	129.8	124.7	119.7	114.6	109.5
	31 °C		134.9	129.8	124.7	119.7	114.6	109.5
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	143.3	138.1	132.8	127.5	122.2	116.9
		Total power input (kW)	39.3	41.5	43.8	46.1	48.4	50.6
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	83.3	85.1	86.9	88.6	90.4	92.2
	23 °C		95.3	97.3	99.3	101.4	103.4	105.4
	25 °C		107.3	109.6	111.8	114.1	116.4	116.9
	27 °C		119.3	134.9	132.7	127.5	122.2	116.9
	29 °C		141.9	138.1	132.8	127.5	122.2	116.9
	31 °C		143.3	138.1	132.8	127.5	122.2	116.9
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	151.9	146.4	140.9	**135.4**	129.9	124.4
		Total power input (kW)	39.8	42.2	44.5	**46.8**	49.2	51.5
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	66.1	67.6	69.0	70.4	71.8	73.2
	23 °C		78.9	80.5	82.2	83.9	85.6	87.3
	25 °C		91.6	93.5	95.5	97.4	99.4	101.3
	27 °C		104.3	106.5	108.8	**111.0**	113.2	115.4
	29 °C		117.1	119.5	122.0	124.5	127.0	124.4
	31 °C		147.6	146.2	140.9	135.4	129.9	124.4
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	160.9	155.1	149.3	143.6	137.8	132.1
		Total power input (kW)	41.6	44.0	46.4	48.8	51.2	53.6
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	60.0	61.2	62.5	63.8	65.1	66.3
	25 °C		73.5	75.0	76.6	78.1	79.7	81.3
	27 °C		87.0	88.8	90.7	92.5	94.4	96.2
	29 °C		100.5	102.6	104.7	106.9	109.0	111.1
	31 °C		114.0	116.4	118.8	121.2	123.6	126.1
	33 °C		127.4	130.2	132.9	135.6	142.9	138.3
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	169.9	163.9	157.9	151.8	145.8	139.8
		Total power input (kW)	43.6	46.1	48.6	51.0	53.5	56.0
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	52.6	53.8	54.9	56.0	57.1	58.2
	27 °C		66.9	68.3	69.8	71.2	72.6	74.0
	29 °C		81.2	82.9	84.6	86.4	88.1	89.8
	31 °C		95.5	97.5	99.5	101.6	103.6	105.6
	33 °C		109.7	112.1	114.4	116.7	119.1	121.4

Cooling Capacity - RTCH 140 - Nominal Airflow 27500 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	131.6	126.7	121.7	116.8	111.8	106.8
		Total power input (kW)	39.0	41.2	43.4	45.6	47.9	50.1
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	85.0	86.8	88.6	90.4	92.2	94.0
	23 °C		96.0	98.0	100.1	102.1	104.1	106.2
	25 °C		106.9	109.2	121.7	116.8	111.8	106.8
	27 °C		131.6	126.7	121.7	116.8	111.8	106.8
	29 °C		131.6	126.7	121.7	116.8	111.8	106.8
	31 °C		131.6	126.7	121.7	116.8	111.8	106.8
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	139.8	134.7	129.5	124.4	119.2	114.1
		Total power input (kW)	39.3	41.5	43.8	46.1	48.4	50.6
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	81.3	83.0	84.7	86.5	88.2	89.9
	23 °C		93.0	94.9	96.9	98.9	100.9	102.9
	25 °C		104.7	106.9	109.1	111.3	113.6	114.1
	27 °C		116.4	131.6	129.5	124.4	119.2	114.1
	29 °C		138.4	134.7	129.5	124.4	119.2	114.1
	31 °C		139.8	134.7	129.5	124.4	119.2	114.1
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	148.2	142.8	137.5	**132.1**	126.7	121.4
		Total power input (kW)	39.8	42.2	44.5	**46.8**	49.2	51.5
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	64.5	65.9	67.3	68.6	70.0	71.4
	23 °C		76.9	78.6	80.2	81.9	83.5	85.1
	25 °C		89.4	91.3	93.2	95.1	97.0	98.9
	27 °C		101.8	103.9	106.1	**108.3**	110.4	112.6
	29 °C		114.2	116.6	119.1	121.5	123.9	121.4
	31 °C		144.0	142.6	137.5	132.1	126.7	121.4
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	156.9	151.3	145.7	140.1	134.5	128.9
		Total power input (kW)	41.6	44.0	46.4	48.8	51.2	53.6
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	58.5	59.7	61.0	62.2	63.5	64.7
	25 °C		71.7	73.2	74.7	76.2	77.8	79.3
	27 °C		84.8	86.6	88.4	90.3	92.1	93.9
	29 °C		98.0	100.1	102.2	104.3	106.3	108.4
	31 °C		111.2	113.5	115.9	118.3	120.6	123.0
	33 °C		124.3	127.0	129.6	132.3	139.4	135.0
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	165.8	159.9	154.0	148.1	142.3	136.4
		Total power input (kW)	43.6	46.1	48.6	51.0	53.5	56.0
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	51.4	52.5	53.5	54.6	55.7	56.8
	27 °C		65.3	66.7	68.1	69.5	70.8	72.2
	29 °C		79.2	80.9	82.6	84.3	86.0	87.6
	31 °C		93.1	95.1	97.1	99.1	101.1	103.0
	33 °C		107.1	109.3	111.6	113.9	116.2	118.5

Heating Capacity - RTCH 140 - Nominal Airflow 27500 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-7	-8	92.5	33.3	90.7	34.1	88.2	34.7	85.0	35.2
-6	-7	94.6	33.9	92.7	34.6	90.2	35.3	87.0	35.8
-5	-6	96.8	34.5	94.9	35.2	92.3	35.9	89.1	36.5
-4	-5	99.2	35.1	97.2	35.9	94.6	36.5	91.3	37.1
-3	-4	101.7	35.8	99.7	36.5	97.1	37.2	93.7	37.8
-2	-3	104.5	36.5	102.4	37.2	99.7	37.8	96.3	38.4
-1	-2	107.4	37.1	105.3	37.9	102.5	38.5	98.9	39.1
0	-1	110.4	37.8	108.3	38.6	105.4	39.2	101.8	39.9
1	0	113.7	38.6	111.4	39.3	108.5	40.0	104.8	40.6
2	1	117.1	39.3	114.8	40.1	111.7	40.7	107.9	41.4
3	2	120.6	40.0	118.3	40.8	115.1	41.5	111.2	42.2
4	3	124.4	40.8	121.9	41.6	118.7	42.3	114.6	43.0
5	4	128.3	41.6	125.8	42.4	122.4	43.2	118.2	43.8
6	5	132.3	42.4	129.8	43.3	126.3	44.0	122.0	44.7
7	6	136.6	43.2	**134.7**	**44.4**	130.3	44.9	125.9	45.5
8	7	141.0	44.0	138.2	45.0	134.5	45.8	129.9	46.4
9	8	145.6	44.8	142.7	45.9	138.9	46.8	134.1	47.3
10	9	150.3	45.7	147.4	46.9	143.4	47.7	138.4	48.3
11	10	155.3	46.6	152.2	47.8	148.1	48.7	142.9	49.2
12	11	160.3	47.5	157.2	48.8	152.9	49.7	147.5	50.2
13	12	165.6	48.4	162.3	49.8	157.9	50.7	152.3	51.2
14	13	171.0	49.3	167.6	50.8	163.0	51.8	157.2	52.2
15	14	176.6	50.2	173.1	51.8	168.3	52.8	162.3	53.3
16	15	182.4	51.2	178.8	52.9	173.8	53.9	167.5	54.4
17	16	188.3	52.1	184.6	53.9	179.4	55.0	172.9	55.4
18	17	194.4	53.1	190.5	55.0	185.2	56.2	178.4	56.5
19	18	200.7	54.1	196.7	56.2	191.1	57.4	184.1	57.7
20	19	207.1	55.1	203.0	57.3	197.2	58.5	189.9	58.8

Cooling Capacity - RTCL 160 - Nominal Airflow 30000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	157.5	151.5	145.6	139.7	133.8	127.8
		Total power input (kW)	45.1	47.7	50.3	52.8	55.4	58.0
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	101.7	103.9	106.0	108.2	110.3	112.5
	23 °C		114.8	117.3	119.7	122.2	124.6	127.0
	25 °C		128.0	130.7	145.6	139.7	133.8	127.8
	27 °C		157.5	151.5	145.6	139.7	133.8	127.8
	29 °C		157.5	151.5	145.6	139.7	133.8	127.8
	31 °C		157.5	151.5	145.6	139.7	133.8	127.8
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	167.3	161.2	155.0	148.8	142.7	136.5
		Total power input (kW)	45.5	48.1	50.7	53.4	56.0	58.6
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	97.2	99.3	101.4	103.5	105.5	107.6
	23 °C		111.2	113.6	116.0	118.3	120.7	123.1
	25 °C		125.2	127.9	130.6	133.2	135.9	136.5
	27 °C		139.2	157.5	154.9	148.8	142.7	136.5
	29 °C		165.6	161.2	155.0	148.8	142.7	136.5
	31 °C		167.3	161.2	155.0	148.8	142.7	136.5
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	177.3	170.9	164.5	**158.1**	151.7	145.3
		Total power input (kW)	46.1	48.8	51.5	**54.2**	56.9	59.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	77.2	78.9	80.5	82.1	83.8	85.4
	23 °C		92.1	94.0	96.0	97.9	99.9	101.9
	25 °C		106.9	109.2	111.5	113.7	116.0	118.3
	27 °C		121.8	124.4	127.0	**129.6**	132.1	134.7
	29 °C		136.6	139.5	142.5	145.4	148.3	145.3
	31 °C		172.2	170.7	164.5	158.1	151.7	145.3
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	187.8	181.0	174.3	167.6	160.9	154.2
		Total power input (kW)	48.1	50.9	53.7	56.5	59.3	62.1
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	70.0	71.5	73.0	74.5	75.9	77.4
	25 °C		85.7	87.6	89.4	91.2	93.0	94.9
	27 °C		101.5	103.7	105.8	108.0	110.1	112.3
	29 °C		117.3	119.8	122.2	124.7	127.2	129.7
	31 °C		133.0	135.8	138.7	141.5	144.3	147.2
	33 °C		148.8	151.9	155.1	158.3	166.8	161.5
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	198.4	191.3	184.3	177.3	170.2	163.2
		Total power input (kW)	50.5	53.3	56.2	59.1	62.0	64.8
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	61.5	62.8	64.1	65.4	66.7	68.0
	27 °C		78.1	79.8	81.4	83.1	84.8	86.4
	29 °C		94.8	96.8	98.8	100.8	102.8	104.9
	31 °C		111.4	113.8	116.2	118.5	120.9	123.3
	33 °C		128.1	130.8	133.5	136.3	139.0	141.7

Cooling Capacity - RTCH 160 - Nominal Airflow 30000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	153.6	147.8	142.1	136.3	130.5	124.7
		Total power input (kW)	45.1	47.7	50.3	52.8	55.4	58.0
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	99.2	101.3	103.4	105.5	107.7	109.8
	23 °C		112.0	114.4	116.8	119.2	121.6	123.9
	25 °C		124.8	127.5	142.1	136.3	130.5	124.7
	27 °C		153.6	147.8	142.1	136.3	130.5	124.7
	29 °C		153.6	147.8	142.1	136.3	130.5	124.7
	31 °C		153.6	147.8	142.1	136.3	130.5	124.7
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	163.2	157.2	151.2	145.2	139.2	133.2
		Total power input (kW)	45.5	48.1	50.7	53.4	56.0	58.6
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	94.9	96.9	98.9	100.9	102.9	105.0
	23 °C		108.5	110.8	113.1	115.4	117.8	120.1
	25 °C		122.2	124.8	127.4	130.0	132.6	133.2
	27 °C		135.8	153.6	151.1	145.2	139.2	133.2
	29 °C		161.6	157.2	151.2	145.2	139.2	133.2
	31 °C		163.2	157.2	151.2	145.2	139.2	133.2
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	172.9	166.7	160.4	**154.2**	148.0	141.7
		Total power input (kW)	46.1	48.8	51.5	**54.2**	56.9	59.7
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	75.3	76.9	78.5	80.1	81.7	83.3
	23 °C		89.8	91.7	93.6	95.6	97.5	99.4
	25 °C		104.3	106.5	108.8	111.0	113.2	115.4
	27 °C		118.8	121.3	123.9	**126.4**	128.9	131.4
	29 °C		133.3	136.1	139.0	141.8	144.6	141.7
	31 °C		168.0	166.5	160.4	154.2	148.0	141.7
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	183.2	176.6	170.1	163.5	157.0	150.4
		Total power input (kW)	48.1	50.9	53.7	56.5	59.3	62.1
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	68.3	69.7	71.2	72.6	74.1	75.6
	25 °C		83.7	85.4	87.2	89.0	90.8	92.6
	27 °C		99.0	101.1	103.2	105.3	107.5	109.6
	29 °C		114.4	116.8	119.3	121.7	124.1	126.6
	31 °C		129.8	132.5	135.3	138.1	140.8	143.6
	33 °C		145.1	148.2	151.3	154.4	162.8	157.5
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	193.5	186.7	179.8	172.9	166.1	159.2
		Total power input (kW)	50.5	53.3	56.2	59.1	62.0	64.8
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	60.0	61.2	62.5	63.8	65.1	66.3
	27 °C		76.2	77.8	79.4	81.1	82.7	84.3
	29 °C		92.5	94.4	96.4	98.4	100.3	102.3
	31 °C		108.7	111.0	113.3	115.7	118.0	120.3
	33 °C		125.0	127.6	130.3	132.9	135.6	138.3

Heating Capacity - RTCH 160 - Nominal Airflow 30000 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-7	-8	106.7	38.6	104.6	39.5	101.7	40.3	98.0	40.9
-6	-7	109.0	39.3	106.9	40.2	104.0	40.9	100.3	41.6
-5	-6	111.6	40.0	109.4	40.9	106.4	41.6	102.7	42.3
-4	-5	114.3	40.8	112.1	41.6	109.1	42.3	105.3	43.0
-3	-4	117.3	41.5	115.0	42.3	111.9	43.1	108.0	43.8
-2	-3	120.4	42.3	118.1	43.1	114.9	43.9	111.0	44.6
-1	-2	123.8	43.1	121.4	43.9	118.1	44.7	114.1	45.4
0	-1	127.3	43.9	124.8	44.7	121.5	45.5	117.4	46.2
1	0	131.0	44.7	128.5	45.6	125.1	46.4	120.8	47.1
2	1	135.0	45.6	132.3	46.5	128.8	47.3	124.4	48.0
3	2	139.1	46.4	136.4	47.3	132.7	48.2	128.2	48.9
4	3	143.4	47.3	140.6	48.3	136.8	49.1	132.2	49.8
5	4	147.9	48.2	145.0	49.2	141.1	50.1	136.3	50.8
6	5	152.6	49.1	149.6	50.2	145.6	51.1	140.6	51.8
7	6	157.5	50.1	**155.3**	**51.5**	150.3	52.1	145.1	52.8
8	7	162.6	51.0	159.4	52.2	155.1	53.2	149.7	53.8
9	8	167.9	52.0	164.6	53.3	160.1	54.2	154.6	54.9
10	9	173.3	53.0	169.9	54.3	165.3	55.3	159.6	56.0
11	10	179.0	54.0	175.5	55.4	170.7	56.5	164.7	57.1
12	11	184.9	55.0	181.2	56.6	176.3	57.6	170.1	58.2
13	12	190.9	56.1	187.1	57.7	182.0	58.8	175.6	59.4
14	13	197.2	57.2	193.3	58.9	188.0	60.0	181.2	60.6
15	14	203.6	58.2	199.6	60.1	194.1	61.3	187.1	61.8
16	15	210.3	59.3	206.1	61.3	200.4	62.5	193.1	63.0
17	16	217.1	60.5	212.8	62.6	206.8	63.8	199.3	64.3
18	17	224.2	61.6	219.7	63.8	213.5	65.2	205.7	65.6
19	18	231.4	62.8	226.7	65.1	220.4	66.5	212.2	66.9
20	19	238.8	63.9	234.0	66.5	227.4	67.9	218.9	68.2

Cooling Capacity - RTCH 180 - Nominal Airflow 34000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	175.7	169.1	162.5	155.9	149.3	142.7
		Total power input (kW)	51.5	54.4	57.4	60.3	63.2	66.2
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	113.5	115.9	118.3	120.7	123.2	125.6
	23 °C		128.2	130.9	133.6	136.3	139.1	141.8
	25 °C		142.8	145.8	162.5	155.9	149.3	142.7
	27 °C		175.7	169.1	162.5	155.9	149.3	142.7
	29 °C		175.7	169.1	162.5	155.9	149.3	142.7
	31 °C		175.7	169.1	162.5	155.9	149.3	142.7
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	186.7	179.9	173.0	166.1	159.2	152.3
		Total power input (kW)	51.9	54.9	57.9	60.9	63.9	66.9
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	108.5	110.8	113.2	115.5	117.8	120.1
	23 °C		124.1	126.8	129.4	132.1	134.7	137.4
	25 °C		139.8	142.7	145.7	148.7	151.7	152.3
	27 °C		155.4	175.7	172.9	166.1	159.2	152.3
	29 °C		184.9	179.9	173.0	166.1	159.2	152.3
	31 °C		186.7	179.9	173.0	166.1	159.2	152.3
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	197.8	190.7	183.5	**176.4**	169.3	162.1
		Total power input (kW)	52.6	55.7	58.8	**61.9**	65.0	68.1
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	86.2	88.0	89.8	91.7	93.5	95.3
	23 °C		102.8	104.9	107.1	109.3	111.5	113.7
	25 °C		119.3	121.9	124.4	127.0	129.5	132.0
	27 °C		135.9	138.8	141.7	**144.6**	147.5	150.4
	29 °C		152.5	155.7	159.0	162.2	165.5	162.1
	31 °C		192.2	190.5	183.5	176.4	169.3	162.1
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	209.6	202.1	194.6	187.1	179.6	172.1
		Total power input (kW)	54.9	58.1	61.3	64.5	67.7	70.9
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	78.1	79.8	81.4	83.1	84.8	86.4
	25 °C		95.7	97.7	99.8	101.8	103.8	105.9
	27 °C		113.3	115.7	118.1	120.5	122.9	125.3
	29 °C		130.9	133.7	136.4	139.2	142.0	144.8
	31 °C		148.5	151.6	154.8	157.9	161.1	164.2
	33 °C		166.0	169.6	173.1	176.6	186.2	180.2
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	221.4	213.5	205.7	197.8	190.0	182.1
		Total power input (kW)	57.6	60.9	64.2	67.4	70.7	74.0
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	68.6	70.0	71.5	73.0	74.4	75.9
	27 °C		87.2	89.0	90.9	92.7	94.6	96.5
	29 °C		105.8	108.0	110.3	112.5	114.8	117.0
	31 °C		124.4	127.0	129.7	132.3	135.0	137.6
	33 °C		143.0	146.0	149.0	152.1	155.1	158.2

Heating Capacity - RTCH 180 - Nominal Airflow 34000 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-10	-11	113.6	42.1	111.4	43.3	108.2	44.2	104.1	44.8
-9	-10	115.6	42.9	113.4	44.0	110.2	44.9	106.1	45.5
-8	-9	117.9	43.6	115.5	44.7	112.3	45.6	108.2	46.3
-7	-8	120.3	44.4	118.0	45.5	114.7	46.3	110.6	47.0
-6	-7	123.0	45.2	120.6	46.2	117.3	47.1	113.1	47.8
-5	-6	125.9	46.0	123.4	47.0	120.1	47.9	115.8	48.7
-4	-5	129.0	46.9	126.5	47.9	123.1	48.7	118.8	49.5
-3	-4	132.3	47.8	129.7	48.7	126.3	49.6	121.9	50.4
-2	-3	135.9	48.7	133.2	49.6	129.7	50.5	125.2	51.3
-1	-2	139.6	49.6	136.9	50.5	133.3	51.4	128.7	52.2
0	-1	143.6	50.5	140.8	51.5	137.1	52.4	132.4	53.2
1	0	147.8	51.5	144.9	52.4	141.1	53.4	136.3	54.2
2	1	152.3	52.4	149.3	53.4	145.3	54.4	140.4	55.2
3	2	156.9	53.4	153.8	54.5	149.7	55.4	144.6	56.3
4	3	161.8	54.4	158.6	55.5	154.4	56.5	149.1	57.3
5	4	166.8	55.5	163.6	56.6	159.2	57.6	153.8	58.5
6	5	172.1	56.5	168.8	57.8	164.3	58.8	158.6	59.6
7	6	177.7	57.6	**175.2**	**59.3**	169.5	59.9	163.7	60.8
8	7	183.4	58.7	179.8	60.1	175.0	61.2	168.9	62.0
9	8	189.4	59.8	185.6	61.3	180.6	62.4	174.4	63.2
10	9	195.5	61.0	191.7	62.5	186.5	63.7	180.0	64.4
11	10	201.9	62.1	198.0	63.8	192.6	65.0	185.8	65.7
12	11	208.6	63.3	204.4	65.1	198.9	66.3	191.9	67.0
13	12	215.4	64.5	211.1	66.4	205.4	67.7	198.1	68.3
14	13	222.5	65.8	218.0	67.8	212.0	69.1	204.5	69.7
15	14	229.7	67.0	225.2	69.1	218.9	70.5	211.1	71.1
16	15	237.2	68.3	232.5	70.5	226.0	72.0	217.9	72.5
17	16	244.9	69.6	240.0	72.0	233.4	73.5	224.9	74.0
18	17	252.9	70.9	247.8	73.5	240.9	75.0	232.0	75.5
19	18	261.0	72.2	255.8	74.9	248.6	76.5	239.4	77.0
20	19	269.4	73.6	264.0	76.5	256.5	78.1	247.0	78.5

Cooling Capacity - RTCH 200 - Nominal Airflow 37000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	198.1	190.6	183.2	175.7	168.2	160.8
		Total power input (kW)	56.8	60.1	63.3	66.6	69.8	73.1
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	127.9	130.6	133.4	136.1	138.8	141.5
	23 °C		144.4	147.5	150.6	153.6	156.7	159.8
	25 °C		160.9	164.4	183.2	175.7	168.2	160.8
	27 °C		198.1	190.6	183.2	175.7	168.2	160.8
	29 °C		198.1	190.6	183.2	175.7	168.2	160.8
	31 °C		198.1	190.6	183.2	175.7	168.2	160.8
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	210.5	202.7	195.0	187.2	179.4	171.7
		Total power input (kW)	57.3	60.6	63.9	67.2	70.6	73.9
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	122.3	124.9	127.5	130.1	132.7	135.3
	23 °C		139.9	142.9	145.9	148.8	151.8	154.8
	25 °C		157.5	160.9	164.2	167.6	170.9	171.7
	27 °C		175.1	198.0	194.9	187.2	179.4	171.7
	29 °C		208.3	202.7	195.0	187.2	179.4	171.7
	31 °C		210.5	202.7	195.0	187.2	179.4	171.7
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	223.0	214.9	206.9	**198.8**	190.7	182.7
		Total power input (kW)	58.1	61.5	64.9	**68.4**	71.8	75.2
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	97.1	99.2	101.2	103.3	105.4	107.4
	23 °C		115.8	118.3	120.7	123.2	125.7	128.1
	25 °C		134.5	137.3	140.2	143.1	145.9	148.8
	27 °C		153.2	156.4	159.7	**163.0**	166.2	169.5
	29 °C		171.9	175.5	179.2	182.8	186.5	182.7
	31 °C		216.7	214.7	206.9	198.8	190.7	182.7
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	236.2	227.7	219.3	210.8	202.4	193.9
		Total power input (kW)	60.6	64.2	67.7	71.2	74.7	78.2
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	88.0	89.9	91.8	93.7	95.5	97.4
	25 °C		107.9	110.1	112.4	114.7	117.0	119.3
	27 °C		127.7	130.4	133.1	135.8	138.5	141.3
	29 °C		147.5	150.6	153.8	156.9	160.0	163.2
	31 °C		167.3	170.9	174.4	178.0	181.5	185.1
	33 °C		187.1	191.1	195.1	199.1	209.9	203.1
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	249.5	240.6	231.8	222.9	214.1	205.3
		Total power input (kW)	63.6	67.2	70.9	74.5	78.1	81.7
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	77.3	78.9	80.6	82.2	83.9	85.5
	27 °C		98.2	100.3	102.4	104.5	106.6	108.7
	29 °C		119.2	121.7	124.3	126.8	129.4	131.9
	31 °C		140.2	143.1	146.1	149.1	152.1	155.1
	33 °C		161.1	164.5	168.0	171.4	174.8	178.3

Heating Capacity - RTCH 200 - Nominal Airflow 37000 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-10	-11	128.1	47.0	125.6	48.3	122.0	49.3	117.4	50.0
-9	-10	130.4	47.9	127.8	49.1	124.2	50.1	119.6	50.8
-8	-9	132.9	48.7	130.3	49.9	126.6	50.9	122.0	51.6
-7	-8	135.6	49.6	133.0	50.7	129.3	51.7	124.7	52.5
-6	-7	138.7	50.5	135.9	51.6	132.2	52.6	127.5	53.4
-5	-6	141.9	51.4	139.1	52.5	135.4	53.5	130.6	54.3
-4	-5	145.4	52.4	142.6	53.4	138.7	54.4	133.9	55.3
-3	-4	149.2	53.3	146.2	54.4	142.3	55.4	137.4	56.2
-2	-3	153.2	54.3	150.2	55.4	146.2	56.4	141.1	57.3
-1	-2	157.4	55.3	154.3	56.4	150.2	57.4	145.1	58.3
0	-1	161.9	56.4	158.7	57.5	154.5	58.5	149.2	59.4
1	0	166.6	57.4	163.4	58.5	159.0	59.6	153.6	60.5
2	1	171.6	58.5	168.3	59.7	163.8	60.7	158.2	61.6
3	2	176.9	59.6	173.4	60.8	168.8	61.9	163.1	62.8
4	3	182.3	60.8	178.8	62.0	174.0	63.1	168.1	64.0
5	4	188.1	61.9	184.4	63.2	179.5	64.3	173.4	65.3
6	5	194.1	63.1	190.2	64.5	185.2	65.6	178.8	66.5
7	6	200.3	64.3	**197.5**	**66.2**	191.1	66.9	184.5	67.8
8	7	206.7	65.5	202.7	67.1	197.2	68.3	190.4	69.2
9	8	213.5	66.8	209.3	68.4	203.6	69.7	196.6	70.5
10	9	220.4	68.1	216.1	69.8	210.2	71.1	202.9	71.9
11	10	227.6	69.4	223.1	71.2	217.1	72.5	209.5	73.4
12	11	235.1	70.7	230.5	72.7	224.2	74.0	216.3	74.8
13	12	242.8	72.0	238.0	74.1	231.5	75.5	223.3	76.3
14	13	250.8	73.4	245.8	75.6	239.0	77.1	230.5	77.8
15	14	259.0	74.8	253.8	77.2	246.8	78.7	237.9	79.4
16	15	267.4	76.2	262.1	78.8	254.8	80.3	245.6	81.0
17	16	276.1	77.7	270.6	80.4	263.1	82.0	253.5	82.6
18	17	285.1	79.1	279.4	82.0	271.5	83.7	261.6	84.2
19	18	294.3	80.6	288.4	83.7	280.2	85.4	269.9	85.9
20	19	303.7	82.1	297.6	85.4	289.2	87.2	278.4	87.6

Cooling Capacity - RTCH 220 - Nominal Airflow 40000 m³/h

INDOOR COIL ENTERING AIR TEMPERATURE (°C)			OUTDOOR AIR TEMPERATURE (°C)					
			20	25	30	35	40	45
Wet bulb temperature = 15 °C		Total cooling capacity (kW)	220.3	212.0	203.7	195.4	187.1	178.8
		Total power input (kW)	62.2	65.8	69.3	72.9	76.4	80.0
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	142.3	145.3	148.3	151.3	154.4	157.4
	23 °C		160.6	164.0	167.5	170.9	174.3	177.7
	25 °C		179.0	182.8	203.7	195.4	187.1	178.8
	27 °C		220.3	212.0	203.7	195.4	187.1	178.8
	29 °C		220.3	212.0	203.7	195.4	187.1	178.8
	31 °C		220.3	212.0	203.7	195.4	187.1	178.8
Wet bulb temperature = 17 °C		Total cooling capacity (kW)	234.1	225.4	216.8	208.2	199.6	191.0
		Total power input (kW)	62.7	66.3	70.0	73.6	77.2	80.9
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	136.0	138.9	141.8	144.7	147.6	150.5
	23 °C		155.6	158.9	162.2	165.5	168.8	172.2
	25 °C		175.2	178.9	182.6	186.4	190.1	191.0
	27 °C		194.7	220.3	216.7	208.2	199.6	191.0
	29 °C		231.7	225.4	216.8	208.2	199.6	191.0
	31 °C		234.1	225.4	216.8	208.2	199.6	191.0
Wet bulb temperature = 19 °C		Total cooling capacity (kW)	248.0	239.0	230.1	**221.1**	212.1	203.2
		Total power input (kW)	63.6	67.3	71.1	**74.8**	78.5	82.3
Dry bulb temperature	21 °C	Sensible cooling capacity (kW)	108.0	110.3	112.6	114.9	117.2	119.5
	23 °C		128.8	131.5	134.3	137.0	139.7	142.5
	25 °C		149.6	152.8	155.9	159.1	162.3	165.5
	27 °C		170.4	174.0	177.6	**181.2**	184.9	188.5
	29 °C		191.1	195.2	199.3	203.3	207.4	203.2
	31 °C		241.0	238.7	230.1	221.1	212.1	203.2
Wet bulb temperature = 21 °C		Total cooling capacity (kW)	262.7	253.3	243.9	234.5	225.1	215.7
		Total power input (kW)	66.4	70.2	74.1	77.9	81.8	85.6
Dry bulb temperature	23 °C	Sensible cooling capacity (kW)	97.9	100.0	102.1	104.2	106.2	108.3
	25 °C		120.0	122.5	125.1	127.6	130.2	132.7
	27 °C		142.0	145.0	148.0	151.1	154.1	157.1
	29 °C		164.0	167.5	171.0	174.5	178.0	181.5
	31 °C		186.1	190.0	194.0	197.9	201.9	205.9
	33 °C		208.1	212.5	217.0	221.4	233.4	225.9
Wet bulb temperature = 23 °C		Total cooling capacity (kW)	277.5	267.6	257.8	248.0	238.1	228.3
		Total power input (kW)	69.6	73.6	77.5	81.5	85.5	89.4
Dry bulb temperature	25 °C	Sensible cooling capacity (kW)	86.0	87.8	89.6	91.4	93.3	95.1
	27 °C		109.3	111.6	113.9	116.2	118.6	120.9
	29 °C		132.6	135.4	138.2	141.0	143.9	146.7
	31 °C		155.9	159.2	162.5	165.8	169.2	172.5
	33 °C		179.2	183.0	186.8	190.6	194.4	198.3

Heating Capacity - RTCH 220 - Nominal Airflow 40000 m³/h

OUTDOOR AIR TEMPERATURE (°C)		INDOOR COIL ENTERING AIR TEMPERATURE (°C)							
		18		20		22		24	
Dry bulb temperature	Wet bulb temperature	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)	Total heating capacity (kW)	Total power input (kW)
-10	-11	142.7	51.9	139.9	53.4	135.9	54.5	130.8	55.2
-9	-10	145.2	52.8	142.3	54.2	138.3	55.3	133.2	56.1
-8	-9	148.0	53.8	145.1	55.1	141.1	56.2	135.9	57.0
-7	-8	151.1	54.8	148.1	56.0	144.0	57.1	138.9	58.0
-6	-7	154.5	55.7	151.4	57.0	147.3	58.1	142.0	59.0
-5	-6	158.1	56.8	155.0	58.0	150.8	59.0	145.5	60.0
-4	-5	162.0	57.8	158.8	59.0	154.5	60.1	149.1	61.0
-3	-4	166.2	58.9	162.9	60.1	158.5	61.1	153.0	62.1
-2	-3	170.6	60.0	167.3	61.1	162.8	62.2	157.2	63.2
-1	-2	175.3	61.1	171.9	62.3	167.3	63.4	161.6	64.4
0	-1	180.3	62.3	176.8	63.4	172.1	64.6	166.2	65.6
1	0	185.6	63.4	182.0	64.6	177.2	65.8	171.1	66.8
2	1	191.2	64.6	187.4	65.9	182.5	67.0	176.3	68.1
3	2	197.0	65.9	193.2	67.2	188.0	68.3	181.6	69.4
4	3	203.1	67.1	199.1	68.5	193.9	69.7	187.2	70.7
5	4	209.5	68.4	205.4	69.8	199.9	71.0	193.1	72.1
6	5	216.2	69.7	211.9	71.2	206.3	72.4	199.2	73.5
7	6	223.1	71.0	**220.0**	**73.1**	212.9	73.9	205.5	74.9
8	7	230.3	72.4	225.8	74.1	219.7	75.4	212.1	76.4
9	8	237.8	73.8	233.1	75.5	226.8	76.9	219.0	77.9
10	9	245.5	75.2	240.7	77.1	234.2	78.5	226.0	79.4
11	10	253.6	76.6	248.6	78.6	241.8	80.1	233.4	81.0
12	11	261.9	78.1	256.7	80.2	249.7	81.7	240.9	82.6
13	12	270.5	79.6	265.1	81.9	257.9	83.4	248.7	84.3
14	13	279.3	81.1	273.8	83.5	266.3	85.1	256.8	85.9
15	14	288.5	82.6	282.7	85.2	274.9	86.9	265.0	87.7
16	15	297.9	84.2	291.9	87.0	283.8	88.7	273.6	89.4
17	16	307.6	85.8	301.4	88.7	293.0	90.5	282.4	91.2
18	17	317.5	87.4	311.2	90.5	302.5	92.4	291.4	93.0
19	18	327.8	89.0	321.2	92.4	312.2	94.3	300.6	94.9
20	19	338.3	90.7	331.5	94.3	322.1	96.3	310.1	96.8

Performance Data - 1-row Hot Water Coil (optional)

Return air at 20 °C

		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	91.1	1.077	1	5	119.3	1.409	2	10	147.6	1.738	3	10
RTC 120	22500	96.9	1.145	2	12	127.1	1.503	3	12	157.2	1.853	4	12
RTC 140	27500	107.4	1.271	2	17	141.0	1.664	3	17	174.6	2.059	4	17
RTC 160	30000	112.1	1.325	2	19	147.3	1.737	3	19	182.4	2.147	5	19
RTC 180	34000	119.4	1.413	2	23	156.8	1.853	4	23	194.3	2.293	5	23
RTC 200	37000	124.3	1.470	3	26	163.6	1.934	4	27	202.6	2.387	6	27
RTC 220	40000	129.0	1.526	3	30	169.7	2.005	4	30	210.3	2.483	6	30

Return air at 10 °C

		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	119.9	1.419	2	10	148.6	1.754	3	10	177.5	2.091	4	10
RTC 120	22500	127.6	1.510	3	12	158.3	1.871	4	12	189.0	2.231	5	13
RTC 140	27500	141.5	1.675	3	17	175.6	2.073	4	17	209.7	2.474	6	17
RTC 160	30000	147.8	1.749	3	19	183.5	2.168	5	19	219.2	2.586	6	20
RTC 180	34000	157.2	1.860	4	24	195.3	2.307	5	24	233.4	2.753	7	24
RTC 200	37000	163.9	1.940	4	27	203.6	2.404	6	27	243.3	2.868	8	27
RTC 220	40000	170.0	2.012	4	30	211.2	2.495	6	31	252.4	2.978	8	31

Return air at 0 °C

		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	149.5	1.768	3	10	178.7	2.107	5	11	208.1	2.454	6	11
RTC 120	22500	159.0	1.881	4	13	190.2	2.246	5	13	221.5	2.613	7	13
RTC 140	27500	176.2	2.086	5	17	210.9	2.491	6	17	245.6	2.898	8	17
RTC 160	30000	184.1	2.179	5	20	220.3	2.602	7	20	256.5	3.023	8	20
RTC 180	34000	195.8	2.317	6	24	234.4	2.766	7	24	273.1	3.223	9	24
RTC 200	37000	204.1	2.414	6	27	244.5	2.891	8	28	284.7	3.358	10	28
RTC 220	40000	211.6	2.503	6	31	253.4	2.990	8	31	295.3	3.478	11	31

Performance Data - 2-row Hot Water Coil (optional)

Return air at 20 °C

		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	146.6	1.734	1	20	190.1	2.248	2	21	233.4	2.753	2	21
RTC 120	22500	157.7	1.866	1	25	204.8	2.420	2	25	251.7	2.967	2	25
RTC 140	27500	178.3	2.110	1	34	231.9	2.743	2	34	285.4	3.370	3	34
RTC 160	30000	187.6	2.219	2	39	244.4	2.886	2	39	300.9	3.553	3	39
RTC 180	34000	201.9	2.387	2	47	263.3	3.112	3	47	324.4	3.827	4	48
RTC 200	37000	212.2	2.509	2	54	276.7	3.265	3	54	341.1	4.018	4	55
RTC 220	40000	221.6	2.624	2	60	289.1	3.412	3	61	356.6	4.202	4	62

Return air at 10 °C

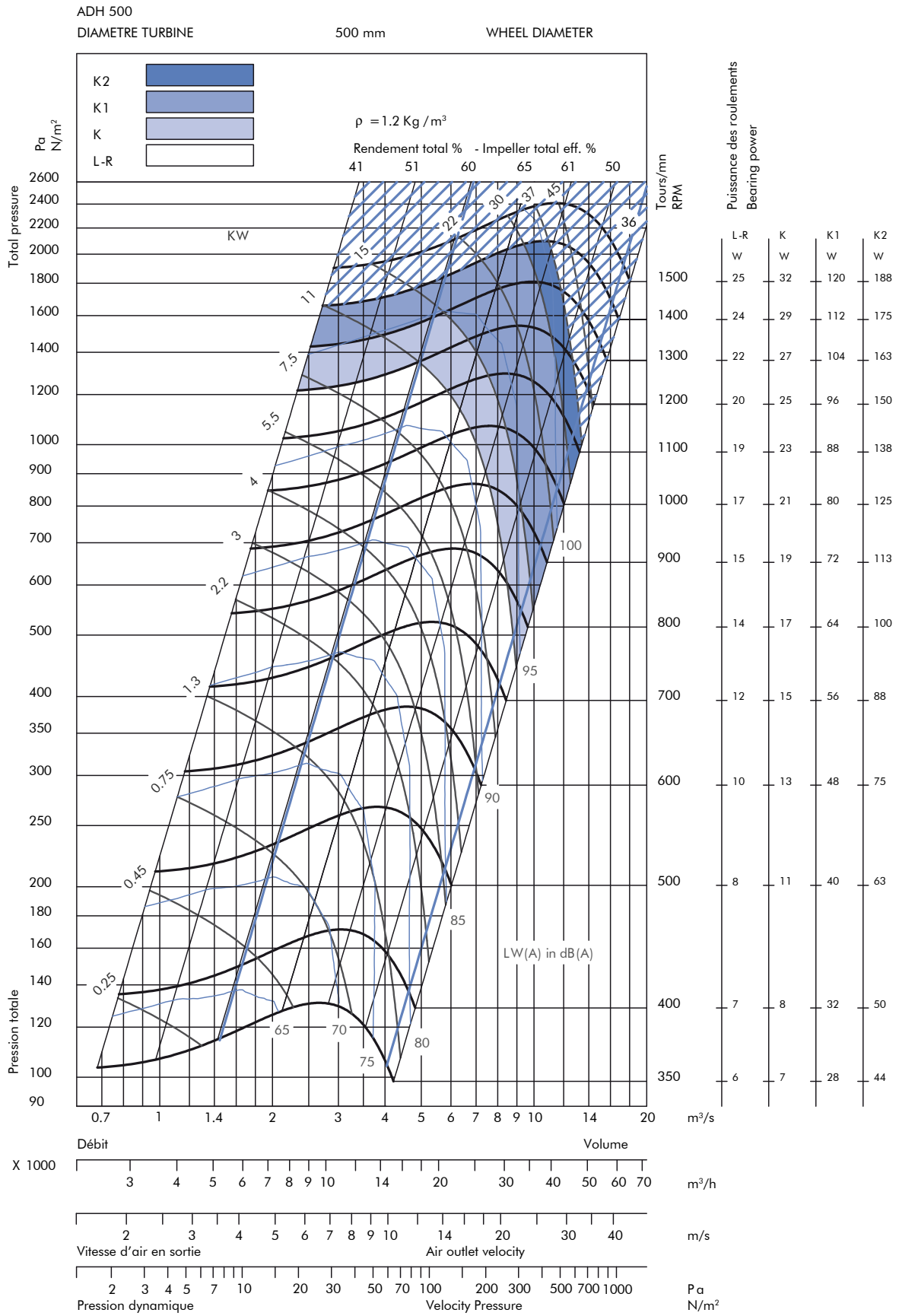
		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	191.9	2.270	2	21	236.2	2.789	2	21	280.5	3.310	3	22
RTC 120	22500	206.6	2.445	2	25	254.5	3.003	3	26	302.4	3.567	3	26
RTC 140	27500	233.6	2.765	2	34	288.3	3.406	3	35	342.8	4.048	4	36
RTC 160	30000	246.1	2.909	2	39	303.9	3.592	3	40	361.4	4.260	5	40
RTC 180	34000	265.1	3.139	3	48	327.4	3.863	4	49	389.7	4.597	5	49
RTC 200	37000	278.5	3.293	3	55	344.2	4.063	4	56	410.0	4.840	6	56
RTC 220	40000	290.8	3.438	3	62	359.7	4.249	5	63	428.5	5.058	6	63

Return air at 0 °C

		Water 70 - 50 °C				Water 80 - 60 °C				Water 90 - 70 °C			
	Air flow (m^3/h)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)	Heating capacity (kW)	Water flow (l/s)	ΔP Water (kPa)	ΔP Air (Pa)
RTC 100	20000	238.7	2.823	2	22	284.0	3.353	3	22	329.3	3.885	4	22
RTC 120	22500	257.1	3.043	3	26	306.2	3.620	4	26	355.0	4.191	4	27
RTC 140	27500	290.9	3.444	3	35	346.5	4.087	4	36	402.3	4.752	5	36
RTC 160	30000	306.4	3.624	4	40	365.4	4.317	5	41	424.1	5.003	6	41
RTC 180	34000	330.1	3.905	4	49	393.6	4.646	5	50	457.1	5.386	7	50
RTC 200	37000	347.0	4.107	4	56	413.9	4.890	6	57	480.8	5.671	7	57
RTC 220	40000	362.3	4.287	5	63	432.5	5.110	6	64	502.5	5.927	8	65

Standard Fan Curves

RoofTech size 100 - Supply and return fans - Forward curved type

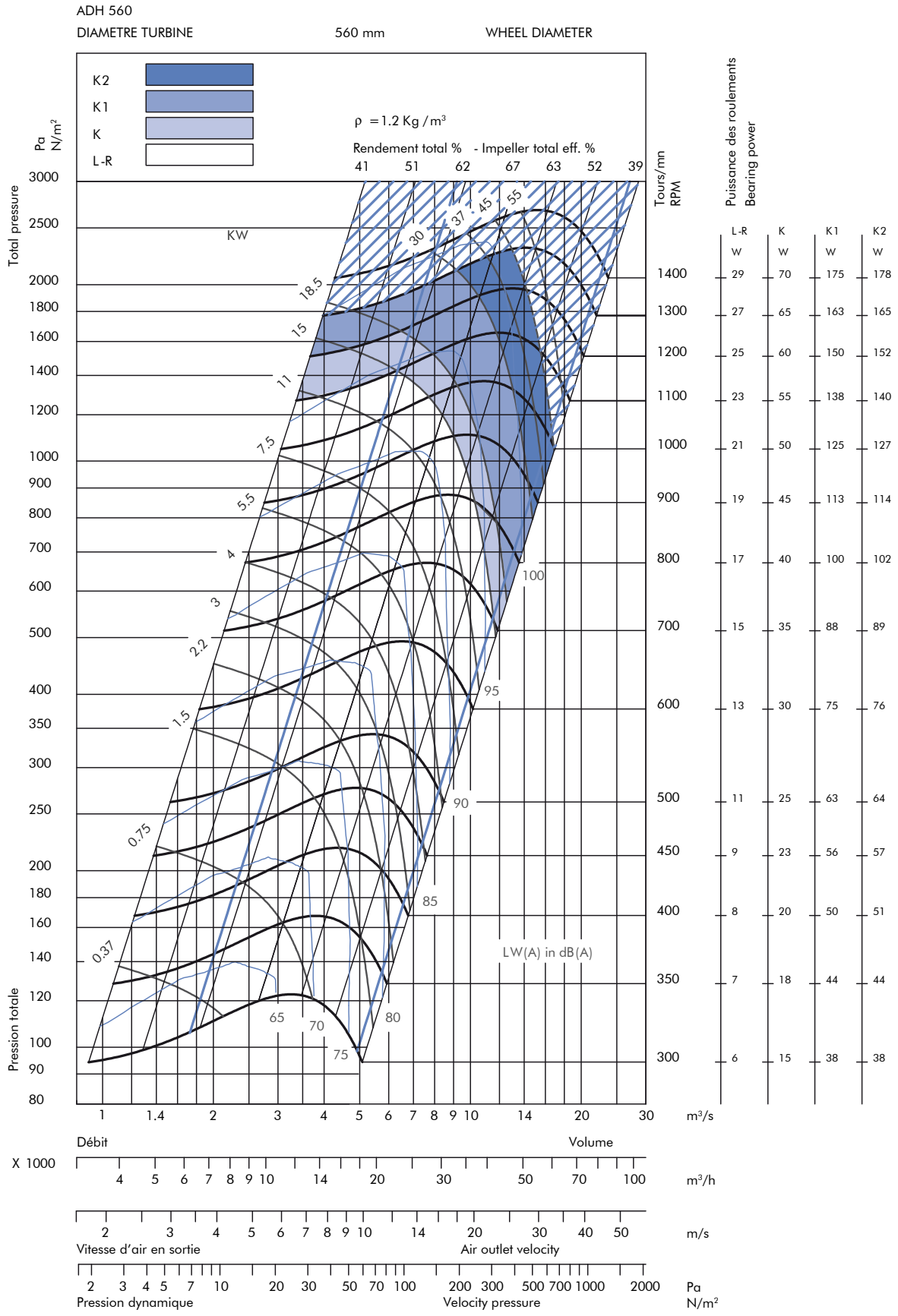


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

Note : Components air pressure drops are not included in these curves.

Standard Fan Curves (continued)

RoofTech sizes 120, 140 & 160 - Supply and return fans - Forward curved type

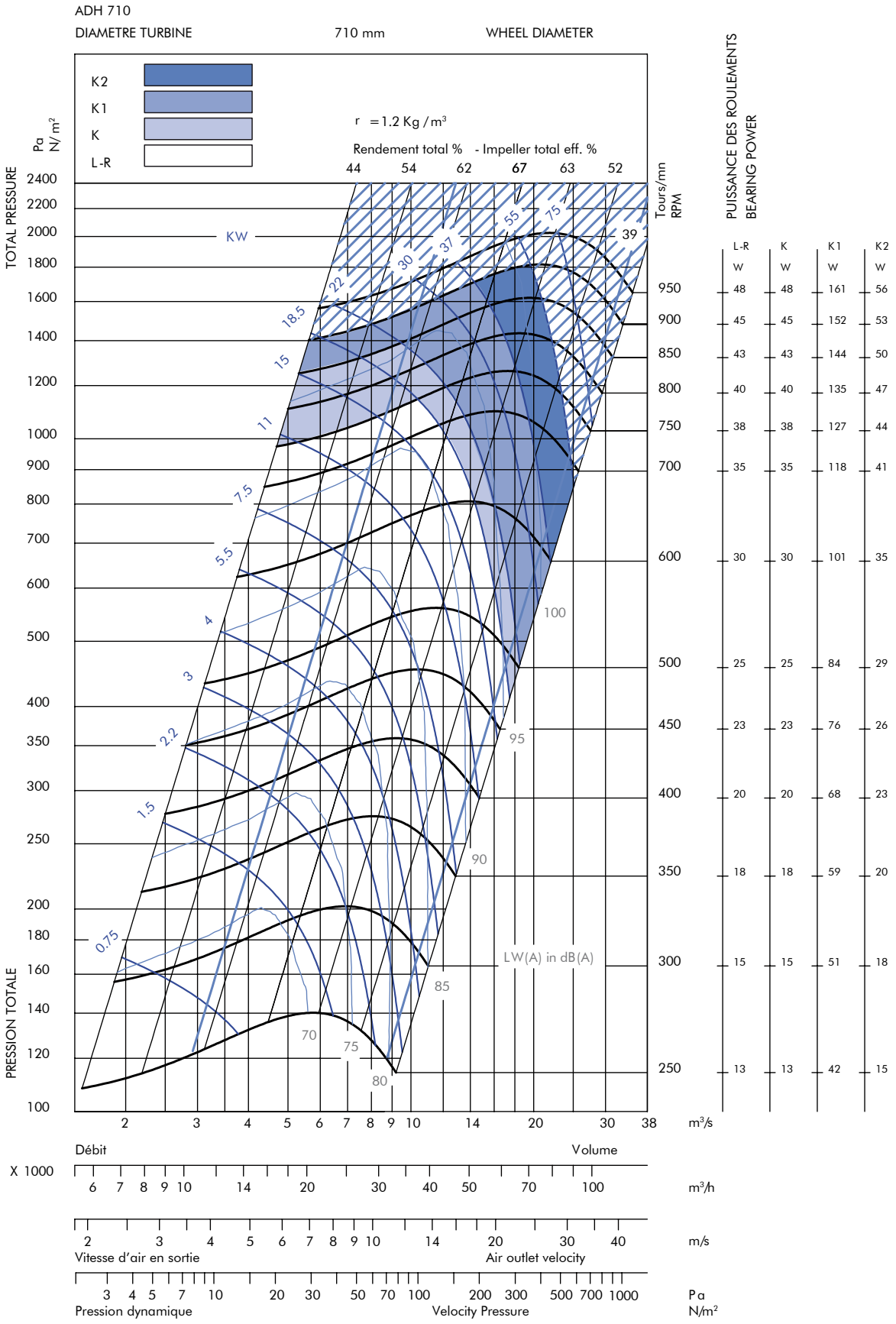


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

Note : Components air pressure drops are not included in these curves.

Standard Fan Curves (continued)

RoofTech sizes 180, 200 & 220 - Supply and return fans - Forward curved type

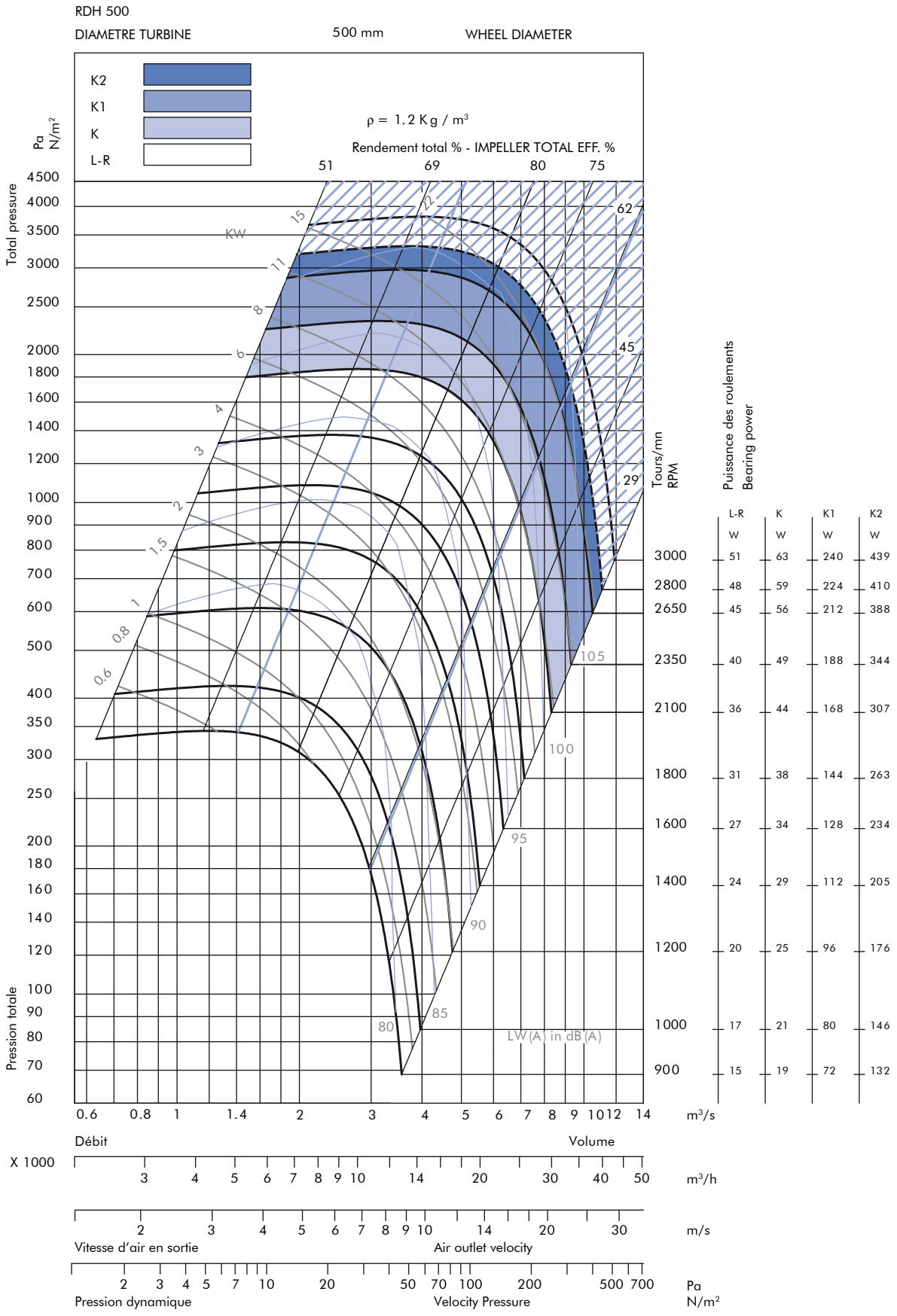


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

Note : Components air pressure drops are not included in these curves.

High Pressure Fan Curves (optional)

RoofTech size 100 - Supply fan - Backward curved type

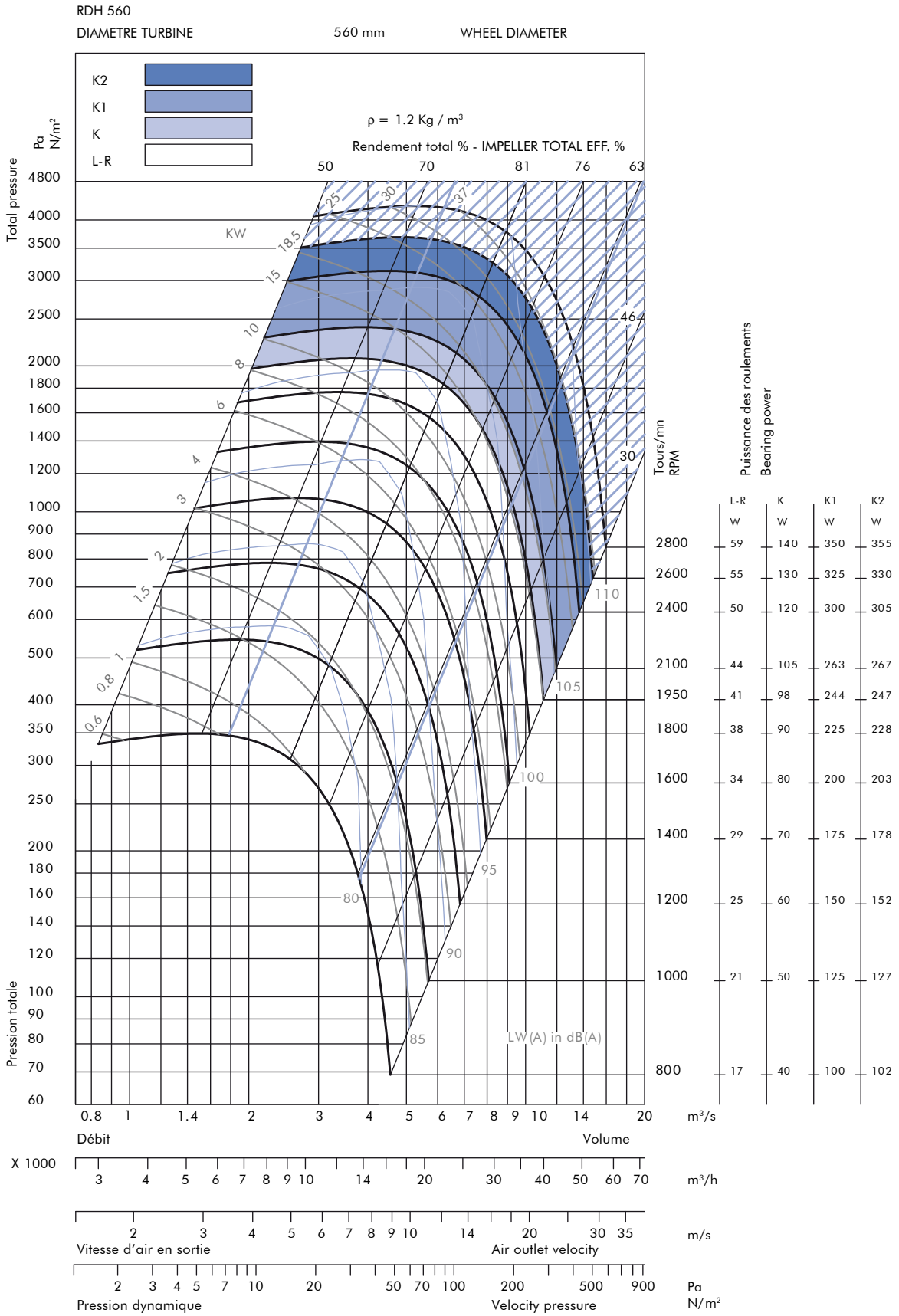


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

Note : Components air pressure drops are not included in these curves.

High Pressure Fan Curves (optional) (continued)

RoofTech sizes 120, 140 & 160 - Supply fan - Backward curved type

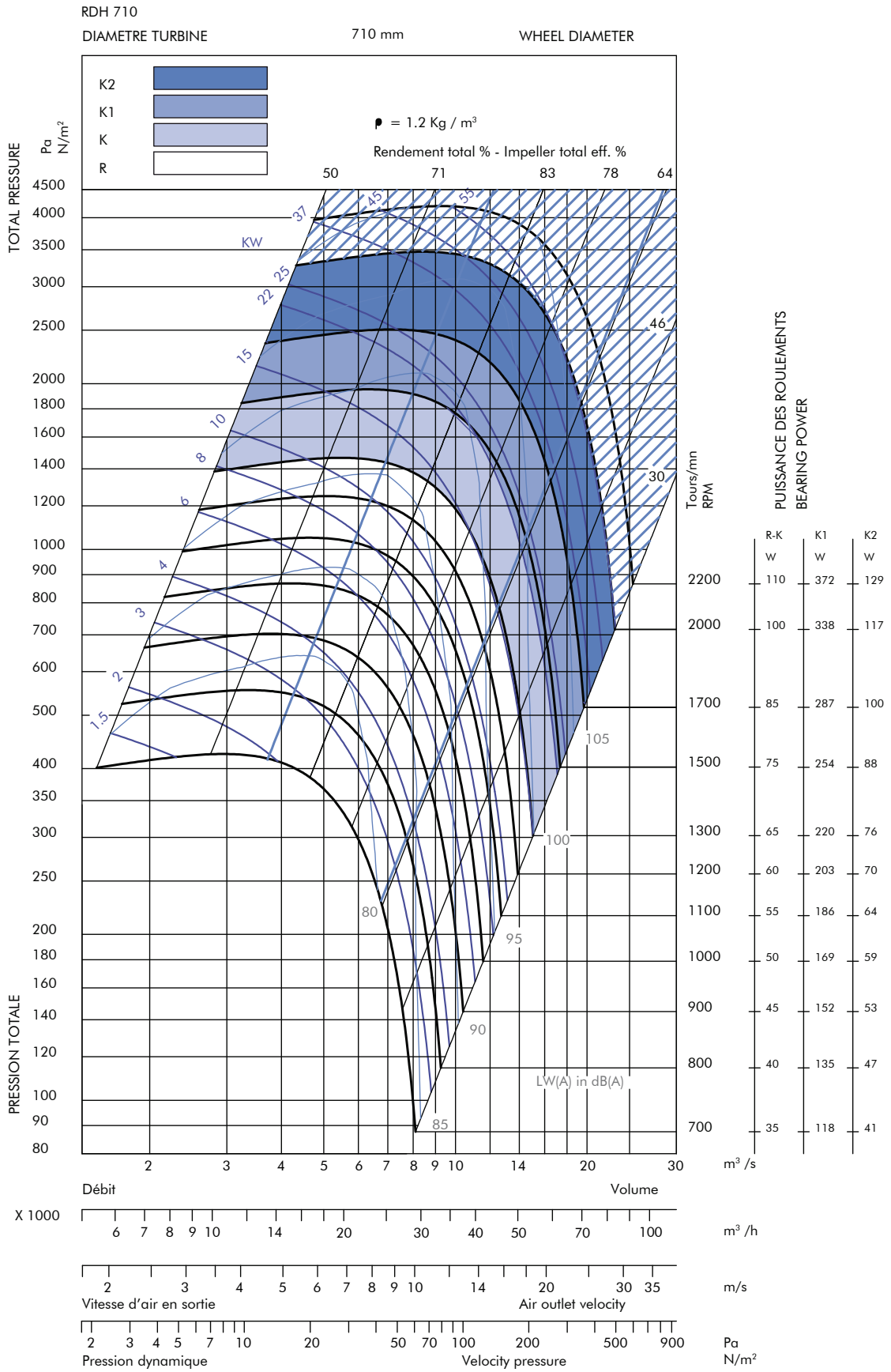


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

Note : Components air pressure drops are not included in these curves.

High Pressure Fan Curves (optional) (continued)

RoofTech sizes 180, 200 & 220 - Supply fan - Backward curved type

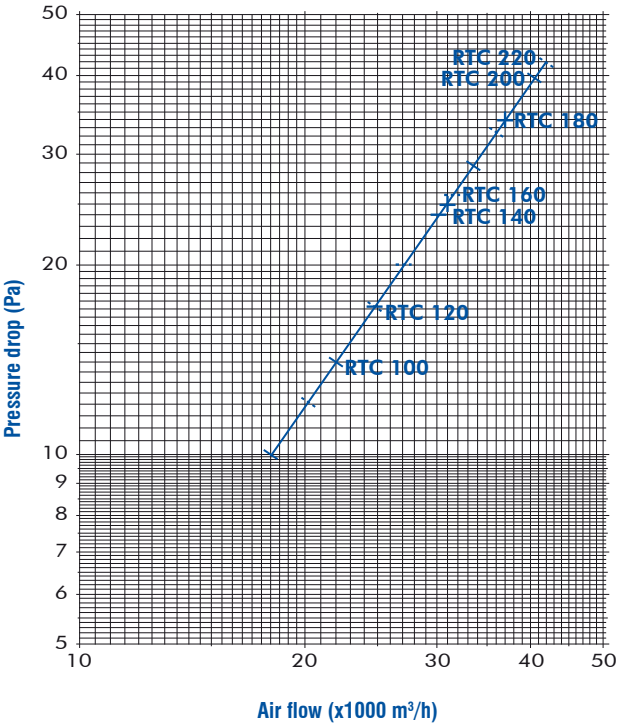


Performance shown is for installation type B, free inlet-ducted outlet, and doesn't include the effects of appurtenances in the airstream. Power rating kW doesn't include drive losses. The AMCA Certified Ratings Seal applies to air performance only.

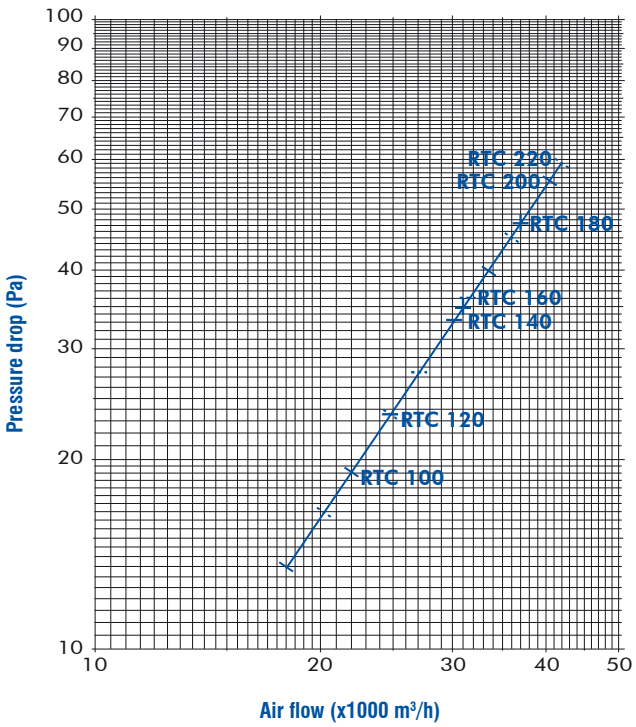
Note : Components air pressure drops are not included in these curves.

Component Air Pressure Drop

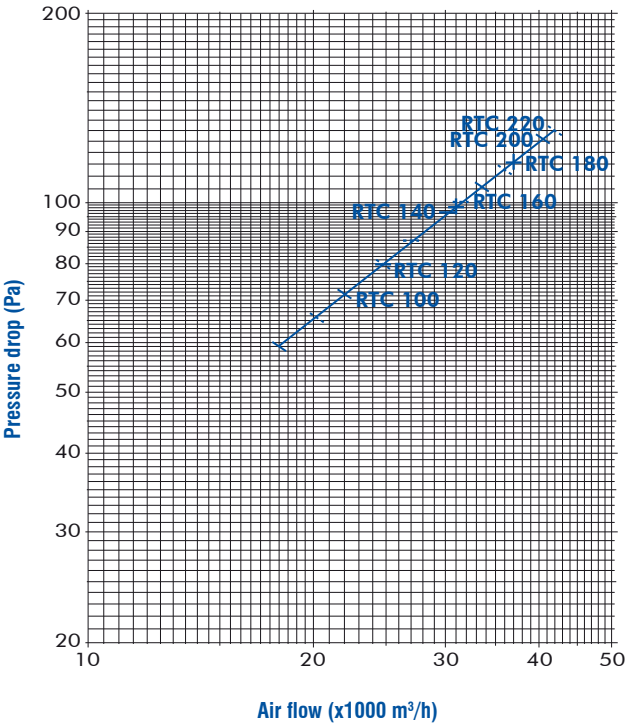
Economizer with 2 dampers (100% open)



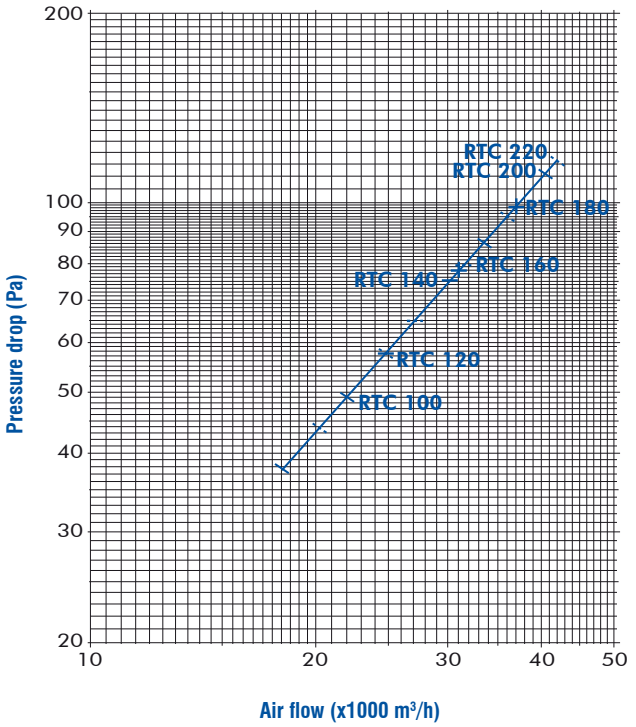
Economizer with 3 dampers (100% open)



G4 filter

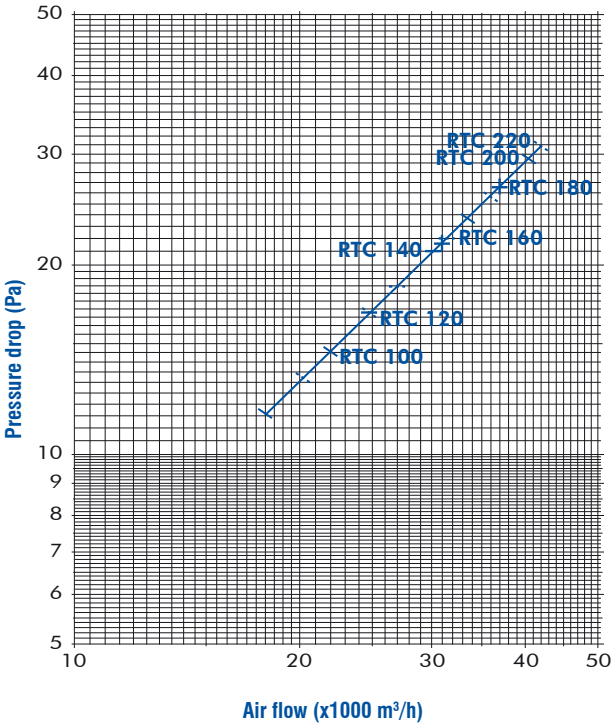


F7 bag filter

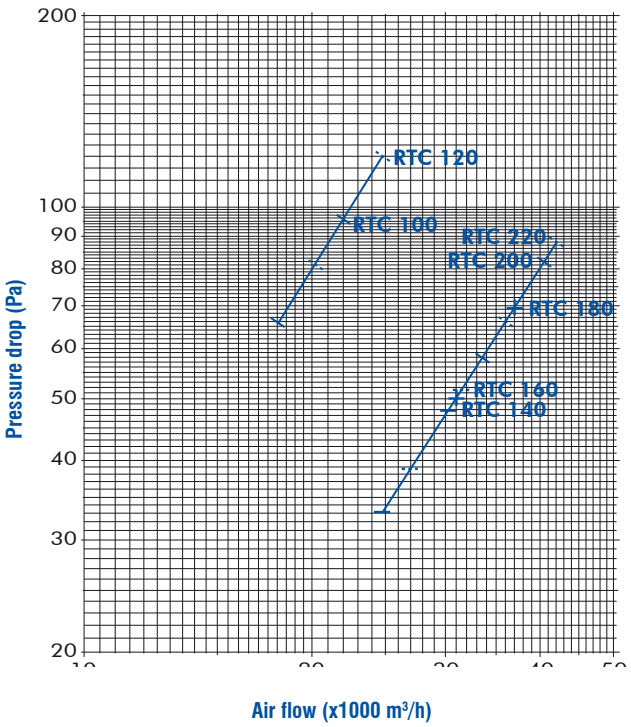


Component Air Pressure Drop (continued)

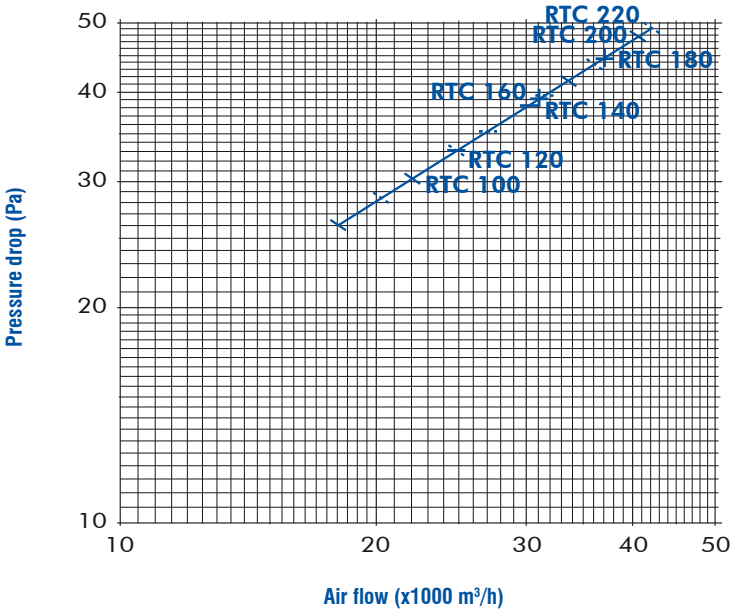
Electric heater



Gas heat

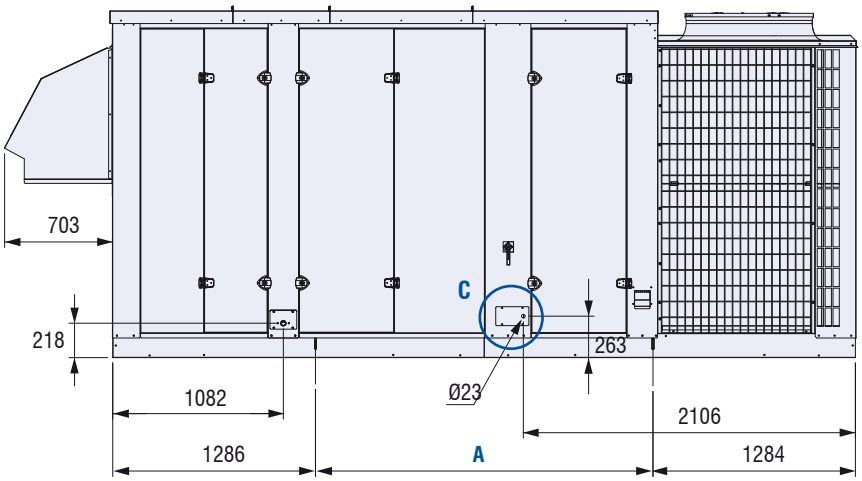


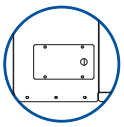
Roof curb S1/R1



Dimensions (mm) - Module 1

Module 1 is a base module with or without 2-damper economizer

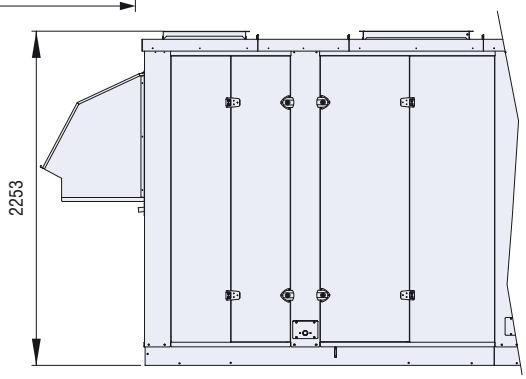


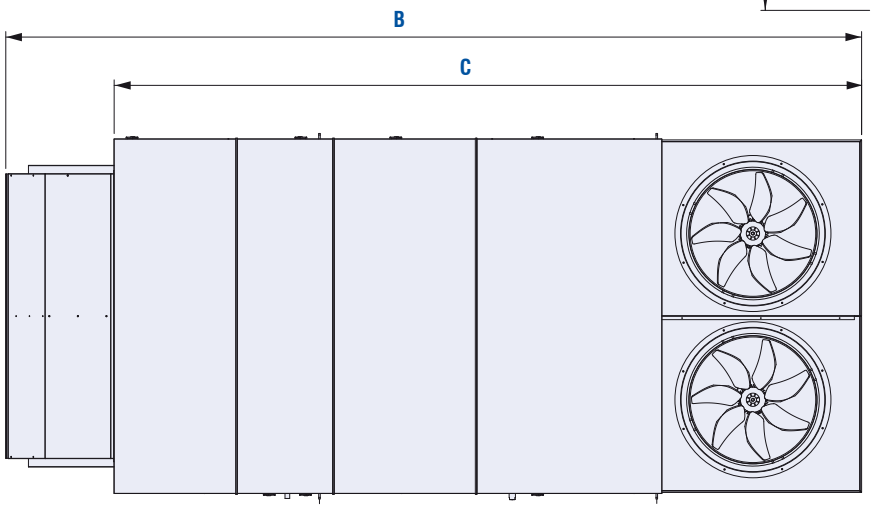


Detail C

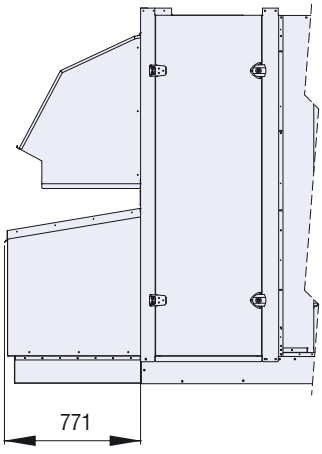
	A	B	C
100-120-140-160	2141	5431	4743
180-200-220	2837	6128	5444

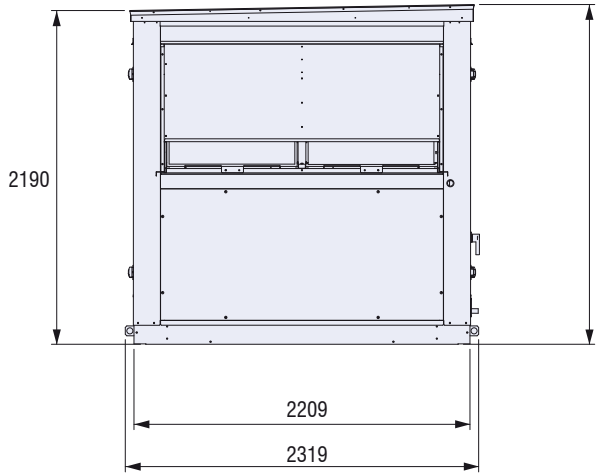
R4 & S4 only

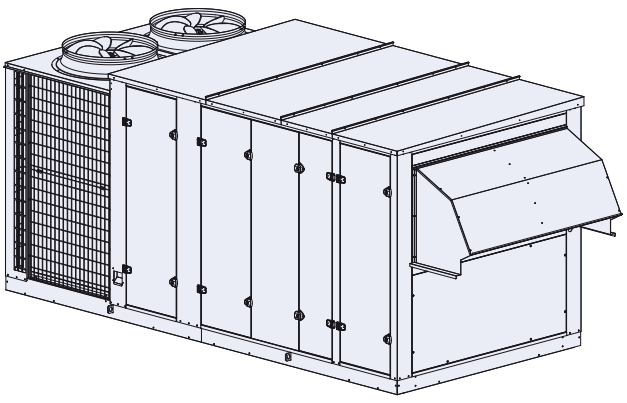




Exhaust blower

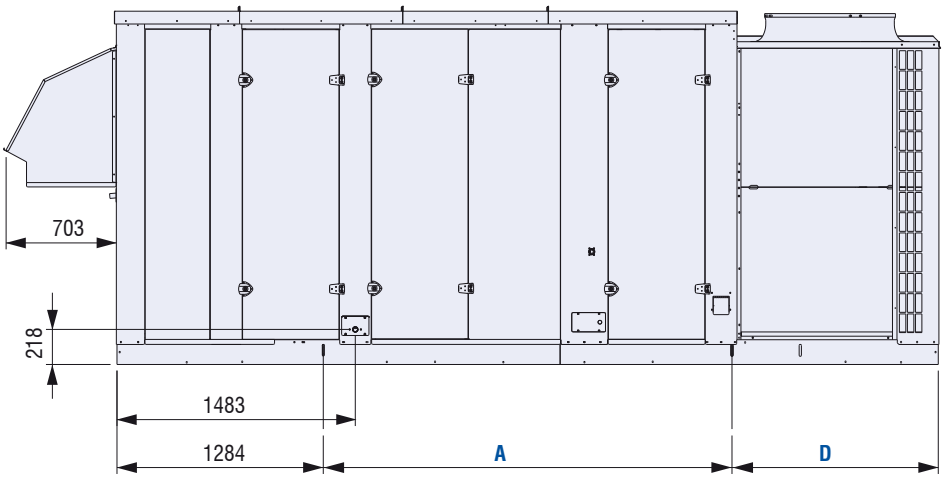




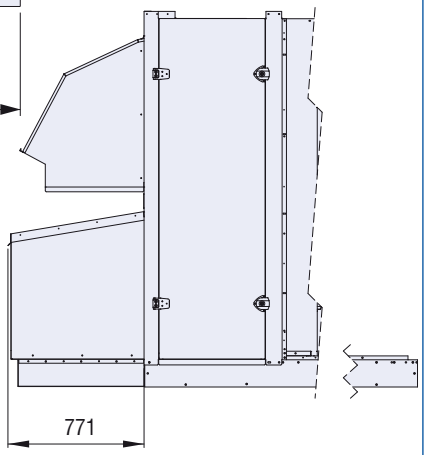


Dimensions (mm) - Module 2

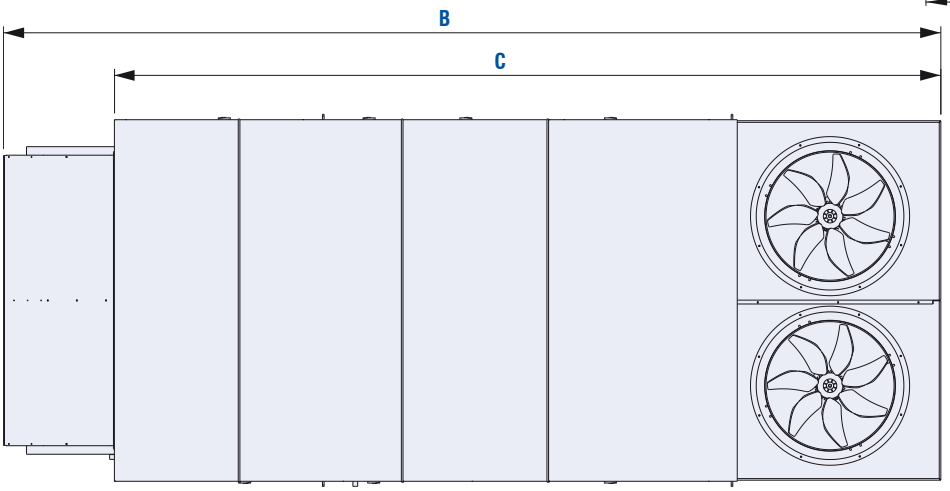
Module 2 is a base module with or without 2-damper economizer and F7 bag filters

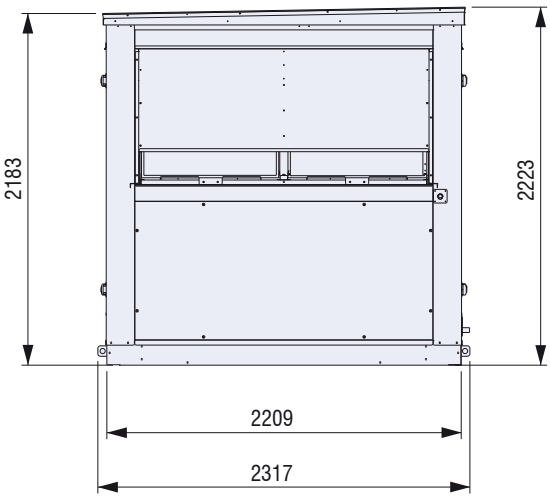


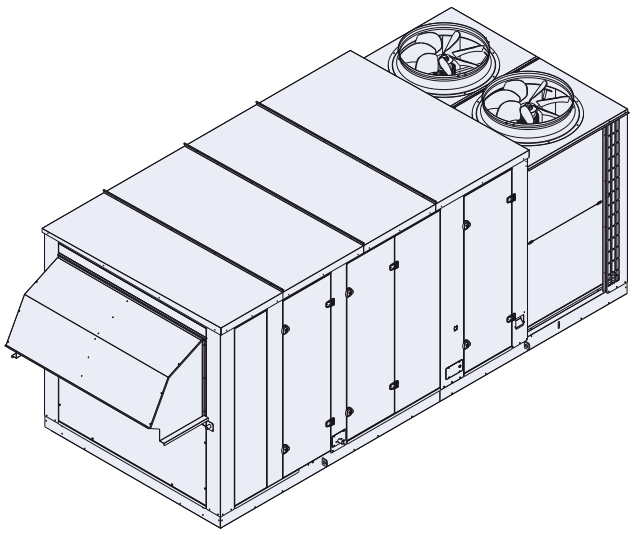
Exhaust blower



	A	B	C	D
100-120-140-160	2544	5834	5142	1284
180-200-220	3039	6531	5843	1487

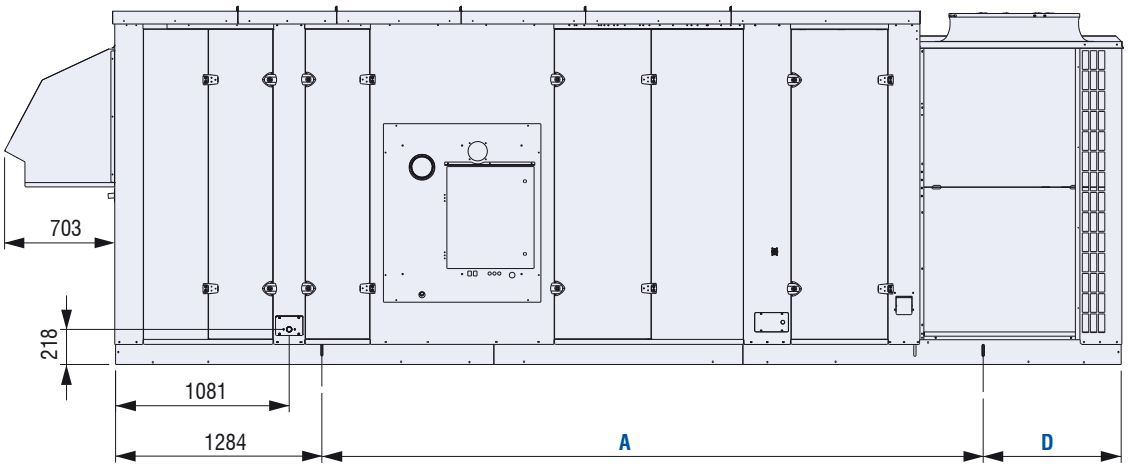


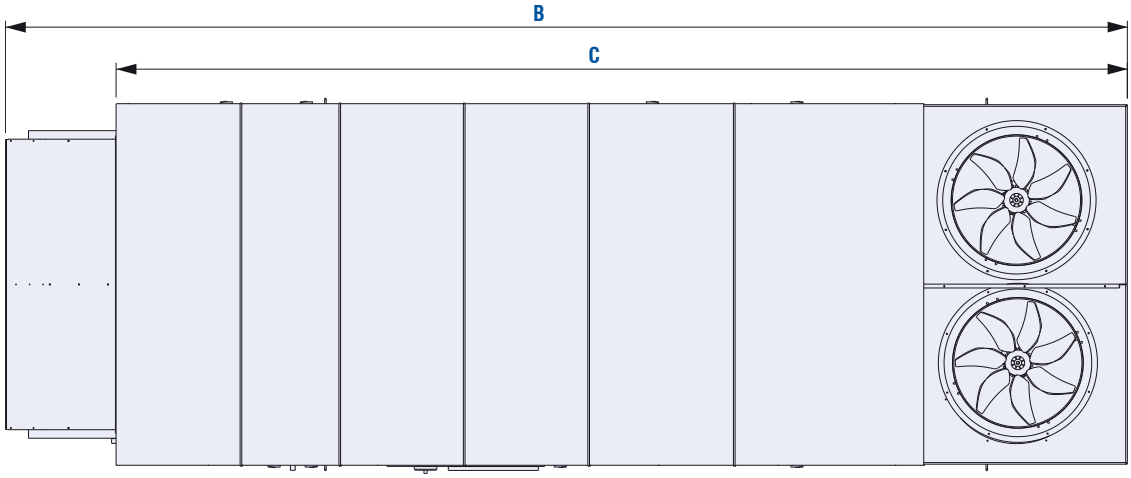




Dimensions (mm) - Module 3

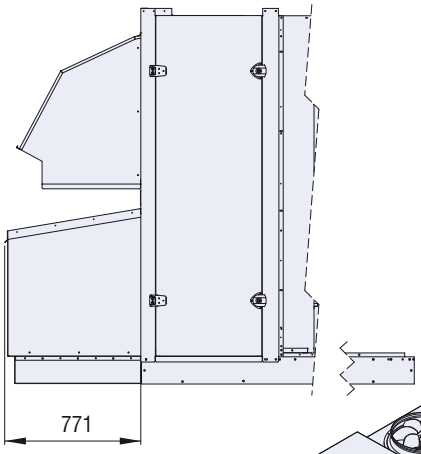
Module 3 is a base module with or without 2-damper economizer and gas heat

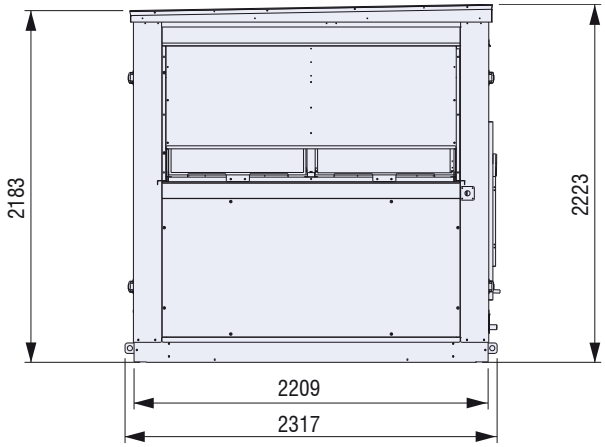


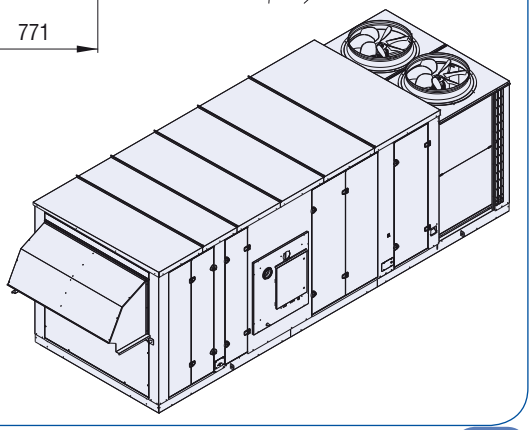


	A	B	C	D
100-120-140-160	4116	6982	6293	859
180-200-220	4186	7682	6993	1487

Exhaust blower

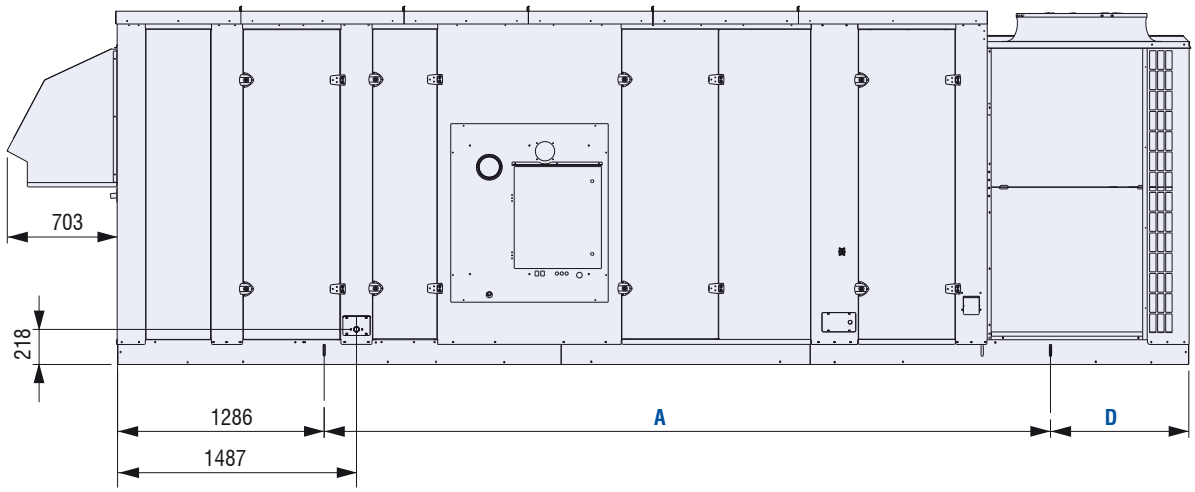


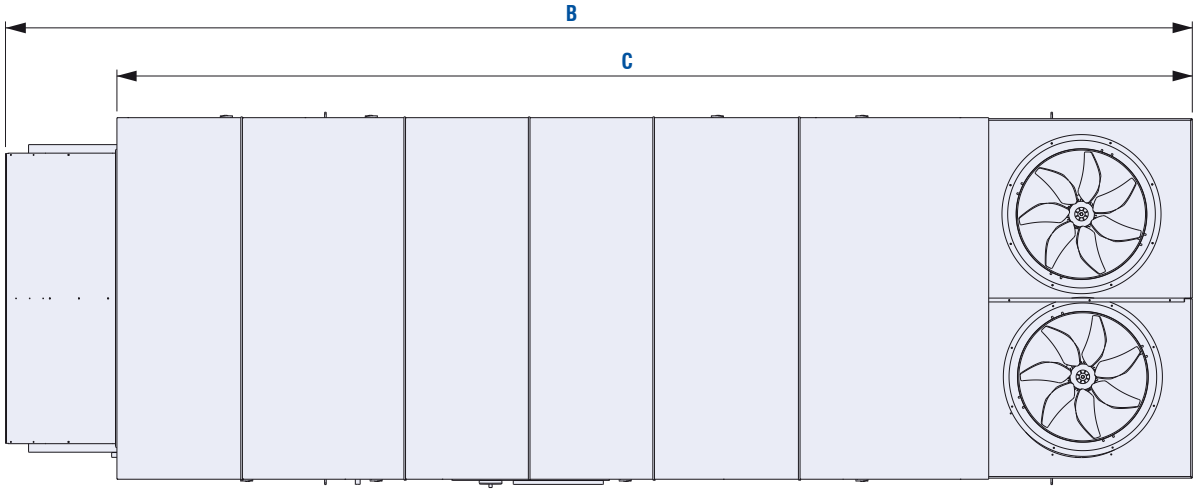




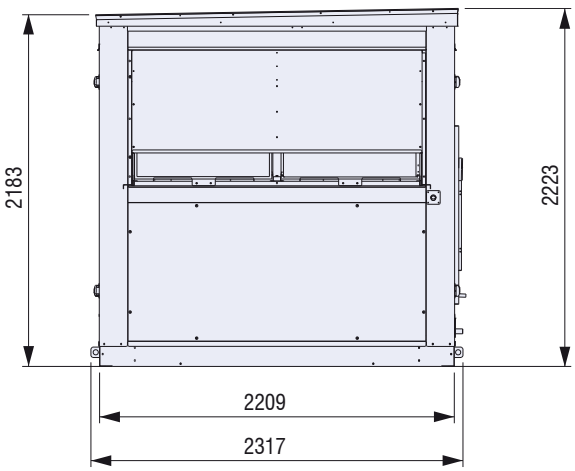
Dimensions (mm) - Module 4

Module 4 is a base module with or without 2-damper economizer, gas heat and F7 bag filters

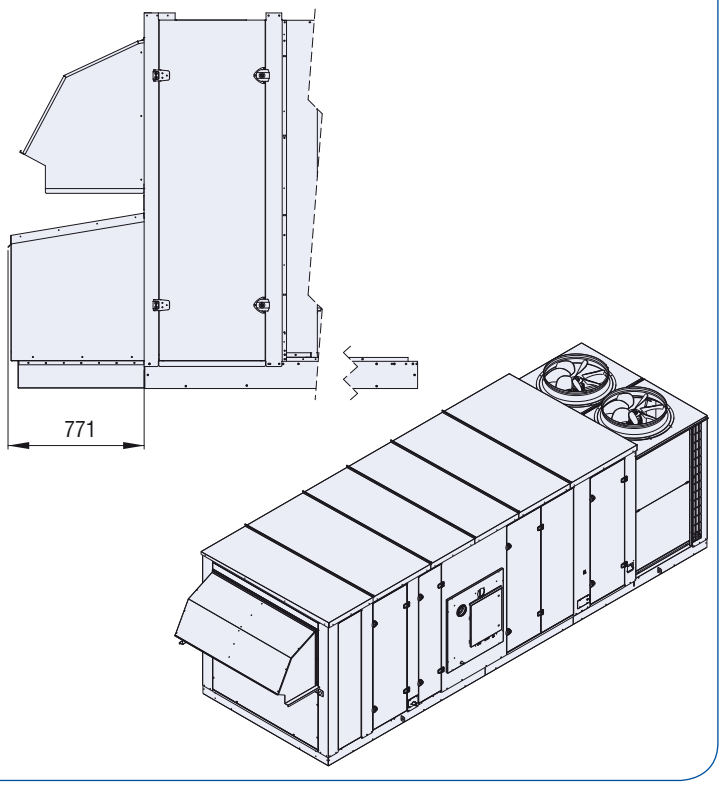




	A	B	C	D
100-120-140-160	4520	7386	6692	861
180-200-220	4590	8081	7394	1487

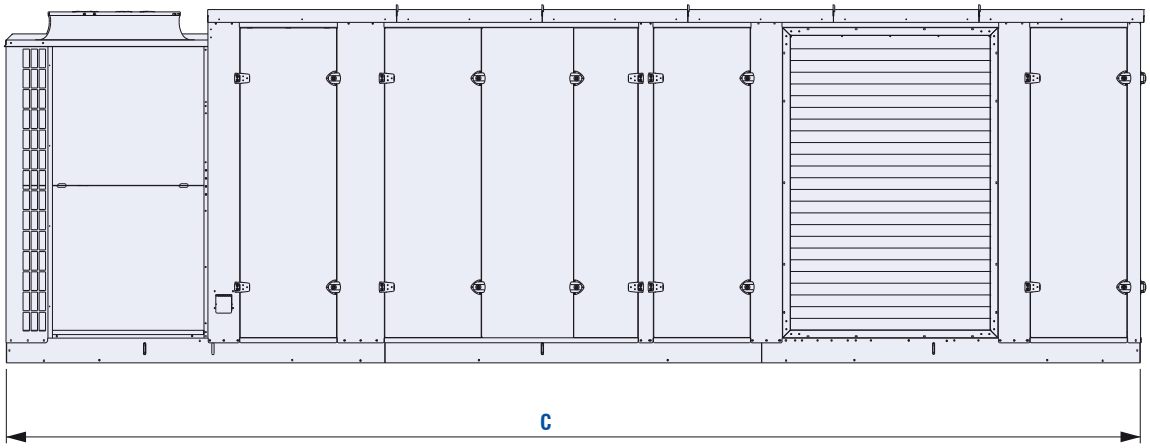


Exhaust blower

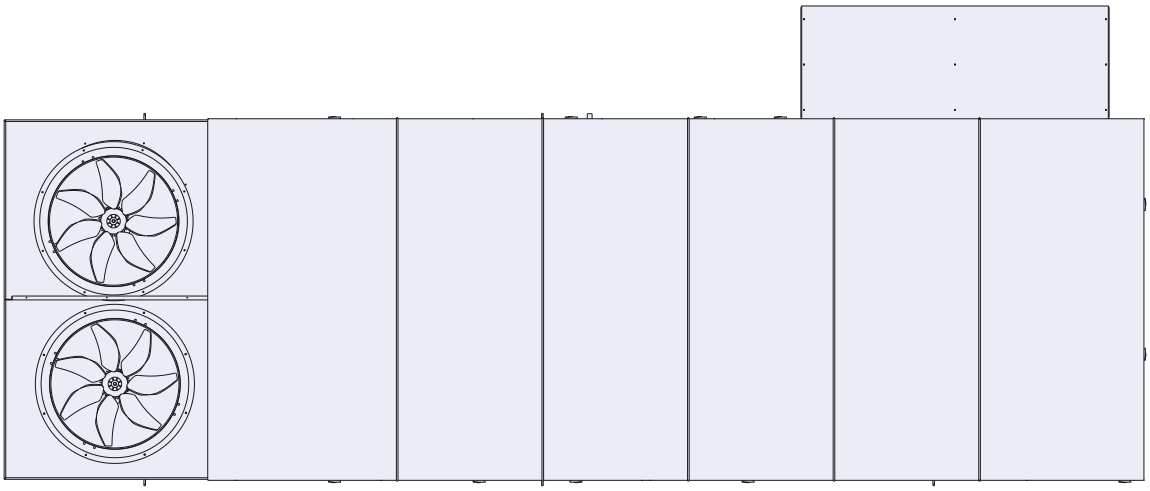


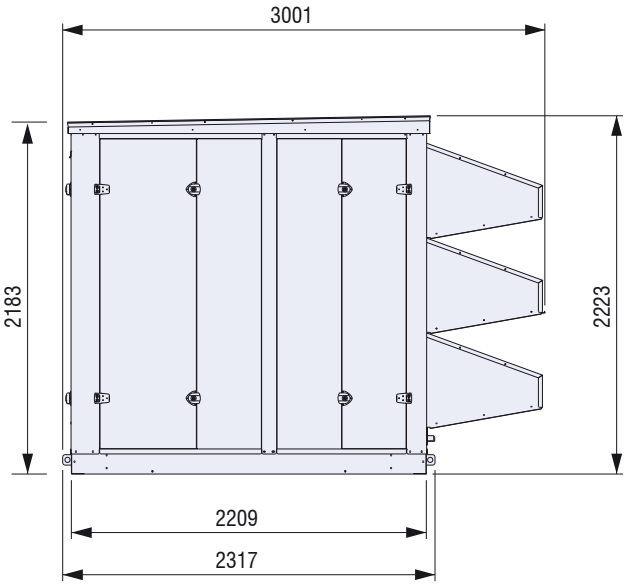
Dimensions (mm) - Module 5

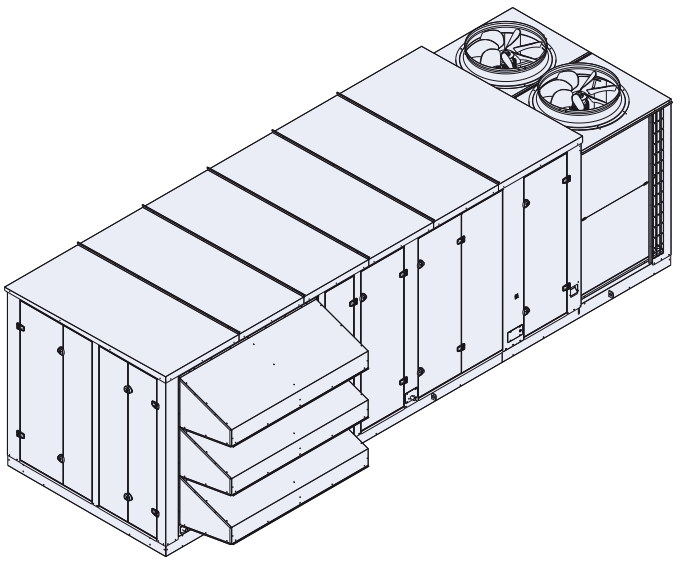
Module 5 is a base module with or without F7 bag filters and 3-damper economizer



	C
100-120-140-160	7057
180-200-220	-

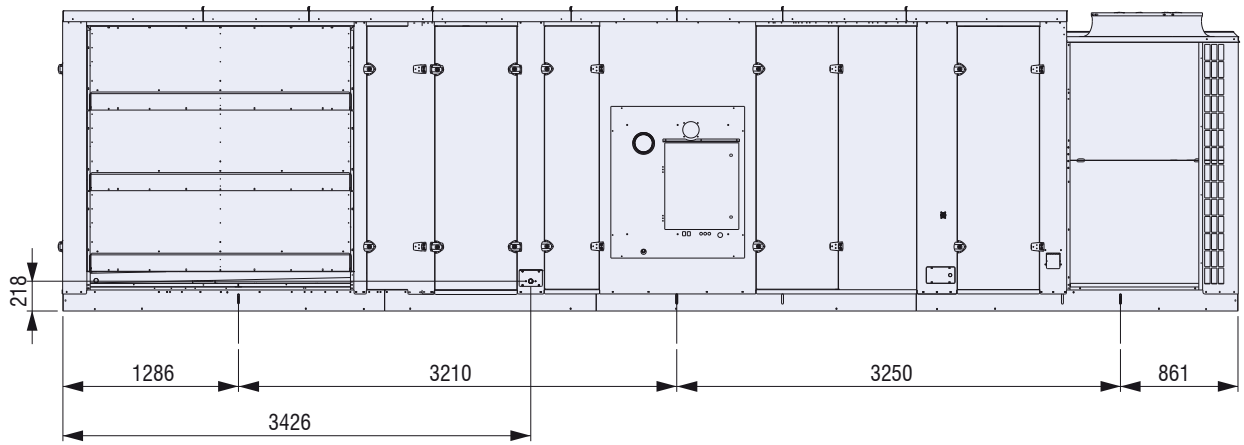




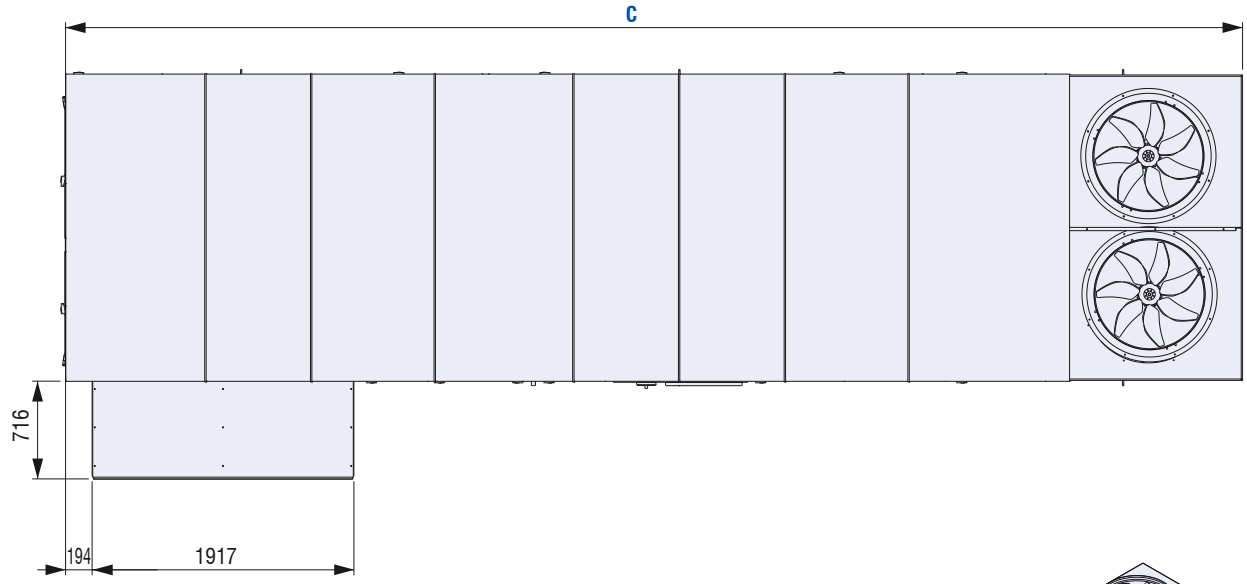


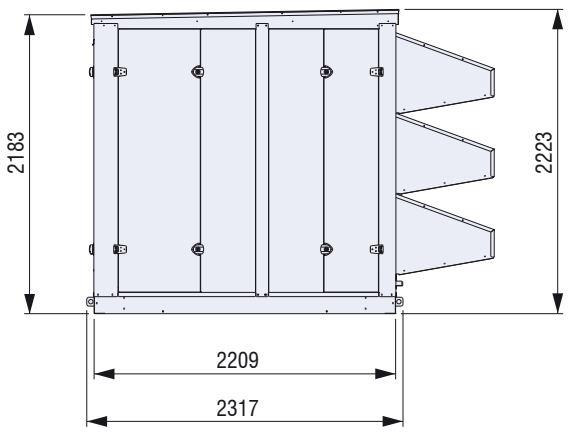
Dimensions (mm) - Module 6

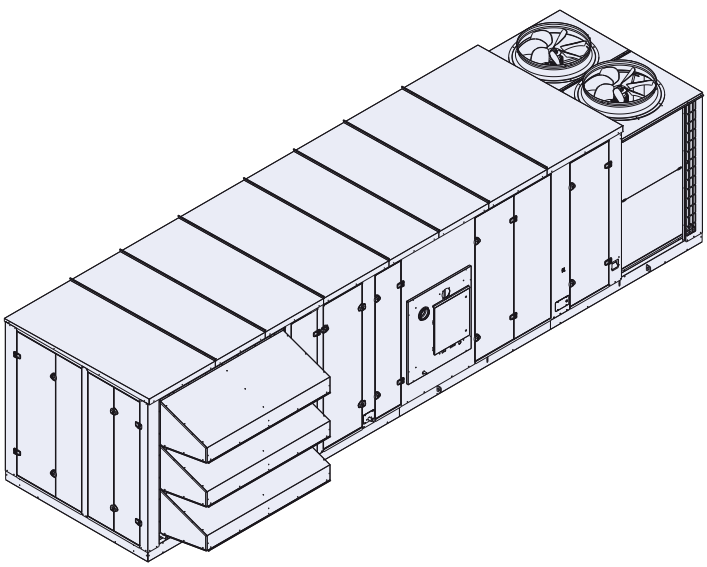
Module 6 is a base module with or without F7 bag filters, gas heat and 3-damper economizer



	C
100-120-140-160	8620
180-200-220	-

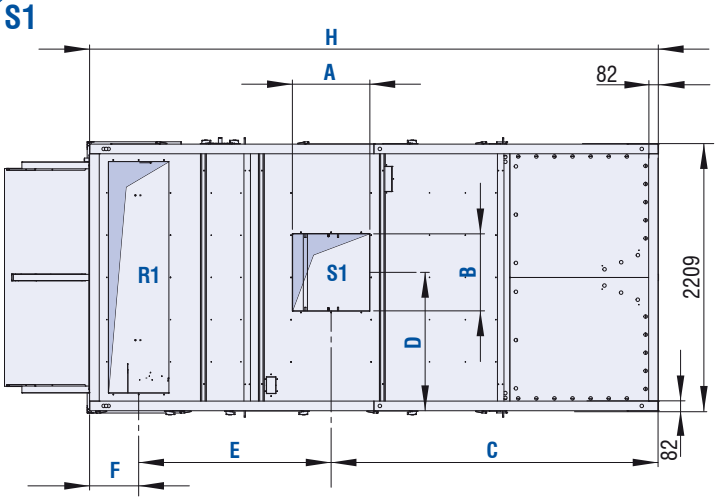


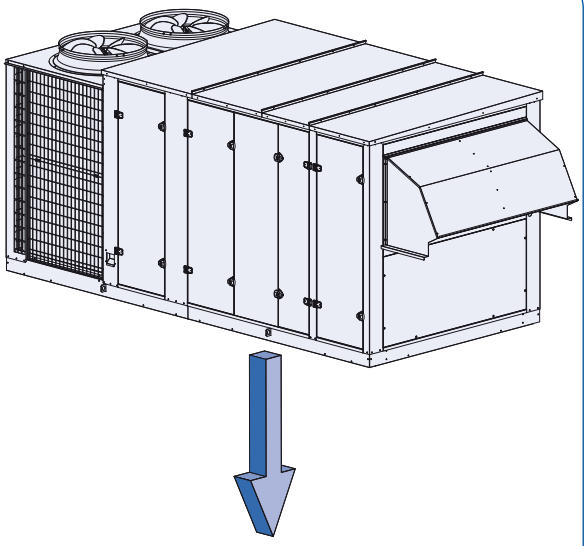




Supply Air Arrangements

S1

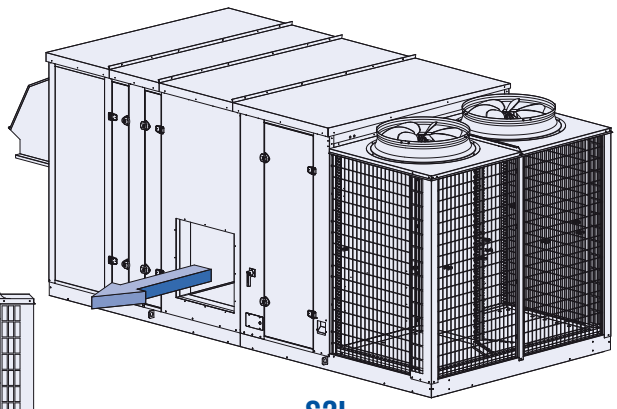




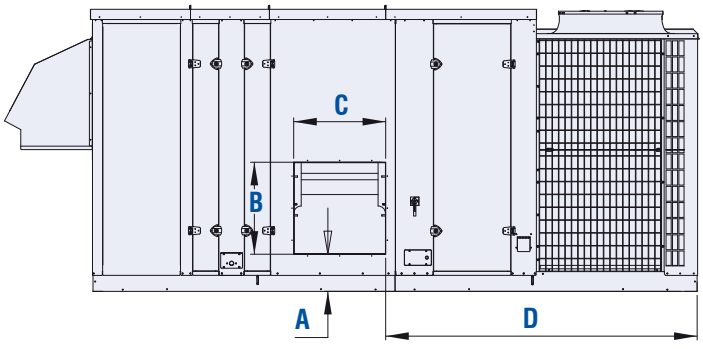
RoofTech models	A	B
100	638	638
120-140-160	726	726
180-200-220	898	898

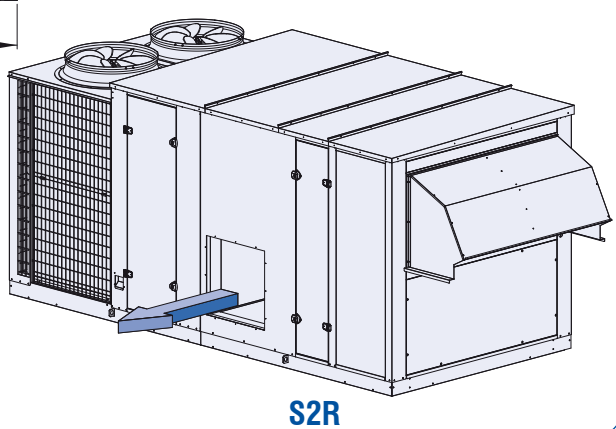
		C	D	E	F	H
100 120 140 160	Base module	2711	1104.5	1595	406.5	4712
	Base module + Bag filter	2711	1104.5	2000	403.5	5115
	Base module + Gas heat	2711	1104.5	3145	406.5	6292
	Base module + Gas heat + Bag filter	2711	1104.5	3552	403.5	6666
	Base module 3-damper economizer with or without bag filter	2711	1104.5	3777	568.5	7057
	Base module 3-damper economizer with or without bag filter + Gas Heat	2711	1104.5	5327	568.5	8606
180 200 220	Base module	2949	1326.5	2054	406.5	5409
	Base module + Bag filter	2949	1326.5	2457	406.5	5811
	Base module + Gas heat	2949	1326.5	3604	406.5	6920
	Base module + Gas heat + Bag filter	2949	1326.5	4010	406.5	7362

S2



S2L



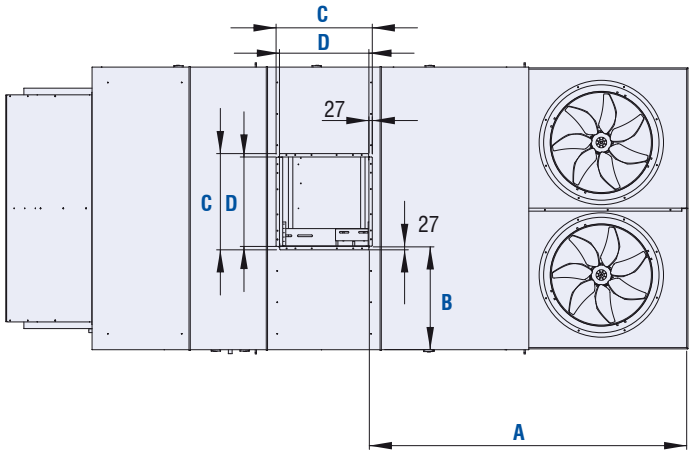


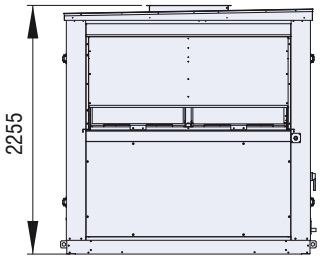
S2R

RoofTech models	A	B	C	D
100	548	643	643	2467
120-140-160	289	717	717	2427
180-200-220	383.5	901	901	2457

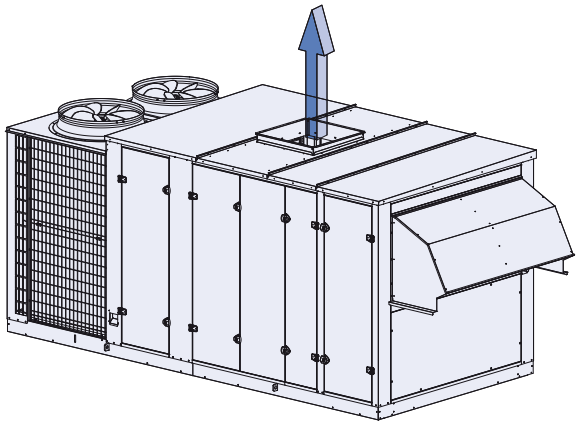
Supply Air Arrangements (continued)

S4



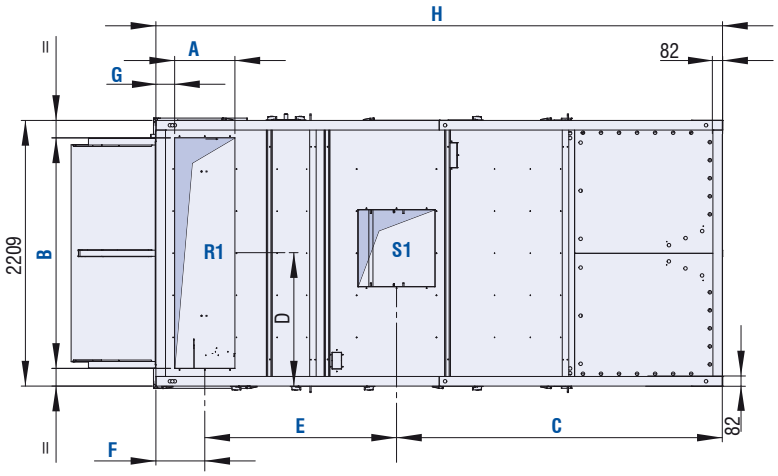


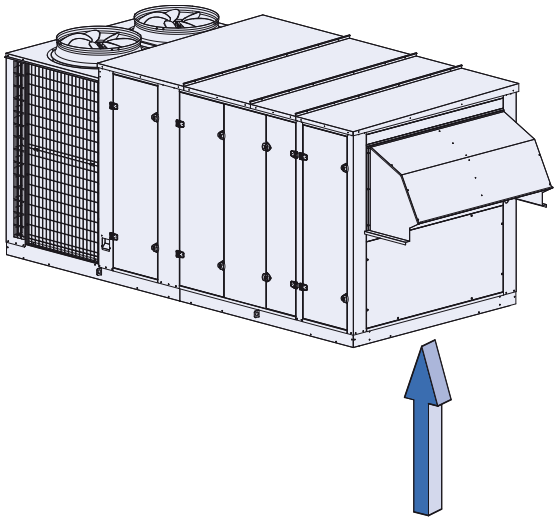
RoofTech models	A	B	C	D
100	2590	760	700	646
120-140-160	2533	765,5	766	712
180-200-220	2532	463	946	892



Return Air Arrangements

R1

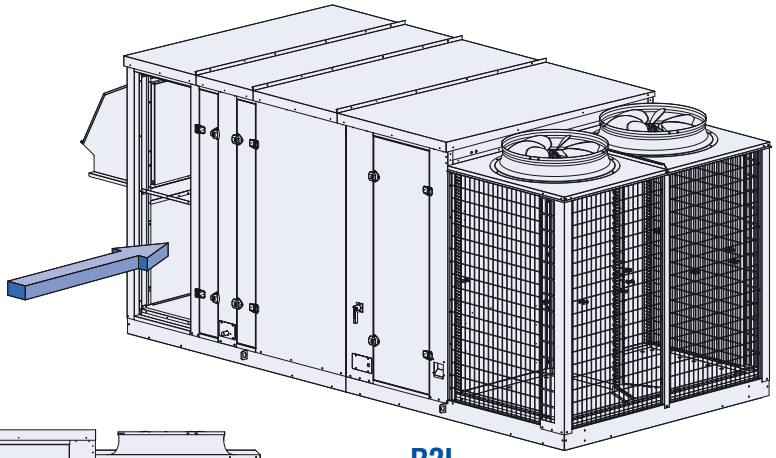




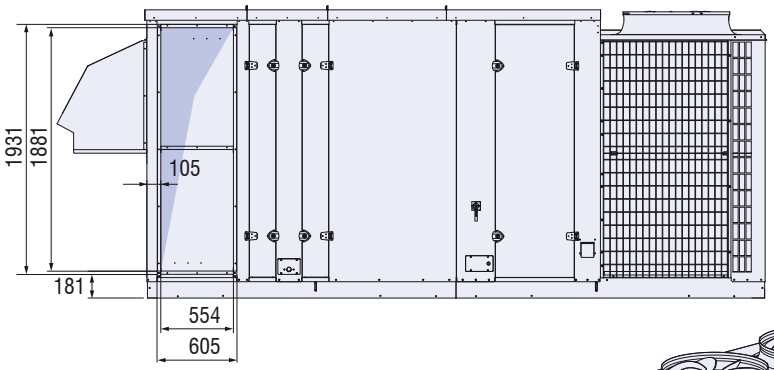
		A	B	C	D	E	F	G	H
100 120 140 160	Base module	501	1917	2711	1104.5	1595	406.5	156	4712
	Base module + Bag filter	501	1917	2711	1104.5	2000	403.5	153	5115
	Base module + Gas heat	501	1917	2711	1104.5	3145	406.5	156	6292
	Base module + Gas heat + Bag filter	501	1917	2711	1104.5	3552	403.5	153	6666
	Base module 3-damper economizer with or without bag filter	808	1318	2711	1104.5	3777	568.5	164.5	7057
	Base module 3-damper economizer with or without bag filter + Gas Heat	808	1318	2711	1104.5	5327	568.5	166.5	8606
180 200 220	Base module	501	1917	2949	1104.5	2054	406.5	156	5409
	Base module + Bag filter	501	1917	2949	1104.5	2457	406.5	156	5811
	Base module + Gas heat	501	1917	2949	1104.5	3604	406.5	156	6960
	Base module + Gas heat + Bag filter	501	1917	2949	1104.5	4010	406.5	156	7362

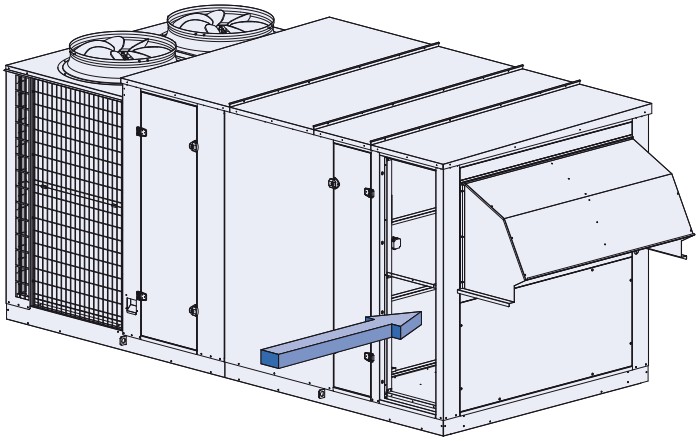
Return Air Arrangements (continued)

R2



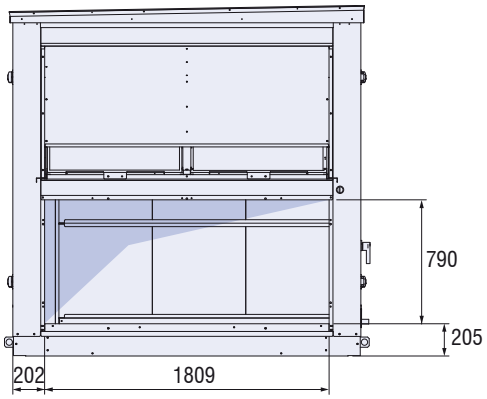
R2L

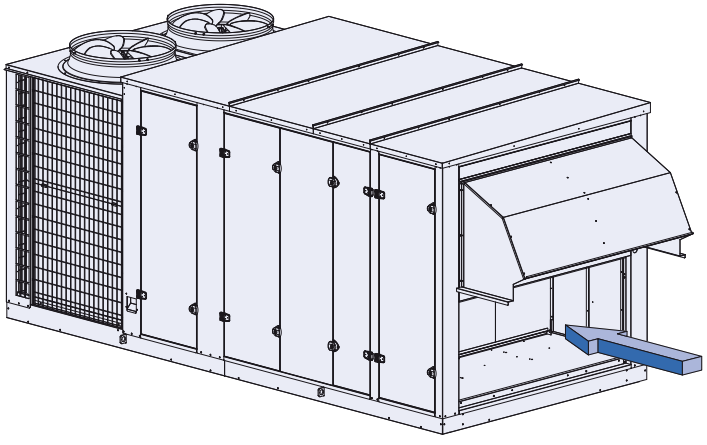




R2R

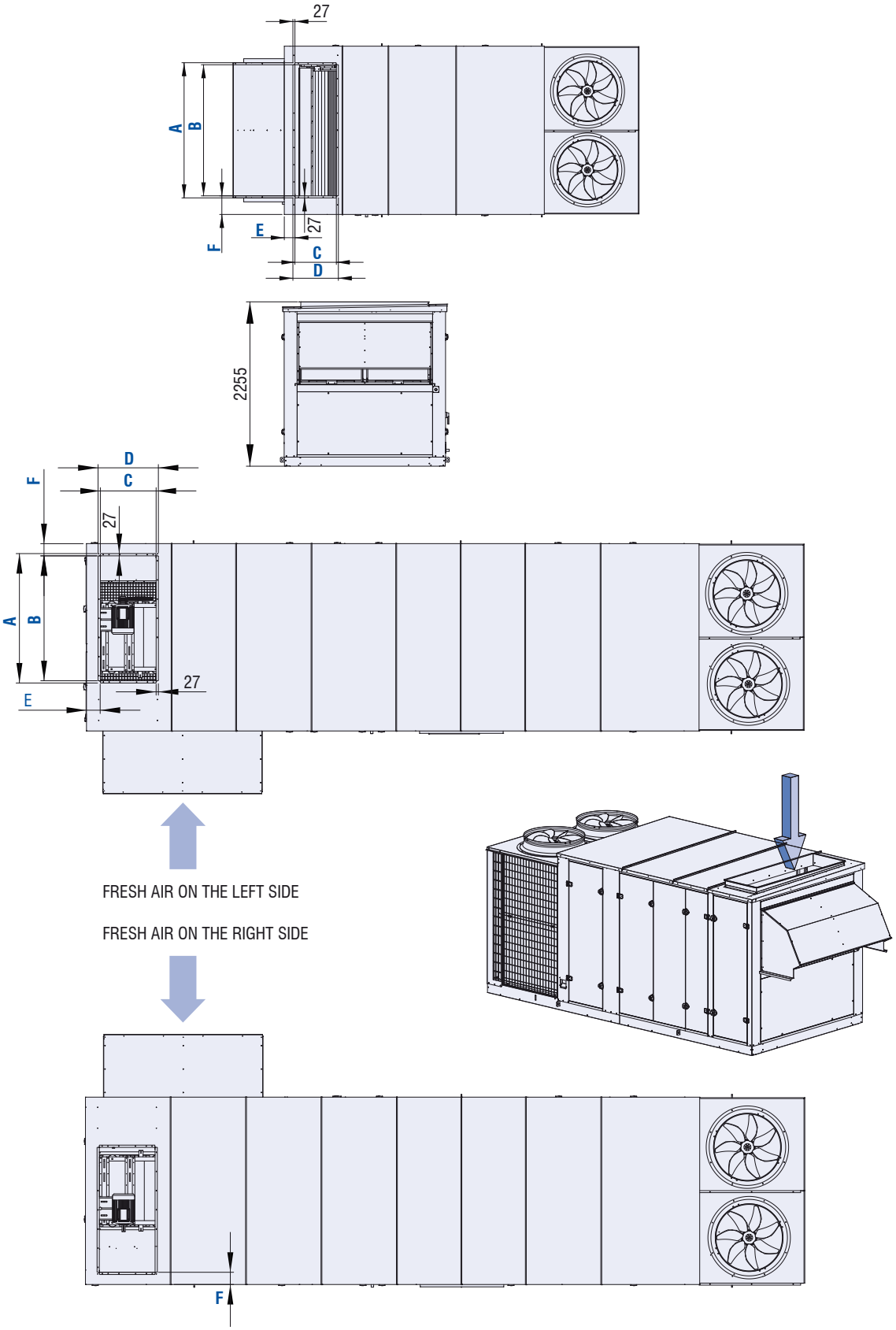
R3





Return Air Arrangements (continued)

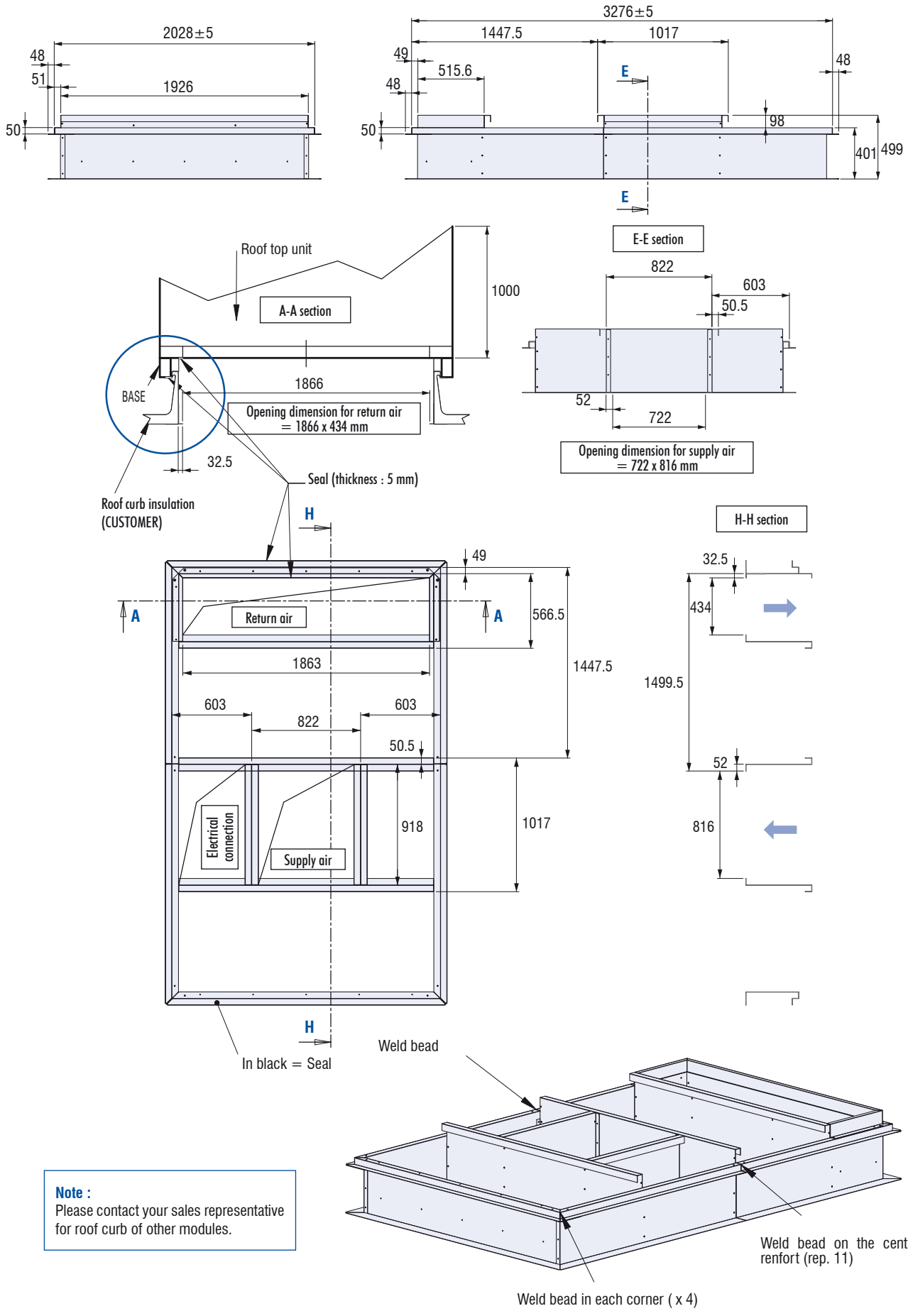
R4



	A	B	C	D	E	F
Base module	1807	1753	554	608	142	249
Base module with 3-damper economizer	1554	1500	670	724	165	147

Dimensions (mm) - Standard Roof Curb

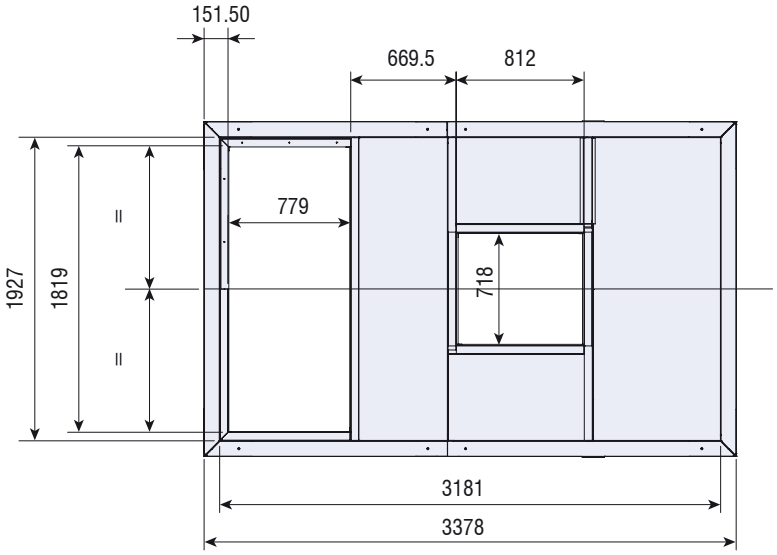
Module 1 - RTC 100 to 160

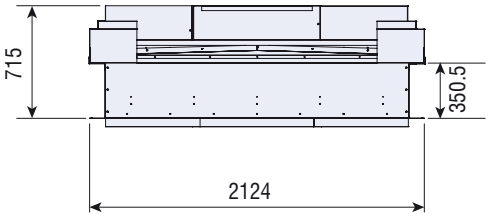


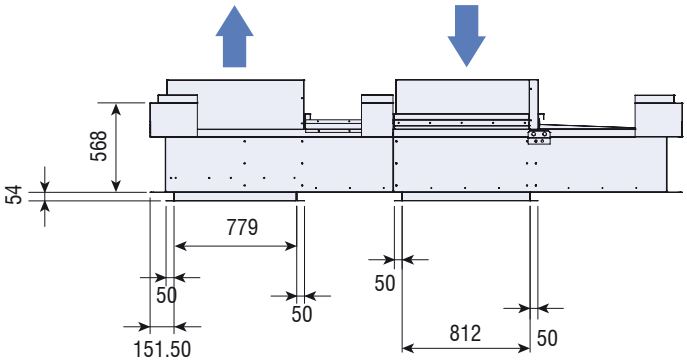
Note :
Please contact your sales representative for roof curb of other modules.

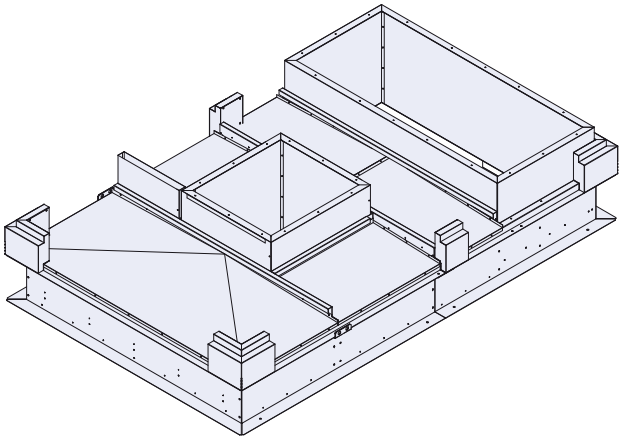
Dimensions (mm) - ERP Roof Curb

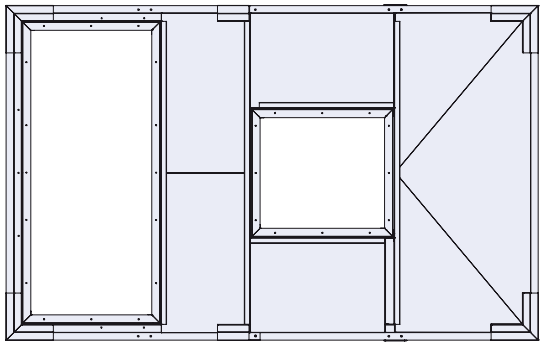
Module 1 - RTC 100 to 160











Note :
Please contact your sales representative for roof curb of other modules.

Accessory Weight (kg)

Weight	RTC100	RTC120	RTC140	RTC160	RTC180	RTC200	RTC220
Module 1 (base module) without option	1720	1740	1760	1780	2080	2190	2270

Weight	Base module	Base + F7 filter	Base + gas	Base +gas + F7 filter	Base + 3-damper economizer (+F7)	Base + 3-damper economizer + gas (+F7)
RoofTech	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
G4 filter				45		
F7 filter	-	170	-	170	170	170
Gas	-	-	550	550	-	550
2-damper economizer (1)	120	120	120	120		
3-damper economizer (1)	-	-	-	-	770	770
Electric heater CH1	75	75	-	-	75	-
Electric heater CH2	85	85	-	-	85	-
Heat recovery run around coils	-	-	-	-	230	230
Manual 0-25% fresh air kit (1)				10		
Droplet eliminator for manual fresh air kit				5		
Droplet eliminator for 2-damper economizer				5		
Condenser protective grilles				25		
Standard roof curb	200	210	260	275	285	370
ERP roof curb	370	390	470	520	540	620

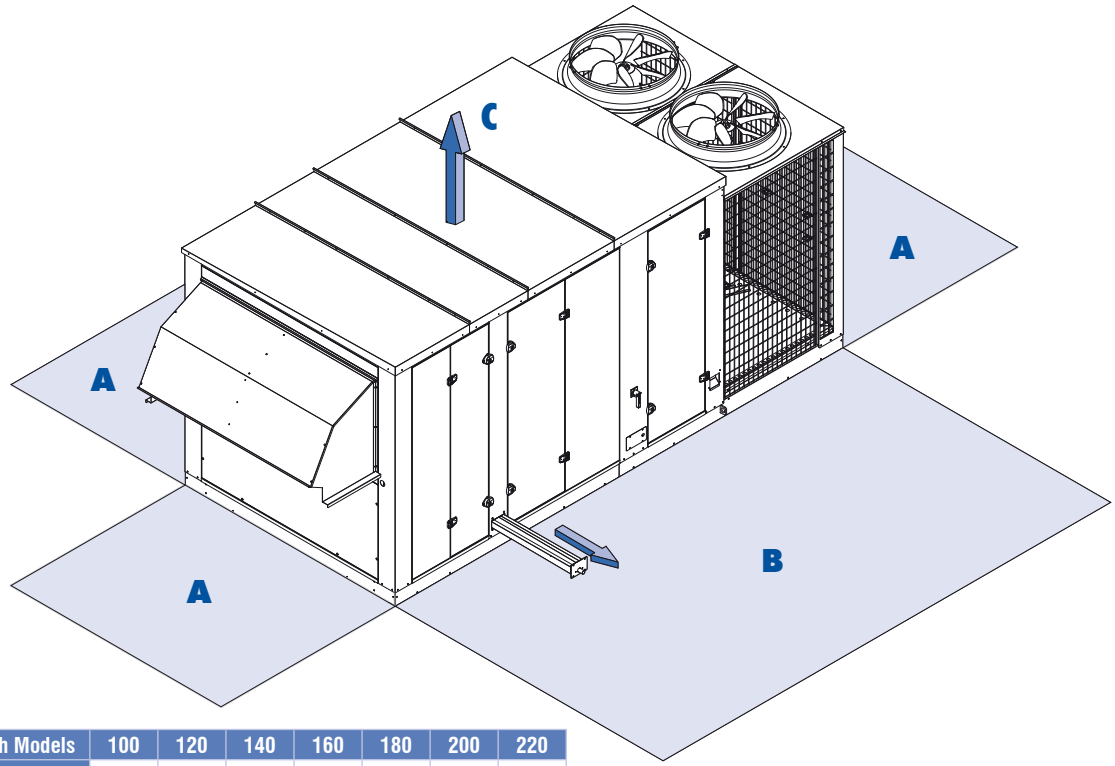
(1) Weather hood is integrated in this option.

Unit Clearance Requirements (mm)

The drawing below illustrates the minimum service clearances to be provided around the unit to guarantee access and proper operation.

Take particular care not to obstruct the outdoor coil in order to ensure proper air circulation through the appliance.

In addition to the service clearances stated on the dimensions sheet, it is imperative that safe and appropriate access to the unit is provided for repairs and servicing.



RoofTech Models	100	120	140	160	180	200	220
A	1500	1500	1500	1500	1500	1500	1500
B*	1800	1800	1800	1800	1800	1800	1800
C	3000	3000	3000	3000	3000	3000	3000

* Mandatory for drain pan removal.

Guide specification - Applied Rooftop

GENERAL

- The ROOFTOP shall be a factory assembled weatherproof construction in one piece including a control system managing a direct expansion refrigerant system, air handling and heating section.
- The ROOFTOP shall be manufactured by a company registered to ISO 9001:2000 quality standard.
- Insulation shall be constituted of 50 mm glass wool and a double wall.
- All panel exposed to the weather shall be made of aluminum.
- The manufacturer shall test all features prior to shipment.
- The digital controller shall be configured by the manufacturer at the factory.
- The unit shall be constructed on a rigid base rail made of 3 mm galvanized steel equipped with 4 to 6 lifting points.

CABINET

- The casing exposed to the weather shall be completely made of aluminum.
- The roof, side panels, doors and floor shall be double wall, inside and outside aluminum with 50 mm CE certified glass wool.
- The average transmittance value of the panels shall not exceed 0.64 W/m^2.K.
- Minimum sound attenuation through the panel shall be 36 dBA.
- The roof shall be 5% one-sided sloped for drainage.
- All access and service doors shall open with 2 hinges, locking with ¼ turn progressive rotor fasteners.
- Hinges and rotor fasteners shall be made of non-corrosive material.
- All fixings of hinges and rotor fasteners shall be assembled to avoid thermal bridges.
- All doors shall be opened by means of a triangular imprint removable safety key.
- All door corners shall be bevelled and gasketed with UV resistant closed cells neoprene, ensuring unit waterproofness.

TECHNICAL COMPARTMENT

- Unit shall have a weatherproof technical compartment separated from the air treatment zone.
- The compressors, reversing valves, refrigerant service tapping points, electrical panel with regulation system and control devices shall be factory mounted.
- The technical compartment shall be accessible from both sides of the unit through hinged doors with ¼ turn progressive rotor lock and arrested opened with a wind-blow preventive clamp.
- The electrical panel shall be located inside the technical compartment, shielded from rain and wind disturbances.
- The electrical panel shall be accessible through a sliding door.
- The electrical panel shall be ventilated from an outdoor air intake louver.
- The cable and wire shall be protected to prevent from walk-in damage.
- The technical compartment shall be illuminated (option).
- The expansion valves, sight glasses and indoor coil collectors shall be mounted in a service compartment separated from the air treatment by a dividing wall.

REFRIGERATION SECTION

- The refrigerant system shall be air cooled direct expansion type. Waterproof tested, and shall receive a definite charge of 410A.
- The refrigerant system shall be of cooling only or heat pump type.
- The risk of leak shall be reduced with machine bended cupper piping.
- The outdoor coil shall be hydrophilic coated (heat pump only).
- Weep holes shall be provided under the outdoor coil with direct water drainage to the building roof.
- Each refrigerant circuit shall have 2 compressors in tandem.
- The compressors shall be Scroll hermetic type with crankcase heater.

THE PLUS :

- The outdoor coils shall be protected with metallic grilles on the exposed sides.
- The outdoor coils shall permit cooling operation down to +10 °C with fan frequency controlled condensing pressure.
- The expansion valve shall be electronic monitoring, controlled by the unit digital controller, programmed by the manufacturer (heat pump only).

BLOWER AND DRIVE SECTION

- The blower(s) shall be belt driven, centrifugal with two inlets, mounted on antivibrations mounts and attached to the cabinet with a flexible connection.
- The motor shall be mounted on an independent platform with adjusting screw-spanner for alignment and belt tension.
- The blower and the motor drive shall be accessible through a dedicated service door.

OPTIONS :

- The unit shall be supplied with two blowers arranged in series, one blower for the return/exhaust air and one blower for the outdoor/supply air (if 3-damper economizer option is chosen).
- Each blower drive shall be single speed with adjustable motor 2 groove pulley.
- Each standard blower shall have forward curved blades.
- Each high pressure blower shall have backward curved blades.
- Each supply air shall be downward, upward, and horizontal.
- The return air shall be from below, from above, horizontal.

An air flow switch shall be factory mounted to sense the pressure difference between the entering and the blower leaving.

AIR FILTER SECTION

- Air filters shall be mounted on sliding rails upstream from the indoor coil accessible through a dedicated service door with a ¼ turn rotor lock.
- The filter shall be a panel type G4 or bag type F7.

OPTIONS :

- The filters shall be F7 bag type filters.
- The bag filter shall have a G4 pre-filter.
- The bag-filter rack shall be suitable for low bypass leakage with tensioning clamps.
- The clogged filter switch shall be factory fitted and wired to the controller.

DAMPER SECTION

MANUAL 0-25% FRESH AIR KIT

- The Rooftop shall be equipped with a factory-fitted manual device for minimum ventilation allowing up to 25% outdoor air of the nominal air volume.
- The outdoor air intake hood shall be retractable and provided with a bird screen.
- A non-return shutter shall close the air entering on OFF periods.

TWO-DAMPER ECONOMIZER

- The ROOFTOP shall be furnished with a factory-fitted two damper economizer for minimum ventilation and free-cooling suitable to a one blower configuration.
- The economizer improve year-round efficiency.
- The economizer shall be assembled from two counteracting dampers linked together, each sized for the total nominal air volume. One damper shall be located in the return air the other in the outdoor air.
- The dampers shall be proportional actuated from a modulating motor wired to the controller.
- The minimum outdoor air volume required for ventilation shall be adjustable from the controller.
- The damper blades shall be made of hollow galvanized steel linked with gear-wheels.
- The outdoor air damper shall close on OFF periods.
- The economizing control shall be programmed to utilize the greatest possible quantity of outdoor air.
- The economizing control shall compare the outdoor sensible temperature to adjustable ambient and discharge reference temperatures settings.
- The economizing control shall compare the outdoor total enthalpy to an adjustable ambient reference enthalpy setting to detect undesired moisture before it enters the building.
- The economizer will close on OFF periods.
- It will be supplied with a retractable rain hood and bird screen.
- A cleanable condensate drain pan shall be provided to avoid water infiltrations.

OPTIONS :

- The economizer shall be furnished with an exhaust air blower able to de-pressurize the building by relieving used air mechanically, when the return air damper is closed.
- The blower shall be centrifugal with dual inlet and belt driven motor. The exhaust air volume is not less than 25% of the nominal air volume of the ROOFTOP.
- The exhaust air outlet shall be turned 90° away from the outdoor air intake.

THREE DAMPER ACTIVE MIXING ECONOMIZER

- The ROOFTOP shall be furnished with a factory fitted 3-damper mixing economizer for active free-cooling with the greatest possible amount of outdoor air and an adjustable minimum hygienic ventilation rate.
- The 3-damper mixing economizer shall be equipped with a supply and a return air blower, each one able to circulate the total nominal air flow of the ROOFTOP.
- The 3 counteracting wheel geared dampers shall be able to modulate proportionally the outdoor, the return and the exhaust air from 0 to 100%.

- The amount of used air equal to that of outdoor air introduced to the building shall be exhausted from the building.
- The outdoor and exhaust air dampers shall close on morning warm-up and unoccupied modes to save energy, as well as on OFF periods.
- The 3-damper mixing economizer shall be controlled by monitoring return, discharge and outdoor air conditions by means of 3 sensors. The outdoor and the discharge sensors shall be factory fitted and wired to the controller.
- A low-outdoor lock-out shall prevent from mechanical cooling operating.
- The required minimum ventilation shall remain active during occupied mode.
- A condensate drain pan shall be placed at the entering of outdoor air.

OPTIONS :

- The economizer shall be equipped, as optional, with a complete heat recovery system by run around coils with glycol, delivered fully factory mounted, charged with 30% of glycol and tested. The system shall have, moreover, an extractable condensate drain pan located below the fresh air coil (in case of condensation during the system shutdown in summer; coil will act as droplet eliminator).

  The system shall assure a free-cooling with 100% of total air volume and shall assure a low air pressure drop.
- The economizing program shall monitor the outdoor sensible temperature and the ambient actual temperature and adjust the 3 dampers to a reference setting, holding the required minimum ventilation air. The discharge sensor shall protect from uncomfortable supply air temperature.
- The economizer program shall monitor the total enthalpy of the outdoor air and the actual ambient enthalpy and adjust the 3 dampers to a reference setting, holding the minimum required ventilation air. The discharge sensor shall protect from uncomfortable supply air temperature.
- The economizer shall be furnished with an ambient air quality controller (VOC) to trace high population density in the building and provide sufficient ventilation to dilute contaminants. The same amount of used air shall be exhausted from the building as the amount of new outdoor air taken into the building.
- The economizer shall be furnished with a smoke detector located downstream of the filter.

HEATING SECTION

GAS SECTION

- The direct gas heat section shall have a pre-mix condensation burner using latent heat from gas to save energy, and a heat exchanger.
- The gas burner shall be pre-adjusted at the factory for 0 ppm CO and less than 35 ppm NOx. The gas-burner shall need no adjustment on field start-up.
- The efficiency of the gas heater shall be approximately 105 % at 30 % of the maximal heating capacity.
- The heat exchanger shall be made of stainless-steel.
- The combustion-air blower shall have a variable speed driven proportionally to the heat demand.
- The heat-exchanger and the flue vent shall be equipped with one common condensate drain leading outside the unit.
- The combination gas burner / heat-exchanger shall have a common CE certificate.
- The gas burner shall be modulating from 30 to 100%.

HOT WATER SECTION

- The hot water coil shall be factory fitted downstream from the DX indoor coil.
- The hot water coil shall be designed to cover the entire face area of the DX indoor coil to insure low air velocity and low air pressure drop.
- The hot water coil shall be accessible through an hinged double wall hinged door with 50 mm insulation.

OPTIONS :

- A modulating 3-way valve shall be factory fitted, wired to the controller.
- A capillary freeze-stat shall be factory fitted upstream from the hot-water coil and wired to the controller.

ELECTRIC HEAT SECTION

- The electric heater shall be factory fitted downstream from the DX indoor coil.
- The electric heaters shall be made of smooth steel tubes wired for two-stage heat to the controller.
- The disconnect switch and the circuit breakers of the electric heat shall be sized for sized and cabled for a single inlet power connection.
- The electric heaters shall be protected from overheating with factory-fitted limit-switches wired to the circuit-breakers and controller.
- Airflow switch shall be included on this option.

ROOF MOUNTING CURB

- The roof mounting curb shall be standard type or ERP type.
- The roof mounting curb shall be made of galvanized steel.
- A one side sticking neoprene gasket shall be supplied by the manufacturer to make a waterproof link between the roof mounting curb and the unit base and avoid thermal bridge.
- The roof mounting curb shall be factory assembled.

REGULATION AND CONTROLS

- The ROOFTOP shall be factory wired and cabled to the regulation system, controls, safety devices and controller.
- The wiring shall comply with CE standards and EN 60204-1.
- All cables and wires shall be individually identified.
- The unit shall be equipped with one single power inlet connection, sized to the total current draw of the unit scheduled in this specification.
- The unit shall be furnished with a lockable main disconnect accessible from outside the cabinet.
- The direct digital controller shall be factory fitted, configured at the factory by the manufacturer for all functions specified herewith and run-tested.
- The manufacturer software shall offer field adaptive heating and cooling staging algorithms, dedicated to optimisation of energy consumption, to satisfy ambient set conditions.
- The monitoring of the ambient load, overheating and overloading, the compressor cycling, dampering, phase and pressure-control, shall be managed by the controller to insure safe and automatic year-round operation.
- A dry-contact for general alarm shall be available for field connection.
- The software shall permit the adjustment of the minimum hygienic ventilation requirement in % of the nominal air volume of the ROOFTOP.

OPTIONS :

- The ambient load monitoring shall be managed from a heat-cool staging wall field-mounted electromechanical thermostat, with high-low temperature settings, blower continuous or intermittent operation, on/off switch and actual room temperature.
- The controller (IATC) shall be furnished with a RS 485 card to permit user to extend the communication of the ROOFTOP by sending and retrieving binary and analog flexible informations to read and write via ModBus.
- The controller (IATC) shall be furnished with a time card for field indexing of unoccupied and occupied modes, day-week and maintenance scheduling, operation hours, history of the last 150 failures and alarms with indication of time and day.
- The monitoring of the ambient load shall be achieved by a field mounted room sensor.
- The monitoring of the ambient load shall be achieved by a field mounted return air duct sensor.
- IATC shall be supplied with a user-Interface. The user interface shall have a 6 buttons key-pad for field programming of set-points, proportional bands, alarm threshold and permit resetting of alarms. The user Interface shall have a LED semi-graphic 4 lines 20 columns screen with backlight. It shall be placed outside the ROOFTOP within 200 m bus distance from the controller.
- The software shall be suitable for field indexing of a winter-summer sliding ambient temperature, with min.-max. setting.

Guide specification - Applied Rooftop (continued)

Technical data

Nominal cooling capacity	kW	
Summer outdoor temperature	°C	
Summer entering evaporator dry bulb	°C	
Summer entering evaporator wet bulb	°C	
Sensible/Total ratio		
Total supply air volume	m^3/h	
External static pressure supply air	Pa	
Supply air blower motor power input	kW	
Supply air blower speed	rpm	
Supply air blower power sound level	dBA	
Total return air volume	m^3/h	
External static pressure return air	Pa	
Return air blower motor power input	kW	
Return air blower speed	rpm	
Return air blower power sound level	dBA	
Minimum outdoor air volume	m^3/h	
Nominal heating capacity HEAT PUMP	kW	
Heat-pump winter outdoor	°C	
Winter entering dry bulb	°C	
Gas quality		
Heating capacity	kW	
Entering gas pressure	mbar	
Burner pressure	mbar	
Minimum efficiency	%	
Hot water heating		
Heating capacity	kW	
Hot water entering	°C	
Hot water leaving	°C	
Entering system pressure	bar	
Water flow rate	m^3/h	
Water pressure drop	bar	
Air pressure drop	Pa	
Electric heat		
Capacity	kW	
Number of stages		
Total amperage	A	

Refrigeration		
Number of compressors		
Number of circuits		
Refrigerant		
Number of outdoor fans		
Diameter of fan and number of blades	mm	
Motor power input per fan	kW	
Motor speed	rpm	
Air volume per fan	m^3/h	
Face area of outdoor coil	m^2	
Outdoor coil number of rows		
Face area of indoor coil	m^2	
Indoor coil number of rows		
Air filters		
Filter classification	EU	
Filter face area	m^2	
Filter size	mm x mm	
Number of filters		
Dimensions & weights		
Length	mm	
Width	mm	
Height	mm	
Weight	kg	
Electrical characteristics		
Voltage / Ph / Hz		
Total power input	kW	
Full load amperage	A	
Locked rotor amperage	A	
Manufacturer		
Model		
Unit reference		
Quantity		

Ref. : **EDM RTCLH-A.4GB/10.09** - Supersedes : EDM RTCLH-A.3GB/10.08

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