Rooftops

Rooftop units provide air-based cooling and heating for commercial buildings to ensure thermal comfort and proper indoor air quality (IAQ) through ventilation. Easy installation, space savings and customisation allow you to meet all your needs.

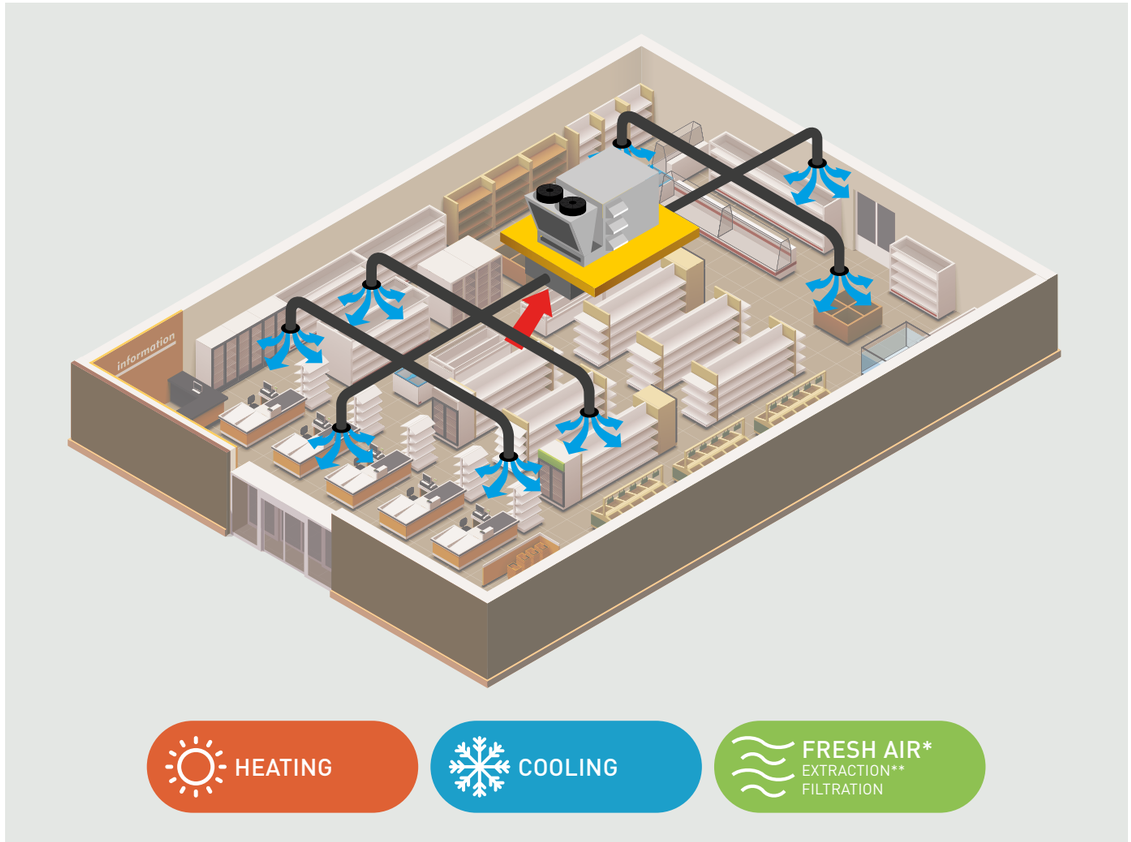
ABOUT

PRODUCT SPECIFICATIONS

Rooftops

A complete monobloc solution for large buildings.

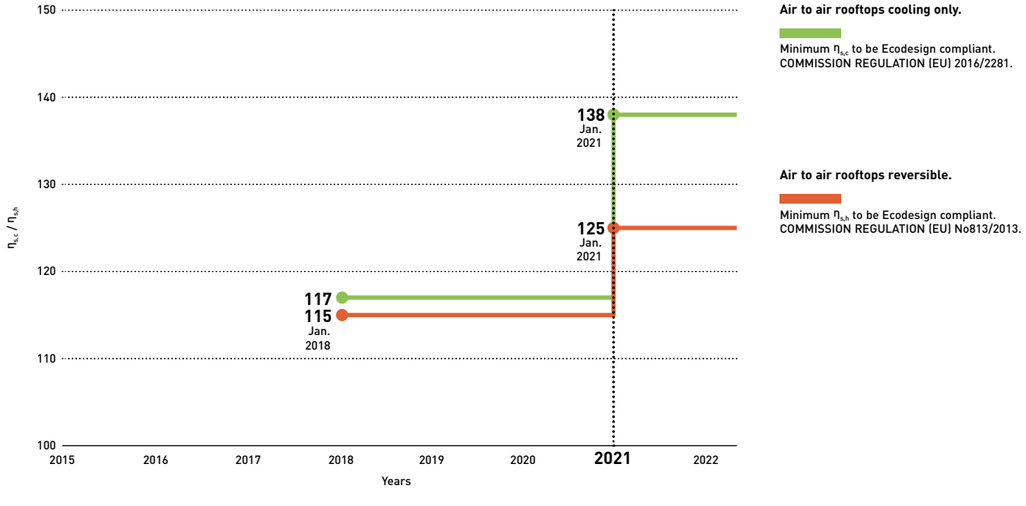
With rooftop units, you get a complete compact and monobloc solution to heat and cool large buildings such as shopping centers, industries or airports that need high capacities. It is an easy to install, space saving solution, directly on the roof or close to a building.



- SELF-CONTAINED SOLUTION, COMPACT AND MONOBLOC
- CAPACITY RANGE FROM 63 TO 197 KW
- R32 R410A REFRIGERANTS: R32 / R410A
- HIGH SEER AND SCOP
- HIGH ESP VERY HIGH EXTERNAL STATIC PRESSURE
- EXTRACTIBLE DRAIN PAN
- MANY CONFIGURATIONS AND OPTIONS

*With 2 or 3 dampers configurations. **Available only with 3 dampers configuration.

Ecodesign



Quick selection guide - Rooftops cooling only

Page	Size	Cooling capacity (kW)	Nominal air flow (m³/h)	Sound power (lwo - dB(A))	Dimension L x H x W (mm)
ECOi-RT C · R410A					
 P. 592	65	62,80	11500	83	3250 x 1800 x 2030
	80	79,00	14300	80	3250 x 1800 x 2030
	95	89,27	17500	85	3740 x 2110 x 2285
	160	164,98	28000	91	5505 x 2110 x 2285
	190	197,06	30000	92	5505 x 2110 x 2285

Quick selection guide - Rooftops reversible

Page	Size	Cooling and heating capacity (kW)	Nominal air flow (m³/h)	Sound power (lwo - dB(A))	Dimension L x H x W (mm)
ECOi-RT-Z 105-140 H · R32					
 R32 P. 590	105	106,0 106,0	19200	79,8	3740 x 2150 x 2285
	120	119,0 117,0	21500	79,8	3740 x 2150 x 2285
	140	139,0 142,0	25500	86,1	3740 x 2150 x 2285

*Heat pump version with EC fans.

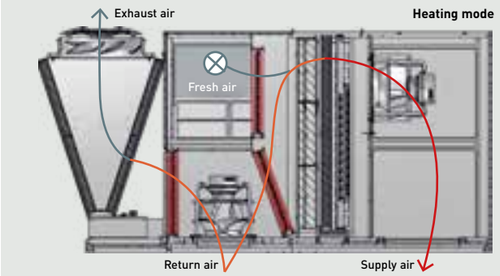
Energy recovery system configurations

RECO - standard energy recovery (3 dampers)

Energy recovery on the exhaust air.

	Pc	EER	Ph	COP
3 dampers + RECO 30% fresh air	+1%	+2%	+7%	+4%
3 dampers + RECO 60% fresh air	+2%	+4%	+14%	+8%

*Nominal conditions. Pc: cooling capacity / Ph: heating capacity.

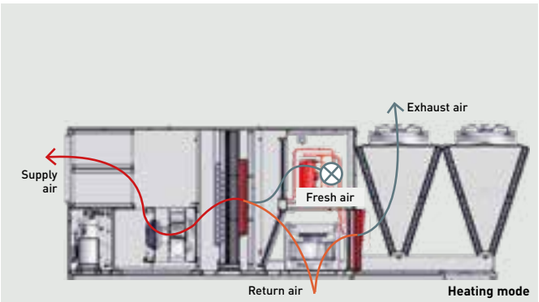


TRECO - thermodynamic energy recovery (3 dampers)

Active energy recovery between the exhaust air and the fresh air using dedicated thermodynamic system.

	Pc	EER	Ph	COP
3 dampers + TRECO 20% fresh air	+21%	0%	+20%	+3%
3 dampers + TRECO 60% fresh air	+20%	-2%	+21%	+4%

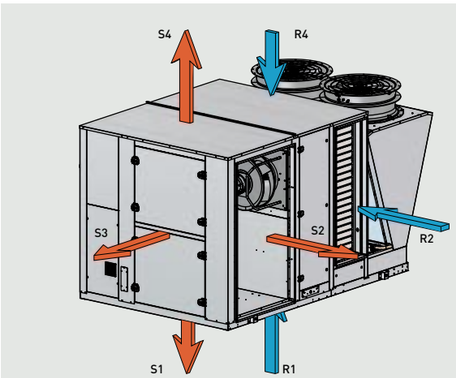
*Nominal conditions. Pc: cooling capacity / Ph: heating capacity.
**TRECO is not available for the R32 rooftops.



Supply and return air configurations

Supply air	S1 bottom side supply air
	S2 left side supply air
	S3 front side supply air
	S4 top side supply air
Return air	R1 bottom side return air
	R2 left side return air
	R4 top side return air [1]

1) Not available with the 3 dampers - RECO system configuration.



AC SELECT.

Smart and user-friendly selection tool.

Configure your air conditioning solution at required conditions: https://acselect.panasonic.eu/

ECOi-RT-Z 105-140 H · R32

Rooftop reversible units.

Cooling capacity: 106 to 139 kW.
Heating capacity: 106 to 142 kW.

CO_2 carbon footprint reduced by -80%*

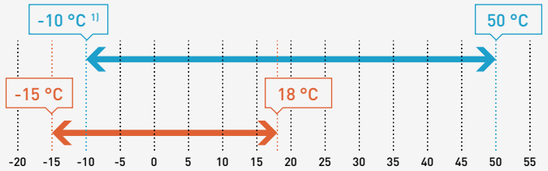
*Impact considering only the refrigerants and not the units as a whole.

R32 REFRIGERANT

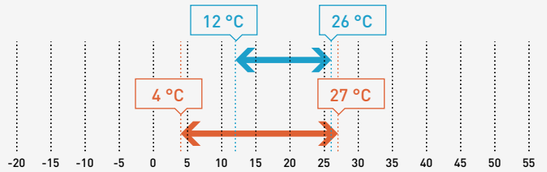
Operating limits

To be confirmed with AC SELECT:
https://acselect.panasonic.eu/

Ambient temperature (DB).



Temperature before indoor coil 2).



1) Using fan speed control option. 2) Cooling: °C (WB). Heating: °C (DB).

ECOi-RT-Z 105-140 H · R32 units are available in 3 configurations:

- No damper: unit working with 100% recycled air
- 2 dampers: with outdoor air inlet
- 3 dampers - RECO system: energy recovery system on the exhaust air. This configuration is equipped with 2 return EC plug fans

The range at a glance

- Reversible version
- SEER up to 3,8 and SCOP up to 3,56
- 3 sizes
- Nominal air flow from 19200 to 25500 m³/h
- Additional heaters available
- Many supply and return air configurations
- 1 energy recovery system configuration (RECO)

Advantages

- Low GWP R32 refrigerant (GWP= 675)
- Very low sound levels
- Safety ventilation system
- Low energy consumption EC fans
- Many supply and return air configurations
- Thermal/acoustic insulation: double skin (25 mm glass wool)
- Dehumidification function (option)
- 100% factory tested

Equipment

- 2 refrigerant circuits for an optimised defrost logic, completely closed in a separate compartment to reduce noise level. Each circuit comprises of 1 Scroll compressor, indoor and outdoor coils, 4 way reversing valve, filter dryer, sight glass, thermostatic expansion valve, high and low pressure switches, defrosting pressure switch, and temperature sensors
- 2 Scroll compressors - 1 per circuit - covered with sound jackets. Each compressor is equipped with a crankcase heater and mounted on rubber pads to eliminate noise and vibration transmissions. The motors are equipped with an overload protection and have direct start-up. A phase sequence monitor is supplied as standard
- The new advanced control system includes, among others, Modbus protocols, optimised defrost logic, very high security envelope, Modbus control of the indoor fans, and a dehumidification function. The controls are grouped and wired in the unit, factory tested and shipped READY TO USE. They are located in a sealed compartment isolated from the air flow. The electrical equipment is compliant with EC standards and EN60204-1
- The outdoor and indoor heat exchangers are made of seamless copper tubes mechanically expanded into aluminium fins. They have a highly optimised design providing a refrigerant charge reduction of 40% (compared to a unit operating with R410A). Outdoor coils are largely dimensioned to optimise performance and defrost cycles. They are also equipped with a protective grille to prevent shocks - Bluefin treatment
- The unit casing is of heavy duty galvanized steel, painted with a special anti-corrosion process (RAL 9001). The complete unit is covered with double skin panels to ensure perfect thermal insulation. For full unit access, all service panels are removable. Under the indoor heat exchanger, an extractable condensate drain pan allows hygienic cleaning
- The indoor fans are plug fan type with EC motors
- A safety ventilation system ensures venting of the refrigerant gas to atmosphere in case of leak

Technical performance

Size			105	120	140
ECOi-RT-Z 105-140 H - reversible			**P-RTZ0105HA**	**P-RTZ0120HA**	**P-RTZ0140HA**
Cooling capacity 1)		kW	106	119	139
Input power 1)		kW	31,5	36,8	43,0
EER 1)			3,37	3,23	3,24
Pdesign 2) 3)		**kW**	**106**	**119**	**139**
SEER 2) 3)			**3,82**	**3,82**	**3,67**
Energy efficiency class 2) 3)		**A+ to E**	**B**	**B**	**B**
$\eta_{s,c}$ 2) 3)			**150**	**150**	**144**
Heating capacity 1)		kW	106	117	142
Input power 1)		kW	27,0	30,3	38,0
COP 1)			3,72	3,89	3,69
Pdesign 2) 3)		**kW**	**100**	**118**	**140**
SCOP 2) 3)			**3,36**	**3,56**	**3,32**
Energy efficiency class 2) 3)		**A+ to E**	**B**	**B**	**B**
$\eta_{s,h}$ 2) 3)			**131**	**130**	**130**
Electrical data					
Power supply	Voltage	V	400	400	400
	Phase		Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50
Maximum operating intensity		A	79,0	85,0	105,0
Refrigerant and compressors					
Number of refrigerant circuits			2	2	2
Compressors	Number / type		2 / Scroll	2 / Scroll	2 / Scroll
Mounting type			Single	Single	Single
Capacity steps		%	0 / 50 / 100	0 / 50 / 100	0 / 50 / 100
Indoor coil					
Coil type			Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins
Number of rows			4	4	4
Front surface		m²	3,24	3,24	3,24
Outdoor coil					
Coil type			Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins
Number of rows			3	3	3
Front surface		m²	1,50	1,50	1,50
Indoor fans - EC type					
Fan type			Backward curved centrifugal	Backward curved centrifugal	Backward curved centrifugal
Number of fans			2	2	2
Air flow rate	Min. / Nominal / Max.	m³/h	15360 / 19200 / 23040	17200 / 21500 / 25800	20400 / 25500 / 30600
Motor power		kW	4,23	4,60	5,72
Outdoor fans					
Fan	Number / type		2 / Axial	2 / Axial	2 / Axial
Motor power		kW	1,51	1,51	1,51
Sound levels					
Sound power		dB(A)	79,8	79,8	86,1
Supply sound power		dB(A)	84,2	84,2	91,3
Sound pressure at 10 m		dB(A)	48,8	48,8	55,1
Dimension and weight					
Dimension	Length total / floor	mm	3740 / 3295	3740 / 3295	3740 / 3295
	Width / Height	mm	2285 / 2150	2285 / 2150	2285 / 2150
Weight (without option)		kg	1685	1805	1855

1) Following EN 14511 2018. 2) Following EN 14825 2017. 3) Following COMMISSION REGULATION (EU) 2016/2281.

Accessories and options
2 dampers - for external air inlet
3 dampers RECO - return EC plug fans included (HPF or LFP) + Recovery
Anti-vibration mounts
Clogged filter sensor (1 or 2 stages)
Compressor soft starter
Container transportation compatibility
Dehumidification function
Electric heater 48 kW
Energy meter

Accessories and options
Fan speed control
G4, G4+F7 or G4+F9 filters
Hot water coil
Local and additional remote keyboard
Many aeraulic configurations
Room temperature sensor
Sensors (enthalpy, CO_2)
Smoke detector
Supply EC LPF plug fans

Accessories supplied loose	
P-575505	Kit adjustable roof curb S1R1 - 0/2 Dampers without gas

R32 REFRIGERANT | HIGH SEER 3,82 | HIGH SCOP 3.56 | ErP | EC MOTOR GREEN VENTILATION | SCROLL COMPRESSOR | VERY HIGH PERFORMANCE | ENERGY RECOVERY | COMMERCIAL SMART EDGE

Specifications subject to change without notice. For detailed information about ErP / Energy Labelling, please visit our websites www.aircon.panasonic.eu or www.ptc.panasonic.eu.

ECOi-RT 65-190 C · R410A

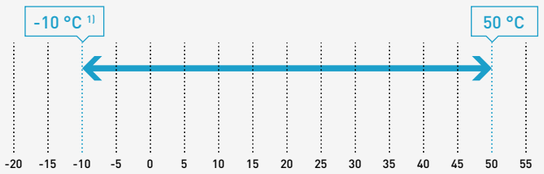
Rooftop cooling only units.

Cooling capacity: 62,8 to 197 kW.

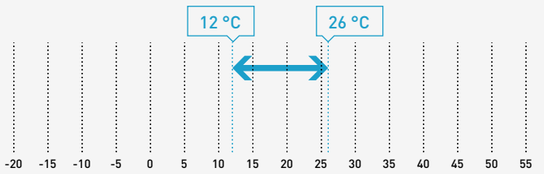
Operating limits

To be confirmed with AC SELECT:
https://acselect.panasonic.eu/

Ambient temperature (DB).



Temperature before indoor coil 2).



1) Using fan speed control option. 2) Cooling: °C (WB).

The range at a glance

- 1 version: C (cooling only)
- SEER up to 3,94
- 5 sizes
- Nominal air flow from 11500 to 30000 m³/h
- Additional heaters available
- Many aeraulic configurations
- 2 energy recovery system configurations (RECO and TRECO)

Advantages

- Low energy consumption EC fans
- Wide operating limits
- Thermal/acoustic insulation: double skin (25 mm glass wool)
- 100% factory tested

Equipment

- 2 refrigerant circuits for an optimised defrost logic, completely closed in a separate compartment to reduce noise level. Each circuit comprises of Scroll compressor(s) (2 per circuit from size 160), indoor and outdoor coils, filter dryer, sight glass, thermostatic or electronic expansion valve (from 160 to 190), high and low pressure switches, defrosting pressure switch, intake temperature sensor, and a liquid accumulation bottle (for sizes from 160 to 190)
- 2 or 4 Scroll compressors - 1 per circuit from 65 to 95 and 2 per circuit for 160 to 190 assembled together in tandem. Each compressor is equipped with a crankcase heater and mounted on rubber pads to eliminate noise and vibration transmissions. The motors are equipped with overload protection and have direct start-up. A phase sequence monitor is supplied as standard
- The controls are grouped and wired in the unit, factory tested and shipped READY TO USE. They are located in a sealed compartment that is isolated from the air flow. The electrical equipment is compliant with EC standards and EN60204-1
- The outdoor and indoor heat exchangers are made of seamless copper tubes mechanically expanded into aluminium fins. Outdoor coils are largely dimensioned to optimise performance and defrost cycles. They are also equipped with a protective grille to prevent shocks - Bluefin treatment applicable to reversible type
- The unit casing is of heavy duty galvanized steel, painted with a special anti-corrosion process (RAL 9001). The complete unit is covered with double skin panels to ensure perfect thermal insulation. For full unit access, all service panels are removable. Under the indoor heat exchanger, an extractable condensate drain pan allows hygienic cleaning
- The indoor fan(s) are plug type with EC motors; low pressure or high pressure according to the configuration selected by the customer.

Technical performance

Size			65	80	95	160	190
ECOi-RT C EC fan - cooling only			**P-RTE0065CA**	**P-RTE0080CA**	**P-RTE0095CA**	**P-RTE0160CA**	**P-RTE0190CA**
Cooling capacity 1)		kW	62,80	79,00	89,27	164,98	197,06
Input power 1)		kW	19,44	23,24	28,80	51,19	60,61
EER 1)			3,23	3,40	3,10	3,22	3,25
Pdesign 2) 3)		**kW**	**62,81**	**79,00**	**95,10**	**164,98**	**197,06**
SEER 2) 3)			**3,58**	**3,74**	**3,54**	**3,91**	**3,94**
Energy efficiency class 2) 3)		**A+ to E**	**B**	**B**	**B**	**B**	**B**
$\eta_{s,c}$ 2) 3)			**140**	**147**	**139**	**154**	**154**
Electrical data							
Power supply	Voltage	V	400	400	400	400	400
	Phase		Three phase	Three phase	Three phase	Three phase	Three phase
	Frequency	Hz	50	50	50	50	50
Maximum operating intensity		A	57,60	74,60	83,80	157,80	161,80
Start intensity (without soft starter)		A	175,00	184,60	225,80	266,80	303,80
Start intensity (with soft starter)		A	85,68	113,60	125,40	198,10	203,40
Refrigerant and compressors							
Number of refrigerant circuits			2	2	2	2	2
Compressors	Number / type		2 / Scroll	2 / Scroll	2 / Scroll	4 / Scroll	4 / Scroll
Mounting type			Single	Single	Single	Tandem	Tandem
Capacity steps		%	0 / 50 / 100	0 / 50 / 100	0 / 50 / 100	0 / 25 / 50 / 75 / 100	0 / 25 / 50 / 75 / 100
Crankcase heater		W	2 x 70	2 x 70	2 x 70	4 x 70	4 x 70
Indoor coil							
Coil type			Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins
Number of rows			3	4	3	4	6
Front surface		m²	1,80	2,25	2,25	3,24	3,24
Indoor fan(s) - EC type							
Fan type			Backward curved centrifugal	Backward curved centrifugal	Backward curved centrifugal	Backward curved centrifugal	Backward curved centrifugal
Number of fans			1	2	2	2	2
Air flow rate	Min. / Nominal / Max.	m³/h	9200 / 11500 / 13800	11440 / 14300 / 17160	14000 / 17500 / 21000	24000 / 28000 / 33600	25400 / 30000 / 36000
Motor power		kW	5,7	5,8	7	13,5	13,5
Outdoor coil							
Coil type			Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins	Copper tubes and aluminium fins
Number of rows			2	3	2	2	3
Front surface		m²	1,01	1,01	1,50	2,70	2,70
Outdoor fans							
Fan type			Axial	Axial	Axial	Axial	Axial
Number of fans			2	2	2	4	4
Diameter		mm	710	710	800	800	800
Air flow rate	Nominal	m³/h	13000	13000	20000	15500	15500
Motor power		kW	0,94	0,94	1,65	0,84	0,84
Sound levels							
Sound power (lwo) - outside		dB(A)	83	80	85	91	92
Sound power (lwi) - in supply duct		dB(A)	94	89	90	91	92
Dimension and weight							
Dimension	Length total / floor	mm	3250 / 2895	3250 / 2895	3740 / 3295	5505 / 5050	5505 / 5050
	Width / Height	mm	2030 / 1800	2030 / 1800	2285 / 2110	2285 / 2110	2285 / 2110
Weight (without option)		kg	1155	1225	1470	2350	2555

1) Following EN 14511 2018. 2) Following EN 14825 2017. 3) Following COMMISSION REGULATION (EU) 2016/2281.

Accessories and options
Anti-vibration mounts
Clogged filter sensor (1 or 2 stages)
Container transportation compatibility
Compressor soft starter
EC or EC HP plug fan
Electric heaters
Epoxy treatment (indoor/outdoor coils)
Fan speed control
2-dampers configuration including free-cooling/free-heating functions
G4, G4+F7 or G4+F9 filters

Accessories supplied loose	
P-372062	Kit adjustable roof curb S1R1 – 0/2 dampers with/without gas for sizes 65-80
P-575505	Kit adjustable roof curb S1R1 – 0/2 dampers with/without gas for size 95
P-575506	Kit adjustable roof curb S1R1 – 0/2 dampers without gas for sizes 160-190
P- 374372	Kit adjustable roof curb S1R1 – 0/2 dampers with gas for sizes 160-190

Accessories and options
Gas heater
Hot water coil
Local and additional remote keyboard
Modbus / BACnet
Many aeraulic configurations (bottom, side, front, top)
RECO or TRECO energy recovery systems including 3-dampers and exhaust fan
FRECO energy recovery system
Room temperature sensor
Sensors (VOC, enthalpy, CO_2)
Smoke detector

Accessories supplied loose	
P- 372627	Kit adjustable roof curb S1R1 – 3 dampers with/without gas for sizes 65-80
P- 372628	Kit adjustable roof curb S1R1 – 3 dampers with/without gas for size 95
P- 372629	Kit adjustable roof curb S1R1 – 3 dampers without gas for sizes 160-190

HIGH SEER 3,94 · ErP · EC MOTOR GREEN VENTILATION · SCROLL COMPRESSOR · VERY HIGH PERFORMANCE · ENERGY RECOVERY · COMMERCIAL SMART EDGE

ErP: ECOi-RT C 160/190 need to be equipped with EC fans to be ErP compliant.
Eurovent certication from size 65 to 95.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

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