

# RT-AD//I/EC 0257÷04248

58 kW÷252 kW

Double skin packaged roof top units with inverter scroll compressors and EC inverter plug-fans



### BASIC VERSIONS

- RT-AD//I/EC** Cooling only with EC Inverter Plug-Fans
- RT-AD//I/EC/H** Reversible Heat Pump with EC Inverter Plug-Fans

### TECHNICAL FEATURES

- Compressors. Inverter Scroll and ON/OFF Scroll with oil sight glass. They are fitted with internal overheat protection and crankcase heater, installed on rubber shock absorbers.
- Electric board. It includes: main switch with door lock system; fuses; overload protection for compressors; condensing unit section fan thermocontacts; contactors for fan motors in the air conditioning section; interface relay; clamps for external connections.
- Microprocessor. For automatic control of the unit. Allows the viewing and control of all the variables of the compressor and unit, control set and real water temperature and, in case of partial or total block of the unit, indication of security device that intervened.
- Control logic of the Inverter Scroll compressor. Adjusts using Inverter the power supplied by the compressor as a function of the thermal load of the system, the condensing pressure and the temperature of the outside air.
- Condenser. Made up of one (0257÷02111) or two (02127÷04248) finned coils with copper pipes and aluminium fins. Circuits on the refrigerant side are made to create one circuit in models 0257÷02143 and two independent circuits in models 04166÷04248.
- Evaporator. Made up of one (0257÷04195) or two (04248) finned coils with copper pipes and aluminium fins. Circuits on the refrigerant side are made to create one circuit in models 0257÷02143 and two independent circuits in models 04166÷04248.
- Condensing section fans. Axial fans directly coupled to a three-phase electric motor with external rotor. A safety fan guard is fitted on the air flow discharge. Condensing control till -20°C included.
- Air treatment and intake section fans: EC Inverter Plug-Fan delivery fans with high energy efficient reverse blades with external rotor motor and electronic speed adjustment for easy adaptation to plant features. EC Inverter Plug-Fan intake fans with high energy efficient reverse blades with external rotor motor and electronic speed adjustment for an easy adaptation to plant features (ECO versions only).
- RT-AD//I/EC refrigerant circuit versions. Made of copper pipes, all models have the following components: electronic expansion valve; filter-drier; level and humidity indicator and high and low pressure switches (with fixed setting).
- RT-AD//I/EC/H refrigerant circuit versions. The unit in Heat Pump version, in addition to the components of the cooling only unit, includes for each circuit: 4-way inversion valve; liquid receiver; check valves.

**AIR TREATMENT SECTIONS:**

**BASICSECTION** It includes: delivery fans, flat filters with pleated cells (G4 efficiency); heat exchanger coil with copper pipes and aluminium fins placed on a stainless steel moisture drain pan.

**MIX** Mixing box. Further to the components of the basic section, it includes: two-wing profile aluminium dampers with spring return servomotors, the opposite movement is ensured by the transmissions of nylon gears.

**ECO** Economizer. Further to components of the basic section, it includes: intake air fans; motorized wing profile aluminium dampers with opposite movement. Supply, return and fresh air are controlled through the microprocessor fitted in the base unit; this microprocessor, according to the temperature of the return and fresh air, modulates the opening of the dampers and controls the refrigerant circuit capacity steps to ensure comfort conditions of the handled air. The adjustments of the ECO version are automatically controlled both in Free-Cooling and Free-Heating mode.

**ECO/REC-FX** Economizer and Cross Flow Heat Recovery. Further to the components of the ECO section, it includes: static recovery device made of aluminium with moisture drain pan, flat filters inspectable through hinged door and dampers with return spring servomotors (fresh air damper + return air damper + supply air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

**ECO/REC-WH** Economizer and Wheel Heat Recovery. Further to the components of the ECO section, it includes: high efficiency wheel-type recovery device made of aluminium with hygroscopic treatment, managed by a constant-speed electric motor, with moisture drain pan, flat filters with inspection possible through hinged door with spring return (external air damper + supply air damper + 2 Free-Cooling dampers). Also the adjustment of this section is included into the unit control.

**COMPLEMENTARY SECTIONS:**

**UMI** Section with preparation for Humidifier. It includes: steam room, stainless steel moisture drain pan and presetting for fitting the humidifying nozzles; hinged door in pressure for inspection.

**UMI/EN** Section humidifier with electrodes immersed. It includes: steam room, stainless steel moisture drain pan and plunged electrodes steam producer; hinged door for inspection. The system is controlled and monitorized directly by the unit control.

**F/CD** Condensing hot air generator with modulating gas burner. It includes: condensation furnace in stainless steel. The condensation thermal module is designed to fit the air handling sections and, taking advantage of the premixing and modulation technology, achieves a very high efficiency. The furnace is made of AISI 304L stainless steel to ensure a very high resistance to the moisture. The premixed gas burner grants the absence of CO and nitrogen emissions are less than 30 ppm. The electronic card modulates the heating capacity according to the parameters selected and detected by the control system of the unit.

RT-AD//EC

0257 0265 0276 0286 0297 02111

RT-AD//EC

(1) Pot. frigorifera / Cooling capacity / Puis. frigorifique	kW	57,9	65,8	77,6	87,4	98,6	113	Kühlleistung / Pot. frigorifica / Capacitate de racire (1)
(1) Pot. assorbita / Power input / Puiss. absorbée	kW	19,4	21,8	24,6	26,2	30,8	37,8	Leistungsaufnahme / Pot. absorbita / Putere absorbita (1)
(2) Pot. calorifica / Heating capacity / Puis. calorifique	kW	60,2	67,2	76,8	88,6	101	115	Heizleistung / Pot. calorifica / Capacitate de incalzire (2)
(2) Pot. assorbita / Power input / Puiss. absorbée	kW	16,8	17,9	20,2	22,8	25,2	32,2	Leistungsaufnahme / Pot. absorbita / Putere absorbita (2)
Sezione trattamento aria / Air treatment section / Section traitement air				Verflüssigungsektion / Sección tratamiento aire / Sectiune de tratare aer				
Portata aria / Air flow / Débit d'air	m³/s	2,67	3,30	4,05	4,05	4,84	5,49	Nennluftmenge / Caudal de aire / Debit aer
Ventilatori / Fans / Ventilateurs (EC INVERTER Plug-Fan)	n°	1	1	2	2	2	2	(EC INVERTER Plug-Fan) Ventilatoren / Ventiladores / Ventilatoare
Prevalenza utile / Ext. pressure / Pression utile (*)	Pa	250				Ext. Pressung / Prevalência útil / Presiune utila pompa / (*)		
Filtri / Filters / Filtre		G4				Filter / Filtros / Filtre		
Sezione ripresa aria / Air intake section / Section reprise air				Luftansaug Sektion / Sección de entrada aire / Sectiune aspiratie aer				
Portata aria / Air flow / Débit d'air	m³/s	2,67	3,30	4,05	4,05	4,84	5,49	Nennluftmenge / Caudal de aire / Debit aer
Prevalenza utile / Ext. pressure / Pression utile (*)	Pa	100				Ext. Pressung / Prevalência útil / Presiune utila pompa / (*)		
Ventilatori / Fans / Ventilateurs (EC INVERTER Plug-Fan)	n°	1	1	1	1	2	2	(EC INVERTER Plug-Fan) Ventilatoren / Ventiladores / Ventilatoare
Sezione motocondensante / Condensing section / Section groupe condensant				Luftbehandlungsektion / Sección de trato aire / Sectiune de condensare				
Compressori / Compressors / Compresseurs	n°	1 inverter + 1 On-Off				Verdichter / Compresores / Compresoare		
Circ. frigoriferi / Refrigerant circuits / Circ. frigorifique	n°	1				Kältekreislauf / Circ. frigorificos / Circuit frigorific		
Portata aria / Air flow / Débit d'air	m³/s	6,9	7,1	6,9	6,7	6,7	9,8	Nennluftmenge / Caudal de aire / Debit aer
Gradini di parzializz. / Capacity steps / Degrés de découpage	n°	Stepless				Drosselung. / Grados de parcializ. / Grade de partializare		
Ventilatori / Fans / Ventilateurs	n°	2	2	2	2	2	2	Ventilatoren / Ventiladores / Ventilatoare
Assorbimenti totali / Total electrical consumption				Absorptions totales / Consumos totales				
Alimentazione / Power supply / Alimentation	V/Ph/Hz	400 / 3 / 50				Elektrische Einspeisung / Alimentación / Alimentare		
Corr. max funz. / Max Running current / Cour. refr.	A	46	47	56	60	69	88	Strom Kühlfunktion / Corr. max función / Curent max in funct.
Corr. max spunto / Max inrush current / Cour. cha.	A	169	169	179	192	236	212	Strom Heizfunktion / Corr.máx. arranque / Curent max la pornire
(4) Pressione sonora / Sound pressure / Pres. sonore	dB(A)	57	57	57	57	57	58	Schalldruckpegel / Rumorosidade / Nivel de zgomot (4)
Batteria ad acqua calda / Hot water coil / Batterie eau chaude						Warmwasser Wärmetauscher / Batería a agua caliente / Baterie apa calda		
(5) Resa termica / Heating capacity / Rendement thermique	kW	85	100	125	125	150	175	Wärmeleistung / Eficiencia térmica / Capacitate de incalzire (5)
Portata acqua / Water flow / Débit d'eau	l/s	2,03	2,39	2,99	2,99	3,58	4,18	Kaltwassermenge / Caudal de agua / Debit de apa
Batteria elettrica / Electric heating / Batterie électrique						Elektrischer Wärmetauscher / Batería eléctrica / Batería eléctrica		
Pot. termica / Heating capacity / Puis. chauffage	kW	15	21	27	27	27	41	Wärmeleistung / Pot. calorifica / Capacitate de incalzire
Alimentazione / Power supply / Alimentation	V/Ph/Hz	400 / 3 / 50				Elektrische Einspeisung / Alimentación / Alimentare		
Peso di trasporto / Transport weight / Poids de transport						Transportgewicht / Peso de transporte / Greutate transport		
RT-AD//EC	kg	990	1050	1150	1250	1260	1450	RT-AD//EC
RT-AD//EC/H	kg	1090	1160	1270	1380	1390	1600	RT-AD//EC/H

- (1) Temp. aria ingresso evaporatore 27 °C b.s. 19 °C b.u.; aria esterna 35 °C;
- (2) Temp. aria ingresso condensatore 20 °C; aria esterna 7 °C b.s./6 °C b.u.
- (3) Esclusa la potenza assorbita dai ventilatori centrifughi.
- (4) Livello medio di pressione sonora rilevato in campo libero ad 1 m dall'unità (Q=2) secondo ISO 3744
- (5) Temperatura aria ingresso 20 °C; temperatura acqua 70 / 60 °C.

- (1) Evaporator inlet air temperature 27 °C db. 19 °C wb.; air temperature 35 °C;
- (2) Condensator inlet air temperature 20 °C; air temperature 7 °C db./6 °C wb.
- (3) Excluded the power absorbed by centrifugal fans.
- (4) Sound pressure level measured in free field conditions at 1 m from the unit (Q=2) according to ISO 3744.
- (5) Inlet air temperature 20 °C; water temperature 70 / 60 °C;

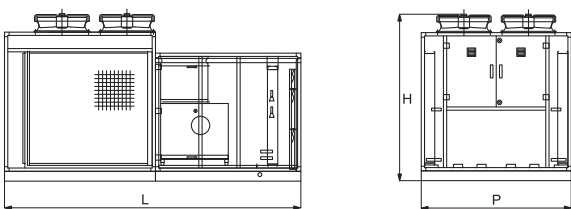
- (1) Temp. eau entrée évaporateur 27 °C b.s. 19 °C b.h.; température air 35 °C;
- (2) Temp. air entrée condenseur 20 °C; température air 7 °C b.s./6 °C b.h.
- (3) Exclue la puissance absorbée par les ventilateurs centrifuges.
- (4) Niveau de pression sonore relevé dans un champ libre à 1 m de l'unité (Q=2) selon ISO 3744.
- (5) Température air entrée 20 °C; Température eau 70/60 °C.

- (1) Verdampfer eintritt Wassertemperatur 27 °C t.T. 19 °C f.T.; Umgebungstemp. 35 °C;
- (2) Verflüssiger eintritt Umgebungstemp. 20 °C; Umgebungstemperatur 7 °C t.T./6 °C f.T.
- (3) Leistungsaufnahme der Radialgebläse ausgeschlossen.
- (4) Schalldruckpegel in freiem Feld 1 m von der Einheit (Q=2) gemäß ISO 3744.
- (5) Eintrittstemperatur Luft 20 °C; Wassere temperatur 70 / 60 °C;

- (1) Temperatura aire ingreso evaporador 27 °C b.s. 19 °C b.u.; aire externo 35 °C;
- (2) Temperatura aire ingreso condensador 20 °C; aire externo 7 °C b.s./6 °C b.u.
- (3) Exclución de la potencia absorbida por los ventiladores centrifugos.
- (4) Nivel de presión sonora medido en campo libre a 1 m de la unidad (Q=2) según ISO 3744.
- (5) Temperatura aire ingreso 20 °C; temperatura agua 70 / 60 °C.

- (1) Temperatura aerului de intrare in evaporator 27 °C b.s. 19 °C b.u.; temperatura exteriora 35 °C;
- (2) Temperatura aerului de intrare in condensator 20 °C; temperatura exteriora 7 °C b.s./6 °C b.u.
- (3) Exclusa puterea absorbita de ventilatoarele centrifugale
- (4) Temperatura aerului de intrare 20 °C; temperatura apei de intrare 70°C; temperatura apei la iesire 60 °C.
- (5) Nivel mediu de zgomot masurat in camp liber la 1 m de unitate si conform ISO 3744.

(\*) Valori riferiti all'unità base / Data referred to the base unit / Données rapportées à l'unité base / Auf den Grundmodell bezogene Werte / Valores correspondientes a la unidad base / Date aferente unitatii de baza



RT-AD//EC RT-AD//EC/H		0257	0265	0276	0286	0297	02111	02127	02143	04166	04195	04248
L mm	STD	2980	3080	3190	3190	3290	3770	4500	4500	5150	5300	7370
P mm	STD	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H mm	STD	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510

RT-AD//EC/MIX RT-AD//EC/H/MIX		0257	0265	0276	0286	0297	02111	02127	02143	04166	04195	04248
L mm	STD	3430	3530	3640	3640	3740	4220	4950	4950	5600	5750	7850
P mm	STD	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
H mm	STD	2100	2340	2340	2340	2340	2340	2340	2340	2340	2510	2510