

# Heat recovery units

## High efficiency units with rotary heat exchanger

### GC RER H – GC RER V

Heat recovery units  
with high efficiency rotary  
heat exchanger

GC RER H  
GC RER V  
series

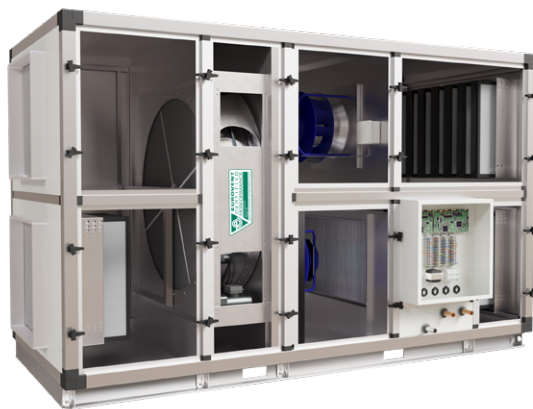


GC RER H  
series

## Air treatment units with heat recovery unit

### GC RER H series – GC RER V series

GC RER series heat recovery units are primary air treatment units designed for use in high energy efficiency installations. They allow air treatment in terms of both thermal/hygrometric parameters and air quality, and can integrate humidification/dehumidification, air purification systems, etc. Ideal for combining with traditional water or VRF systems from almost all brands; in all cases they are Plug&Play units with controls that can be communicated in ModBus, BACnet or other protocols.



The quality of DECACLIMA's GC units is guaranteed by the **Eurovent certification**



#### Common characteristics

- High efficiency rotary heat recovery unit
- Plug Fan-type fans with EC technology motors
- Free Cooling function
- Built-in control with electrical power protections
- Extruded aluminium profile with thermal bridge break
- 50 mm thick sandwich-type panels, with a lacquered outer panel
- Ready for outdoor installation
- G4 series filtration (ISO COARSE 60%) + M6 (ePM10 70%) (rigid bags) TAE, F8 (ePM1 70%) supply and G4 (ISO COARSE 60%) + M6 (ePM10 70%) return.
- Dirty filter alarm on screen
- Semi-recessed IP65 electrical cabinet
- Control by supply temperature
- ModBus connectivity

#### Finish

- Galvanised steel interior
- Lacquered sheet exterior
- Modular aluminium structure

#### Options

- Coils for air treatment with two or four tubes
- Direct expansion coils
- Integration of AHU kits for interconnection with VRF installations
- Modules with UVc germicidal chamber
- Impulsion steam humidifier
- Water or electrical coils for preheating in cold areas
- Evaporative cooler
- Flow rate regulation by CO<sub>2</sub> concentrations
- Control of supply temperature/humidity and return humidity
- Filtering of other efficiencies

## Characteristics based on size

	GC RER 3.0 H	GC RER 4.5 H	GC RER 6.0 H	GC RER 9.0 H	GC RER 13.5 H	GC RER 18.0 H	GC RER 20.0 H
SUPPLY FILTER (ODA)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)
IMPULSION FILTER (SUP)	F8 (ePM1 70%)	F8 (ePM1 70%)	F8 (ePM1 70%)	F8 (ePM1 70%)	F8 (ePM1 70%)	F8 (ePM1 70%)	F8 (ePM1 70%)
EXTRACTION FILTER (ETA)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)	G4 (ISO COARSE 60%) + M6 (ePM10 70%)
PANEL THICKNESS	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
PRESSURE SWITCH TO CONTROL BUILD-IN FILTER STATUS	YES	YES	YES	YES	YES	YES	YES
SAFETY AND MAINTENANCE SWITCH	YES	YES	YES	YES	YES	YES	YES
BUILT-IN CONTROL PANEL	YES	YES	YES	YES	YES	YES	YES

## Technical characteristics

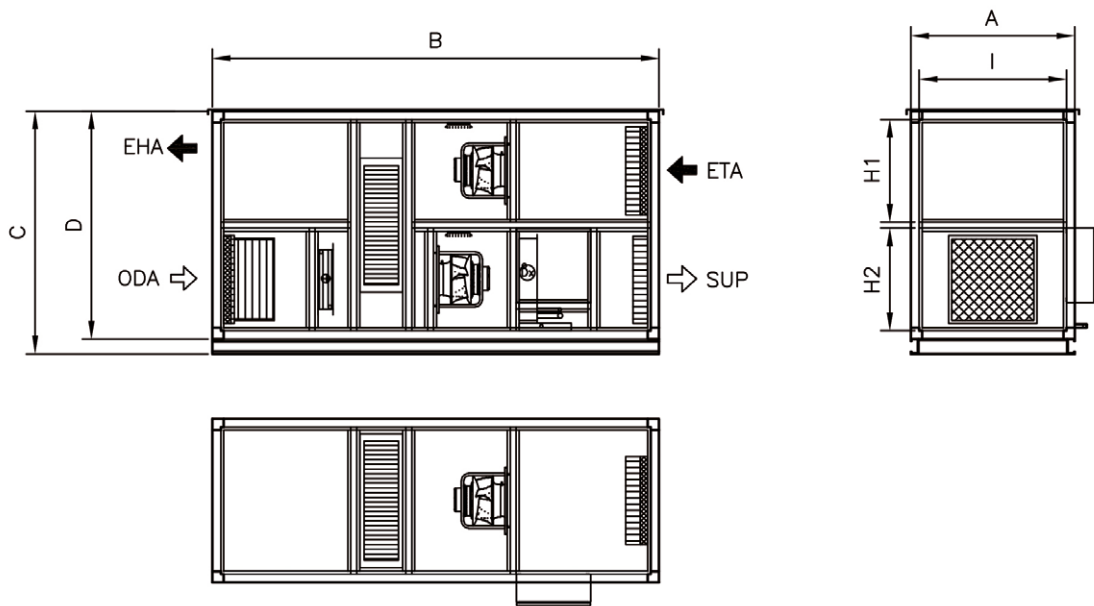
Model	SUPPLY			RETURN		
	Water flow rate	Absorbed power <sup>1</sup>	Static pressure available	Nominal flow rate	Absorbed power <sup>1</sup>	Static pressure available
	(m <sup>3</sup> /h)	(W)	(Pa)	(m <sup>3</sup> /h)	(W)	(Pa)
GC RER 3.0 H	3000	1435	300	3000	1022	300
GC RER 4.5 H	4500	2047	300	4500	1588	300
GC RER 6.0 H	6000	2877	300	6000	2238	300
GC RER 9.0 H	9000	4044	300	9000	3071	300
GC RER 13.5 H	13500	6052	300	13500	4703	300
GC RER 18.0 H	18000	8067	300	18000	6142	300
GC RER 20.0 H	20000	9228	300	20000	7117	300

Model	Voltage	Efficiency EN 13053	Class	Dry efficiency	Total capacity	Noise level <sup>2</sup>	Weight
	(V)	(%)					
GC RER 3.0 H	3x400+N 50/60 Hz	75.4	H1	79.5	21.4	67	835
GC RER 4.5 H	3x400+N 50/60 Hz	76.1	H1	79.9	32.4	70	975
GC RER 6.0 H	3x400+N 50/60 Hz	74	H1	77.1	41	77	1050
GC RER 9.0 H	3x400+N 50/60 Hz	74	H1	76.9	61	73	1370
GC RER 13.5 H	3x400+N 50/60 Hz	76	H1	78.7	95	74	1750
GC RER 18.0 H	3x400+N 50/60 Hz	73	H1	76.2	97	76	1935
GC RER 20.0 H	3x400+N 50/60 Hz	74	H2	76.5	136	78	2290

1. Consumption given in nominal conditions.

2. The sound level values are pressures in dB(A) measured at a distance of 2 metres in a free field.

Dimensions mm



Model	A	B	C	D	H1	H2	I
GC RER 3.0 H	1100	3000	1630	1530	690	690	989
GC RER 4.5 H	1400	3000	1630	1530	390	690	1289
GC RER 6.0 H	1600	3150	1800	1700	810	739	1489
GC RER 9.0 H	2100	3350	2100	2000	924	924	1949
GC RER 13.5 H	2500	3450	2600	2500	1175	1175	2349
GC RER 18.0 H	2700	3500	2600	2500	1175	1175	2549
GC RER 20.0 H	3000	3500	2800	2700	1275	1275	2849

ODA: Fresh external air / SUP: Supply of air to premises / EHA: Exit of stale air / ETA: Air extraction from premises.  
 Data subject to modifications due to adjustments to the designs without prior notice.

## Heating/cooling coils

Water coils for heating/cooling the air designed to be mounted on the unit itself.

### HEATING COILS

Model	Flow rate (m <sup>3</sup> /h)	Boiler pre-heating 65°C / 50°C				Heat pump cooler preheating 45°C / 40°C			
		Water flow rate (l/h)	Water load loss (KPa)	Air load loss (Pa)	Power (kW)	Water flow rate (l/h)	Water load loss (KPa)	Air load loss (Pa)	Power (kW)
GC RER 3.0 H	3,000	1008	14.9	20	17.23	2997	19.9	33	17.23
GC RER 4.5 H	4,500	2272	12.7	38	25.85	4496	8.3	38	25.85
GC RER 6.0 H	6,000	3030	16.8	40	34.47	5994	9.9	40	34.47
GC RER 9.0 H	9,000	4545	8.2	42	51.70	8912	10.1	61	51.70
GC RER 13.5 H	13,500	6817	10.2	42	77.55	13488	16.4	61	77.55
GC RER 18.0 H	18,000	9090	16.5	42	103.40	17983	18.5	79	103.40
GC RER 20.0 H	20,000	10100	11.8	62	114.89	19982	17.7	99	114.89

Model	Flow rate (m <sup>3</sup> /h)	Boiler post-heating 65°C/50°C				Heat pump cooler preheating 45°C / 40°C			
		Water flow rate (l/h)	Water load loss (KPa)	Air load loss (Pa)	Power (kW)	Water flow rate (l/h)	Water load loss (KPa)	Air load loss (Pa)	Power (kW)
GC RER 3.0 H	3,000	495	13.1	15	8.47	1473	12.7	30.9	8.47
GC RER 4.5 H	4,500	734	8.6	17	12.56	2184	13.2	17	12.56
GC RER 6.0 H	6,000	1015	11.5	16	17.35	3123	9.5	26	17.35
GC RER 9.0 H	9,000	1593	23.9	17	27.24	5176	18.4	27	27.24
GC RER 13.5 H	13,500	2283	13.5	17	39.04	6789	8.2	36	39.04
GC RER 18.0 H	18,000	11584	14.2	66	66.06	11490	11.9	42	66.06
GC RER 20.0 H	20,500	12097	19.5	38	72.51	12612	13.7	43	72.51

### COOLING COILS

#### Post-cooling cooler 7°C/12

Model	Flow rate (m <sup>3</sup> /h)	Water flow rate (l/h)	Water load loss (KPa)	Air load loss (Pa)	Power (kW)					
						Temp. Water inlet/outlet: 25°C 68% RH / 21°C 80% RH				
						GC RER 3.0 H	3,000	1651	15.9	48
GC RER 4.5 H	4,500	2398	14.5	56	13.98					
GC RER 6.0 H	6,000	3005	10.1	38	17.52					
GC RER 9.0 H	9,000	4652	18.2	40	27.12					
GC RER 13.5 H	13,500	7218	12.2	56	42.07					
GC RER 18.0 H	18,000	12692	16.7	63	73.98					
GC RER 20.0 H	20,500	14150	19.7	63	82.48					

## Direct expansion coils

### DX coils for interconnecting to VRF units

Temp. Air inlet/outlet: 26°C 66% RH / 22°C 78% RH

Model	Flow rate	Interior volume (l)	Temp. Evaporation	Air load loss (Pa)	Supply		Power (kW)
	(m³/h)		(°C)		Temperature (°C)	Humidity (%)	
GC RER 3.0 H	3000	3	8	48	22	78	7.65
GC RER 4.5 H	4500	4	8	51	22	78	11.49
GC RER 6.0 H	6000	3	8	28	22	78	14.00
GC RER 9.0 H	9000	8	8	49	22	77	23.77
GC RER 13.5 H	13500	6	8	30	22	77	33.52
GC RER 18.0 H	18000	15	8	52	22	77	67.16
GC RER 20.0 H	20000	17	8	49	20	83	76.21

### DX coils for interconnecting to VRF units

Temp. Air inlet/outlet: 17°C 44% RH / 26°C 25% RH

Model	Flow rate	Interior volume (l)	Temp. Condensation	Air load loss (Pa)	Supply		Power (kW)
	(m³/h)		(°C)		Temperature (°C)	Humidity (%)	
GC RER 3.0 H	3000	3	45	31	26	25	14.09
GC RER 4.5 H	4500	4	45	38	26	25	14.09
GC RER 6.0 H	6000	4	45	21	23	28	13.69
GC RER 9.0 H	9000	7	45	33	25	26	27.24
GC RER 13.5 H	13500	6	45	16	25	26	30.72
GC RER 18.0 H	18000	13	45	34	26	23	64.28
GC RER 20.0 H	20000	17	45	32	26	23	70.75

## Humidification section

Steam humidifiers using submerged electrodes or resistances are robust systems that allow steam production to be controlled, thus optimising air quality.

### Humidifier

Model	Capacity	Voltage (V)	Consumption (kW)
	Kg/h		
GC RER 3.0 H	8	3x400+N	6.00
GC RER 4.5 H	10	3x400+N	8.20
GC RER 6.0 H	15	3x400+N	12.10
GC RER 9.0 H	25	3x400+N	18.75
GC RER 13.5 H	35	3x400+N	32.00
GC RER 18.0 H	50	3x400+N	39.80
GC RER 20.0 H	60	3x400+N	47.80

Calculated for an indoor condition of 20°C 50% RH, in winter.  
Lance installed on the unit, humidifier requires installation on site.  
Humidifier extends the unit approx. 600 mm in supply.