

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 CO₂ 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

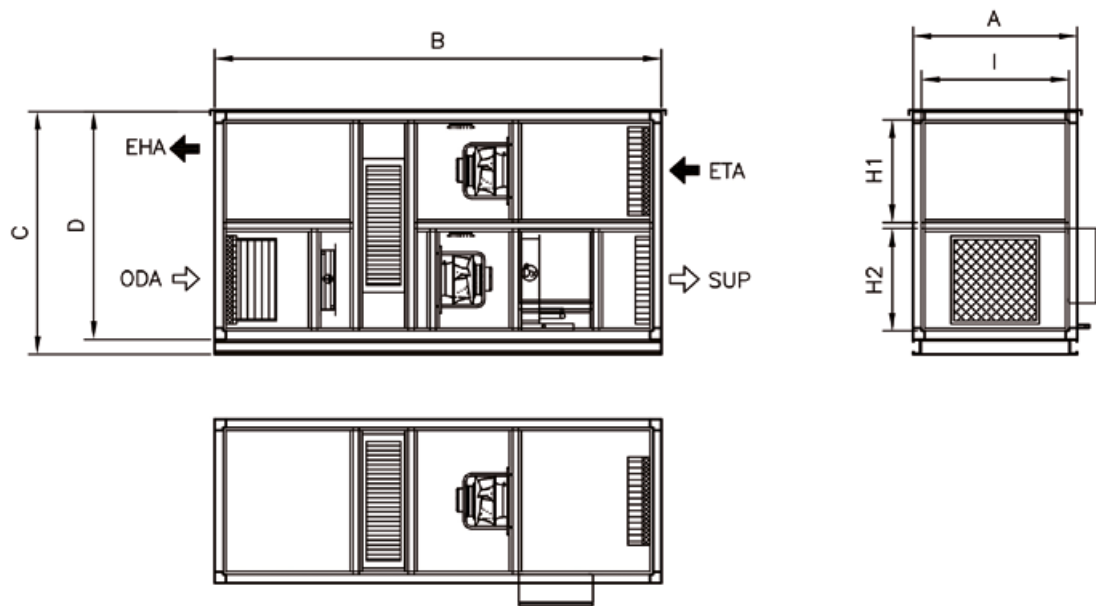
Model	SUPPLY			RETURN		
	Water flow rate	Absorbed power ¹	Static pressure available	Nominal flow rate	Absorbed power ¹	Static pressure available
	(m ³ /h)	(W)	(Pa)	(m ³ /h)	(W)	(Pa)
GC RER 3.0 H	3000	1435	300	3000	1022	300
GC RER 4.5 H	4500	2047	300	4500	1588	300
GC RER 6.0 H	6000	2877	300	6000	2238	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 ²	Weight
	(V)	(%)		(%)	(kW)	dB(A)	(kg)
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 ³ /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 ³ /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 ³ /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	9.62					
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

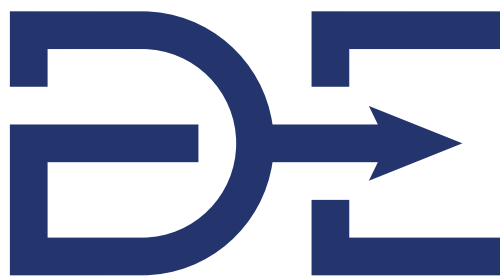
Humidification section

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.



Innovation in air
treatment units

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