

Compressor rack



eCO₂Gen range

Installation with cascade in medium temperature circuit

- **Sub-critical CO₂ racks** available in version direct expansion and glycol water.
- **"Turnkey" range** with equipment grouped and connected on a common frame.
- **Environmentally-friendly, natural refrigerant (CO₂)** for the production of cold in supermarkets.
- **Service pack:** Training in the use of CO₂ equipment.
- **Software selection:** CO₂ rack + chill rack with or without options.



Natural fluids:
CO₂ (R744) – Glycol water
Environment



18 80 kW

eCO2Gen - CO2 Semi-Hermetic Piston rack

Market segments



FSM Hard Discount - Supermarkets - Hypermarkets

FCS Refrigerated storage and transit stocking - Dispatch centres - Food processing

Wide range up to 200 kW, for the glycol water model only
(please contact us)

Description

Frame

- Thick, folded, galvanized sheet steel monoblock unit.

Compressors

- Compressors using semi-hermetic piston technology equipped with:
 - Casing heater.
 - Suction and delivery shut-off valves.
 - HP and LP tapping points with Schrader connector.

Collectors

- A general filter unit with tapping point and by-pass valves and 2 maintenance valves (1/4" SAE).
- Copper suction and delivery collector.
- Liquid suction accumulator with oil return via siphon and discharge valve.

Insulation

- Thermal insulation of the entire refrigeration circuit with the exception of delivery and oil lines.

Oil line

- Removable oil separator by-pass valve and discharge valve.
- Oil receiver with high and low indicator, shut-off valve and discharge valve.
- Oil return with filter and indicator.
- Electronic level controller with shut-off valve per compressor.
- Non-adjustable, receiver degassing differential valve connected to the LP collector.
- Copper oil collector with flexible connection for each compressor.

Liquid station

- Horizontal liquid receiver with shutoff valves.
- Double safety shut-off valve with inverter switch.
- Removable cartridge dryer with by-pass valves and 2 maintenance valves (1/4" SAE).
- Optoelectronic level alarm fitted to the liquid column in parallel with the receiver and height adjustable.
- Liquid/steam exchanger with by-pass valves in suction side and liquid side.

Connection pack

- 1 connection valve on the suction and liquid supply line.

Monitoring devices

- **Per compressor:**
 - LP pressure switch connected to the compressor.
 - 1 or 2 automatic reset HP cartridge pressure switch(s) per compressor (according to standard EN 378-2: 2009).
 - INT safety thermistor box.
- **Per rack:**
 - General LP safety pressure switch.
 - General HP safety pressure switch.
 - Framing HP and LP pressure switch.
 - Set of HP and LP manometers, diameter 80 mm, class 1.
 - LP and HP sensors for normal operation control.
 - LP and HP sensors for back-up operation control.

Condenser

- Multi-tube heat-exchanger with discharge valve(s).
- **Direct expansion model:**
 - Siemens "polycool" electronic expansion valve with probe and sensor for control of superheating during normal operation.
 - Thermostatic expansion valve coupled with a solenoid valve in parallel with an electronic expansion valve in back-up operation.
- **Glycol water model:**
 - Supply of a glycol water flow controller and thermostat kit.

Safety unit

- Condensing unit filled with R404A with refrigerated connected to the CO2 liquid receiver via a plate unit cooler.

Designation

eCO2Gen 24⁽¹⁾ / 4⁽²⁾ DB⁽³⁾

(1) Direct expansion capacity

(2) Number of compressor

(3) **DB** = direct expansion - **EB** = Glycol water

Certifications



eCO2Gen
CO2 low temperature racks (R744)
with CCB option



Kit	Factory
	ALR
	CCB
	PC1
PAV	

Options

- Electronic level alarm on the oil receiver.
- Control terminal rail wiring.
- Rack pre-wired with 5 m cable available.
- Anti-vibration pads.

eCO2Gen - Direct expansion

Low-temperature range

-35°C / -5°C*		eCO2Gen ...	18/3 DB	24/4 DB	25/3 DB	32/3 DB	33/4 DB	40/3 DB	42/4 DB	53/4 DB	60/3 DB	80/4 DB
Capacity CO2*	kW	16,5	22,1	25,1	32,3	33,5	40,2	43,1	53,5	60,3	83,0	
Input power*	kW	4,5	6,1	6,7	8,5	8,9	10,2	11,4	13,6	15,6	20,9	
Compressor	Nb	3	4	3	3	4	3	4	4	3	4	
Max. input current	A	18	24	18	21	24	35	28	46	41	54	
Receiver capacity	l.	70	70	70	70	70	180	180	180	180	180	
Connection pack	Suction	Ø	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	3"1/8	3"1/8	114,3
	Liquid	Ø	7/8"	7/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8
Rack weight	kg	1070	1140	1080	1110	1160	1120	1220	1350	1470	1600	
Receiver dimensions	L	mm	3000	3000	3000	3000	3000	3000	3000	3000	3000	
	P	mm	1440	1440	1440	1440	1440	1440	1440	1440	1440	
	H	mm	1990	1990	1990	1990	1990	1990	1990	1990	1990	

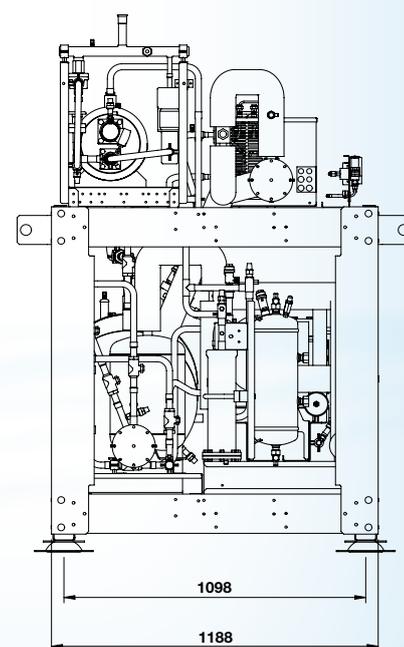
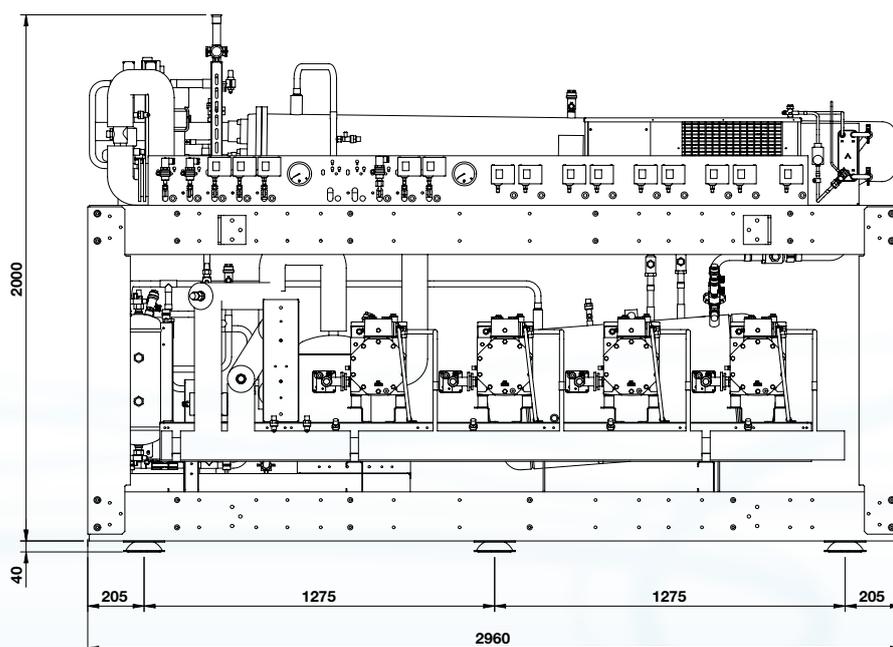
* Evaporation temperature/condensation temperature – Superheating total 20K, useful 10K and subcooling 3K .
 Refer to the software package for a more accurate rack selection.

eCO2Gen - Glycol water

Low-temperature range

-35°C / -3°C*		eCO2Gen ...	24/4 EB	25/3 EB	32/3 EB	33/4 EB	40/3 EB	42/4 EB	53/4 EB	60/3 EB	80/4 EB
Capacity CO2*	kW	21,2	24,2	31,1	32,2	38,8	41,5	51,7	60,2	80,2	
Input power*	kW	6,3	7,0	9,0	9,4	10,7	12,0	14,3	16,4	21,9	
Compressor	Nb	4	3	3	4	3	4	4	3	4	
Max. input current	A	24	18	21	24	35	28	46	41	54	
Receiver capacity	l.	70	70	70	70	180	180	180	180	180	
Connection	DN	65	65	65	65	80	80	80	100	100	
Rack weight	kg	1140	1080	1110	1160	1120	1220	1350	1470	1600	
Receiver dimensions	L	mm	3000	3000	3000	3000	3000	3000	3000	3000	
	P	mm	1440	1440	1440	1440	1440	1440	1440	1440	
	H	mm	1990	1990	1990	1990	1990	1990	1990	1990	

* Evaporation temperature/condensation temperature – Superheating total 20K, useful 10K and subcooling 3K .
 ** Glycol water: Fluid: Percentage of glycol = 40% - range -8/-4°C
 Refer to the software package for a more accurate rack selection.



ALR	CCB	PC1	PAV
0	0	0	0

