

Compressor rack



eCO / eMR range

Installation with cascade in glycol water circuit

- **Sub-critical CO₂ racks** combining **reliability** and **compactness**.
- **Two versions available:**
 - encased outdoor (**eCO**),
 - machine room (**eMR**).
- **Environmentally-friendly, natural refrigerant (CO₂)** for industrial refrigeration.
- **Service pack:** training in the use of CO₂ equipment.



Energy efficiency
Natural fluids: CO₂ (R744) – Glycol water
Environment

eMR with options PEI and MPI

108  341 kW

eCO / eMR - CO₂ compressor rack

Market segments



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

Description

Frame

- Compressor rack: monoblock frame designed to avoid vibration-related problems.
- Liquid station:
 - Folded galvanized sheet steel monoblock unit.
 - Anti-vibration pads (kit).

Compressors

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

Collectors

- A general filter unit or per compressor with maintenance valve (1/4" SAE).
- Copper suction and discharge collector.
- Drip tray under suction collector.

Insulation

- Thick thermal insulation of liquid lines.

Oil line

- Removable oil separator with 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 maintenance valve (1/4" SAE).
- Optoelectronic level alarm fitted to the liquid receiver (high and low level).
- Liquid / vapor plate heat exchanger.
- Sight glass.

Designation

eCO⁽¹⁾ 341⁽²⁾ /4⁽³⁾

- (1) eCO = encased outdoor rack
- (1) eMR = machine room rack
- (2) Capacity
- (3) Number of compressor

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.
 - HP and LP pressure switch for automatic back-up operation control.
 - Set of HP and LP manometers, diameter 100 mm, class 1.
 - LP and HP sensors for normal operation control.
 - LP and HP sensors for back-up operation control.

Condenser

- Brazed plate exchanger.
- Supply of a glycol water flow controller and thermostat kit.
- Desuperheater located upstream of the condenser.

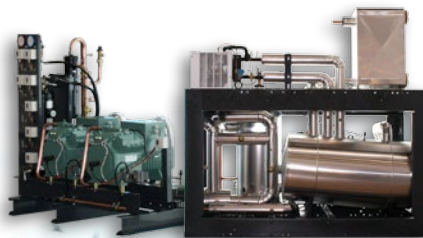
Safety unit (option)

- Condensing unit filled with R134a with refrigerated connected to the CO₂ liquid receiver via a plate unit cooler.

Certifications



A complete solution for your CO₂ refrigeration installation...



Low temp. sub-critical CO₂ rack eCO / eMR

- Machine room and encased outdoor versions
- Heat recovery option allowing production of hot water glycol 40/50°C

Industrial unit coolers NK

NK

- Hot glycol water defrost option.
- Defrosting hood and flexible defrost sleeve options.

GTA

- EC fans option for a very low noise level



Chiller
PEG

eCO / eMR

Low-temperature range

-35/-3°C*	eCO / eMR ...	108/2	100/3	111/4	129/2	122/3	132/4	153/2	157/3	160/4	179/2	188/3	206/4	222/3	247/4	260/3	292/4	341/4	
Capacity CO ₂ *	kW	108	100	111	129	122	132	153	157	160	179	188	206	222	247	260	292	341	
Input power*	kW	25,5	24,7	27,8	30,6	30,0	32,9	36,1	38,3	40,0	42,0	45,8	51,0	54,1	61,1	63,0	72,1	84,0	
Compressor	Nb	2	3	4	2	3	4	2	3	4	2	3	4	3	4	3	4	4	
Max. input current	A	67,0	66,0	75,6	80,0	80,1	88,0	96,6	100,5	106,8	111,0	120,0	134,0	144,9	160,0	166,5	193,2	222,0	
Receiver capacity	l.	300	300	300	300	300	300	300	300	300	300	300	300	300	550	550	550	550	
Connections	Suction	Ø	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8	
	Discharge	Ø	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	1"5/8	2"1/8	2"1/8	2"1/8	2"1/8	
	Liquid	Ø	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"1/8	1"3/8	1"3/8	1"3/8	1"3/8	1"5/8	1"5/8	1"5/8	1"5/8	
Dimensions eCO		A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	
Weight eCO	kg	2030	2000	2120	2060	2080	2270	2170	2280	2220	2620	2730	2930	2830	3180	3080	3380	3430	
Dimensions eMR	Rack	P	850	784	784	850	784	784	850	850	784	850	850	850	850	850	850	850	850
	Hydraulic Skid		A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B	
Weight eMR	Rack	kg	400	370	490	390	410	600	460	570	510	460	570	730	630	730	630	830	830
	Hydraulic Skid	kg	710	710	710	750	750	750	790	790	790	810	810	850	850	1100	1100	1200	1250

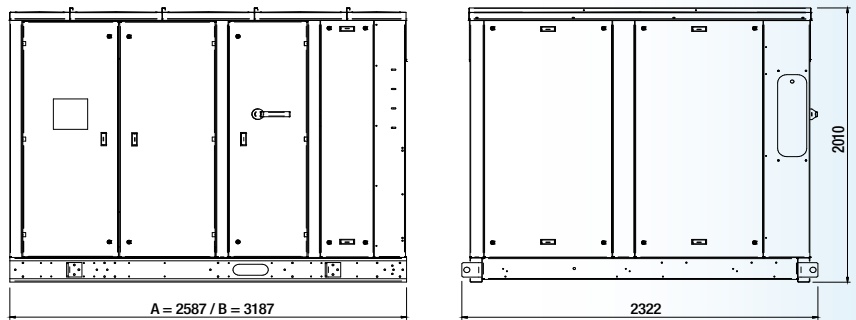
* Evaporation temperature/condensation temperature – Superheating total 20K, useful 10K and subcooling 3K.
 ** Glycol water: Fluid: Percentage of glycol = 40% - range -8/-4°C

- Kit**
- Factory**
- DES**
- BAC**
- RLS**
- GMP**
- VFA**
- BSH**
- BD1**
- 2CD**
- PC1**
- PEI**
- MPI**

Options

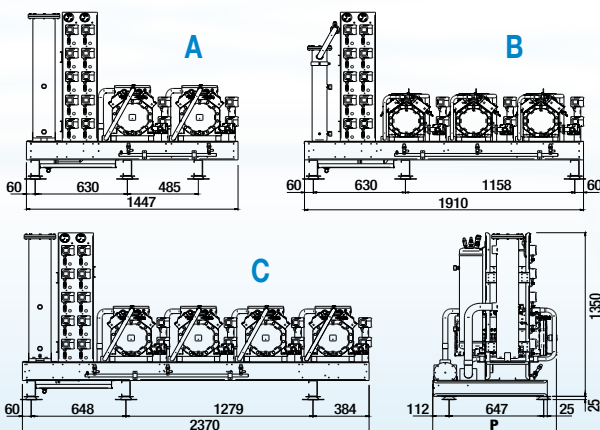
- DES Braze plate Desuperheater
- BAC Suction accumulator
- RLS Oversized liquid receiver
- GMP Safety group (MINI unit delivered mounted and connected)
- VFA Suction valve and filter
- BSH Oil separator by-pass
- BD1 Dryer by-pass
- 2CD 2 condensers 50/50%
- PC1 Rack pre-wired with 5 m cable available
- PEI Painted frame
- MPI Injected polyurethane foam insulation

eCO - Encased outdoor rack

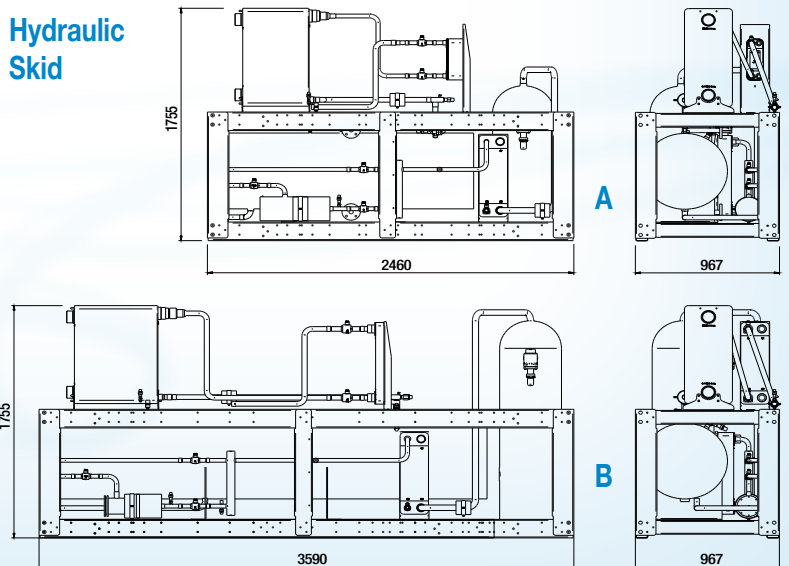


eMR - Machine room rack

Rack



Hydraulic Skid





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