



## HEAT REJECTION

# CO<sub>2</sub> Ventilated Units

Gas coolers and evaporators for CO<sub>2</sub> systems manufacturers in one of the widest ranges of capacities available on the market



ROEN EST presents its wide range of CO<sub>2</sub> Ventilated Units, which ranks among the most complete in Europe, suitable for all commercial, industrial and process refrigeration applications. ROEN EST is the solution provider for the design, manufacturing and supply of heat exchangers & complete units with particular focus in HVAC&R.

Founded in 1983 for the production of finned pack coils, today the company is a reference point for technology and capacity for solutions in air conditioning, refrigeration, heating and cogeneration. The Group's production structure is divided into two locations in Italy and Slovakia: two complementary and strategic factories, centers of excellence for the production of specific products. The Italian headquarters represents the heart of the company and is the driving force of innovation and technological development.

## LEADING THE FUTURE-PROOF TECHNOLOGY OF CO<sub>2</sub>

The gas cooler are equipment used in the CO<sub>2</sub> transcritical cycle system to cool the high temperature and high pressure gas into the low temperature and high pressure gas; the exothermic process of the CO<sub>2</sub> transcritical cycle is a key element to allow in commercial and industrial refrigeration (and also in many other applications) superior energy efficiency and reliable operations. Air side Evaporators allow to keep the served ambient cooled, in particular when used for food industry applications: its reliability is a key element.

ROEN EST is specialized in this kind of solutions, both Gas Coolers and Evaporators for CO<sub>2</sub> and, being a ENEX TECHNOLOGY COMPANY, is a tremendous advantage Vs. traditional players in this field. To be part of ENEX TECHNOLOGY COMPANY, allow the management of ROEN EST to get substantial knowledge base advantage in terms of CO<sub>2</sub> applications at total benefits of Customers which will find in ROEN EST a reliable and expert partner for all applications in this field. The complete design process of the “CO<sub>2</sub> Ventilated Units” range includes thermodynamic design, mechanical design and air-side fluid dynamic design.

Gas coolers types	Fans diameter
	[mm]
Compact and modular	630
Maximum performance	900
Low noise	800
V-shape	900

Evaporators types	Fans diameter
	[mm]
Cubic	350, 500, 630, 900

ROEN EST range of “CO<sub>2</sub> Ventilated Units” allow to satisfy all customer needs regarding CO<sub>2</sub> systems. We can supply both gas coolers and evaporators with one of the widest ranges of capacities available on the market.

ROEN EST with its 2 European manufacturing sites provides to HVAC&R manufactures a secure source for a strategic component like “CO<sub>2</sub> Ventilated Units”, with an history of design, production and distribution of more than 35 years in over 50 countries

# ONE OF THE WIDEST & SPECIALIZED RANGES AVAILABLE ON THE MARKET

## Options

What makes ROEN EST range of "Gas Coolers" & "Evaporators" extremely appreciated by customers is for sure the high flexibility of the range due to unlimited combinations of options and accessories.

	Gas coolers			Evaporators			
	Horizontal	Vertical	V-shape	Cubic 350	Cubic 500	Cubic 630	Cubic 900
EC fans	✓ Standard	✓ Standard	✓ Standard	✓	✓	✓	✓
Wiring	✓	✓	✓	✓	✓	✓	✓
Speed controller	✓	✓	✓	✓	✓	✓	✓
Stronger defrost				✓	✓	✓	✓
Blowing fans		✓		✓	✓	✓	✓
Water defrost				✓	✓	✓	✓
Casing AISI304	✓	✓	✓	✓	✓	✓	✓
Tray double insul.				✓	✓	✓	✓
Hot gas defrost				✓	✓	✓	✓
Post heating				✓	✓	✓	✓
Fins material free	✓	✓	✓	✓	✓	✓	✓
Coil surface treatment	✓	✓	✓	✓	✓	✓	✓
Dust filter				✓	✓	✓	✓
Texile duct					✓	✓	✓
Legs for floor fixing	✓ Standard	✓ Standard		✓	✓	✓	✓
Spray system		✓	✓				
Service switch	✓	✓	✓	✓	✓	✓	✓
Anti dampers	✓	✓	✓				
Extended legs	✓						
Motor protection	✓	✓	✓	✓	✓	✓	✓

## Surface anticorrosion protections & treatments

Strong attention is devoted to anticorrosion protections available to cover all customer requirements, such as (non-exhaustive list):

- ❖ Heresite
- ❖ Heresite + UV
- ❖ Epoxy painting – Pulver
- ❖ Epoxy painting – Cataphoresis
- ❖ Epoxy painting – Cataphoresis + UV
- ❖ Electrofin
- ❖ Electrofin + UV
- ❖ Thermoguard finguard
- ❖ Blygold

# PRODUCT RANGE OVERVIEW

## Gas Coolers

ROEN EST "Gas Coolers" range, starting for a standardized hi-efficiency design can be combined and manufactured as per the customer's specific requests both in terms of thermodynamic performance and mechanical execution, so that they can be perfectly integrated into the customer's projects.

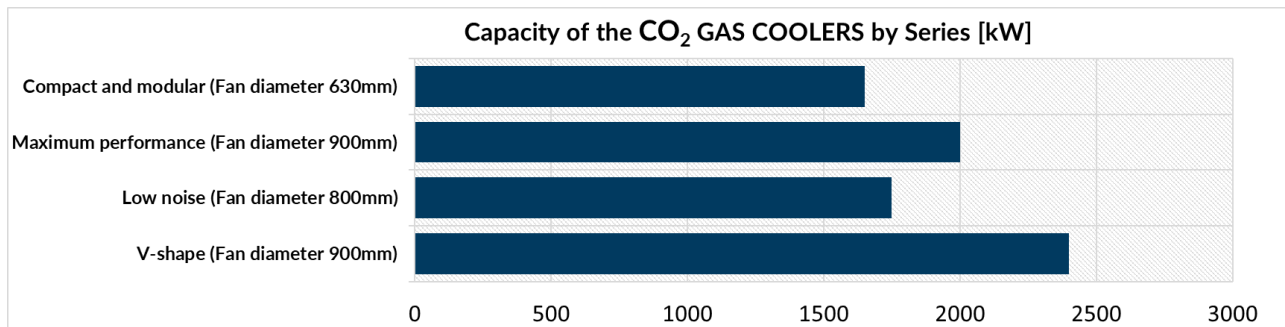
Main characteristics:

- ❖ Large capacity range: from 20 kW to 2400 kW;
- ❖ Coil geometries for the best "Performance / Cost" ratio;
- ❖ Maximum pressure on the market: 140 bars;
- ❖ Design with floating pack to eliminate any risk of breakage of the tubes in correspondence with the side sheets;
- ❖ Dedicated modules, fans diameters and fans type to meet dimensional and noise requirements;
- ❖ EC fans for the best performances, regulations and to reduce consumptions;
- ❖ Horizontal, vertical and V-shape versions available;
- ❖ Many options available;
- ❖ Stainless steel headers as standard.



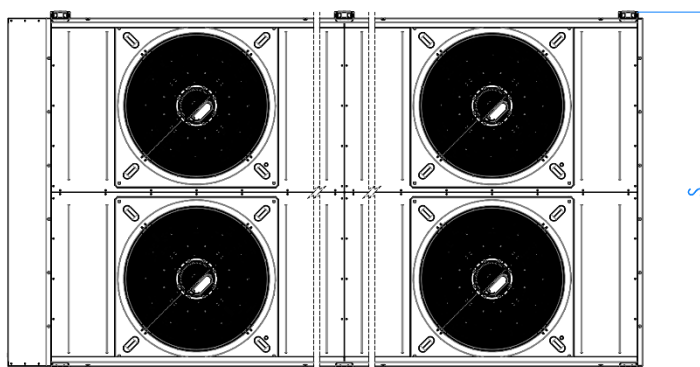
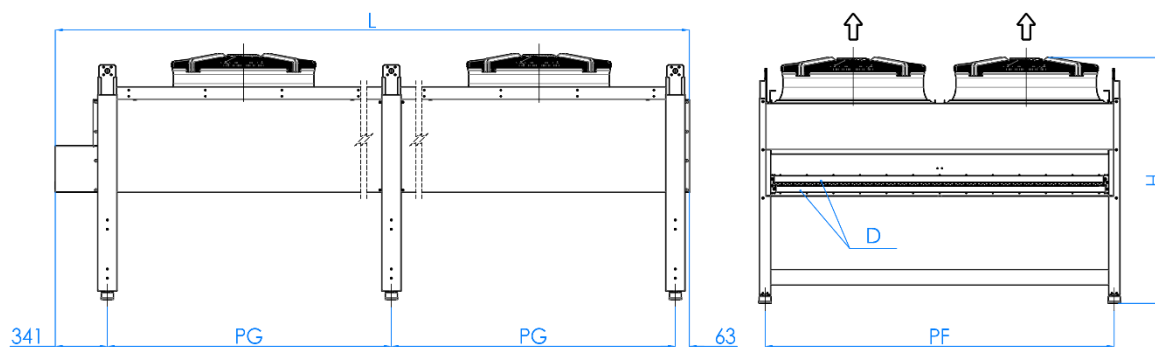
The image is for illustrative purpose  
and it is referred to a Gas Cooler complete unit

## Capacity range



## Dimensions

Version	Code	Fans diameter	n° max of fans	L - max	H - single row	H - double row	S - single row	S - double row
[-]	[-]	[mm]	[-]	[mm]	[mm]	[mm]	[mm]	[mm]
Horizontal version	GO63-	630	20	11715	1353	1353	1003	1853
	GN80-	800	16	11715	1605	1605	1253	2353
	GN90-	900	16	11715	1605	1605	1253	2353
	GM80-	800	12	11715	1605	1605	1253	2353
	GM90-	900	12	11715	1605	1605	1253	2353
Vertical version	GO63-	630	20	11715	1078	1928	920	920
	GN80-	800	16	11715	1328	2428	1153	1153
	GN90-	900	16	11715	1328	2428	1153	1153
	GM80-	800	12	11715	1328	2428	1153	1153
	GM90-	900	12	11715	1328	2428	1153	1153



The drawing is for illustrative purpose and it represent the unit:  
 Model type: G-90-N2 - - H  
 Fluid: CO<sub>2</sub>  
 PSmax: 140 bar  
 TSmax: +150°C  
 For dimensions PG-PF-D please refer to specific technical literature

## Evaporators

ROEN EST "Evaporators" range, starting for a standardized hi-efficiency design can be combined and manufactured as per the customer's specific requests both in terms of thermodynamic performance and mechanical execution, so that they can be perfectly integrated into the customer's projects.

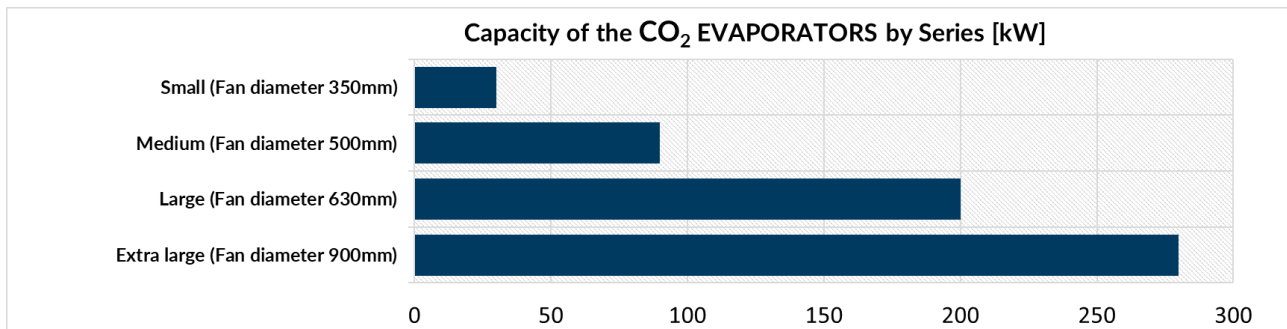
Main characteristics:

- ❖ Large capacity range: from 5 kW to 280 kW;
- ❖ Fins spacing from 3mm up to 10mm to work in all conditions;
- ❖ Coil geometries for the best "Performance / Cost" ratio;
- ❖ Different thickness of tubes according to the PS required;
- ❖ Wide range: 350 mm, 500 mm, 630 mm, 900 mm. Up to 5 fans;
- ❖ Two ranges dedicated to requested design pressure: 60 bars and 80 bars;
- ❖ Fins with dedicated holes for heaters to obtain the maximum efficiency from the coil;
- ❖ Wide customization possibilities thanks to:
  - Different materials available for the fins;
  - Different materials available for the frame;
  - Optimization of the number of circuits;
- ❖ EC and AC fans available;
- ❖ Copper headers as standard.



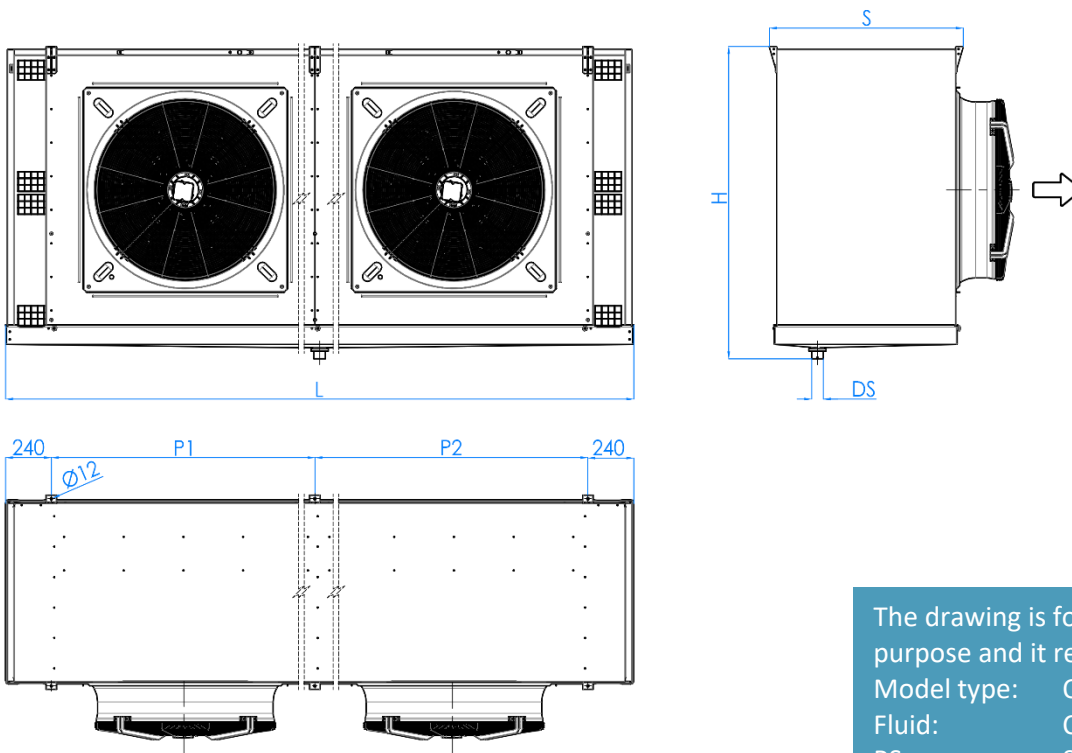
The image is for illustrative purpose  
and it is referred to a Evaporator complete unit

## Capacity range



## Dimensions

Code	Fans diameter	n° max of fans	L - max	H	S	P1	P2
[-]	[mm]	[-]	[mm]	[mm]	[mm]	[mm]	[mm]
OC35-	350	5	3212	630	663	1100	1700
OC50-	500	5	4780	930	753	850	900
OC63-	630	5	5780	1338	873	1050	1100
OC90-	900	5	7280	1630	1013	1350	1400



The drawing is for illustrative purpose and it represent the unit:  
 Model type: OC90-N1-B  
 Fluid: CO<sub>2</sub>  
 PSmax: 80 bar  
 TSmax: +30°C  
 For dimension DS please refer to specific technical literature

# ROENEST

HEAT EXCHANGERS NATURALLY



AN ENEX TECHNOLOGIES COMPANY

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Via Dell'Industria, 4 - 34077 Ronchi dei Legionari (Gorizia), Italy | P.IVA IT01088880313  
Tel +39 0481 474140 | Fax +39 0481 779997 | [info@roenest.com](mailto:info@roenest.com) | [www.roenest.com](http://www.roenest.com)

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