



## COOLERS OVERVIEW

**ECO**<sup>TM</sup> heat transfer  
coolers



New  
ranges!

## NEW GLE AND CGL COOLERS FOR REFRIGERANTS AND CO<sub>2</sub>



### GLE Unit coolers

**Dual discharge unit coolers and brine coolers for work rooms and cold rooms with reduced ventilation**

- Fan motors: diameter 250 or 315 mm
- Fin spacing: 5 mm
- 5 customizable models
- Capacity from 3,1 to 8 kW

### CGL CO<sub>2</sub> Unit coolers

**Dual discharge unit coolers (CO<sub>2</sub>) for commercial working rooms**

- Fan motors: diameter 250 or 315 mm
- Fin spacing: 5 mm
- 5 customizable models
- Capacity from 3,4 to 8,8 kW



The dual discharge **GLE/CGL** coolers ranges have been specifically designed for applications in limited height rooms, requiring low air circulation, for storage and preservation of fresh products or conditioned processing areas.

The entire ranges are equipped with highly efficient coils made from aluminum fins and inner grooved tube. Thanks to a new geometry there is a substantial reduction of the inner volume resulting in a decreased refrigerant use. The updated coil design responds to the recent guidelines governing the reduction of HFC gases with high greenhouse effect.

For CGL CO<sub>2</sub> unit coolers design pressure is 80 bar.

Two types of standard fan motors are employed:

- Ø 250 mm, shaded pole single-phase 230V/1/50-60Hz with fibre-glass charged polyamide fan guards.  
Operating temperature: -40 ÷ +40 °C.
- Ø 315 mm, external rotor single-phase 230V/1/50-60Hz with built-in electric capacitor and epoxy coated steel fan guard.  
Operating temperature: -40 ÷ +35 °C.

Both types have the following features:

- IP 44 protection grade;
- class B insulation;
- internal thermal contact protection.

The optional high efficiency EC fan motors have the following features:

- Ø 250 mm:
  - IP 54 protection grade;
  - class H insulation;
  - built-in electronic protection;
  - operating temperature: -40 ÷ +50 °C.
- Ø 300 mm:
  - IP 54 protection grade;
  - class B insulation;
  - built-in electronic protection;
  - operating temperature: -25 ÷ +60 °C.

The versions with standard electric defrost (ED) are equipped with stainless steel heaters with vulcanized terminals preset for 400V/3/50-60 Hz connection.

The electric parts and casework are connected to a grounding terminal, the wiring of the motors and heaters is carried out in separate IP 54 protection grade junction boxes.

On request the models can be equipped with non-standard coils, defrosting and fan motors.

For the selection of your GLE/CGS use the "Scelte" selection software.

*GSE Unit Coolers*

*Nominal capacity: assessed in practical operating ambient, i.e. in wet conditions; R404A refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; TD 8 K.*

*CGS CO<sub>2</sub> Coolers*

*Nominal capacity: Assessed in practical operating ambient, i.e. in wet conditions, in direct expansion application.*

*Norms and conditions applied for the calculation of the published capacities: please contact our Technical dept.*

# PRODUCTS GENERAL FEATURES

## GENERAL FEATURES

Our units are equipped with **highly efficient coils** that are made from special profile aluminum fins and copper tube, designed for use with new generation refrigerants. Specific solutions are also available for environmentally friendly refrigerants.

An appropriate geometry is proposed for each special application. In order to avoid possible damage to the tubes particular attention has been given to the design of the coil end plates.

The coils are supplied clean and tested according to the conformity standards.

**The casings** of our different product ranges are designed to allow easy access to internal components and is made from a smooth finish aluminum alloy, or pre-painted galvanized steel sheet with the following characteristics:

- high corrosion and impact resistance;
- resistant to low temperatures;
- non-toxic;
- does not produce polluting debris;
- completely covered in a protective plastic film.

**The standard fan motors** are manufactured according to our specifications and are in compliance with the latest safety standards, and when possible they are fitted to the unit structure with an anti-vibration system. The elevated air throw is achieved thanks to a perfect combination of factors. All published data are the result of measurements conducted in the our Technical Lab.

For the unit coolers equipped with **standard electric defrosting**, the heat required to melt ice build-up is provided by stainless steel heater elements located in the finned pack and in the inner drip trays. The heaters are strategically positioned to ensure heat distribution even in the most critical areas of the unit. Given the high grade of thermal conductivity of the materials employed the heat diffusion is ensured to the entire unit.

The water resulting from defrosting is channeled, thanks to the inner drip trays and drain pans specifically designed to enable the water to drain freely.

**The electrical parts** and casing are connected to an earth terminal.

**The fan guards** are made from fiberglass charged polyamide or painted steel and are manufactured in compliance with strict safety standards.

**The standard wiring** is carried out in robust junction boxes with access holes equipped with tear-proof cable glands. All electrical wiring in proximity to other elements are protected from wear and tear. Materials are carefully selected in order to offer long-term reliability.

**The packaging** is made either from recyclable cardboard suitably reinforced or completely in wood. For industrial unit coolers and brine coolers the packaging is designed for time-saving and trouble-free ceiling installation (CTE excluded).

All our products are supplied with a technical manual, a declaration of conformity (inclusive of testing certificate), a PED report and for special models supplementary documentation is issued.

## REFERENCE STANDARDS

Our products are manufactured in compliance to the following reference standards:

- the internal cleaning verification of the coils is made in accordance to DIN 8964;
- the electric motors are manufactured according to EN 60335-1;
- the fan guards respect EN 294 safety standards;
- the air throw was measured in our Technical Lab according to CECOMAF GT 6-001 (final velocity = 0,25 m/s);
- the product ranges conform to 2006/42/EC Machinery Directive, to 2014/35/EU Low Voltage Directive and to 2014/68/EU (Pressure Equipment Directive).
- modified 2004/108/EU (EMC Electromagnetic Compatibility).

## ErP 2015 COMPLIANT

All fan motors installed on “ECO Heat Transfer Coolers” branded products comply with Directive 2009/125/EC of the European Parliament (second stage ErP 2015, energy-related products) and also carry the CE mark as they are manufactured in accordance with the European Directives in force. This directive applies to fan motors with input power between 125 W and 500 kW and is mandatory in all EU countries. The ErP regulation covers products made in the Economic European Area (EEA) as well as imports from non-EU countries. Products being exported from the EU into other countries are not subject to it. The ErP Directive does not apply to products used in ATEX areas, fan motors used at especially high or low temperatures (< -40 °C or > +100 °C), fan motors used in products for short-term emergency use, or fan motors used in the transportation of people or goods.

We incorporate all fan motors in units ensuring that they comply with Regulation 327/2011.

Particular attention was paid to the components (fan motors rings) so as to ensure full respect of the Directive and, overall, a perfect balance between air flow performance, energy consumption and noise emission.

## WARRANTY

All technical information in this edition is based on tests carried out, which we deem exhaustive and reliable but which cannot be referred to all records of possible applications. Therefore, the purchaser must ascertain product suitability with regard to its intended use, undertaking all responsibility arising from its said use. Upon request by the purchaser, the seller shall be available to supply all useful information in order to use his products better. All our models have a two-year warranty with effect from the date of the said invoice. Please refer to the Legal Office of Modine CIS Italy S.r.l for more in-depth information. However, occasional failures such as those due to transport, tampering by unauthorised personnel, incorrect use and incorrect installation, which the products are subjected to, are all excluded from any form of warranty.

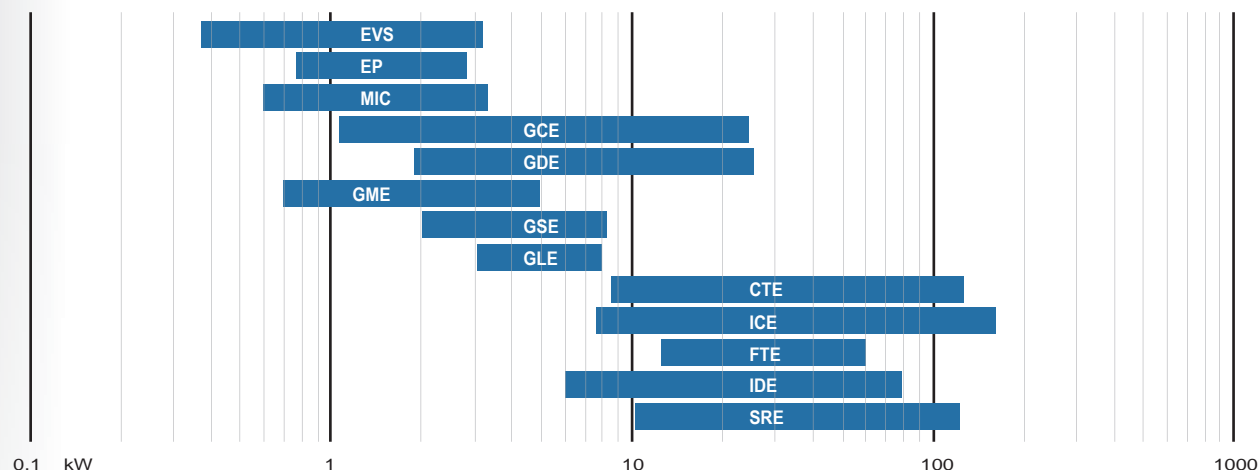
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## CAPACITY RANGE

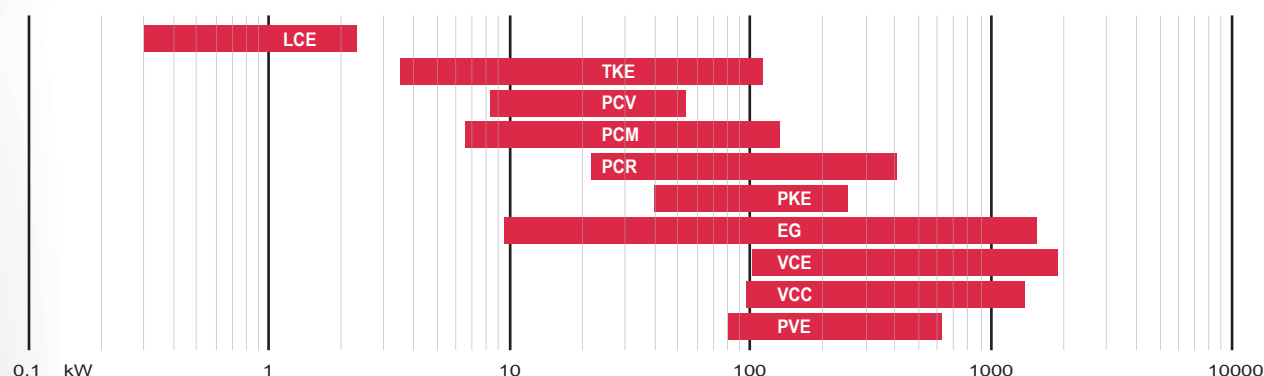


### UNIT COOLERS



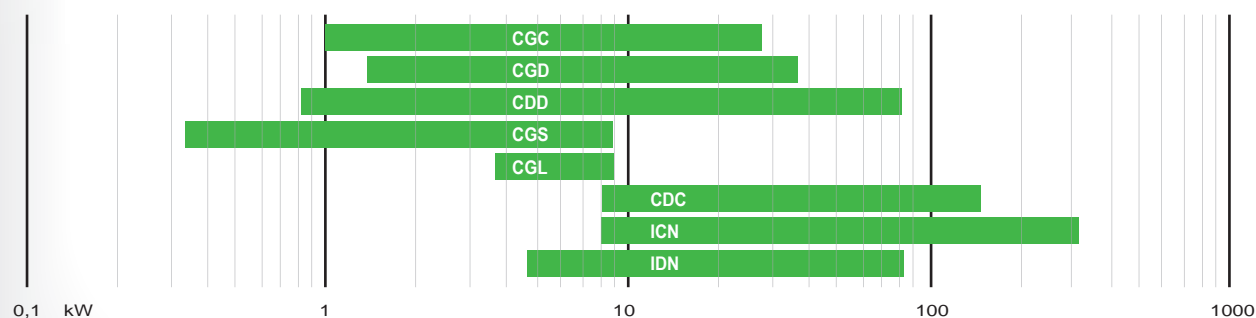
Nominal capacity: assessed in practical operating ambient, i.e. in wet conditions; R404A refrigerant; air inlet temperature 0 °C; evaporating temperature -8 °C; TD 8 K.

### AIR COOLED CONDENSERS



The stated capacity is assessed based on ambient temperature 25 °C; and condensing temperature 40 °C with R404A.

### UNIT COOLERS FOR NATURAL REFRIGERANTS



Nominal capacity: Assessed in practical operating ambient, i.e. in wet conditions, in direct expansion application.  
Norms and conditions applied for the calculation of the published capacities: please contact our Technical dept.



# UNIT COOLERS AND BRINE COOLERS

EVS



**Slanted coolers and brine coolers for cabinets and/or small cold rooms**

- Fan motors: diameter 200 mm
- Fin spacing: 3,5/7 mm or 4,5/9 mm
- 20 customizable models
- Capacity from 0,37 to 3,29 kW

EP



**Wall unit coolers and brine coolers for cabinets and/or small cold rooms**

- Fan motors: diameter 230 mm
- Fin spacing: 3,5/7 mm
- 5 customizable models
- Capacity from 0,75 to 2,76 kW

MIC



**Dual discharge unit coolers and brine coolers for cabinets and/or small cold rooms**

- Fan motors: diameter 230 mm
- Fin spacing: 4,5/9 mm
- 8 customizable models
- Capacity from 0,59 to 4,29 kW

GCE



**Cubic unit coolers and brine coolers for commercial cold rooms**

- Fan motors: diameter 250; 315 or 350 mm
- Fin spacing: 4; 6 or 8 mm
- 105 customizable models
- Capacity from 1,07 to 24,28 kW

GDE



**Dual discharge unit coolers and brine coolers for commercial cold rooms**

- Fan motors: diameter 315 or 350 mm
- Fin spacing: 3; 4 or 7 mm
- 48 customizable models
- Capacity from 1,7 to 24 kW

GME



**Slanted unit coolers and brine coolers for small commercial cold rooms**

- Fan motors: diameter 250 mm
- Fin spacing: 4 or 7 mm
- 18 customizable models
- Capacity from 0,69 to 3,97 kW

GSE



**Slanted unit coolers and brine coolers for commercial cold rooms**

- Fan motors: diameter 315 mm
- Fin spacing: 4 or 7 mm
- 8 customizable models
- Capacity from 2 to 8,2 kW

GLE



**Dual discharge unit coolers and brine coolers for work rooms and cold rooms with reduced ventilation**

- Fan motors: diameter 250 or 315 mm
- Fin spacing: 5 mm
- 5 customizable models
- Capacity from 3,1 to 8 kW

CTE



**Cubic unit coolers and brine coolers for commercial and industrial cold rooms**

- Fan motors: diameter 500 or 630 mm
- Fin spacing: 4; 6 or 8,5 mm
- 69 customizable models
- Capacity from 8,4 to 126 kW

ICE



**Cubic unit coolers and brine coolers for refrigerated warehouses and industrial cold rooms**

- Dual speed fan motors: diameter 450; 560 or 630 mm
- Fin spacing: 6; 8; 10 or 12 mm
- 104 customizable models
- Capacity from 7,6 to 162 kW

FTE



**Cubic unit coolers and brine coolers for fruit and vegetable preservation cold rooms**

- Blow through fan motors: diameter 350; 400; 450 or 500 mm
- Fin spacing: 7 mm
- 16 customizable models
- Capacity from 12,5 to 59,9 kW

IDE



**Dual discharge unit coolers and brine coolers for refrigerated warehouses and industrial cold rooms**

- Dual speed fan motors: diameter 450 or 560 mm
- Fin spacing: 4,5; 7 or 10 mm
- 36 customizable models
- Capacity from 6 to 78,6 kW

SRE



**Floor standing unit coolers and brine coolers for blast chiller tunnels and blast freezer rooms**

- Fan motors: diameter 500; 560 or 630 mm
- Fin spacing: 7; 10 or 12 mm
- 79 customizable models
- Capacity from 10,3 to 123 kW

# CONDENSERS, LIQUID COOLERS AND GAS COOLERS

LCE



## Air cooled condensers for small condensing units

- Fan motors: diameter 170; 200; 230; 250 or 300 mm
- Fin spacing: 3 mm
- 16 customizable models
- Capacity from 0,3 to 2,3 kW

TKE



## Air cooled condensers for commercial applications

- Fan motors: diameter 350 or 450 mm
- Fin spacing: 2,1 mm
- 69 customizable models
- Capacity from 3,5 to 112,3 kW

PCV



## Air cooled condensers and gas coolers with integrated housing for commercial applications

- Fan motors: diameter 450; 500; 630 and 710 mm
- Fin spacing: 2,1 mm
- 60 customizable models
- Capacity from 8,3 to 53,8 kW

PCM



## Air cooled condensers, dry coolers and gas coolers with centrifugal fan motors for commercial and industrial applications

- Direct drive centrifugal fan motors
- Fin spacing: 2,1 mm
- 21 customizable models
- Capacity from 6,5 to 132 kW

PCR



## Air cooled condensers, dry coolers and gas coolers with EC radial fan motors for commercial and industrial applications

- Fan motors: diameter 400; 500 or 630 mm
- Fin spacing: 2,1 mm
- 11 customizable models
- Capacity from 21,7 to 402 kW

PKE



## Air cooled condensers, dry coolers and gas coolers with sound-proof housing for commercial and industrial applications

- Dual speed fan motors: diameter 630 mm
- Fin spacing: 2,1 mm
- 34 customizable models
- Capacity from 39,7 to 253 kW

EG(K)



## Air cooled condensers for commercial and industrial applications

- Dual speed fan motors: diameter 500; 630; 710; 800; 910 and 1000 mm
- Fin spacing: 2,1 mm
- 6651 customizable models, capacity from 9,7 to 1516 kW

VCE



## Air cooled condensers, dry coolers and gas coolers two coils with V configuration for industrial applications

- Dual speed fan motors: diam. 800; 910 mm
- Fin spacing: 2,1 mm
- 208 customizable models
- Capacity from 101 to 1882 kW

VCC



## Air cooled condensers, dry coolers and gas coolers two coils with V configuration for industrial applications, suitable for container transportation

- Dual speed fan motors: diameter 800 mm
- Fin spacing: 2,1 mm
- 112 customizable models
- Capacity from 96 to 1379 kW

PVE



## Air cooled condensers, dry coolers and gas coolers with sound-proof housing and two V configuration coils for commercial and industrial applications

- Dual speed fan motors: diameter 630 mm
- Fin spacing: 2,1 mm
- 40 customizable models
- Capacity from 81 to 622 kW

*We have been developing and improving our products in response to your most rigorous requirements and needs.*

*With the objective of offering top quality products and service, Modine has taken up ISO 9001, ISO 14000 control standards and also the standards proposed by the most influential international certification associations.*

*The wealth of experience that we have acquired in many years of continuous, intense work is now at your complete disposal.*

*For all supplementary information our team is at your complete disposal.*



# UNIT COOLERS FOR NATURAL REFRIGERANTS



There is a strong and renewed awareness worldwide that something has to change in terms emissions reduction and energy savings.

The global directives that mandate the reduction of atmospheric emissions and energy-savings in commercial and industrial refrigeration systems (F-Gas and ErP 2015) specify the roadmap.

## "ECO Heat Transfer Coolers"

can contribute to find solutions to the many challenges that are arising globally in the Commercial Refrigeration Market.

Our competence and values can help your company obtain competitive advantages in your daily business.

**Preventing dangerous climate change is a key priority for the European Union and it is working hard to achieve its next objectives**

**2022** Ban on the use of virgin refrigerants of GWP greater than **150** in new hermetically sealed commercial refrigeration equipment  
The use of refrigerants with a GWP above **150** will be banned in new commercial refrigeration systems with a capacity of 40kW or more

## CGC



### Cubic unit coolers (CO<sub>2</sub>) for commercial cold rooms

- Fan motors: diameter 250; 315 or 350 mm
- Fin spacing: 4; 6 or 8 mm
- 105 customizable models
- Capacity from 1 to 27,2 kW

## CGD



### Dual discharge unit coolers (CO<sub>2</sub>) for commercial cold rooms

- Fan motors: diameter 315 or 350 mm
- Fin spacing: 3; 4 or 7 mm
- 48 customizable models
- Capacity from 1,3 to 35 kW

## CDD



### Dual discharge unit coolers (CO<sub>2</sub>) for commercial and industrial cold rooms

- Fan motors: diameter 230; 450 or 560 mm
- Fin spacing: 4; 4,5/9 or 10 mm
- 52 customizable models
- Capacity from 0,82 to 81,5 kW

## CGS



### Slanted unit coolers (CO<sub>2</sub>) for commercial cold rooms

- Fan motors: diameter 200; 250 or 315 mm
- Fin spacing: 3,5/7; 4; 4,5/9 or 7 mm
- 46 customizable models
- Capacity from 0,24 to 8,9 kW

## CGL

**New range!**



### Dual discharge unit coolers (CO<sub>2</sub>) for commercial working rooms

- Fan motors: diameter 250 or 315 mm
- Fin spacing: 5 mm
- 5 customizable models
- Capacity from 3,4 to 8,8 kW

## CDC



### Cubic unit coolers (CO<sub>2</sub>) for commercial and industrial cold rooms

- Fan motors: diameter 500 or 630 mm
- Fin spacing: 4; 6 or 8,5 mm
- 69 customizable models
- Capacity from 8,2 to 149 kW

**ECO™** heat transfer coolers



## ICN



### Cubic unit coolers (NH<sub>3</sub>) for refrigerated warehouses and industrial cold rooms

- Dual speed fan motors: diameter 500; 560; 710 or 910 mm
- Fin spacing: 4; 7; 10 or 12 mm
- 240 customizable models
- Capacity from 8,11 to 314 kW

## IDN



### Dual discharge unit coolers (NH<sub>3</sub>) for refrigerated warehouses and industrial cold rooms

- Dual speed fan motors: diameter 450 or 560 mm
- Fin spacing: 4; 7; 10 or 12 mm
- 48 customizable models
- Capacity from 4,6 to 82,3 kW



# Scelte

SELECTION SOFTWARE

**ACCURATE  
RELIABLE  
QUICK  
EASY  
UPDATED!**

**modineselect.com**



*Cover photo: food and vegetable refrigerated depot Delebio (Sondrio) - Italy  
Courtesy of "Blue Box a Swegon Group Company"*

*"ECO Heat Transfer Coolers" branded products installed:  
Nr. 3 "IDE 42 B04" and nr. 11 "ICE 54 A07", total power: 725700 W*

To learn more, visit  
[www.modinecoolers.com](http://www.modinecoolers.com)  
and our others websites  
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[www.modinecoils.com](http://www.modinecoils.com)

Modine Manufacturing Company has been a worldwide leader in thermal management since 1916. We design, engineer, test, and manufacture heat transfer products for a wide range of applications and markets. We're at work in practically every corner of the world, inside the things you see every day.

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