

ECOTM heat transfer
coolers



COOLERS

OVERVIEW



Engineering a Cleaner, Healthier World

GENERAL FEATURES

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Highly efficient coils, made from special profile aluminium fins and copper tube, designed for use with new generation refrigerants. Coil options are also available for new alternatives of environmentally friendly refrigerants with an appropriate geometry proposed for each specific application.

We have paid great attention to design and construction of the coil end plates to protect the tubes.

The casings for the different product ranges have been designed to facilitate access to the internal components. The casings are made from smooth finish aluminium alloy or pre-painted galvanized steel sheet⁽¹⁾.

Key features:

- high corrosion and impact resistance;
- resistant to low temperatures;
- non-toxic;
- no release of environmentally harmful debris or particles;
- covered with protective plastic film.

Standard fan motors⁽²⁾ manufactured according to our specifications and in compliance with the latest safety standards. When possible, the fan motors are fitted to the unit structure with an anti-vibration system.

A high air throw is achieved thanks to a perfect combination of factors. All published data are the result of measurements carried out in our Technical Lab.

For unit coolers with **standard electric defrosting**, the heat needed to dissolve the ice build-up is provided by stainless steel heating elements located in the finned pack of the coil and in the inner drip trays. The heater rods are strategically positioned to provide thorough heat distribution, even in the most critical areas of the unit. Given the high thermal conductivity of the materials employed heat diffusion is ensured throughout the unit.

The water resulting from defrosting is channelled from the internal drip trays to the drain pan. This system that has been specifically designed to allow the water to drain freely.

Electrical parts and casings are connected to an earth terminal.

Fan guards are made from fibreglass charged polyamide or painted steel. These components are manufactured in compliance to strict safety standards.

Standard wiring is carried out in heavy-duty junction boxes with access holes that are equipped with tear-proof cable glands.

All electrical wires in proximity to other elements are protected from wear and tear. All materials and components are carefully selected in order to assure long-term reliability.

The packaging is made either from duly reinforced recyclable cardboard or entirely of wood, depending on the type of unit.

For industrial and brine coolers⁽³⁾ the packaging was specifically designed to allow quick and easy ceiling installation.

Each unit is supplied with a technical manual, declaration of conformity (with testing certificate included) and PED report.

For special models additional documentation shall be issued and provided to complete the technical manual.

REFERENCE STANDARDS

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

- electric motors, manufactured in accordance to EN 60335-1;
- fan guards in compliance to EN 294 safety standards;
- air throw measured in our technical lab according to CECOMAF GT 6-001 (final velocity = 0,25 m/s);
- 2006/42/EC Machine Directive, 2014/35/EU Low Voltage Directive and 2014/68/EU Pressure Equipment Directive;
- modified 2014/30/EU EMC Directive (Electromagnetic Compatibility).

ErP 2015 COMPLIANT

All the fan motors fitted in "ECO Heat Transfer Coolers" branded products comply with the 2009/125/EC Directive, meet the EU energy guidelines and are CE marked as they are manufactured in accordance to the European directives in force.

The ErP directive, mandatory in all EU countries, applies to fan motors with output power between 125 W and 500 kW. This directive covers products made in the EEA (European Economic Area countries) and imported from non-EU countries. EU products exported to other countries are not subject to this directive.

The ErP directive does not apply to products used in ATEX areas, fan motors used at particularly high and low temperatures (<-40°C or >+100°C), fan motors in units for short-term emergency use or fan motors used in means of transportation for persons or goods.

Modine incorporates fan motors and other associated devices used in its products to guarantee that they are in compliance with Commission Regulation (EU) No 327/2011.

Particular attention has been addressed to the components (fan rings) so as to ensure full respect of Directive efficiency and, overall, a perfect balance between air flow performance, energy consumption and noise level emissions.

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 better use its products. All our models have a two-year warranty with effect from the date of invoice. Please refer to the Modine CIS Italy S.r.l. Legal Office for detailed 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.

As a result of continuing research and design by our technical team and laboratories, aimed at offering top quality and innovative products, the information and materials contained herein may be subject to change without prior notice. If the said content contains any mistakes, omissions, inaccuracies and/or typographical errors Modine assumes no responsibility thereof and reserves the right to make amendments deemed necessary, without notice and at any time.

It will be up to the user to keep up to date with all possible modifications.

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(1) Pre-painted steel for models TKE, PCV, PKE, PCR, EG, VCE and VCC, galvanized steel for LCE. Full bell mouth fan rings are produced in polyester painted galvanized steel.

(2) Fan motors produced by various manufacturers may be used.

(3) Models with packaging that has been specifically designed to facilitate ceiling installation: ICE, IDE, CTE Ø 630 mm, CDC Ø 630 mm.

UNIT COOLERS AND BRINE COOLERS

EVS



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

- Fan motors diameter: 200 mm
- Capacity: from 0,34 to 3 kW

EP



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

- Fan motors diameter: 230 mm
- Capacity: from 0,51 to 2,56 kW

MIC



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

- Fan motors diameter: 230 mm
- Capacity: from 0,55 to 3,98 kW

GCE



Cubic unit coolers and brine coolers for commercial cold rooms

- Fan motors diameter: from 250 to 350 mm
- Capacity: from 0,99 to 22,5 kW

GDE



Dual discharge unit coolers and brine coolers for commercial cold rooms

- Fan motors diameter: 315 or 350 mm
- Capacity: from 1,9 to 25 kW

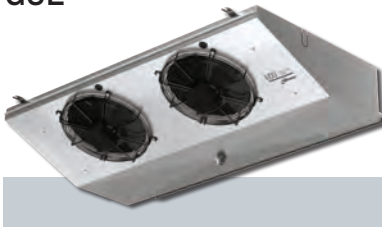
GME



Slanted unit coolers and brine coolers for small commercial cold rooms

- Fan motors diameter: 250 mm
- Capacity: from 0,64 to 3,68 kW

GSE



Slanted unit coolers and brine coolers for commercial cold rooms

- Fan motors diameter: 315 mm
- Capacity: from 1,85 to 7,6 kW

GLE



Dual discharge unit coolers and brine coolers for work rooms and cold rooms in which reduced air circulation is required

- Fan motors diameter: 250 or 315 mm
- Capacity: from 2,9 to 7,4 kW

CTE



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

- Fan motors diameter: 500 or 630 mm
- Capacity: from 7,8 to 117 kW

ICE



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

- Dual speed fan motors diameter: from 450 to 630 mm
- Capacity: from 7 to 150 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
- Capacity: from 6 to 72,9 kW

SRE



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

- Fan motors diameter: from 560 to 630 mm
- Capacity: from 9,5 to 114 kW

UNIT COOLERS FOR CO₂



CGC



- Cubic unit coolers for commercial cold rooms**
- Fan motors diameter: from 250 to 350 mm
 - Capacity: from 1 to 27,2 kW

CGD



- Dual discharge unit coolers for commercial cold rooms**
- Fan motors diameter: 315 or 350 mm
 - Capacity: from 1,4 to 34,7 kW

CDD



- Dual discharge unit coolers for commercial and industrial cold rooms**
- Fan motors diameter: 230, 450 or 560 mm
 - Capacity: from 0,82 to 81,5 kW

CGS



- Slanted unit coolers for commercial cold rooms**
- Fan motors diameter: from 200 to 315 mm
 - Capacity: from 0,24 to 8,9 kW

CGL



- Dual discharge unit coolers for commercial working rooms**
- Fan motors diameter: 250 or 315 mm
 - Capacity: from 3,4 to 8,8 kW

CDC



- Cubic unit coolers for commercial and industrial cold rooms**
- Fan motors diameter: from 500 to 800 mm
 - Capacity: from 8,2 to 177 kW

CVC



- Plug and Play coolers with electronic expansion valve system**
- Fan motors diameter: from 250 to 350 mm
 - Capacity: from 2,4 to 7,4 kW

Electronic expansion valve system

eVDice



Picture: "EVD ice" electronic expansion valve system, courtesy of CAREL
 "CAREL" and "EVD ice" brands are property of CAREL INDUSTRIES S.p.A.
www.carel.com

F-gas ready!

The European Parliament has adopted a new regulation repealing Regulation (EU) No 517/2014, aimed at phasing down fluorinated gases (F-gases) and other substances that contribute to global warming and ozone layer depletion. While existing EU legislation has already significantly limited the use of these gases and substances, the new rules will further reduce their emissions into the atmosphere and help to mitigate global temperature rise in accordance with the Paris Agreement.

Under the new rules, the consumption of hydrofluorocarbons (HFCs) will be completely phased out by 2050. Conversely, the production of HFCs, in terms of production rights allocated by the Commission, will be gradually reduced to a minimum of 15% starting from 2036. Both production and consumption will follow a strict schedule with degressive quota allocations.

The regulation imposes a complete ban on placing products and equipment containing HFCs on the market for certain categories where it is technologically and economically feasible to switch to F-gas alternatives.

UNIT COOLERS FOR A2L

AP



Wall unit coolers for cabinets and small cold rooms

- Fan motors diameter: 230 mm
- Capacity: from 0,45 to 2,56 kW

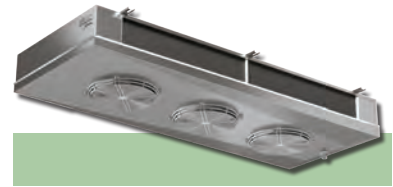
AGC



Cubic unit coolers for commercial cold rooms

- Fan motors diameter: from 250 to 350 mm
- Capacity: from 0,85 to 24,3 kW

AGD



Dual discharge unit coolers for work and commercial cold rooms

- Fan motors diameter: from 230 to 350 mm
- Capacity: from 0,48 to 26,3 kW

AGS



Slanted unit coolers for cabinets and commercial cold rooms

- Fan motors diameter: from 200 to 315 mm
- Capacity: from 0,3 to 7,6 kW

AGL



Dual discharge unit coolers for work and cold rooms in which reduced air circulation is required

- Fan motors diameter: 250 or 315 mm
- Capacity: from 2,49 to 7,4 kW



Accepted A2L refrigerants: R455A, R454C, R1234yf and R1234ze

This includes specific domestic refrigerators, chillers, foams, and aerosols. Furthermore, it establishes specific dates for the complete phase-out of F-gas use in air conditioning, heat pumps, and REFRIGERATION.

The industry is responding to this significant change by developing and introducing new technologies and innovative designs for refrigeration installations. The entire sector is rapidly evolving, from HFC producers to product plant management and maintenance operators.

Today, our product portfolio includes models with smaller internal volumes, ensuring higher efficiency with a substantial reduction in the amount of refrigerant used. Additionally, we have designed a comprehensive range of CO₂ models (GWP=1) that can operate at higher pressures. These units can now be used in regions characterized by higher temperatures, thanks to options and technical solutions that ensure optimal performance and reduced energy consumption.

F-gas prohibitions

1 January 2030

"Refrigeration equipment that contains, or whose functioning relies upon fluorinated greenhouse gases with a GWP of 150 or more, except if required to meet safety requirements at the site of operation"

CONDENSERS, LIQUID COOLERS AND GAS COOLERS



LCE



Air cooled condensers for small condensing units

- Fan motors diameter: from 170 to 300 mm
- Capacity from 0,37 to 2,4 kW

TKE



Air cooled condensers for commercial applications

- Fan motors diameter: 350 or 450 mm
- Capacity: from 3,6 to 115 kW

PCV



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

- Fan motors diameter: 450 or 500 mm
- Capacity: from 8,5 to 55,3 kW

PCR



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

- Fan motors diameter: from 400 to 630 mm
- Capacity: from 22,3 to 413 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
- Capacity: from 40,8 to 260 kW

KCE-K



Air cooled condensers and dry coolers for commercial and industrial applications

- Dual speed fan motors diameter: from 500 to 910 mm
- Capacity from 10 to 1600 kW

KCE-S



Gas coolers for commercial and industrial applications

- Dual speed fan motors diameter: from 500 to 910 mm
- Capacity from 10 to 900 kW

V-shape



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

- Dual speed fan motors diameter: 800 and 910 mm
- Capacity: from 88 to 1934 kW

Scelte
SELECTION SOFTWARE

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ECO-BATIC®

THE GROUNDBREAKING GAS COOLER LINE
FOR A CLEANER, HEALTHIER WORLD





Step into the world of refrigeration with ECO™ products.

Our experience and the technologies we employ enable us to guarantee optimum levels of performance and energy efficiency.

Our units are reliable and flexible to use in a wide range of applications.

Opting for our products means selecting quality solutions that respect the environment.

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