

Value Defender



Ceiling installation



Floor installation



CS, LS, ECS



CSW, LSW

Benefits

- Available for ceiling or floor installation
- Very low energy consumption
- Easy access to clean and maintenance
- Wide product range and accessories
- Two-year product guarantee

General information & application

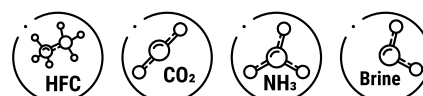
CS, LS, and ECS are high-performance industrial air coolers designed for cold rooms application.

CS models feature internally grooved tubes and staggered rows, making them suitable for both positive and negative temperature applications. CS range is particularly suitable for the preservation of low moisture products or packaged goods.

LS models, equipped with internally grooved tubes and in-line rows, have a high ratio of secondary fin surface to primary tube surface. They are ideal for high humidity cold rooms and freezing application.

ECS models are optimized for medium and low temperature CO₂ application.

Refrigerants



Capacity range

6.7 up to 261.7 kW

Air quantity

3,900 up to 94,000 m³/h

Design pressure

Model	Refrigerant	Max working pressure
CSH, LSH	HFC	24 bar*
CSA, LSA	Ammonia	24 bar
CSH CO ₂ , LSH CO ₂	CO ₂	45-60 bar
CSW, LSW	Brine	24 bar*
ECS	CO ₂	60-85 bar

* 19 bar with ø 108 mm headers

Each heat exchanger is leak tested with dry air and finally supplied with a dry air pre-charge. Fitted with schröder valve on the suction connection for testing purposes (only for HFC units).

Fan motors

1 to 4 fans fitted with high-efficiency AC or EC fan motors drawing through the coil. Available in different fan diameters (ø 450, 500, 630, 710, 800, 910, 950 mm). Integrated thermo contacts provide reliable protection against thermal overload.

Casing

Corrosion-resistant galvanized steel casing, epoxy coated RAL 9003.



Coil

Refrigerant	Fins	Tubes	Headers
HFC	Al*	Cu	Cu
Ammonia	Al*	SS 304**	SS 304**
CO ₂	Al*	Cu	Cu
Brine	Al*	Cu	Cu

* Alupaint as optional; **Stainless steel 316 on request

- High-efficiency TURBOFIN® aluminum fins with special configuration of the louvre profile to reduce dehumidification and frost formation.
- High-efficiency small-diameter copper tubes with internal helical grooving, designed for optimal evaporation of the new refrigerant fluids. Stainless steel tubes for ammonia refrigerant.
- Standard fin spacings 4.5, 6, 7.5, 10 and 12 mm.

Options

- Shut up sock
- Textile tube adapter
- Air streamer
- Insulated rear air director cover
- Unit coolers switches
- Unit coolers wiring
- Insulated drain tray
- Stainless steel casing and coil frame
- Hinged fan shroud - *not available for Ø 450 mm*
- Mounting feet - *for Ø 500, 630, 710, 800, 910, 950 mm*
- Inclined motor
- Motorized rear shutter
- Electric defrost (E)
- Fan shroud heater
- Hot-gas defrost in coil+electric defrost in drain tray (G)
- Hot-gas defrost both in coil and drain tray (GB)
- Water defrost (SB)
- Hot glycol defrost both in coil and drain tray (HG)
- Hot glycol defrost in coil+electric defrost in drain tray (HE)
- Hot glycol defrost in drain tray only (HB)
- Hot glycol defrost in coil only (HC)
- Blow-trough fan

Certifications

The LU-VE Exchangers quality system is in accordance with ISO 9001. All products are manufactured according to PED regulations. LU-VE Group participates in the ECP program for HE. Check ongoing validity of certificate*: www.eurovent-certification.com

Selection

Selection and pricing is to be performed with our air heat exchanger selection software Refriger. Selection output includes all relevant technical data and dimensional drawings.

Code description

CS	63	H	*	2214	E	6	*
1	2	3	4	5	6	7	8

- 1 Industrial air coolers for cold room (CS=Compact Surface, LS=Large Surface)
- 2 Fan diameter (45=450, 50=500, 62=630, 71=710, 80=800, 90=910, 95=950 mm)
- 3 Technology (H=Hitec® for HFC and CO₂, blank=for ammonia and brine)
- 4 Refrigerant system (blank=HFC, A=ammonia, W=brine, in case of CO₂ see pos. 8)
- 5 Model type
- 6 Defrost system (N=air defrost, E=electric defrost, G=hot-gas defrost in coil + electric defrost in drain tray, GB=hot-gas defrost both in coil drain tray)
- 7 Fin spacing (4=4.5, 6=6.0, 7=7.5, 10=10.0, 12=12.0 mm)
- 8 Application (DX CO₂=direct expansion for CO₂, PB=pumped bottom feed for ammonia, PT=pumped top feed for ammonia)

ECS	63	2214	E	6
1	2	3	4	5

- 1 Industrial air coolers for CO₂ applications
- 2 Fan diameter (45=450, 50=500, 62=630, 71=710, 80=800 mm)
- 3 Model type
- 4 Defrost system (N=air defrost, E=electric defrost, G=hot-gas defrost in coil + electric defrost in drain tray, GB=hot-gas defrost both in coil and drain tray)
- 5 Fin spacing (4=4.5, 6=6.0, 7=7.5, 10=10.0, 12=12.0 mm)



*Ammonia and Brine refrigerants not covered by Eurovent certification

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