

Alfa Arctigo

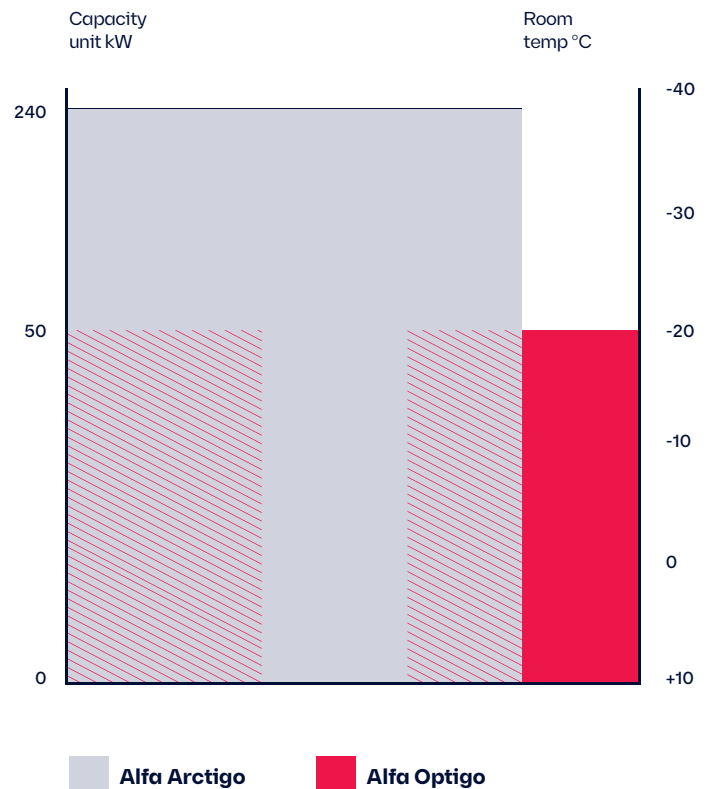
Industrial air coolers
shaped for your
application



LU·VE

Industrial refrigeration shaped with precision

In industrial refrigeration, standard commercial solutions often fall short. Applications differ in scale, thermal load and operating conditions, and require systems shaped to deliver consistent performance. That is why we developed **Alfa Arctigo**, our industrial air cooler platform engineered with an application-led approach. Alfa Arctigo turns complex industrial requirements into **high-performing, energy-efficient and reliable solutions**, designed to elevate both process stability and working environments.



Alfa Arctigo at a glance

- Suitable for HFC, ammonia, CO₂ and brine refrigerants
- Direct expansion, pumped system and brine
- Modular architecture
- First-class coil and casing materials for long operating life
- Application-led design
- Extensive optional range
- Low sound levels for comfortable working spaces
- Ready for low temperatures, down to -40 °C
- Eurovent certified product

Alfa Arctigo combines **LUVE's avant-garde technologies** with Helpman®'s longstanding expertise in industrial refrigeration.

Construction details reflect an engineering mindset focused on operational effectiveness and accessibility. Reliability is proven by the numbers: **Over 40,000 Arctigo units installed worldwide since the first version was released in 2014.**



Application expertise

Decades of industrial experience allow us to guide customers toward the most suitable configuration for their cooling or freezing processes. Alfa Arctigo is shaped to deliver **high performance with reduced energy consumption**, supporting sustainable operation and a competitive total cost of ownership. It embodies our engineering mindset: analytical, measurable and driven by continuous improvement.



Wide and versatile range

The Alfa Arctigo platform is built on a modular concept including:

- 10 coil block modules for ISD models
- 8 coil block modules for ISB models
- 3 coil block modules for ID models

Each configuration can be adapted through multiple construction variants, fan types and mechanical options. The result is a wide and deep range shaped to meet the full spectrum of industrial refrigeration needs.



Configurator and support

Our **Plair** configurator enables fast and accurate selection of the solution that best fits the application. Combined with our global network of sales and technical assistance (available in local languages) we offer **complete support throughout the entire lifecycle**, from system design to maintenance.

Performance proven by standards

CERTIFICATIONS

We operate with management systems aligned with international ISO standards, supporting measurable improvements in efficiency and sustainability:

- UNI EN ISO 50001:2018
Energy Management Systems
- UNI EN ISO 14001:2015
Environmental Management Systems
- UNI EN ISO 9001:2015
Certified Quality System

Eurovent certification

The industry's performance benchmark

For over 20 years, we've committed to transparency through Eurovent certification - the European association for heating, ventilation, air conditioning, process cooling and food cold chain technology performance validation. This dedication to integrity reflects our core values: we believe in transparency, reliability and guaranteed performance.

Specifically, the Eurovent Certified Performance (ECP) certificate validates our published specifications for power, air flow, energy consumption, noise levels and construction characteristics. Every number we share is tested, verified and guaranteed by this recognized third-party organization.

Eurovent certification applies to Alfa Arctigo models included in the programme for both HFC and CO₂ applications. Certificate validity can be checked at:

www.eurovent-certification.com



Application expertise shaped around your industry



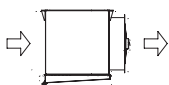
Agricultural produce

Alfa Arctigo units for agricultural storage are shaped to deliver the ideal capacity-to-air-volume ratio while maintaining a compact footprint. They are configured for temperatures around 0 °C with small temperature differences to **preserve hydration, minimize shrinkage and maintain product quality**.



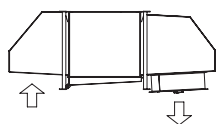
Meat, fish & poultry freezing and storage

Alfa Arctigo air coolers are engineered for **reliability and low defrost frequency**, supporting an optimal freezing process with minimal moisture loss. In shock cooling applications, they operate with an air-on/air-off difference of just 2–3 K, reducing dehydration and maintaining product value. For extended freezing cycles, Alfa Arctigo offers **dual fin spacing**, allowing the system to run longer before defrosting, and freeze more goods with consistent efficiency.



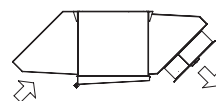
**Draw-through
Ceiling mounted**

General purpose/ Long-term storage fresh produce



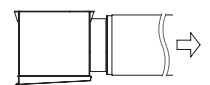
**Draw-through Floor
mounted Inlet hood 90° Fan
casing 90°**

Blast freezing large slaughter houses



**Draw-through
Ceiling mounted
Inlet hood 45° Fan casing 45°**

Shock cooling meat, fish and poultry



**Draw-through
Ceiling mounted
Airsock ring**

Processing rooms, Green house

Industrial refrigeration spans diverse environments, from deep-freezing to processing rooms. Alfa Arctigo adapts to each one with precision. Its modular architecture and

application-led design allow each unit to be configured with the right airflow, capacity and temperature profile for the specific needs of your industry.



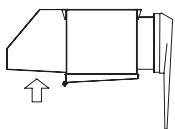
Distribution centres

Distribution centres impose complex demands on air coolers. Alfa Arctigo units for these environments are designed for **high cooling capacities, long air throws and fast temperature recovery**. All Alfa Arctigo coolers are fitted with **hinged drain trays**, and can be supplied with **hinged fans** for easier inspection and cleaning, a critical benefit where hygiene and accessibility are essential. High stock turnover requires coolers that are **extremely efficient in maintaining the right temperatures and very easy to clean**.



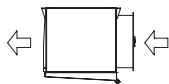
Processing rooms

Processing areas must protect food quality while ensuring a safe and comfortable space for workers. Alfa Arctigo coolers designed for these rooms deliver **minimal noise, balanced airflow and reduced draft**, maintaining stable conditions for operators. Air socks further enhance comfort, providing **uniform air distribution across the full working area**. Models dedicated to airsock applications include the appropriate external pressure for reliable operation.



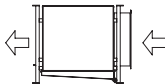
**Draw-through
Ceiling mounted
Inlet hood 90° Shutup sock**

Frozen storage fish
and meat



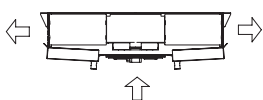
**Blow-through
Ceiling mounted**

Large air throw,
carrot and potato storage



**Blow-through
Floor mounted**

Distribution centres
fresh produce



**Blow-through
Ceiling mounted
Dual discharge**

Processing rooms
and distribution centers

Alfa Arctigo line-up

A wide and flexible range of industrial air coolers configurations, shaped for both cooling and freezing applications in medium to large cold rooms.

Alfa Arctigo ISD

- Single discharge
- Air direction: draw-through
- Operating temperature: **+10 to -40 °C**
- External static pressure: **up to 150 Pa**
- **10** coil block modules
- **3, 4, 6, 8 or 10** tube rows in air direction
- **1 to 6** fans
- Fan Ø: **400, 450, 500, 630, 710, 800, 910 mm**
- Drains inclined **45°**, **ø 1½" BSP ext.**



ISD	71	1	-	20	S	A	C	E	A	33	AL	7	-	AB	5	4	-	ABD	-	L	*
1	2	3		4	5	6	7	8	9	10	11	12		13	14	15		16	17	18	19

- Arctigo industrial air cooler single discharge - air direction draw-through
- Fan diameter (40=400, 45=450, 50=500, 63=630, 71=710, 80=800, 91=910 mm)
- Number of fans (1 to 6)
- Tubes per row
- Coil module (blank=standard coil module, S=short coil module)
- Tube rows code (A=3, B=4, C=6, D=8, E=10)
- Tube material (C=copper, SS=stainless steel)
- Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed, blank for brine units)
- Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO₂)
- Maximum working pressure
- Fin material (AL=aluminium, EP=precoated aluminium, SWR=seawater resistant aluminium)
- Fin spacing (4=4.0, 5=5.0, 6=6.0, 7=7.0, 8=8.0, 0=10.0, 2=12.0 mm)
- Number of circuits (2 digits)
- Capillary diameter (1 digit: for brine and pump there is X, for DX there is 4, 5 or 6)
- Orifice diameter (mm, only for ammonia units)
- Fan motor code (2 digits)
- Fan type (D or Y for AC 3ph, S for AC 1ph, E for EC)
- Refrigerant connection side (L=left, R=right-fan side view)
- Options

Alfa Arctigo ISB

- Single discharge
- Air direction: blow-through
- Operating temperature: **+10 to -40 °C**
- External static pressure: **up to 150 Pa**
- **8** coil block modules
- **4, 6 or 8** tube rows in air direction
- **1 to 6** fans
- Fan Ø: **400, 450, 500, 630, 710, 800 mm**
- Drains inclined **45°**, **ø 1½" BSP ext.**



ISB	71	1	-	20	S	A	C	E	A	33	AL	7	-	AB	5	4	-	ABD	-	L	*
1	2	3		4	5	6	7	8	9	10	11	12		13	14	15		16	17	18	19

- Arctigo industrial air cooler single discharge - air direction blow-through
- Fan diameter (40=400, 45=450, 50=500, 63=630, 71=710, 80=800 mm)
- Number of fans (1 to 6)
- Tubes per row
- Coil module (blank=standard coil module, S=short coil module)
- Tube rows code (B=4, C=6, D=8)
- Tube material (C=copper, SS=stainless steel)
- Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed, blank for brine units)
- Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO₂)
- Maximum working pressure
- Fin material (AL=aluminium, EP=precoated aluminium, SWR=seawater resistant aluminium)
- Fin spacing (4=4.0, 5=5.0, 6=6.0, 7=7.0, 8=8.0, 0=10.0, 2=12.0 mm)
- Number of circuits (2 digits)
- Capillary diameter (1 digit: for brine and pump there is X, for DX there is 4, 5 or 6)
- Orifice diameter (mm, only for ammonia units)
- Fan motor code (2 digits)
- Fan type (D or Y for AC 3ph, S for AC 1ph, E for EC)
- Refrigerant connection side (L=left, R=right-fan side view)
- Options

Arctigo IDB

- Dual discharge
- Air direction: blow-through
- Operating temperature: **+20 to -40 °C**
- External static pressure: **up to 125 Pa**
- **3** coil block modules
- **3, 4, 6 or 8** tube rows in air direction
- **1 to 5** fans
- Fan Ø: **450, 500 or 630 mm**
- Vertical drains **ø 1½" BSP ext.**



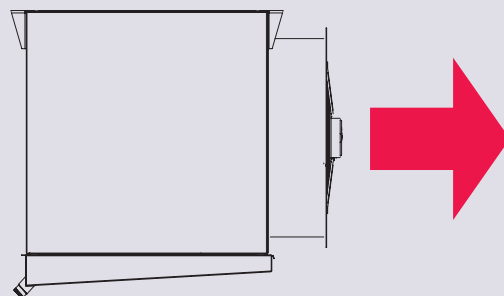
IDB451	-	AC	-	EX33AL7	*	5	-	*	D	*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

- Arctigo industrial air cooler dual discharge - air direction blow-through
- Fan diameter (45=450, 50=500, 63=630 mm)
- Number of fans (1 to 5)
- Tube rows code (A=3, B=4, C=6, D=8)
- Tube material (C=copper, SS=stainless steel)
- Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed)
- Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO2)
- Maximum working pressure
- Fin material (AL=aluminium, EP=precoated aluminium, SWR=seawater resistant aluminium)
- Fin spacing (4=4.0, 5=5.0, 6=6.0, 7=7.0, 8=8.0, 0=10.0 and 2=12.0 mm)
- Number of circuits
- Capillary diameter (brine and pump: X; DX: 4, 5 or 6)
- Fan motor code
- Fan type (D or Y for AC 3ph, S for AC 1ph, E for EC)
- Options

Draw-through vs. blow-through

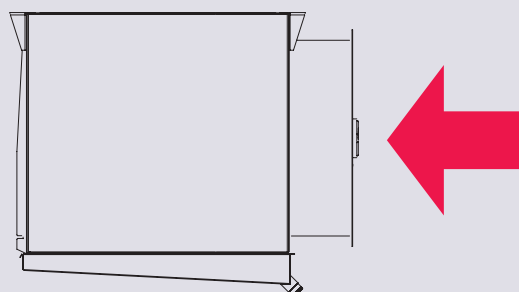
Draw-through air direction

- More uniform air distribution across the coil, improving thermal efficiency
- Longer air throw
- Frost build-up visible on the air inlet side for easier monitoring



Blow-through

- Higher DTML and higher cooling capacity
- Larger outlet surface for smoother air flow
- Higher RH at outlet, reducing product dehydration



Standard features

Frame and casing

- Coil frame and casing in pre-galvanized sheet steel, epoxy coated RAL 9003. High-grade Zn-Al-Mg coated steel for unpainted surfaces.
- Stainless steel fixing materials
- Hinged side panels for easier access
- Standard design shaped to provide a large plenum and maximize efficiency

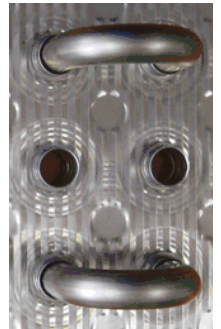
Coil

- Tubing configurations include **copper rippled**, **copper smooth** for brine, or **stainless steel**
- **Ø 12 mm** tubing for CO₂ and **16 mm** for other refrigerants
- Corrugated fins available in aluminium, pre-coated aluminium or AlMg 2.5 alloy.
- Fin spacing options: **4, 5, 6, 7, 8, 10, 12 mm**

Square tube pitch

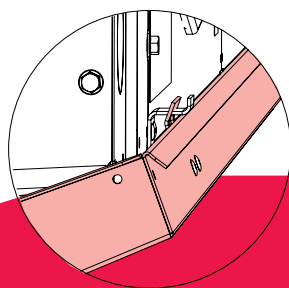
A configuration particularly suited to applications requiring **higher relative humidity**. Arctigo units use square pitch coils to deliver:

- greater surface area for less frequent defrosting
- longer cooling periods
- reduced air pressure drop
- lower fan power consumption



Drain tray

Hinged drain tray with **1½" threaded** drain connection. All models include specially designed openings between internal and external drain trays and the appropriate number of drains for each configuration.



Key features

- **Top covers on both sides:** improved defrost efficiency in side compartments
- **Moulded fan collar:** optimized aerodynamic performance
- **New coil geometry for CO₂:** higher thermal efficiency and reduced refrigerant charge
- **Removable drain tray:** hinged construction for extended accessibility and easy maintenance, even with mounting feet installed
- **Internal drain tray** with sloped design across all configurations for excellent condensate drainage and optimal defrost efficiency
- **Side-by-side transportability for container loading**



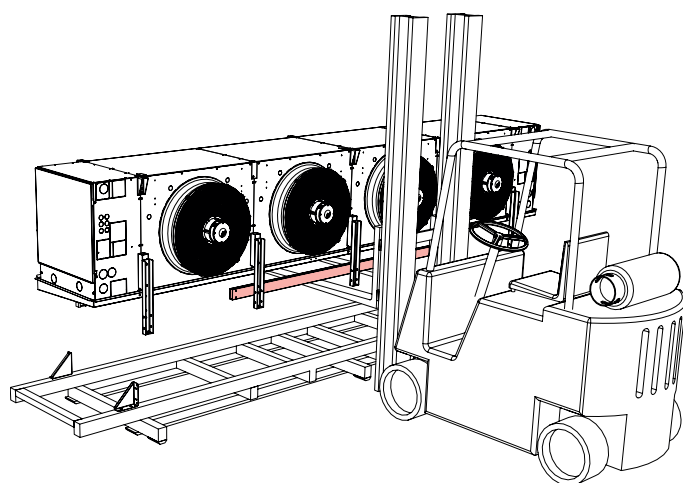
Refrigerants

Alfa Arctigo units can be configured for all standard refrigerants in both direct expansion and pumped systems. Circuiting is shaped according to refrigerant type and application.

Refrigerant application	Design pressure
HFC	33 bar
Ammonia	30 bar
CO ₂	33-40-60-80 bar
Brine	10 bar

Refrigerant connections (Alfa Arctigo IS)

Connections can be positioned on **either side** of the cooler to match cold-room layout requirements. Default location: **left side (fan view)**.



Delivery in mounting position

Alfa Arctigo coolers are delivered in their mounting position on a reinforced pallet, supported by dedicated transport feet. Handling and positioning can be performed using a forklift. To protect the drain tray, units supplied with mounting feet include **horizontal support beams** beneath the unit during transport.

FANS

All Alfa Arctigo models can be configured for cooling or freezing applications by selecting the appropriate fan type.

Both AC and EC fans are available across the range, and all LUVE fan assemblies comply with the Energy-related Products (ErP) Directive.

AC dual fan speed

All 3ph AC fan motors are dual-speed. By connecting the motors in star or delta (Y/Δ), the unit can operate at two fan speeds and two corresponding sound pressure levels.

EC fans: more efficient, quieter, smarter

We equip LUVE air coolers with high-efficiency EC fan assemblies. This proven solution delivers superior speed control, measurable energy savings and reduced noise levels.

Power supply

Fan motors are available for all common power supplies: 400/460 V–50/60 Hz–3 ph or 230 V–50/60 Hz–1 ph. Special motors for alternative power supplies are available on request.





Reliable sound performance data

Sound power values for air coolers are often presented per fan. LUVÉ provides verified **sound power data for the complete unit**, ensuring accurate specifications, especially important in environments where people work and acoustic comfort matters. Different methods exist in the refrigeration industry to determine sound values. The essential distinction lies between **sound power (LwA) and sound pressure (LpA)**.

Sound power (LwA) represents the total acoustic energy generated over time. It is independent of distance and

environmental conditions, making it the correct basis for comparing sound sources. Values are given in dB(A) and derived through calculations involving multiple parameters.

Sound pressure (LpA) represents the acoustic force per surface unit. It can be measured directly in laboratory settings following formalized standards (free-field conditions, fixed distances, etc.). Alfa Arctigo sound pressure values follow EN13487 under free-field conditions.

Benefits of EC vs AC fans

- Energy saving: EC fans reduce energy consumption by up to 30% compared to traditional AC fans
- Excellent acoustic performance, especially at partial load
- Compact design with motor and controller in a single unit
- Power-factor control for efficient energy use
- Integrated motor protection for durability and simplified wiring
- Optimally matched motor and electronics for stable, maintenance-free operation
- Easy installation with integrated commutation electronics, EMC and mains supply filter

Fan configuration

During Alfa Arctigo configuration, fan selection is determined automatically based on:

- Cooling capacity
- Static pressure
- Air direction
- Unit dimensions
- Fin spacing
- Cooling/freezing application
- AC/EC
- Δ/Y connection

The calculation software also allows fine-tuning for EC fans through variable-speed calculations.



PLAIR

Our configurator software **Plair** supports the complete selection process for all Alfa Arctigo models. The output includes all technical data, dimensional drawings and pricing. Combined with global sales, technical support and service in local languages, we ensure total confidence throughout the entire lifecycle of your product.

OPTIONAL FEATURES

Optional features allow Alfa Arctigo units to be precisely adapted during the design phase, optimizing performance for the specific installation. This flexibility extends the range and supports tailored solutions across all industrial refrigeration applications.



Electrical accessories

FRH - Fan ring heater

Fan ring heater connected to a central connection box.

SW - On/off switch

Dedicated on/off switch for each fan motor.

CB / CB1 - Central connection box

All fan motors are internally wired to a central connection box (CB), or to a central box connected to a single external switch (CB1). Default position opposite the refrigerant connection side.



Mechanical options

EP / SWR - Fin protection

Pre-coated aluminium fins (EP) or AlMg2.5 alloy (SWR) for aggressive environmental conditions.

SSC - Stainless steel casing and frame

Stainless steel casing and coil frame. Standard underplate in aluminium and fan grid is in black painted steel.

ST - Streamer

Fan streamer increasing air throw by more than 40%.
For draw-through units only.

HF - Hinged fans

Hinged fan plates simplify cleaning operations, reducing service time and maintenance costs.

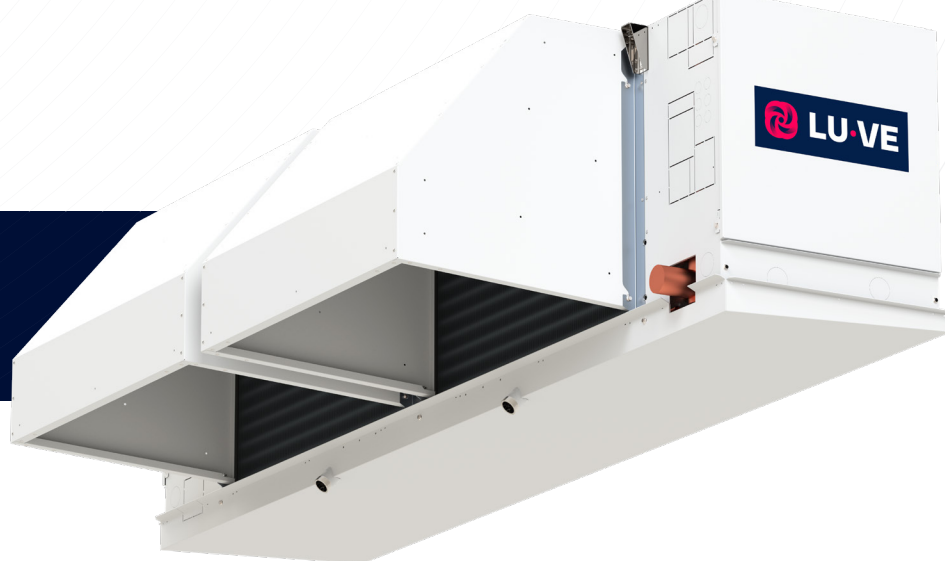
I2 - Drain tray insulation

Double drain tray insulated with 13 mm styropor. Alternative insulating materials available.

MF - Mounting feet

Hot-dip galvanized steel mounting feet. Stainless steel in combination with SSC.





H1 / H2 / IH1 / IH2 - Suction hood

Air inlet hoods at 90° (H1) or 45° (H2) improve defrost efficiency when combined with a shutup sock (S). Insulated versions with 20 mm styropor available (IH1, IH2). For draw-through units only.

FC1 / FC2 - Fan casing

Fan casing at 90° (FC1) or 45° (FC2) for uniform air and temperature distribution in shock cooling applications. For draw-through units only.



DF - Dual fin spacing

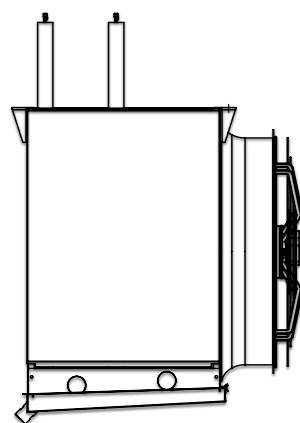
Dual fin spacing is available on request.

AVA - Top connections

Available for brine models, on request for other applications.

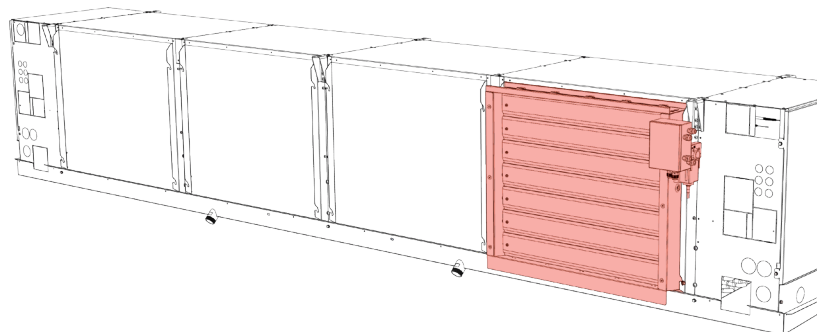
F - Flanges

PN16 flanges in AISI 304 for copper or stainless steel tube models used in brine applications. Supplied loose.



Motorized defrost damper

For draw-through units only.



S - Shutup sock

Polyester sock improving air throw, reducing defrost time by up to 30% and lowering power consumption. For draw-through units only.

SR - Air sock ring

Adaptor ring for air sock applications. For draw-through units only.



DEFROST SYSTEMS

Proper defrosting is a critical factor in air cooler operation. About 75% of air cooler malfunctions are linked to defrost-related issues, such as ice accumulation in the drain tray and bottom plate, uneven frost formation on the coil, reduced airflow and compromised air distribution. These conditions are typically caused by unsuitable defrost systems, incorrect defrost timing, excessive or insufficient defrost cycles, or incomplete frost removal.

Alfa Arctigo defrost systems are developed to deliver **maximum efficiency with minimized operating costs**. Our solutions are selected and configured according to application requirements and operating conditions, ensuring reliable performance over time.

Recommended defrost system

For cold rooms with temperatures below **2 °C**, where frost formation is expected, the use of a defrost system is recommended. The optimal solution depends on several parameters, including the required air-on temperature and system configuration.

Air-on temperature °C		+5	0	-5	-10	-15	-20	-25	-30	-35	-40
Hot-gas defrost	HG										
	HG+ I2										
Electrical defrost	E1*										
	E1 + I2*										
	E2										
	E2 + I2										
	E4										
Hot-glycol circuit defrost	HW										

* In combination with hot-gas defrost in the coil.

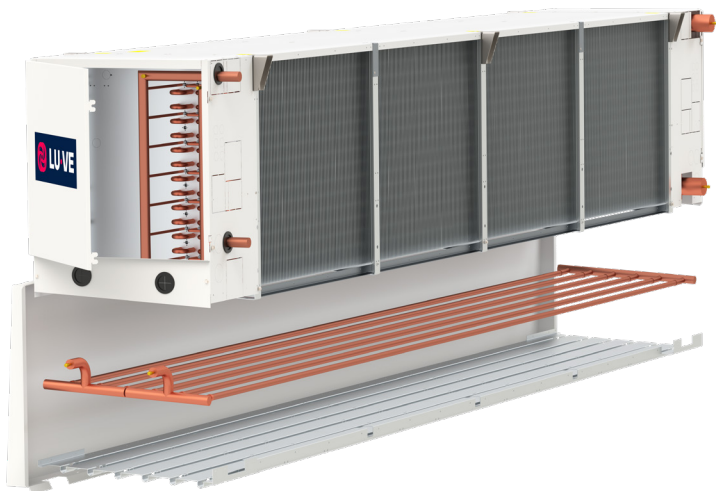


HG / HGC - Hot gas defrost

The drain tray can be equipped with a copper or stainless steel defrost coil (HG) to rapidly increase temperatures using hot gas. The system is available either connected to the cooler coil (HGC) or independent from it (HG). In combination with drain tray insulation (I2), hot gas defrost supports air-on temperatures down to **-40 °C**.

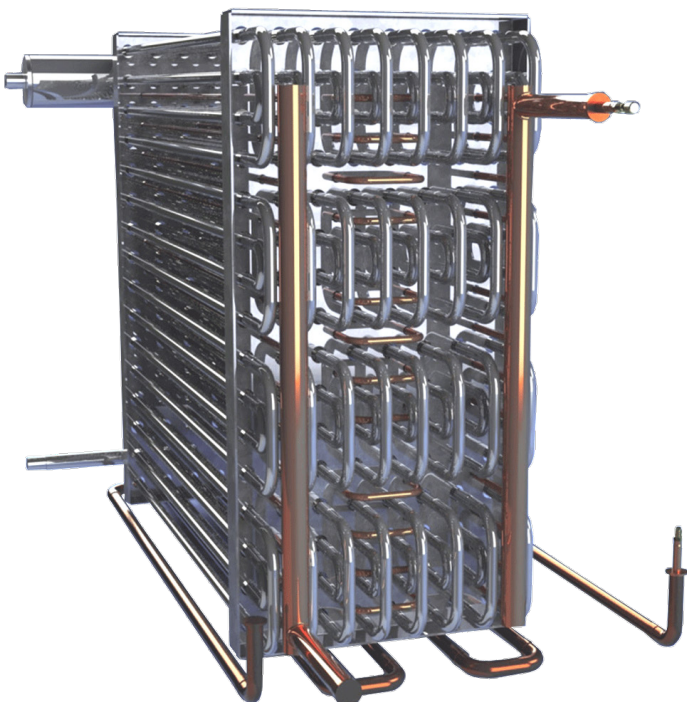
Standard connection diameters:

- **Ø 35 mm** for copper tubes
- **Ø 33.7 mm** for stainless steel tubes



HW - Hot-glycol circuit defrost

A highly effective solution for **CO₂ applications**. By combining heat recovery with low-temperature glycol, this system enables significant energy savings. Defrost circuits in copper tubing are integrated into both the coil and the drain tray. Suitable for air-on temperatures down to **-25 °C**.



Electric defrost

Electric defrost systems use stainless steel heater elements installed in dedicated tubes to improve defrost efficiency. Drain tray heaters are positioned at the bottom of the inner tray. Coil and drain tray use identical elements, all connected to a central connection box.

E1 - Electric defrost drain tray

- Air-on temperatures down to **-25 °C**
- Stainless steel electric elements in the drain tray
- Designed for use in combination with other defrost systems, such as hot gas defrost in the coil block
- With drain tray insulation (I2), suitable down to **-40 °C**

E2 - Electric defrost heavy

- Air-on temperatures down to **-25 °C**
- Stainless steel electric elements in both coil block and drain tray
- Recommended for general use
- With drain tray insulation (I2), suitable down to **-40 °C**

E4 – Electric defrost light

- Air-on temperatures down to **-10 °C**
- Stainless steel electric elements in both coil block and drain tray



The shape of cooling



LU·VE

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