

Alfa LU-VE in brief

Alfa LU-VE is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers optimize the performance of their processes.

Time and time again.

We help our customers to cool products such as water, foodstuffs, beverages, chemicals, pharmaceuticals and oil.

Our worldwide organization works closely with customers to help them stay ahead.

How to contact Alfa LU-VE

Up-to-date Alfa LU-VE contact details for all countries are always available on our website alfa.luvegroup.com.



alfa.luvegroup.com

Arctigo – Optimal design made real

The Alfa LU-VE range of industrial air coolers

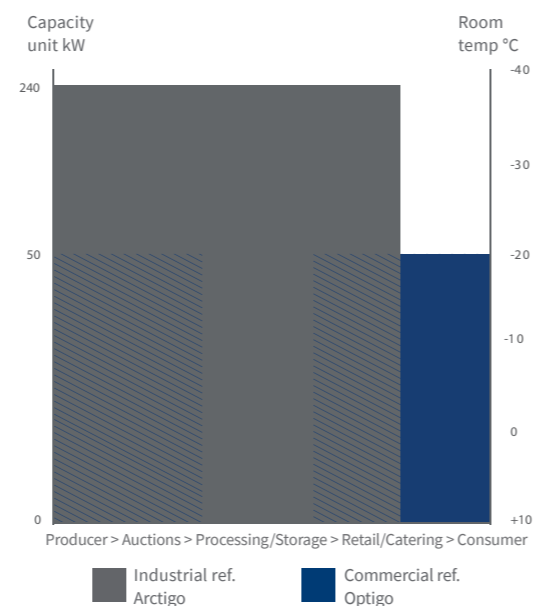




Arctigo – Optimal design made real

In industrial refrigeration, standard commercial solutions often fall short, as every application has its own unique requirements. Every product has to be perfectly customized to achieve the optimal efficiency and climate conditions.

That's why Alfa LU-VE has developed Arctigo, our industrial air cooler platform. Arctigo air coolers are built with an application-led approach, creating the optimal design for industrial applications like yours.



Main benefits

- Single and dual air discharge ranges available
- State-of-the-art technology for any refrigeration application
- Optimal energy efficiency
- Easy-to-use selection and configuration software
- Wide and versatile modular range, easy to install and maintain
- One-stop heat exchanger supplier with worldwide support and service

This industrial air cooler line has been designed using the Helpman® heritage.

Combined with the Optigo range for commercial refrigeration, we supply a full range of the latest high efficiency air coolers for all applications.

Application expertise

Thanks to our application expertise, we are able to help customers find and select the right product for their cooling and freezing projects. We have put all our application knowledge and customer insight into developing Arctigo – an industrial air cooler with high quality parts configured to deliver optimal performance by using less energy, resulting in a lower total cost of ownership.

Wide and versatile range

Arctigo air coolers are based on a modular concept with 10 different coil block modules for ISD models, 8 coil block modules for ISB models and 3 coil block modules for ID. Each of them can be configured for different construction models, fan types and several other options. The result is a wide and deep range, with solutions for all industrial refrigeration applications.

Configurator and support

Our easy-to-use configurator software Plair helps you select the most suitable solution for your specific application. Combined with worldwide sales, technical support and service in local languages we offer you total confidence throughout the entire lifetime of your product.



Arctigo at a glance

- Suitable for all HFC, ammonia, CO₂ and brine refrigerants
- Direct expansion, pumped system and brine
- Fin spacing 4 up to 12 mm
- Design pressures HFC 33 bar, NH₃ 30 bar, CO₂ 33-40-60 bar, brine 10 bar
- Room temperatures +10 down to -40 °C

Arctigo ISD - single discharge air cooler

- Square pitched coil
- 1 to 6 fans
- Fan diameters 400 up to 910 mm
- Draw-through design
- Capacity range 3 up to 240 kW
- Air volumes 3,000 up to 130,000 m³/h

Arctigo ISB - single discharge air cooler

- Square or triangular pitched coil
- 1 to 8 fans
- Fan diameters 450 up to 1000 mm
- Blow-through design
- Capacity range 3 up to 250 kW
- Air volumes 3,000 up to 120,000 m³/h

Arctigo ID - dual discharge air cooler

- Square pitched coil
- 1 to 5 fans
- Fan diameters 450, 500 and 630 mm
- Blow-through design
- Capacity range 3 up to 110 kW
- Air volumes 4,000 up to 50,000 m³/h



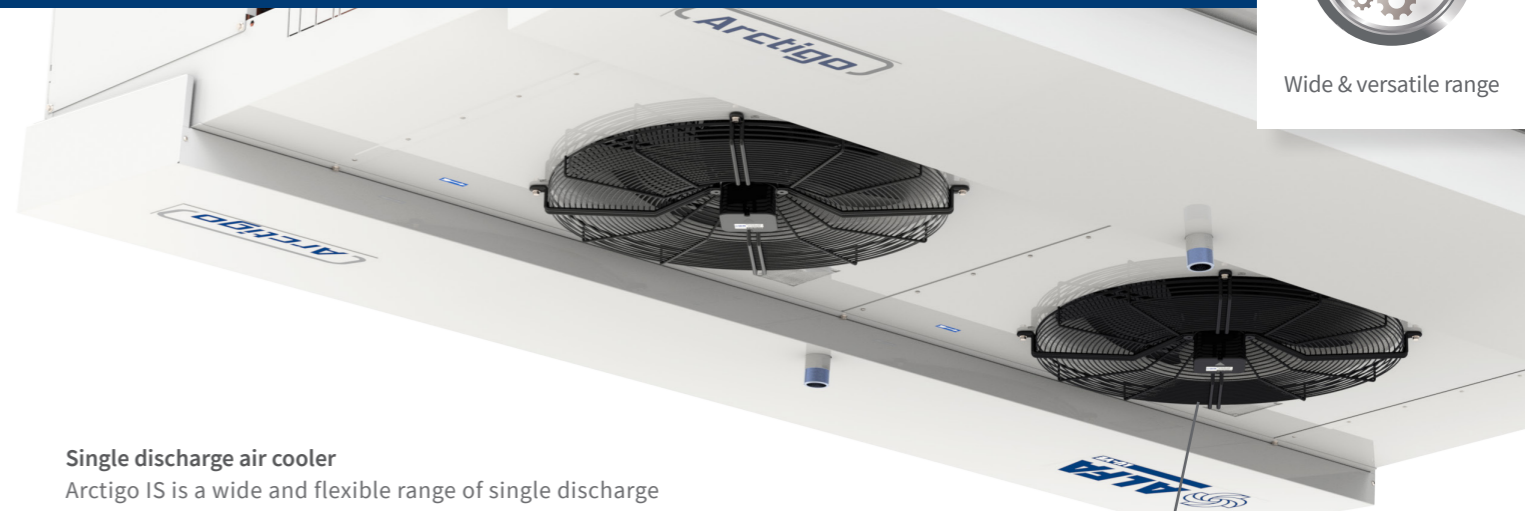
Arctigo Range

The Arctigo range consists of highly modular and flexible industrial air coolers, including the single discharge Arctigo IS, and the dual discharge Arctigo ID.

Optimal model for your need

The Arctigo range offers a wide variety of cooler configurations and a long list of options, enabling contractors to always select the optimal model to suit their customer's industrial cooling application. This highly versatile range is designed to keep fresh and frozen goods refrigerated, with either high or low humidity content.

- Application-based air cooler design for optimal performance
- Low sound levels for working room conditions
- Advanced product selection software
- Energy efficient and easy to install
- Heavy-duty coil & casing materials for long operational product life



Single discharge air cooler

Arctigo IS is a wide and flexible range of single discharge industrial air coolers for cooling and freezing applications in medium to large cold rooms. This air cooler line is designed to keep goods refrigerated from +10 to -40 °C. Standard selectable external static pressure up to 150 Pa.

Arctigo ISD

- Square pitched coil
- Draw-through design
- Wide casing to reduce risk of spluttering and ensuring even air distribution over finned coil
- 1 to 6 fans, fan diameters from 400 up to 910 mm
- Motorized defrost damper as option



Arctigo ISB

- Square or triangular pitched coil
- Blow-through design
- Wide casing to reduce risk of spluttering and ensuring even air distribution over finned coil
- 1 to 8 fans, fan diameters from 450 up to 1000 mm
- Hinged fan ring as option



Dual discharge air cooler

The Arctigo ID is a range of dual discharge industrial air coolers designed for refrigeration from +20 to -40 °C. Standard selectable external static pressure up to 125 Pa.

Arctigo ID

- Low unit height for optimal cold room space
- Low sound level on standard fans
- Low defrost frequency thanks to square tube pitch configuration
- Hinged fan plate as standard option



Application expertise for your industry

From freezing and cold storage in industrial premises, cooling in slaughter houses and fish and meat processing areas, to climate control in storage rooms for fresh food, Arctigo provides the optimal climate for every product.

Agricultural produce

Agricultural storage coolers are characterized by an ideal capacity to air volume ratio and a relatively low profile. Arctigo coolers for this application have been configured for air temperatures around 0 °C and a small temperature difference to avoid dehydration.

Meat, fish & poultry freezing and storage

Alfa LU-VE air coolers are developed to be extremely reliable and operate with a low defrosting frequency for the optimal freezing process. This minimizes loss of moisture in fresh products during freezing, which preserves the product value and quality.

Using Arctigo in shock cooling applications limits the difference between air-on and air-off temperature to a maximum of 2-3 K. This minimizes the moisture withdrawn from the product, which settles as frost on the fin coil. In addition, an extra wide fin spacing is available (dual fin spacing) to prolong the freezing cycle before defrosting and as a result, freezes more goods.



Processing rooms

Processing room air coolers have to take into consideration the optimum quality of the food being processed, and yet maintain climate conditions suitable for the workers. To guarantee the health of the employees, Arctigo units used as processing room coolers have been designed with a minimal noise level and a minimal sensible draft.

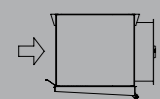
This goal is achieved through low air velocities, an extremely even airflow and small temperature gradients in the ambient air. An excellent aid is the airsock, ensuring good air distribution over the entire working space.

The Arctigo range covers models that have been specifically designed with the appropriate external pressure for airsock application.

Distribution centres

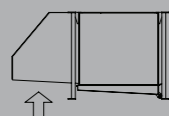
Distribution centres impose complex demands on air coolers. Arctigo units used in these areas are designed for high cooling capacities and long air throws. All Arctigo coolers are fitted with hinged drip trays and can be supplied with hinged fans for easy inspection and cleaning, which is especially important in this application.

High stock turnover and movement requires these coolers to be extremely efficient in maintaining the right temperatures, and very easy to clean.



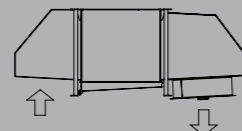
Draw-through
Ceiling mounted

Example:
General purpose/
Long-term storage
fresh produce



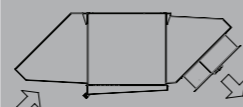
Blow-through
Floor mounted
Inlet hood 90°

Example:
Large cold rooms
high humidity



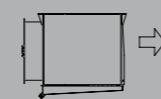
Draw-through
Floor mounted
Inlet hood 90°
Fan casing 90°

Example:
Blast freezing large
slaughter houses



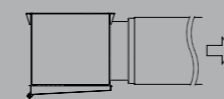
Draw-through
Ceiling mounted
Inlet hood 45°
Fan casing 45°

Example:
Shock cooling meat,
fish and poultry



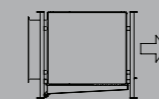
Blow-through
Ceiling mounted

Example:
Large air throw, carrot
and potato storage



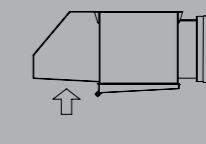
Draw-through
Ceiling mounted
Airsock ring

Example:
Processing rooms



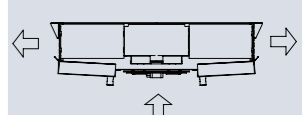
Blow-through
Floor mounted

Example:
Distribution centres
fresh produce



Draw-through
Ceiling mounted
Inlet hood 90°
Shutup sock

Example:
Frozen storage
fish and meat



Blow-through
ceiling mounted
Dual discharge

Example:
Processing rooms and
distribution centers



Arctigo standard features

Arctigo is a wide and flexible range of single and dual discharge air coolers for cooling and freezing applications in medium to large cold rooms. The range provides optimal conditions for fresh and frozen goods, at a temperature range down to -40°C.

Refrigerants

Arctigo units can be configured for all common refrigerants in both direct expansion and pumped systems. Circuiting is optimized according to the refrigerant and application.

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

Coil

- Tubing: copper ripple, copper smooth for brine or stainless steel, tube diameter 16 mm
- Corrugated fins 0.25 mm in aluminium, pre-coated aluminium or seawater-resistant aluminium
- Fin spacing: 4, 5, 6, 7, 8, 10, 12 mm

Arctigo ISD

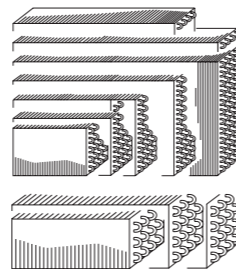
- 10 basic coil block modules
- 3, 4, 6, 8 or 10 tube rows in air direction

Arctigo ISB

- 8 basic coil block modules
- 3, 4, 6, 8 or 10 tube rows in air direction

Arctigo ID

- 3 basic coil block modules
- 3, 4, 6 or 8 tube rows in air direction



Each heat exchanger coil is leak tested with dry air and subsequently supplied with a dry air pre-charge.

Fans

- EC or AC fan motors: 400-460/50-60/3 or 230/50-60/1 (for Ø 400 and 450 mm)
- Two sound levels (Δ/Y connection) for AC 3ph fans
- Fan motors with dynamically and statically balanced external rotor, protection class IP54 class F or IP55 (for ID)
- Integrated thermo contacts provide reliable protection against thermal overload

Arctigo ISD

- 1 to 6 fans
- Diameters (both EC and AC): 400, 450, 500, 630, 710, 800 or 910 mm
- Air direction: drawing through coil

Arctigo ISD Modules					
Arctigo type	no. of fans/unit	fan Ø mm	unit dimensions		
			H mm	L min mm	L max mm
ISD 40x-10	1-4	400	573	1614	4014
ISD 45x-12S	1-6	450	673	1614	5614
ISD 45x-12	1-6	450	673	1814	6814
ISD 50x-14	1-6	500	773	1814	6814
ISD 63x-16S	1-5	630	873	1814	5814
ISD 63x-16	1-5	630	873	2014	6814
ISD 71x-20	1-5	710	1073	2014	6814
ISD 80x-24	1-4	800	1073	2414	7214
ISD 91x-24	1-4	910	1273	2414	7214
ISD 91x-32	1-4	910	1673	2414	7214

Arctigo ISB

- 1 to 8 fans
- Diameters (both EC and AC): 450, 500, 630, 710, 800 or 1000 mm
- Air direction: blowing through coil

Arctigo ISB Modules						
Arctigo type	no. of fans/unit coil geometry		fan Ø mm	unit dimensions		
	square	triang.		H mm	L min mm	L max mm
ISB 1	1-8	1-7	450	610	1475	7075
ISB 2	2-6	1-6	450	710	1675	6675
			500			
ISB 3	1-5	1-5	630	910	1875	6675
			710			
ISB 3S	1-6	1-6	630	910	1675	6675
			710			
ISB 4	1-4	1-3	710	1110	2275	7075
ISB 5	1-3	1-3	800	1310	2675	6675
ISB 6	1-3	1-3	1000	1510	2675	6675
ISB 7	1-4	1-3	1000	1710	2275	7075

Arctigo ID

- 1 to 5 fans
- Diameters (both EC and AC): 450, 500 or 630 mm
- Air direction: blowing through coil

Arctigo ID Modules					
Arctigo type	no. of fans/unit	fan Ø mm	unit dimensions		
			H mm	L min mm	L max mm
ID 45x	1-5	450	487	1438	4721
ID 50x	1-5	500	587	1721	5721
ID 63x	1-5	630	587	1921	6721

Versatile range



Wide & versatile range



Frame and casing

- Heavy-duty material, coil frame and casing in pre-galvanized sheet steel, RAL 9003 (ISD and ID) or epoxy coated RAL 9002 (ISB)
- Hinged side panels
- Corrosion-resistant fixing materials
- Sufficient space for piping, valves and control devices inside casing



Delivery in mounting position

Arctigo coolers are mounted on wooden beams using special transport feet for ceiling mounted coolers (to be removed after installation). Can be installed using a forklift.

Square or triangular tube pitch

Arctigo ISD and ID units can be configured with square pitched coils. Arctigo ISB units can be configured with square or triangular pitched coils.

Square pitches enhance the surface area for less frequent defrosting, longer cooling periods, lower air drop pressure and lower fan power consumption. This is more suitable for applications that require keeping the relative humidity high.

Triangular pitches result in a lower fin temperature and more capacity per m² coil surface. This allows for a more compact cooler design for a specific duty.

Driptray

Hinged driptray, drain(s) with 1½" threaded connection.

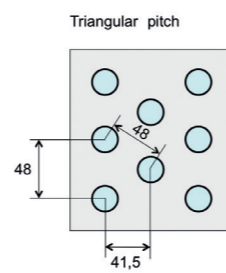
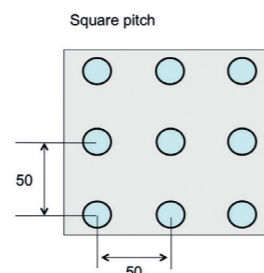
On Arctigo ISD and ISB drainage is inclined by 45° to optimize piping layout. On Arctigo ID, the drain connection is vertical. Both models feature specially designed holes between internal and external driptrays and the ideal number of drains.



Refrigerant connections (Arctigo ISD and ISB)

Refrigerant connections can be configured on both sides of the cooler to suit your application. Default position is on the left side (fan view).

L R



Code description

All Arctigo models are labelled according to the following code type. This allows easy reference to the products' specifications.

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

- 1 Arctigo industrial air cooler single discharge - air direction draw-through
- 2 Fan diameter (40=400, 45=450, 50=500, 63=630, 71=710, 80=800, 91=910 mm)
- 3 Number of fans (1 to 6)
- 4 Tubes per row
- 5 Coil module (blank=standard coil module, S=short coil module)
- 6 Tube rows code (A=3 B=4 C=6 D=8 E=10)
- 7 Tube material (C=copper, S=stainless steel)
- 8 Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed, blank for brine units)
- 9 Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO₂)
- 10 Maximum working pressure
- 11 Fin material (AL=aluminium, EP=precoated aluminium, SWR=sea water resistant aluminium)
- 12 Fin spacing (4=4.0, 5=5.0, 6=6.0, 7=7.0, 8=8.0, 0=10, 2=12 mm)
- 13 Number of circuits (2 digits)
- 14 Capillary diameter (1 digit: for brine and pump there is X, for DX there is 4, 5 or 6)
- 15 Orifice diameter (mm, only for NH₃ units)
- 16 Fan motor code (digits)
- 17 Fan digit (D or Y for AC 3ph, S for AC 1ph, E for EC)
- 18 Refrigerant connection side (L=left, R=right - fan side view)
- 19 Options

ISB	35	-	2	S	H	8	CU	E	X	60	AL	7	-	2H5	-	*	D	-	L	FRH	
1	2	3		4	5	6	7	8	9	10	11	12	13		14	15		16		17	18

- 1 Arctigo industrial air cooler single discharge - air direction blow-through
- 2 Cooler module size (1 to 7)
- 3 Number of fans (1 to 8)
- 4 Coil geometry (1=triangular, 2=square)
- 5 Short coil module (s)
- 6 Fan speed (H=high pressure fans)
- 7 Tube rows in air direction (3, 4, 6, 8 or 10 rows)
- 8 Tube material (CU=copper, SS= stainless steel)
- 9 Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed)
- 10 Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO₂)
- 11 Maximum working pressure
- 12 Fin material (AL=aluminium, EP=precoated aluminium, SWR=sea water resistant aluminium)
- 13 Fin spacing (4, 5, 6, 7, 8, 10 and 12 mm)
- 14 Circuiting code
- 15 Fan motor code
- 16 Fan connection (D=delta, Y=star)
- 17 Refrigerant connection side (R=right, L=left - fan side view)
- 18 Options

ID	B	45	1	-	A	C	-	E	X	33	AL	7	*	5	-	*	D	FRH
1	2	3	4		5	6		7	8	9	10	11	12	13		15	16	17

- 1 Arctigo industrial air cooler - dual discharge
- 2 Air direction (B=blow-through)
- 3 Fan diameter (45=450 mm, 50=500 mm, 63=630 mm)
- 4 No. fans (1 to 5)
- 5 Tube rows code (A=3, B=4, C=6, D=8)
- 6 Tube material (C=copper, SS=stainless steel)
- 7 Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed)
- 8 Refrigerant system (H=HFC, A=ammonia, W=brine, X=CO₂)
- 9 Maximum working pressure
- 10 Fin material (AL=aluminium, EP=precoated aluminium, SWR=sea water resistant aluminium)
- 11 Fin spacing (4=4 mm, 5=5 mm, 6=6 mm, 7=7 mm, 8=8 mm, 0=10 mm and 2=12 mm)
- 12 No. circuits
- 13 Capillary diameter (brine and pump: X; DX: 4, 5 or 6)
- 14 Fan motor code
- 15 Fan type (D or Y= AC 3ph, S=AC 1ph, E=EC)
- 16 Options



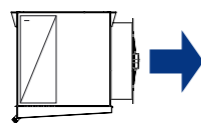
Fan technology

The type of fans depends on the application area. Air coolers from Alfa LU-VE are equipped with premium quality fans and motors that comply with the highest industry standards.

Draw-through vs. blow-through

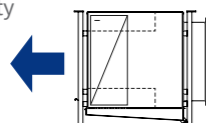
Draw-through air direction

- Better air distribution over the coil, hence higher coil efficiency
- Longer air throw
- Frost build-up visible on air inlet side



Blow-through air direction

- Higher DTML, higher cooling capacity
- Large air outlet surface, more even airflow
- Higher RH in air outlet (less product dehydration)



AC and EC fans

Both options are available for all Arctigo units. Alfa LU-VE EC motors are direct current motors where collector and brushes have been replaced with electronics. EC fan motors are equipped with integrated Electronic Commutation speed control. The result is a highly efficient and extremely compact speed controlled fan.

Arctigo ISD Fans					
Arctigo type	no. of fans/unit		fan Ø mm	3ph	1ph
	coil geometry square				
ISD 40x-10	1-4		400	•	•
ISD 45x-12S	1-6		450	•	•
ISD 45x-12	1-6		450	•	•
ISD 50x-14	1-6		500	•	
ISD 63x-16S	1-5		630	•	
ISD 63x-16	1-5		630	•	
ISD 71x-20	1-5		710	•	
ISD 80x-24	1-4		800	•	
ISD 91x-24	1-4		910	•	
ISD 91x-32	1-4		910	•	

Arctigo ISB Fans					
Arctigo type	no. of fans/unit		fan Ø mm	3ph	1ph
	coil geometry square	triang.			
ISB 1	1-8	1-7	450	•	•
			500	•	
ISB 2	2-6	1-6	630	•	
			710	•	
ISB 3	1-5	1-5	630	•	
			710	•	
ISB 3S	1-6	1-6	710	•	
			800	•	
ISB 4	1-4	1-3	1000	•	
			1000	•	
ISB 5	1-3	1-3	1000	•	
ISB 6	1-3	1-3	1000	•	
ISB 7	1-4	1-3	1000	•	

Arctigo ID Fans					
Arctigo type	no. of fans/unit		fan Ø mm	3ph	1ph
	coil geometry square				
ID 45x	1-5		450	•	•
ID 50x	1-5		500	•	•
ID 63x	1-5		630	•	•

Benefits of EC fans compared to AC fans

- Absence of slip and friction losses
- Less noise and heat generation
- Higher efficiency at any speed
- Decrease of power consumption
- Longer lifespan
- Fan speed independent of power supply frequency and number of poles
- Excellent electromagnetic compatibility (EMC) according to EN 50082-2, no shielded motor cabling required

AC dual fan speed



All 3ph AC fan motors for Arctigo are dual fan speed type. Connecting the fan motors in either star or delta allows for two different fan speeds and cooler operation at two sound pressure levels.

Power supply

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

External pressure

Using our standard fan range, additional external static pressures of between 40 and 150 Pa (40 and 125 Pa Arctigo ID) are available for different cooler configurations and for instance, airsock applications.

Fan configuration

Based on the following input, the fan is automatically selected during configuration of Arctigo:

- Cooling capacity
- Static pressure
- Air direction
- Unit dimensions
- Fin spacing
- Freezing/cooling application
- AC/EC
- Delta/star connection

Cooling or freezing application

All Arctigo models can be optimized for either cooling or freezing conditions depending on the fan type selected.

ErP

All Arctigo fans comply with the Energy-related Products (ErP) directive.



You can trust Alfa LU-VE's sound data

Complete units

Air cooler sound power values are often supplied per fan. Alfa LU-VE, however, supplies reliable sound power data for the complete air cooler unit.

Sound specification is crucial for air coolers, since they are often used in environments with human presence, and adequate sound levels are required for the workplace to be safe and suitable for workers.

There are a few methods used in the refrigeration industry to calculate sound values, each with different specific advantages or disadvantages. The basic issue is whether to refer to sound power (L_{wA}) or sound pressure (L_{pA}).

Sound power L_{wA}

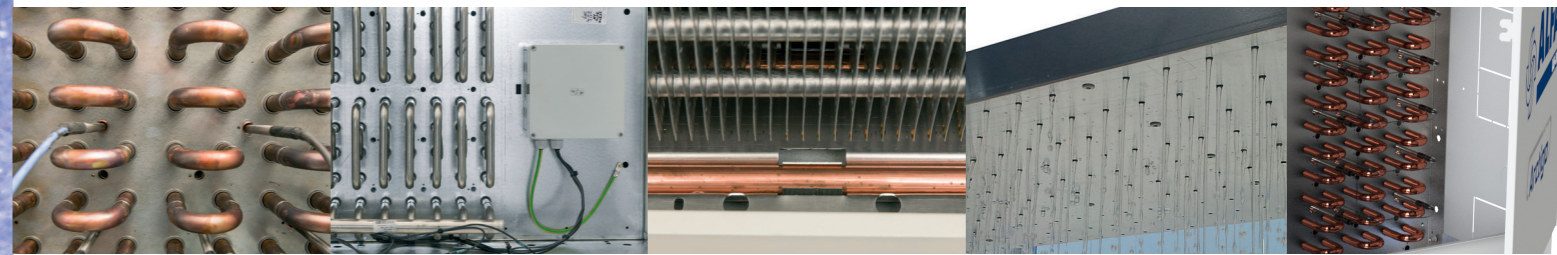
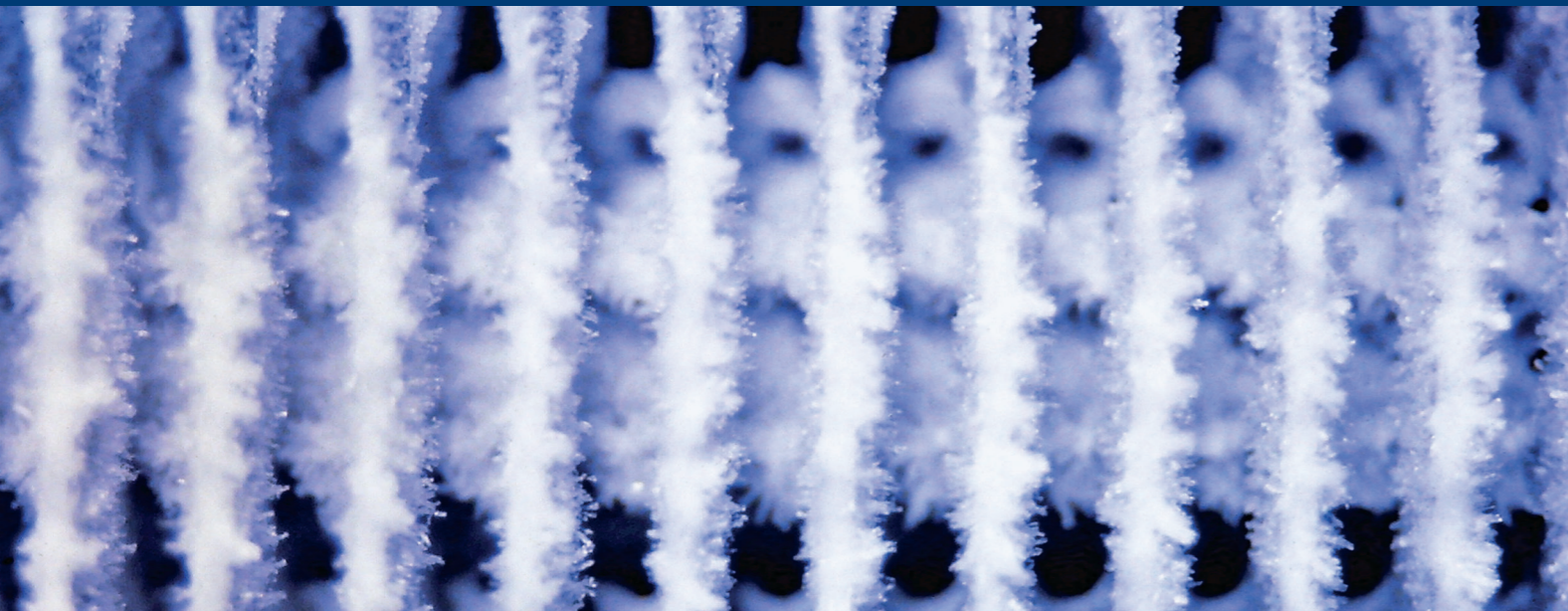
Sound power is the sound energy that is generated per time unit ($W=Nm/s$). Sound power is not dependent on the distance to the sound source and other situational circumstances, which makes it the only correct value to compare different sound sources. Sound power cannot be measured directly (we measure the pressure P) so sound power is the result of a complex calculation involving many different parameters. Sound power values are usually given in dB(A).

Sound pressure L_{pA}

Sound pressure is the sound force/surface ($P=N/m^2$), the force N being the alternating pressure generated by acoustic oscillation of the air. Sound pressure values can be directly measured under laboratory conditions according to strictly formalized standards (free field conditions, fixed distances etc.). Sound pressure values are also given in dB(A). Sound pressure values for Alfa LU-VE air coolers are given according to EN13487 in free field conditions.

Sound pressure values given in a brochure or data sheet are no clear indication of the actual sound characteristics in the working situation. There are numerous acoustic determinants to consider during actual operation of air coolers, such as the number of reflection planes, the presence of additional air coolers, and cold room content and construction. This needs to be calculated based on the provided sound power values in combination with all relevant situational parameters. This is primarily a responsibility of the contractor or plant designer.





Defrost systems

Arctigo's defrost systems are developed to deliver the highest possible efficiency at the lowest operating costs. Each defrost system is optimized for specific applications and conditions. Even user behavior, such as the frequency of door opening, and the position of the air coolers, will be taken into consideration during installation to ensure optimal operation of the air cooler.

Recommended defrost system

The recommended defrost system depends on different factors such as the air-on temperature required.

Air-on temperature °C		+5	0	-5	-10	-15	-20	-25	-30	-35	-40
Hot gas defrost	HG1										
	HG/HG2										
	HG1 + I2										
	HG/HG2 + I2										
Electrical defrost	E1*										
	E1 + I2*										
	E2										
	E2 + I2										
	E4										
Water defrost	W1										
	W2 (+I2/FRH)										
Hot water defrost	HW										

* In combination with hot gas defrost in the coil.

Electric defrost **E**

Stainless steel heater elements placed in additional tubes between the evaporator tubes. The elements for the driptray are fitted to the bottom of the inner tray. Both coil and driptray have the same elements. All defrost elements are connected in a central connection box.

• E1 – Electric defrost driptray

Air-on temperatures down to -25°C.

Electric stainless steel defrost elements in the driptray. For use in combination with, for example, hot gas defrost in the coil block. In combination with driptray insulation (I2) suitable for air-on temperatures down to -40°C.

• E2 – Electric defrost heavy

Air-on temperature down to -25°C. Electric stainless steel defrost elements in coil block and driptray. Recommended for general use. In combination with driptray insulation (I2) suitable for air-on temperatures down to -40°C.

• E4 – Electric defrost light

Air-on temperatures down to -10°C. Electric stainless steel defrost elements in the coil block and driptray.

Hot gas defrost **HG** **HGC**

The driptray can be fitted with a copper or stainless steel defrost coil (HG) to rapidly increase temperatures by means of hot gas.

• HG1 – Hot gas defrost light with defrost coil mounted under the coil block

• HG/HG2 – Hot gas defrost heavy with defrost coil mounted in the driptray

The hot gas defrost coil system can be supplied with (HGC) or without connection to the cooler coil (HG). In combination with driptray insulation (I2), hot gas defrost is suitable for air-on temperatures down to -40°C.

Hot water/glycol defrost **HW**

This is one of the best defrost systems for CO₂ applications. The condensation heat can be used as an energy source for greater energy savings. Defrost circuits (copper or stainless steel tubes) are placed in both coil and driptray.

- Hot glycol defrost for air-on temperatures down to -25°C

Water defrost **W1** **W2**

Water defrost requires only pump energy and a sufficient water volume to function. Arctigo's water defrost systems have been designed based on the results of field tests in Korea and Japan, ensuring that only the most efficient systems are employed. Suitable for air-on temperatures down to -5°C (W1). In combination with driptray insulation and fan ring heater, suitable for air-on temperatures down to -30 °C (W2).

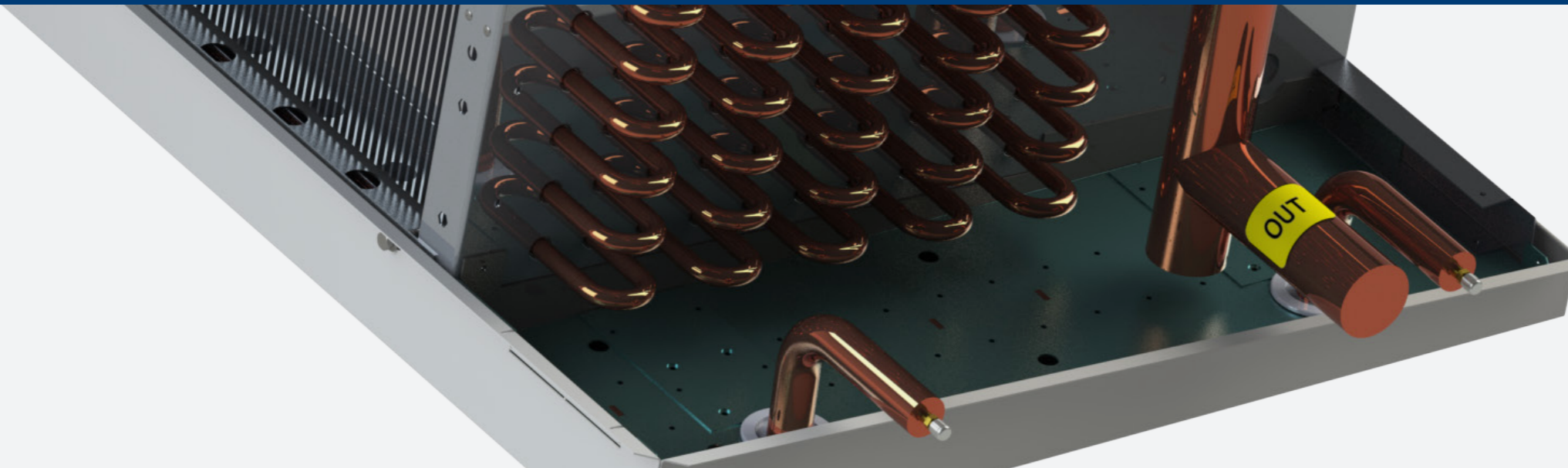
Keeping your defrost system in optimal condition

Our Service Specialist Air Arnold Leistra shares his experience of defrost challenges:

"About 75% of issues raised with regards to malfunctioning of air coolers are related to defrost problems. Common problems encountered include ice buildup in the driptray and bottom plate, bad refrigeration distribution caused by uneven frost or ice buildup in the coil, and reduced airflow.

These happen due to possible errors, such as stopping the defrost period too early, too many defrost periods per day, inefficient time settings of the defrost process, and irregular checks on the remaining frost or ice in the air cooler.

Such problems can be avoided by regularly monitoring the defrost results in the first period after commissioning and changing the settings if there is still frost remaining in the heat exchanger."



Optional features

By adding optional features to the Arctigo cooler, the performance of the specific installation can easily be optimized during the design process.

Electrical accessories

Fan ring heater **FRH**

Fan ring heater connected to a central connection box.

On/off switch **SW**

Fan motor on/off switch. One switch for fan.

Central connection box **CB CB1**

All fan motors internally wired to a central connection box (CB) or central internal connection box wired to a single external switch (CB1). Default positioning opposite to refrigerant connections side.

Mechanical options

Drip tray insulation **I2**

Double drip tray, insulated with 13 mm styropor. Other insulating materials are available on request.

Fin protection **EP SWR**

Pre-coated aluminium fins (EP) or seawater resistant aluminium AlMg2.5 (SWR) for even more aggressive climate conditions.

Flanges **F/FL**

Slip-on flanges for brine applications (aluminium PN16 or stainless steel PN16).

Hinged fans **HF**

Hinged fan rings for Arctigo ISD and ISB and hinged fan plates for Arctigo ID. Unique to Arctigo, hinged fan rings enable easier cleaning operations and reduces the weight of the entire unit compared to traditional hinged fans, resulting in time and cost savings.

Stainless steel casing and frame **SSC**

Stainless steel casing and coil frame. Standard materials for underplate (aluminium) and fan grid (black painted steel).

Mechanical options (Arctigo ISD)

Suction hood **H1 H2 IH1 IH2**

Hoods 90° (H1) or 45° (H2) can be fitted on both coil and fan side of the cooler. Hoods on the air inlet side can be used to enhance defrost efficiency in combination with a shutup sock (S). Suction hoods are also available with insulation with 20 mm styropor (IH1 and IH2).

Fan casing **FC1 FC2**

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

Shutup sock **S**

Polyester shutup sock for improved air throw, shorter defrost time by up to 30%, and lower power consumption.

Air sock adaptor ring **SR**

Adaptor ring for air sock application.

Streamer **ST**

Fan streamer to increase air throw by more than 50%.

Dual fin spacing **DF**

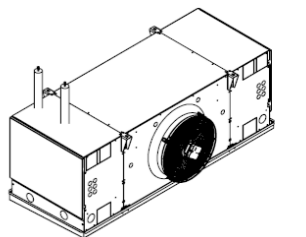
Dual fin spacing is available on request.

Mounting feet **MF**

Hot-dip galvanized steel mounting feet (stainless steel in combination with SSC).

Top connections **AVA**

For brine models. Standardized top connections allow easier selection and shorter delivery times.





Product selection and information

Plair

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



plair.it

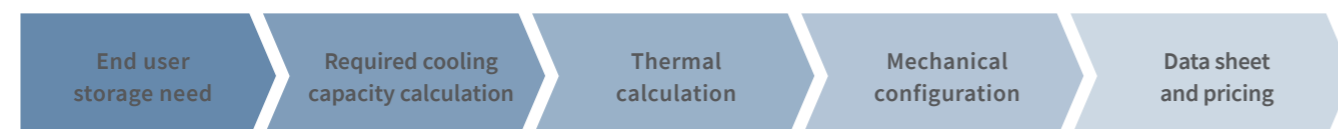
Product information

Comprehensive product information is available at alfa.luvegroup.com including product leaflets, manuals, certificates and brochures. Our website also offers CAD drawings, high-resolution images and electrical connections available for download.



alfa.luvegroup.com

Fully customized units from initial need to specification



Alfa LU-VE commercial air coolers

The Optigo range contains the following models: Optigo CS (low silhouette), Optigo FMD (dual discharge) and Optigo FMC (single discharge) air coolers for general application in cooling, freezing, storage, working and processing rooms.

A wide range of models are fitted with energy-efficient EC fans (as standard on the Optigo CS and Optigo FMD range), making them especially suitable for refrigerated working, processing and storage rooms. Optigo offers dedicated ranges for HFC A1, A2L refrigerants, brine and CO₂ applications.



Alfa LU-VE industrial air coolers

The Arctigo industrial air cooler platform offers an extremely wide and flexible range of single (IS) and dual discharge (ID) industrial air coolers, shock cooling (IST), banana ripening

(HRCD), industrial coils (IC) and data center cooling (LSV). The Arctigo range offers a wide variety of cooler configurations and options.



Commercial condensers, gas coolers and liquid coolers

AlfaBlue Junior is a competitive gas cooler, condenser and liquid cooler platform. AlfaBlue Junior offers excellent performance, allowing easy installation on site and easy integration with other components. Highly efficient fan motors combine excellent sound characteristics and low energy consumption.

The range includes: XG gas coolers specifically designed for CO₂ refrigerant systems, AG condensers and DG liquid coolers for commercial refrigeration and air-conditioning installations. The Alfa-V Single Row is designed to reject small to medium heat loads with a modest footprint in commercial refrigeration and air conditioning installations.



Industrial liquid coolers

The Fincoil Solar, Alfa-V (VDD and VLD) and Fincoil FBL ranges cover dry coolers for HVAC & REF applications, for heavy industrial cooling applications in process and power industries. AlfaTrafo BO is a dedicated range for transformer oil cooling. DCH is a dedicated range of radiators for GenSet containers.

Our industrial liquid coolers are available with either copper or stainless steel tubing. We supply both standardized and fully customized industrial liquid coolers. The Alfa LU-VE industrial product portfolio includes a variety of design options and accessories.