



Alfa Laval Arctigo IST

Tunnel coolers (shock coolers/blast freezers)

General information & application

Arctigo IST tunnel coolers have been specifically designed for application in cooling and freezing tunnels.

Shock-cooling is a process by which a product, mostly meat, is cooled quickly but not too deeply. The principle of shock-cooling is that the meat surface is rapidly cooled to just below the freezing point, thus making the surface vapour-tight. This limits the weight (moisture) loss of the product to a minimum. Shock-freezing is quickly cooling down and freezing of products with a strong flow of air. So called "drip" of products (loss of liquid from the product cell structure due to slow freezing) is reduced to the minimum and the product quality remains.

Evaporating temperature	+5 to -40 °C
Refrigerants	all HFO/HFC, ammonia, CO ₂
Capacities (SC2)	12 up to 300 kW
Air volume	10,000 up to 150,000 m ³ /h*
External static pressure	up to 150 Pa

* at 100 Pa ext.

Standard configuration

- Finned coil
 - 3 coil block modules
 - 3, 4, 6, 8 or 10 tube rows deep
 - Tubing ø 5/8" Cu ripple fin or smooth stainless.
 - Tube pitch 50 mm square.
 - Corrugated Alu-fins
 - Fin spacings 4, 5, 6, 7, 8, 10 and 12 mm.
- 2x1 to 2x6 Fans, ø 630 & 710 mm, blowing or drawing through the coil. 2-Speed AC/EC fan motors 400/50-60/3 two noise levels (Δ/Y). Dynamically and statically balanced external rotors, manufactured in accordance with VDE 0530/12.84 IP54 class F. Integrated thermo contacts (Clickson) provide reliable protection against thermal overload.
- Standard fitted with heavy duty mounting feet (MF)
- Corrosion resistant materials: coil frame and casing pre-galvanized sheet steel, epoxy coated RAL 9002. All fixing materials stainless steel.
- Hinged side panels and drip tray, drain(s) 1½" BSP ext.



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- Fitted with schröder valve on the suction connection for testing purposes.
- Double refrigerant connections (2 x inlet, 2 x outlet), positioned right or left (L=default).
- Sufficient room for fitting the expansion valve inside.
- Suitable for dry expansion or pumped system.
- Delivery in mounting position, mounted on wooden beams. Heavy duty mounting feet construction enables internal transport and installation with a forklift.



Benefits

- Application based air cooler design to secure product quality.
- Heavy duty coil & casing materials, resulting in a long operational product life.
- Energy efficient.
- Low defrost frequency thanks to square tube pitch configuration.
- Low total cost of ownership.
- Two-year product guarantee.
- Easy access to additional on-line product information (QR code)



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Options

- Electric defrost systems
 - Electric defrost in driptray (E1)
 - Electric defrost - heavy (E2)
 - Electric defrost - light (E4)
- Hotgas defrost systems
 - Hotgas defrost - light, not connected (HG1)
 - Hotgas defrost - heavy, not connected (HG2)
- Other defrost systems
 - Hot water/glycol defrost light/heavy (HW1/HW2)
- Hinged fan ring (HF)
- Driptray insulation 13 mm styropore + cladding (I2)
- Drain adapter kit
Adapter, rubber O-ring and 45° 40 mm PVC connection, freely adjustable into either horizontal or vertical position.

- Coil protection
 - Pre-coated aluminium (EP)
 - AlMg2.5 sea water resistant aluminium fins (SWR)
- Dual fin spacing (DF)
Available on request
- Stainless steel casing and frame (SSC)
- Fan ring heater (FRH)
- Switch ON/OFF (SW)
- All fan motors wired to two central connection boxes (CB)

Design pressure

Refrigerant application	Design pressure
HFO/HFC	33 bar
Ammonia	30 bar
CO ₂	33-40-60 bar

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



Code description

IST	B	3	5	2	s	H	8	CU	E	X	50	AL	7.0	2H5	L	*	D	FRH
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

- Alfa Laval Arctigo tunnel cooler
- Air direction (B=blow-through, D=draw-through)
- Cooler module size (3, 3s, 4)
- Number of fans (2x1 to 2x6)
- Coil geometry (2=square)
- Short coil module (s)
- Fan speed (H=high pressure fan)
- Tube rows in air direction (3, 4, 6, 8 or 10 rows)
- Tube material (CU=copper, SS=stainless steel)
- Application (E=direct expansion, PB=pumped bottom feed, PT=pumped top feed)
- Refrigerant system (H=HFO/HFC, A=ammonia, X=CO₂)
- Maximum working pressure
- Fin material (AL=aluminium, EP=precoated aluminium, SWR=sea water resistant aluminium)
- Fin spacing (4, 5, 6, 7, 8, 10 and 12 mm)
- Circuiting code (2H, 1H, 1/2H ... 2D, 1D, 1/2D...)
- Refrigerant connection side (R=right, L=left - fan side view)
- Fan motor code
- Fan connection
- Option code

Selection

Arctigo IST coolers are configured on customer request. Please contact your Alfa Laval representative for selection.

Certifications

The Alfa Laval quality system is in accordance with ISO 9001. All products are manufactured according to PED.



How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com