



# TYR-T

## Industrial shock cooler

### General information & application

Industrial shock coolers Helpman TYR-T 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 surface of the meat product is cooled until just below the freezing point, so that the surface becomes vapour-tight. This has the purpose of limiting the weight (moisture) loss of the product to a minimum. The product may not be cooled too deeply however, since otherwise the structure of the underlying tissue is damaged, resulting in a decline of the quality of the meat. For shock-coolers, it is important that the total surface of the product that is to be cooled be fully exposed to the cold air flowing from the cooler. For this reason, all models are characterised by an elevated external pressure (120 Pa).

Evaporating temp.	+5 to -40 °C
Refrigerants	ammonia (R-717), all H(C)FC, brine, CO <sub>2</sub>
Capacities (SC2)	11 up to 114 kW*
Air volume	11,800 up to 66,400 m <sup>3</sup> /h.

\* Higher capacities on request

### Standard configuration

- Finned coil
  - 2 coil block modules
  - 4, 6 or 8 tube rows deep
  - Stainless steel tubing ø 16 mm
  - Tube pitch 50 x 50 mm square
  - Corrugated Alu-fins
  - Fin spacings 7 or 10 mm.
- 2, 4, 6 or 8 Fans, blowing through the coil.  
Diameters Ø 508 mm or Ø 560 mm. Enclosed design spray-tight fan motors, protection class IP55. Motors are equipped with a thermal safety device in the windings, connected to separate terminals in the box.
- Fans with elevated external pressure (120 Pa).
- Corrosion resistant casing material:  
Aluminium/Sendzimir, white epoxy coated (RAL 9003).
- Hinged, enclosed end covers.



TYR-T

- Hinged driptray, drain(s) 32 mm PVC connection, freely adjustable into either horizontal or vertical position.
- Refrigerant distribution optimised to refrigerant applied.
- Refrigerant connections on right hand side (fan side view).
- Fitted with schröder valve on the suction connection for testing purposes. (not for R-717).
- Sufficient room for fitting the expansion valve inside.
- Suitable for dry expansion or pumped system.
- Stickers indicate fan direction and refrigerant in/out.
- Delivery in mounting position. Coolers are mounted on wooden beams. Installation can take place with use of a forklift.

### Design pressure

Design pressure 33 bar (H(C)FC), 27 bar (ammonia) or 6 bar (brine). Higher design pressures on request. Each heat exchanger is leak tested with dry air and finally supplied with a nitrogen pre-charge.

## Options

- Defrost systems
  - Hot gas coil in drip tray (G1, G2)
  - Hot gas connected (G1C, G2C)  
*Hot gas coil in drip tray connected to suction header, without non-return valve.*
  - Electric defrost (E1, E2, E4)
  - Water defrost (W)  
  
*Electric defrost for air coolers with pumped refrigerant circulation or in glycol execution on special request only.*
- Drip tray insulation
  - Styropore 10 mm + cladding ( I 2)  
*Not combined with electric defrost*
  - Foamglass 25 mm + cladding ( I 3)
- Refrigerant connections (L / R)  
(fan side view)
- Isolating switch, mounted (ISM)
- Fan ring heater 230 V (FRH)
- Secondary refrigerant  
*All models available for water/glycol application.  
Standard stainless steel welding connections,  
other connections (thread/flange) on request.*
- Stainless steel 304 casing (SSC)
- Hinged fan plate (HN)
- Fan motors 254-280/440-480/60/3 or 230/60/1



## Non-standard executions (on request only)

- Higher capacities
- Special fan motors
  - Dual fan speed motors
  - Variable fan speed motors
  - EC fans
  - Alternative electrical supply 230-380/60/3
- Built in heater coil sections

## Selection

Selection and pricing is to be performed with our Alfa Laval air heat exchanger selection software. Selection output includes all relevant technical data and dimensional drawings. Please contact our sales organization for details and full technical documentation.

## Code description

TYR-T	3 4 6	7	H1/6	400	-	Options
1	2 3 4	5	6	7		8

- Industrial shock cooler stainless steel/aluminium
- Cooler module (3 and 4)
- Number of fans (3 to 7)
- Tube rows in air direction (4, 6 or 8)
- Fin spacing (7 or 10 mm)
- Circuiting design (2H, H1, H2 ...)
- Fan power supply (400=230/400/50/3, 230=230/50/1)
- Option codes

## Benefits

- Application based air cooler design to secure product quality.
- Elevated external fan pressure to ensure optimised air flow around the product.
- Advanced product selection software available.
- Heavy duty coil & casing materials, resulting in a long operational product life.
- Reliable performance.
- Easy-install.
- 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)



## 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](http://www.alfalaval.com)