

Arctigo HRCD

Instruction manual



- Product description
- Product labels
- Unpacking & lifting
- Installation
- Maintenance
- Spare parts

ORIGINAL INSTRUCTIONS

AHE00062EN 2001
9460197802EN-01

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1 Important information



1.1 Disclaimer

This Instruction Manual applies to all Arctigo HRCD air cooler products and is supplied in combination with the Air Cooler Product Manual AHE00042. Both manuals must be carefully examined and instructions should be followed up at all times. Alfa LU-VE does not accept liability for any damage resulting from non-compliance to the instructions as given in the manuals and order-related documents.

1.2 Intended use

Air coolers are partly completed machinery according to Machine Directive 2006/42/EC and are intended for incorporation in cooling systems. Declarations of Incorporation are available on alfa.luvegroup.com. Air cooler units may not be put into operation until the conformity of the complete machine or cooling system has been declared according to the following standards and directives:

- Pressure Equipment Directive 2014/68/EU
- Machine Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- Electrical Equipment of Machines IEC 60204-1
- Electro Magnetic Compatibility 2014/30/EU
- Any applicable local or national legislation

1.3 Where to find product information

Detailed technical data for individual product models are available in order related documents, on the product sticker and in product data sheets. Comprehensive technical information for all Alfa LU-VE air heat exchanger products is available on-line on alfa.luvegroup.com. This includes:

- Product manuals
- Instruction manuals
- Product leaflets & brochures
- Product data sheets (selection software)
- Dimensional drawings
- Electrical wiring diagrams
- Certificates



Arctigo HRCD

Alfa LU-VE offers world-wide service and support. In case of any questions or uncertainty please contact your local Alfa LU-VE representative. Contact addresses are available at alfa.luvegroup.com.

2 Product description

2.1 General information and application

Banana ripening coolers Arctigo HRCD have been designed for application in airbag & side curtain system banana ripening rooms. The coolers have been optimised for 12.5 °C air-on and 11.5 °C air-off temperature at an evaporating temperature of 7 °C. Arctigo HRCD air coolers provide for an even temperature distribution throughout the whole ripening room, guaranteeing that the products are ripened as evenly as possible.

- Evaporating temperature: 7 °C (optimised)
- Refrigerants: all HFO/HFC, brine, CO₂
- Capacities (SC2): 8 up to 38 kW
- Banana rooms: 6 to 30 pallets

2.2 Standard configuration

- Finned coil :
 - Cu ripple fin tubing ø 5/8" (smooth tubing for brine)
 - Tube pitch 50 x 50 mm square
 - Corrugated Alu-fins.
- 3-5 Fans 400/50/3, Ø 508 and 550 mm. Cables are led to the outside of the casing. 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.
- Design pressure 33 bar (HFO/HFC) or 10 bar (brine).
- Heater elements
- Lighting integrated into the cooler casing.
- Corrosion resistant casing material: Aluminium/Sendzimir, white epoxy coated (RAL 9002).
- Hinged drip trays
- Fitted with schröder valve on the suction connection for testing purposes (excl. brine).
- 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.

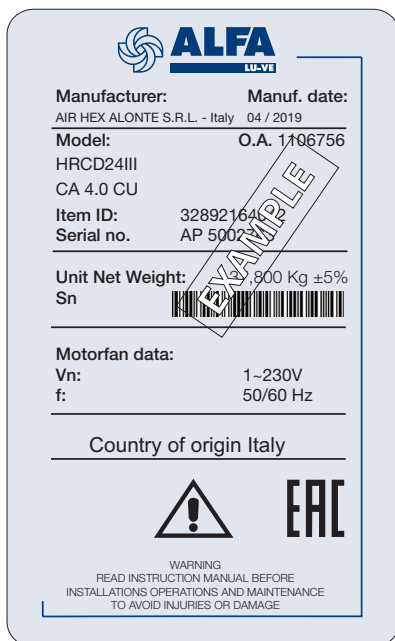


2.3 Code description

HRCD	24	III
1	2	3

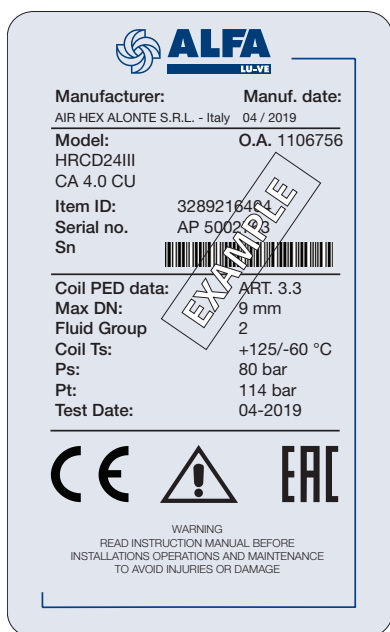
- 1 Banana ripening cooler airbag/side curtain system
- 2 Maximum number of pallets in ripening room
- 3 Number of pallet layers

3 Product labels



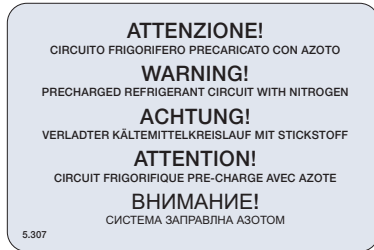
1. Product label

Model	Code description
Item ID Serial no.	To be communicated when ordering spare parts as they identify the unit.
O.A.	Order number
Unit Net Weight	Check before any lifting operation to ensure that proper lifting tools are used.



2. Product label - coil

Model	Code description
Item ID Serial no.	To be communicated when ordering spare parts as they identify the unit.
Max DN	Maximum diameter of the distributor tube
Fluid Group	According to PED
Coil Ts	Range of operating temperatures for the coil
Ps	Design pressure
Pt	Test pressure
Test date	Date on which the coil has been pressure tested in the factory



3. Nitrogen precharge warning

Units are delivered from the manufacturer with an overpressure. Check pressure on the Schrader valve. With unpressurised unit: Immediate report to manufacturer and note on bill of delivery.



4. 5. In/Out

Refrigerant connections inlet and outlet



6. Fan motor

Spare part item number



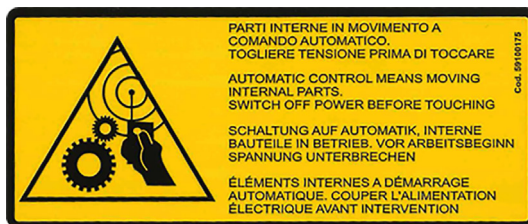
7. Electrical warning

Electrically powered component. Switch off power supply before any maintenance or installation operation



8. Fan direction

Sticker indicates fan rotation direction



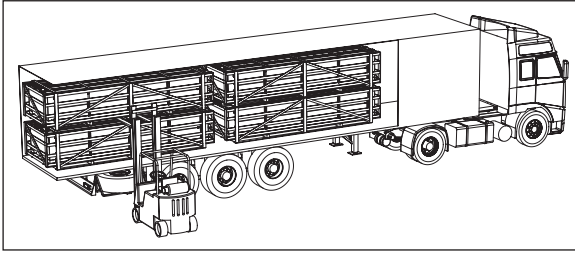
9. Moving parts

Warning: moving parts. Switch off power supply before any maintenance or installation activities.

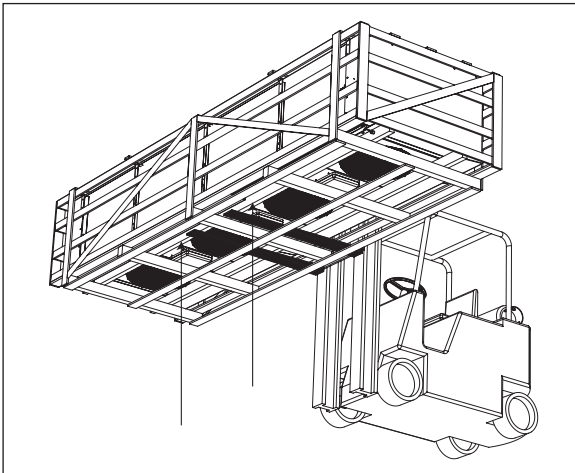
4 Unpacking and lifting



Always follow guidelines and instructions as given in the air cooler product manual AHE00042.

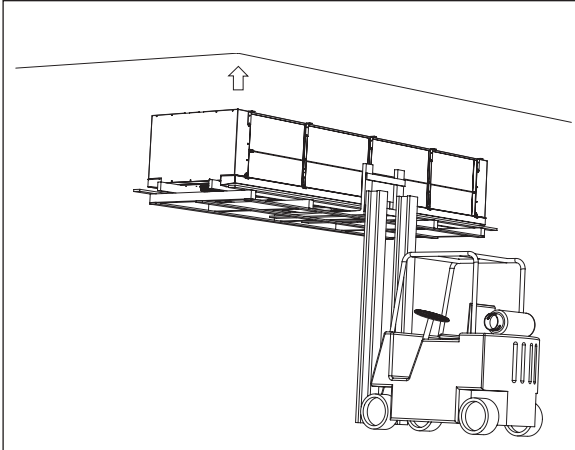


Arctigo HRCD air coolers are delivered in a wooden crate. Handling and positioning can take place with use of a forklift. Packed air coolers may be stacked during transportation and storage up to three units.

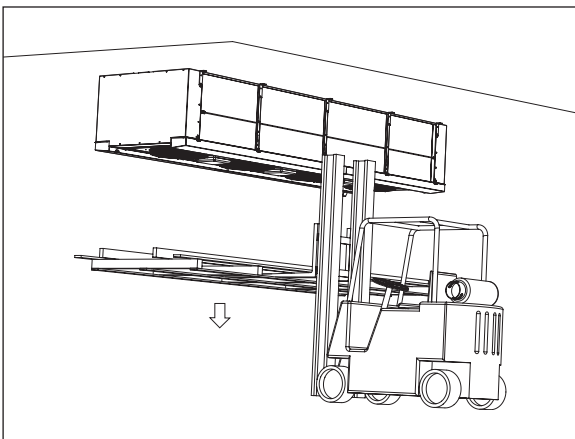


In order to avoid damage to the air cooler or falling of the unit, ensure that the lifting forks cover both inner support beams on the lower pallet.

All models are supplied in mounting position. Prior to lifting and mounting, the top crate beams must be removed.



Lift the unit to mounting position and secure following instructions given in chapter "5 Installation".



After having secured the cooler, the forks may be lowered and the remaining packaging materials shall be removed.

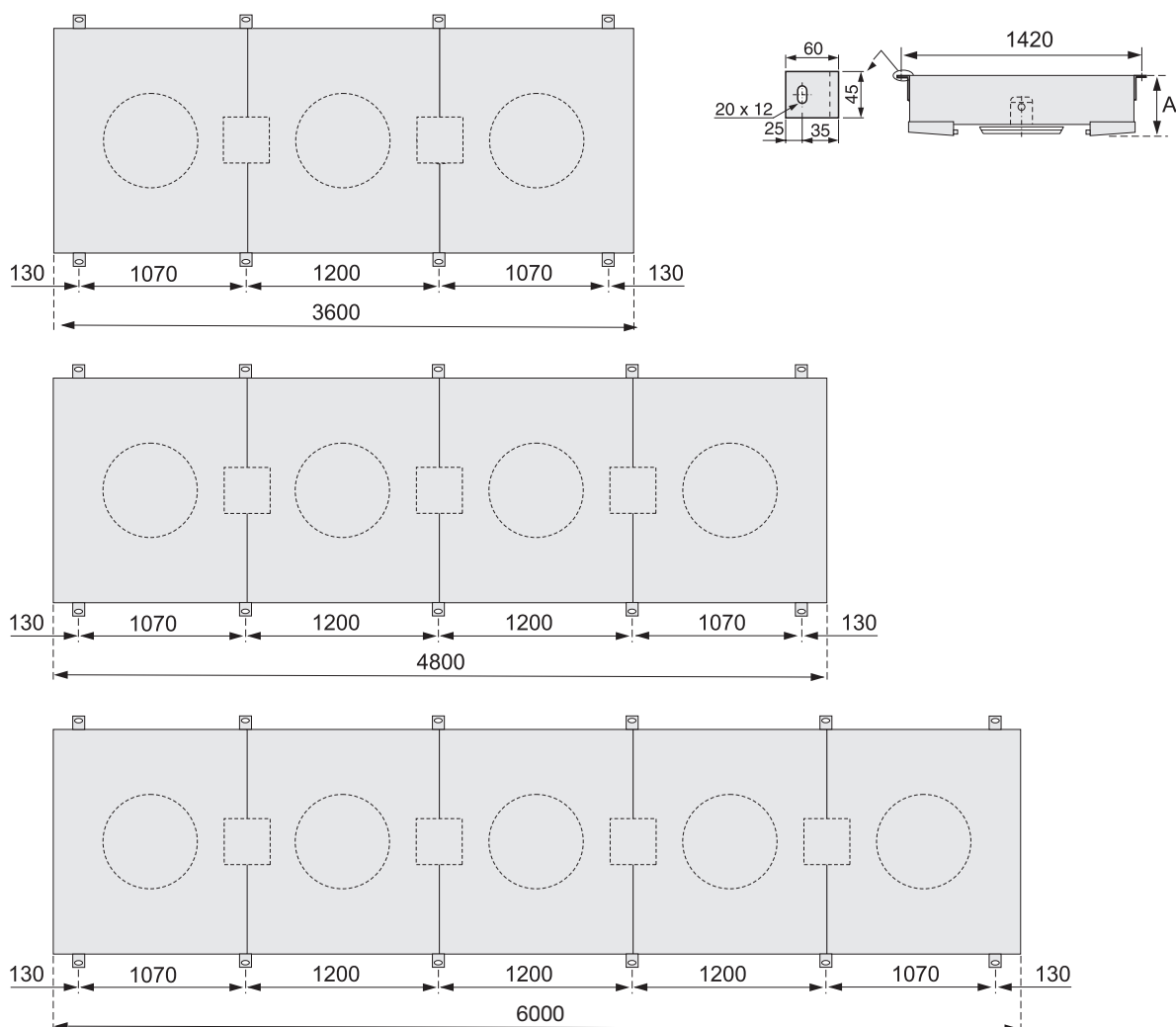
5 Installation



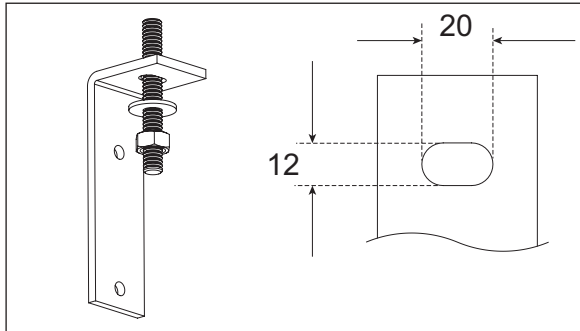
Always follow guidelines and instructions as given in the air cooler product manual AHE00042.

5.1 Mounting dimensions

HRC model	nr. of fans	pallet layers	nr. of pallets	dim. A mm
06-I	3	1	3 x 2 = 6	350
08-I	4	1	4 x 2 = 8	350
10-I	5	1	5 x 2 = 10	350
12-II	3	2	3 x 4 = 12	600
16-II	4	2	4 x 4 = 16	600
20-II	5	2	5 x 4 = 20	600
18-III	3	3	3 x 6 = 18	850
24-III	4	3	4 x 6 = 24	850
30-III	5	3	5 x 6 = 30	850

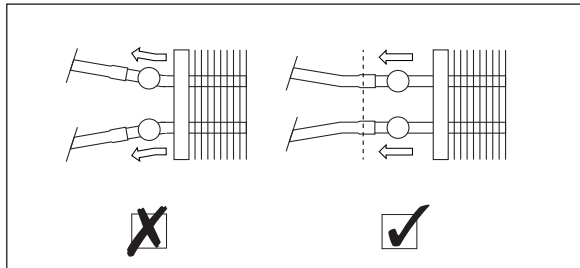


5.2 Mounting bracket



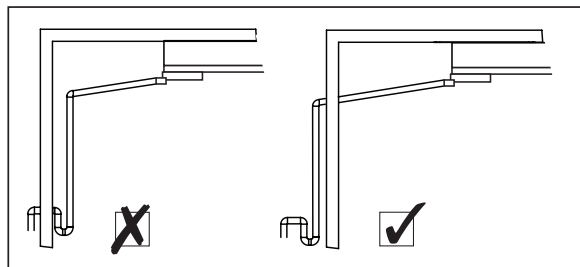
Use extra wide washers (ISO 7093) when mounting the unit to the ceiling.

5.3 Refrigerant connections



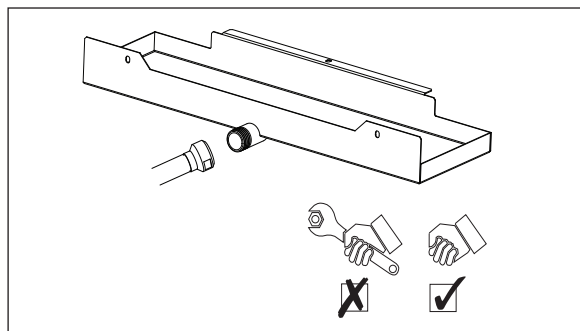
Never bend the air cooler refrigerant connection tubes

5.4 Drain line



The drain line diameter must be at least the size of the drip tray drain diameter and should be laid with an adequate slope. For room temperatures below 0° C drain line insulation and defrosting are required.

A syphon must be installed on the drain line, outside the cold room



Tighten drain connection by hand only.



Units are designed such that drains can be connected in parallel.

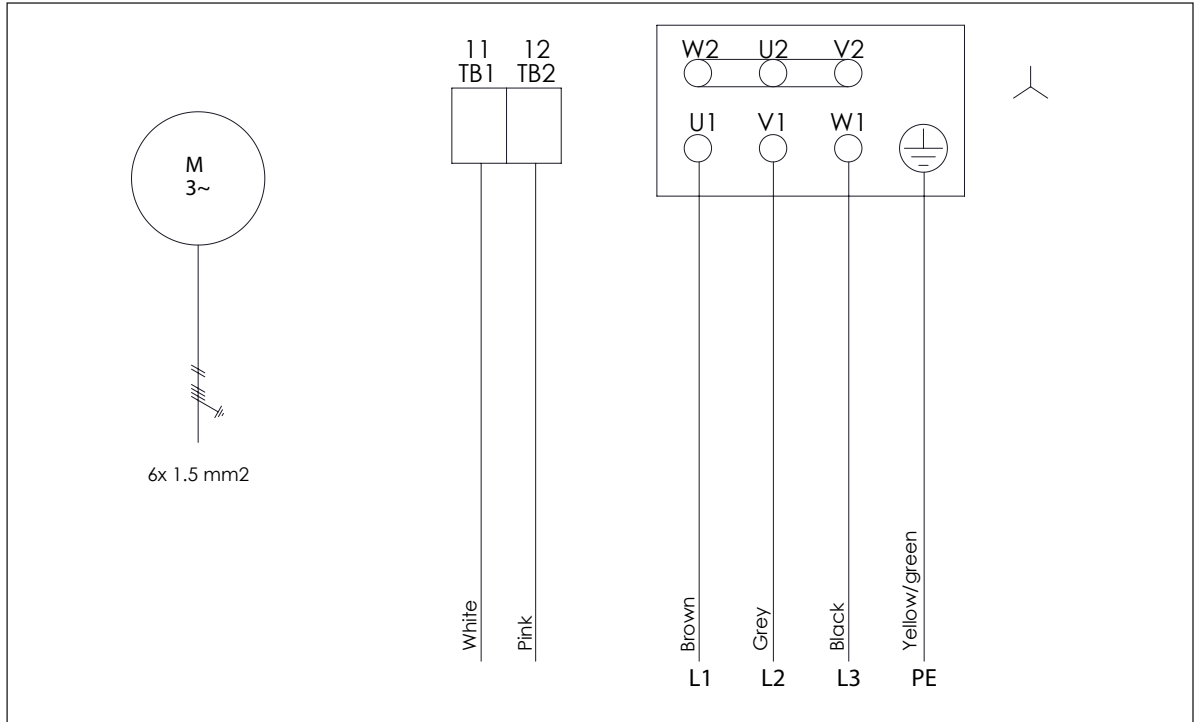
5.5 Electrical installation



The following data determine which connection diagram is to be selected and respected for electrical installation:

- Cooler model indication
- Electrical options

Standard electrical connections 1-5 fan motors 3 phase AC

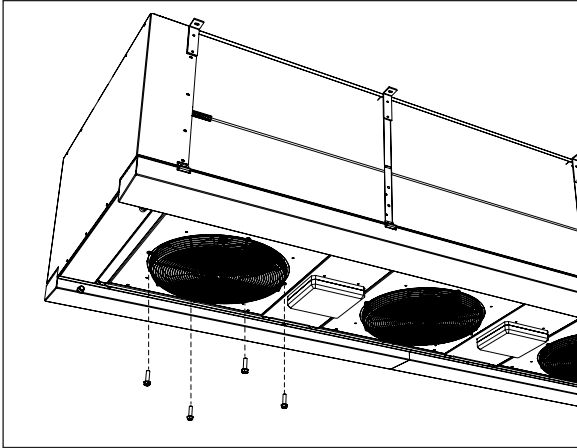


6 Maintenance



Always follow guidelines and instructions as given in the air cooler product manual AHE00042.

6.1 Fan grid replacement

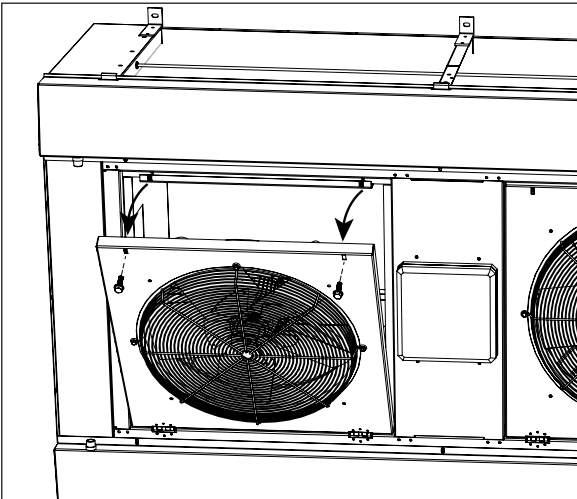


Ensure complete electrical isolation before performing any maintenance activities on the fan grids.

Unscrew fixing bolts and remove old fan grid. Mount new fan grid in identical position. Use an anti-corrosion compound when remounting the fixing bolts.

Restore electrical power supply when the new fan grid has been mounted.

6.2 Fan motor replacement and fan panel opening

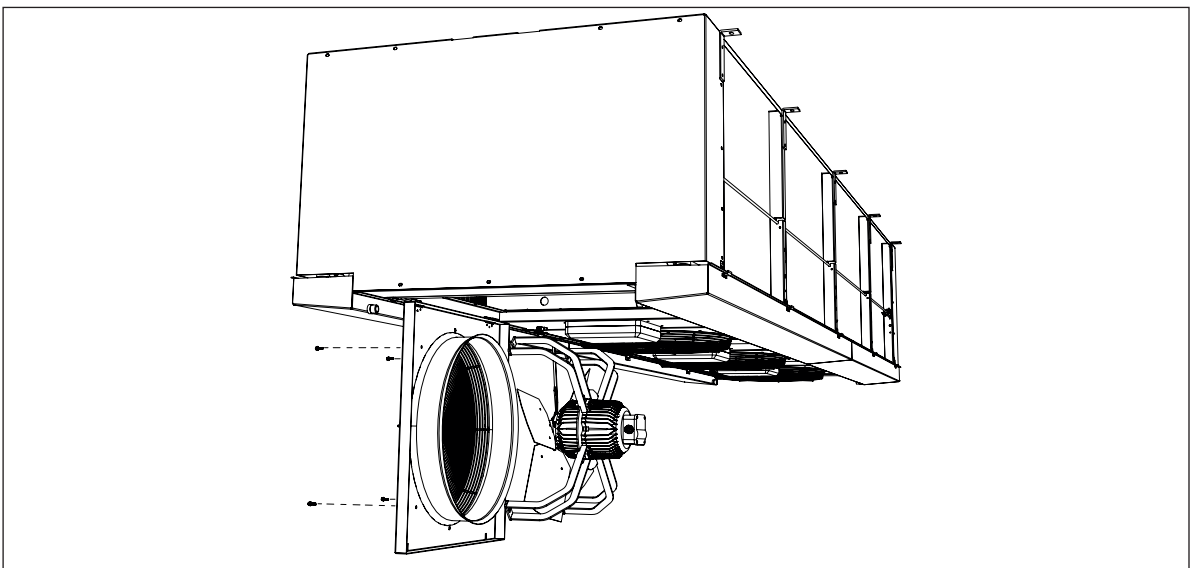


Disconnect electrical power supply before performing any maintenance activities on fans and fan motors.

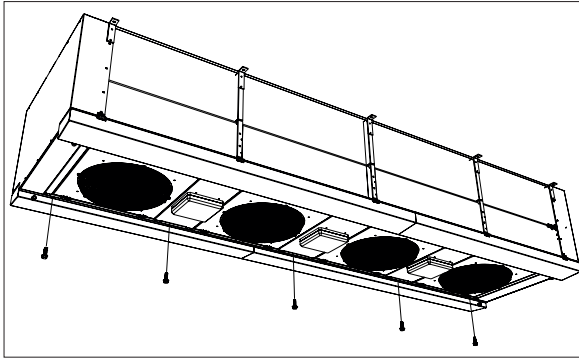
To open the fan panel, loosen the fixing screws on the opposite side of the hinges.

Loosen the 4 screws fixing the motor frame to the fan panel and remove the old fan. Mount the new fan in identical position. Use an anti-corrosion compound when remounting the fixing bolts.

Restore electrical connections when the new fan has been mounted.

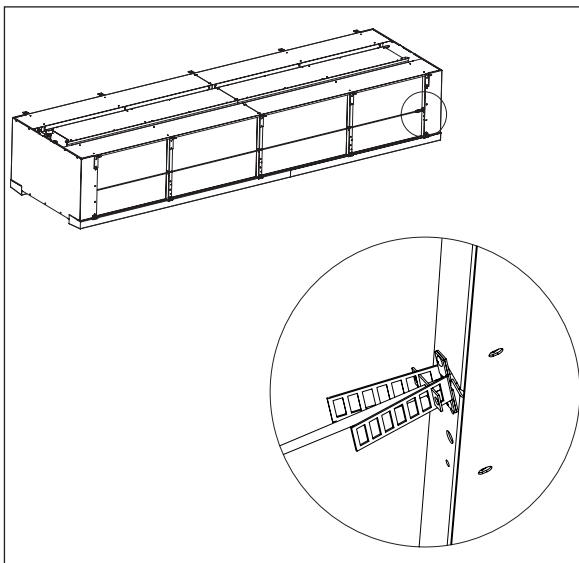


6.3 Drip tray



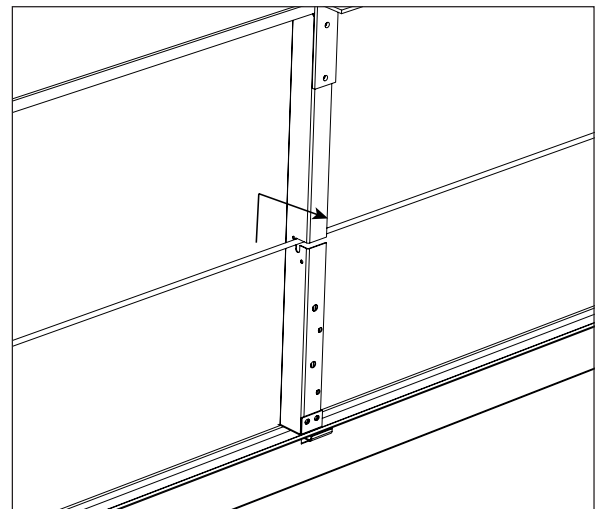
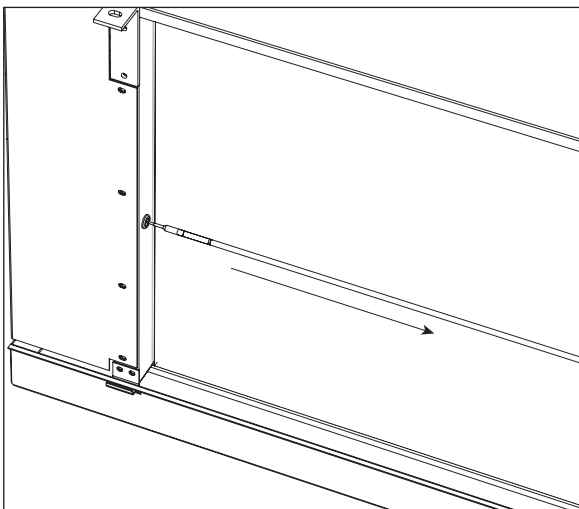
Drip tray can be opened for inspection, cleaning and maintenance purposes. To open the drip tray, disconnect the drain line. Loosen and remove fixing bolts and then gently lower the drip tray. Respect the maximum opening angle (90°) to avoid damage to the drip tray hinges.

6.4 Coil heater elements replacement for units with Cu tubing

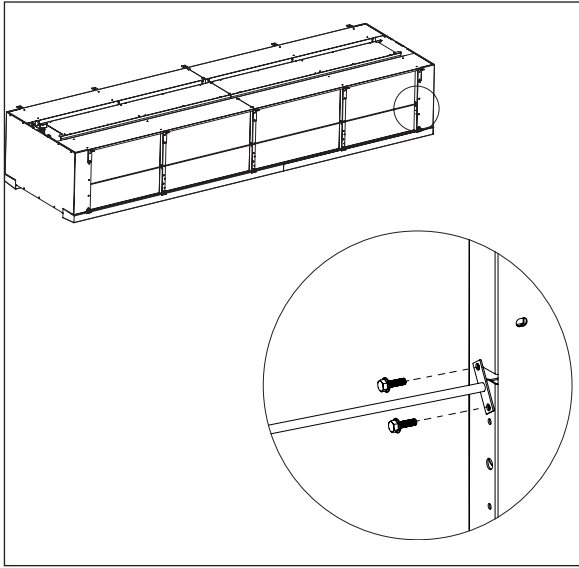


Always disconnect power supply before handling heater elements.

Disconnect heater elements, open the fixing clip and pull it out from the coil. Mount new element in reverse order and restore electrical connections.

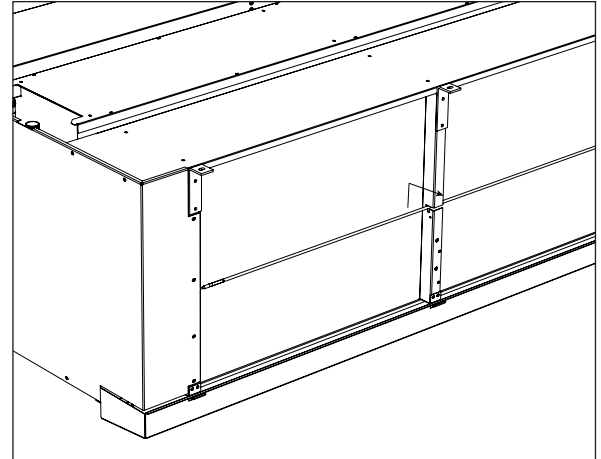
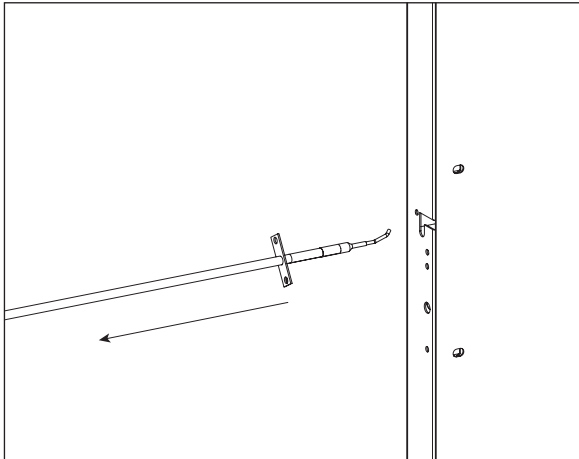


6.5 Coil heater elements replacement for units with SS tubing

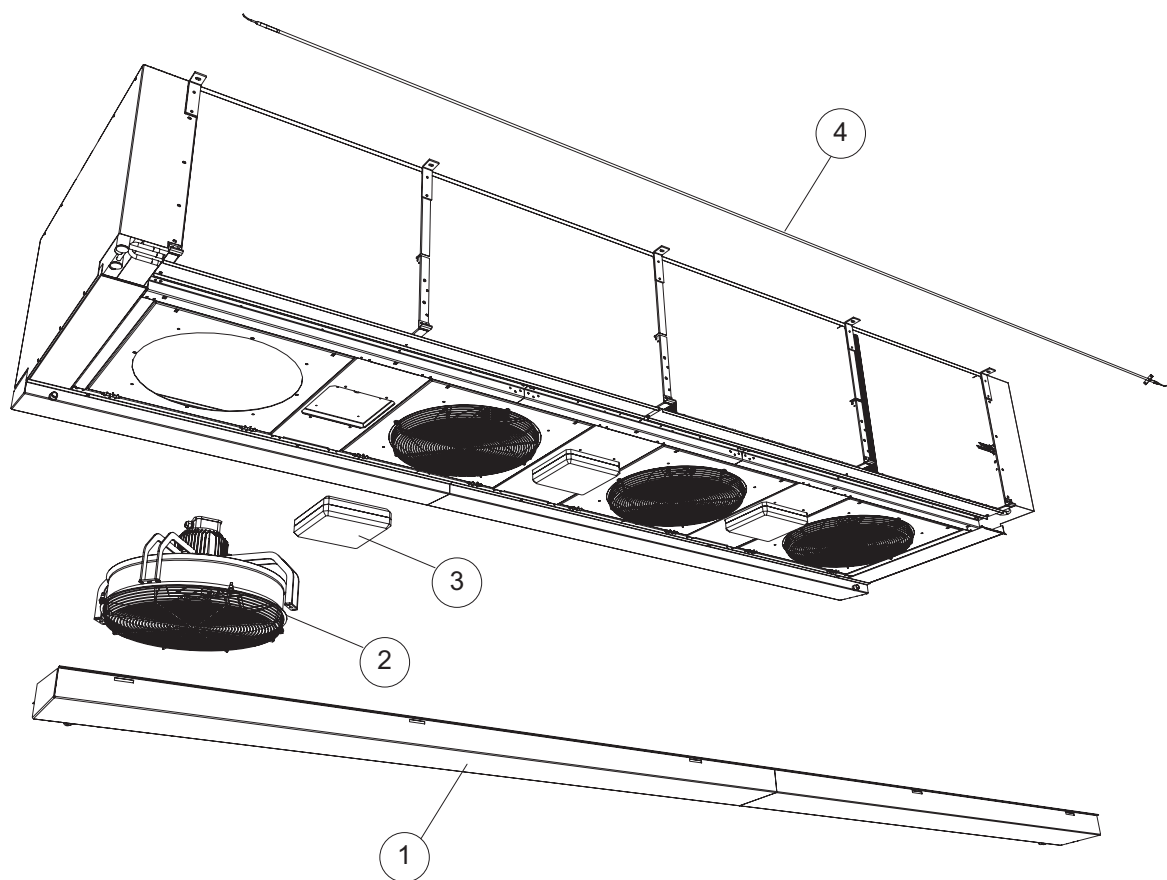


Always disconnect power supply before handling heater elements.

Disconnect heater elements, unscrew the 2 fixing bolts. Pull the heater out from the coil. Mount new element in reverse order and restore electrical connections.



7 Spare parts



- | | |
|---|---|
| 1 | Drip tray (2 x identical) |
| 2 | Complete fan |
| 3 | Lights cover (bulbs available on request) |
| 4 | Electrical defrost element |

Contact your local Alfa LU-VE representative for spare parts order and assistance.



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