

## User's Guide





## Declaration of Conformity

Directives 2006/42/EC, 2006/95/EC (LVD), 2004/108/EC (EMC)

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<u>Manufacturer</u>	LU-VE Sweden AB S. Industrivägen 2-4 S-374 50 ASARUM Sweden
<u>Technical file</u>	Tord Engberg
<u>Type of machinery</u>	Heat-exchangers supplied with direct cranking fans and in certain types of machinery control equipment is included.
<u>Product range</u>	Dry Coolers XPS, XPM, XP, DXP, X2-D, VX2-D, X3-D, VX3-D, VXX3-D

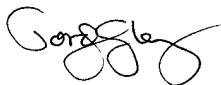
We declare that our Dry Coolers and Air Cooled Condensers comply with all applicable provisions of the Directive 2006/42/EC.

We declare that our Dry Coolers and Air Cooled Condensers conform to the requirements of the following Directives 2006/95/EC (LVD), 2004/108/EC (EMC)

<u>Harmonised standards</u>	EN ISO 12100-1:2003	EN 61000-6-1
	EN ISO 12100-2:2003	EN 61000-6-2
	EN ISO 13857:2008	EN 61000-6-3
	EN 60204-1:2006	EN 61000-6-4
	EN ISO 4871:2009	

2014-01-20

**LU-VE Sweden AB**  
Technical Department



Tord Engberg

R & D Manager

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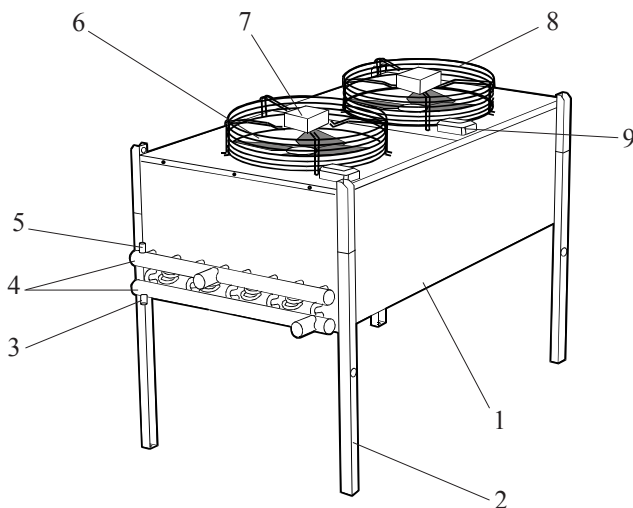
## General description

### General

This product is designed for outdoor location and is intended for brines that are not aggressive in contact with copper. The product is provided with axial fans and the casing is made of aluminium sheeting as standard.

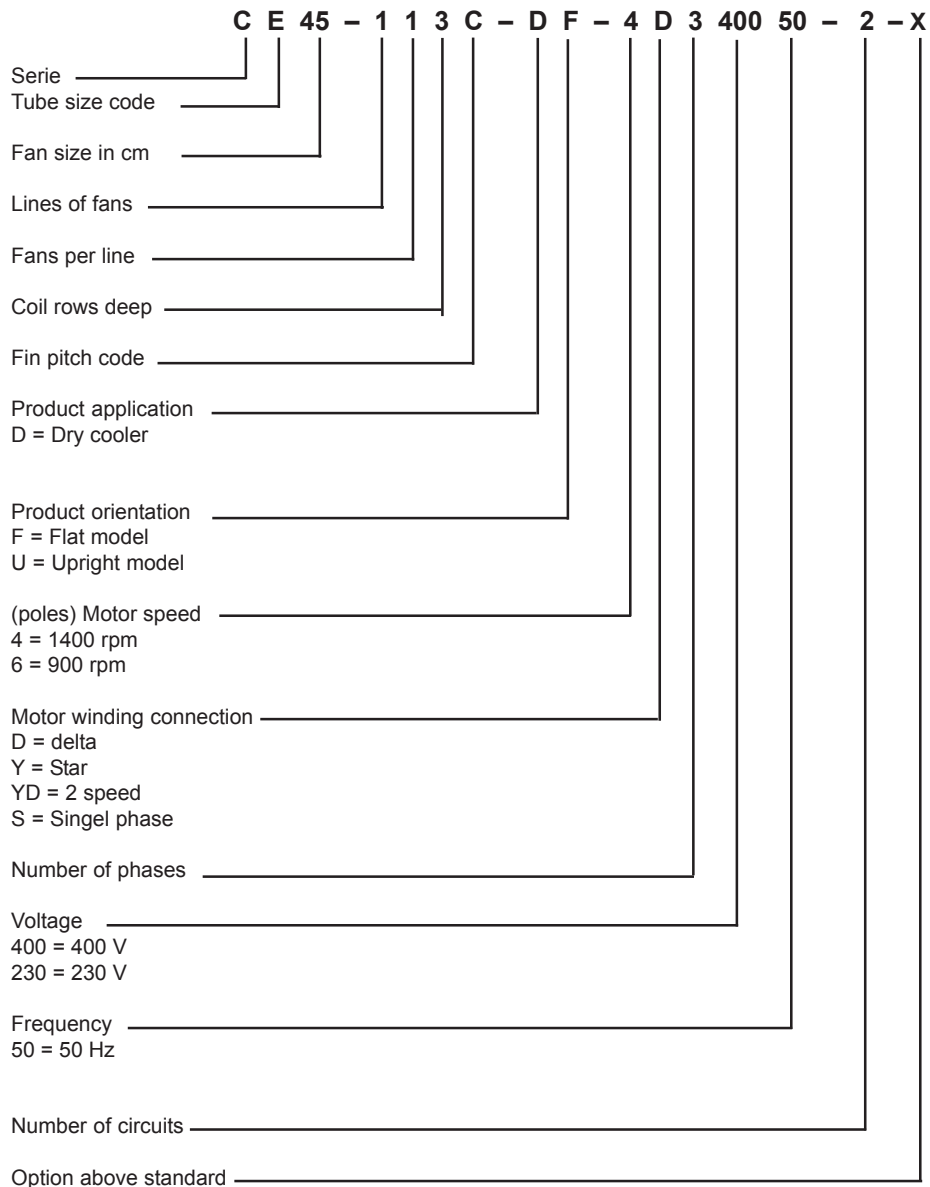
### Important

Do not allow the product to be covered by foreign objects when in operation. Unobstructed circulation of air is necessary to achieve the highest cooling efficiency. The laminar surfaces of the coil must be free of deposits.



Item	Designation	Item	Designation	Item	Designation
1	Cooling coil	4	Connecting pipe	7	Junction box
2	Leg	5	Air vent.	8	Fan guard grill
3	Drain	6	Axial fan	9	Safety switch

## System of designations



## Receiving and fitting

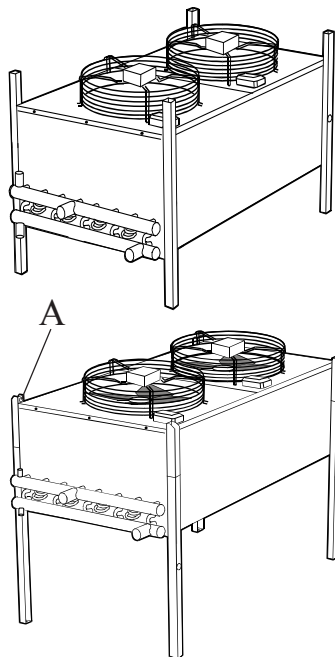
The product is subjected to thorough inspection of quality and function before leaving the factory. If faults or damage due to transportation are detected on the product, the transporter and point of sale is to be contacted without delay.

### Assembly

1. Move the product to the place of installation before removing the packing. The cooler is provided with eyebolts (A) and shall only be lifted using these according to instructions on the cooler and the directions for use.

2. The legs on are mounted in the transport mode during transportation. These are to be fitted for installation in the two upper pairs of holes on the outermost part.

3. Bolt the product through the pre-drilled mounting holes to a firm base.



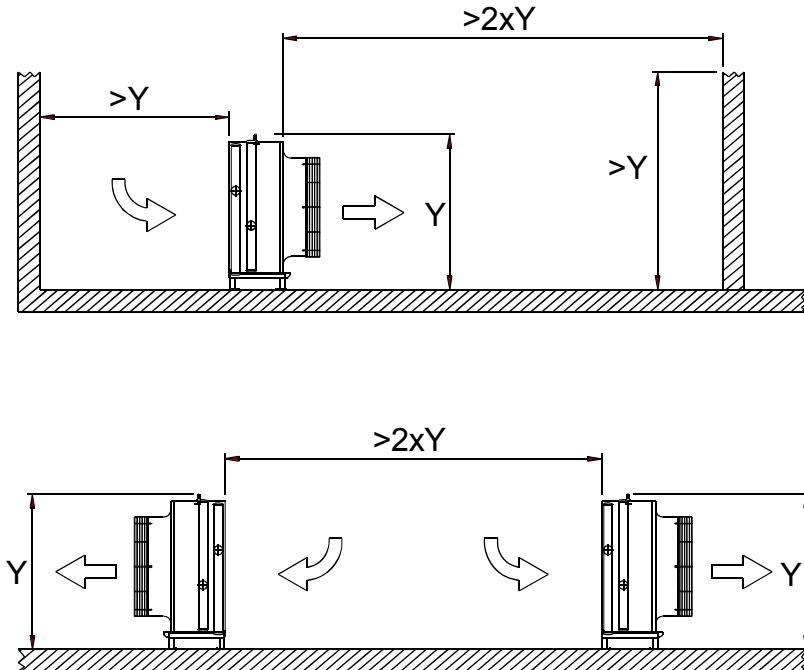
## Installation

The following instructions should be read together with the technical leaflet.

### Location

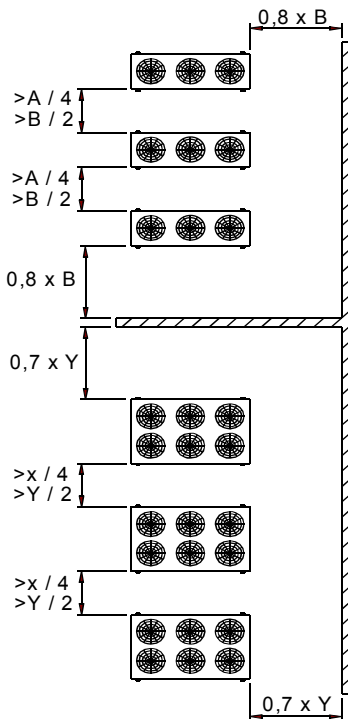
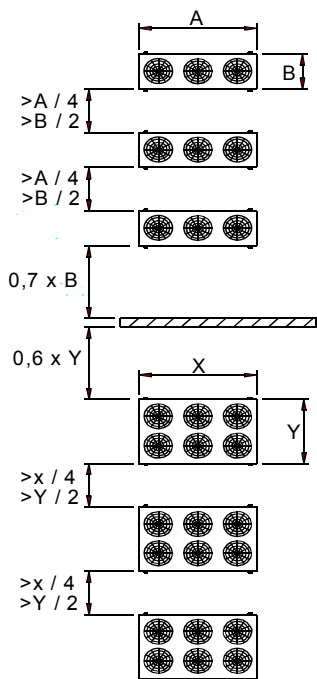
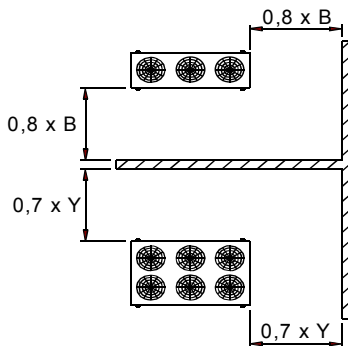
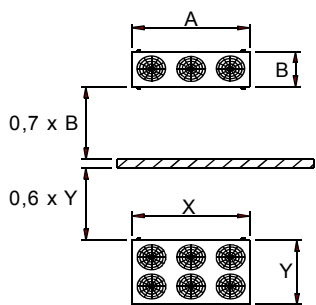
Place the product so that air can pass freely over the entire coil surface and if possible so that the wind direction does not affect the evacuation air because re-circulation could otherwise occur. This applies particularly to models that have low revs.

The product is to be mounted on a firm base and secured with foundation bolts. The frame of the product is provided with pre-drilled holes.





## Installation



## Installation

### Tube installation for Dry Cooler

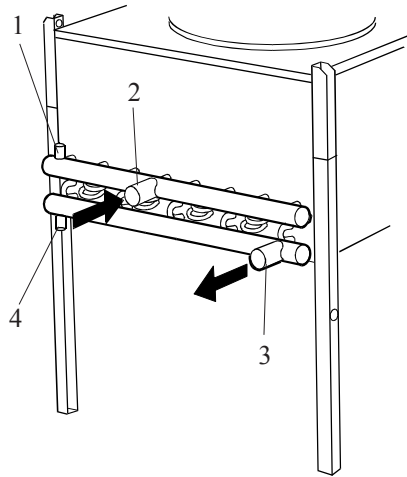
The product is to be filled with the amount and type of heat transfer medium stated by the installation engineer. The connecting tubes are located on one end of the unit.

The air vent is at the highest point of the header (1).

The incoming lead is connected to tube (2).

The return lead is connected to tube (3).

The drain (4) is located at the bottom of the header.



## Installation

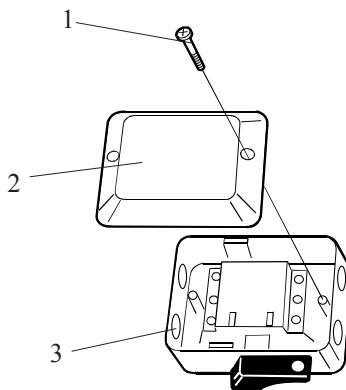
Installations may only be made by **authorised persons** and in accordance with national standards.

**The cooler may not be connected to other voltage or frequency than its rated data.**

### Connecting the fan

To be connected to the safety switch as follows:

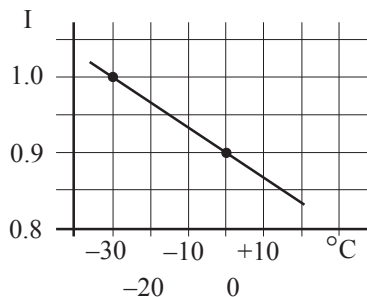
Loosen the screws (1) with a screwdriver and remove the cover (2). Connect the cable through the screw fitting (3) on the side of the cover.



**N.B.** Ensure that the fan rotates in the direction indicated by the arrow.

### Setting the motor protector

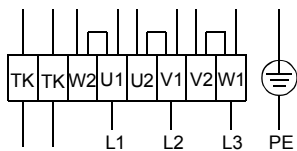
The maximum current value at  $-30^{\circ}\text{C}$  is indicated on the rating plate. Refer to the diagram for dimensioning of over-current protection at other ambient temperature. The over-current protection should have an adjustment range of  $\pm 20\%$ .



## Motor winding diagram

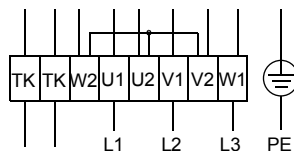
△ 3/400V 4 POLES

△ 3/400V 6 POLES



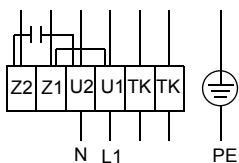
Y 3/400V 4 POLES

Y 3/400V 6 POLES

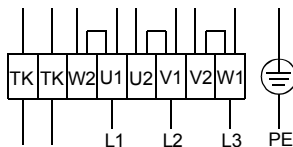


1/230V 4 POLES

1/230V 6 POLES



△ 3/230V 4 POLES

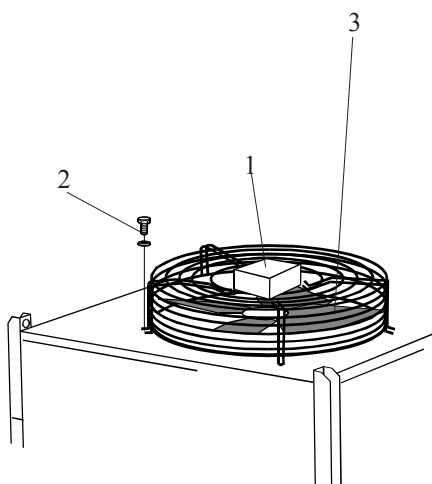


## Preventive maintenance

 **Warning.** Make certain that the power supply is disconnected.

### Changing the fan

Disconnect the electric terminals in the junction box for the fan (1).  
Remove the bolts (2) (4 off) and washers and take off the fan (3).



### Mounting the fan

Fit the bolts (2) and washers in the four holes.

Observe that there is a tagged washer between the casing and the fan grille.

### Upright model

Fit the bolts (2) and washers loosely in the two upper holes. Then fit the lower bolts and tighten them.

### Standstill

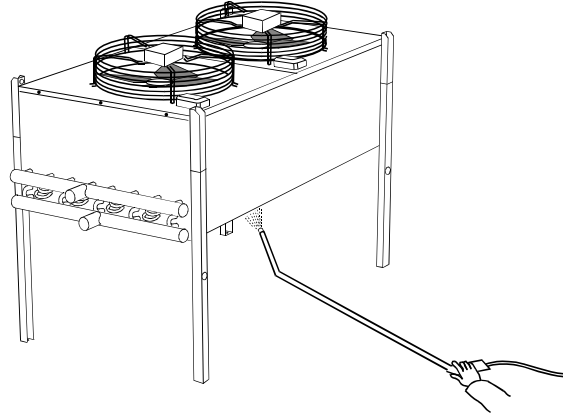
During long periods when the unit is not in operation the fans should be run at least once a month. They are to be run until the motor reaches normal working temperature, ie, about 60 minutes.

## Preventive maintenance

 **Warning.** Make certain that the power supply is disconnected.

### Cleaning the cooling battery

1. Cooling batteries that are lightly soiled can be cleaned by brushing and blowing with compressed air.
2. Then wash the battery with water and environment-friendly detergent that does not corrode aluminium or copper. Ammoniac may not be used.
3. Rinse and allow to dry.



 **Caution**

Always wear protective gloves when cleaning or when in contact with the batteries.



