

OY EKOCOIL

AIR COOLED LIQUID COOLERS AND CONDENSERS

product lines
EC08(G) ja ECV08(G)
EC09(G) ja ECV09(G)

INSTALLATION AND OPERATION INSTRUCTIONS



2011/10/20

INSTALLATION

Before lifting the cooler from vehicle check that no damages has occurred during transportation. Immediately make written note about damages to transportation company and ask transportation company officials to inspect the product. Manufacturer is not liable for damages that have occurred during transportation and lift off or installation.

GENERAL

Air coolers are designed for circulating liquids that do not erode copper.

FINAL INSPECTION BY MANUFACTURER PRIOR TO SHIPPING

1. visual inspection
2. test pressurized for leakage detection
3. functional test of fans at +20 C
4. sound and vibration inspection

SHIPPING AND STORAGE

Air coolers should be transported and stored horizontally (if operational condition horizontal) or vertically (if operational condition vertical). Avoid tilting the cooler.

Lift on the ground is flat and is strong enough to hold the weight from cooler's legs.

Humidity and temperature changes may allow water to condense inside motors through condense drain holes at the bottom of the motor. Same may occur inside copper tubes if not properly sealed. It is highly recommended to keep storage time limited.

Maximum allowed storage time before start-up is 3 months.

SPACE REQUIRED FOR PROPER FUNCTION OF COOLER

Reserve enough space around the cooler for the service. Minimum needed distance for service is 600 mm. Do not block airflow with structures build for service.

It is recommended to install cooler at elevated level from the ground.

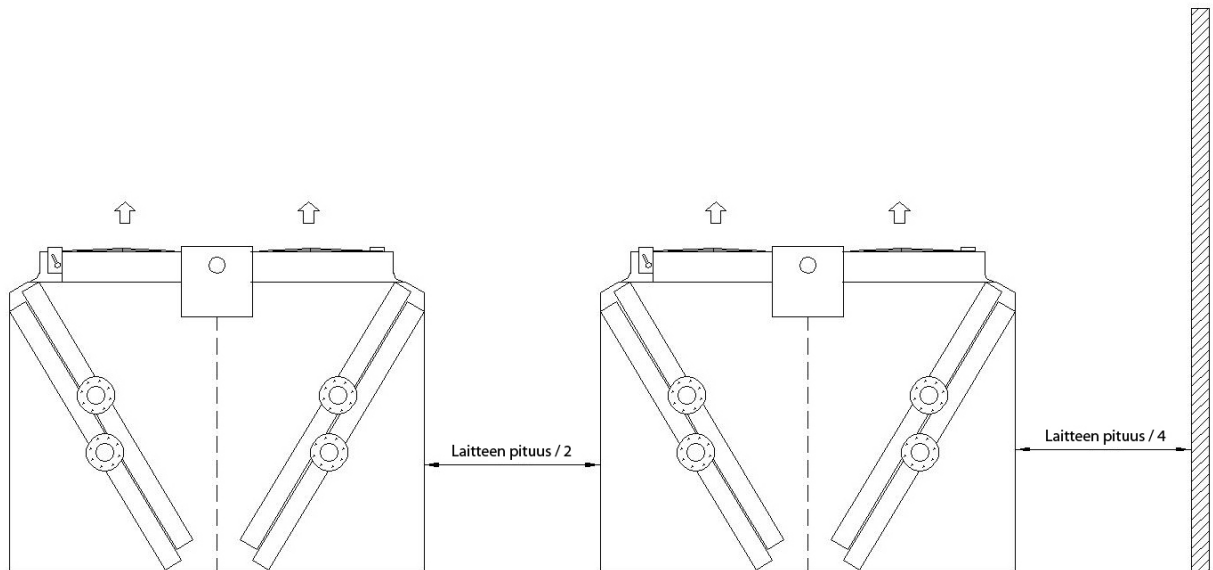
Free path has to be guaranteed for air to flow from surroundings to surface of the heat exchanger.

In some environments recirculation of air from outlet to inlet of cooler may occur if the cooler(s) are installed too close to each other, walls or other big obstacles.

Figure 1 shows minimum recommended distances between wall and cooler and between two coolers. It is recommended to increase distances If there are more than one wall and one cooler or more than two coolers close to each other,

If needed, use higher speed fans, air flow deflectors or oversized coolers to compensate recirculation.

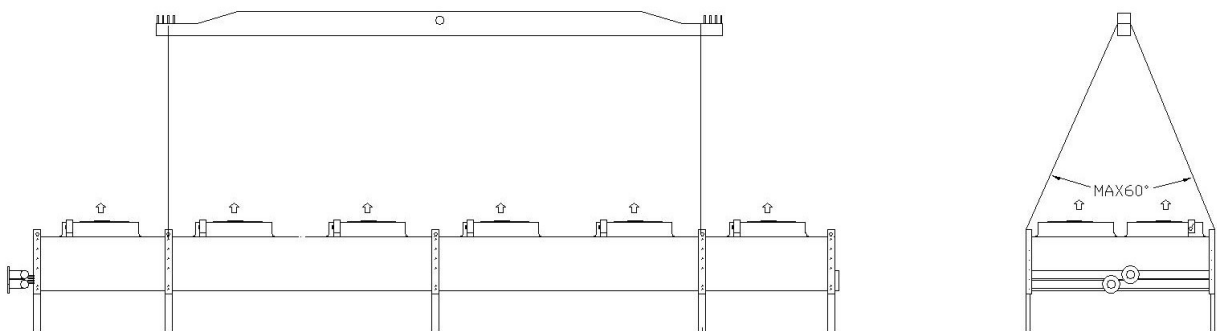
FIGURE 1. Minimum recommended distances



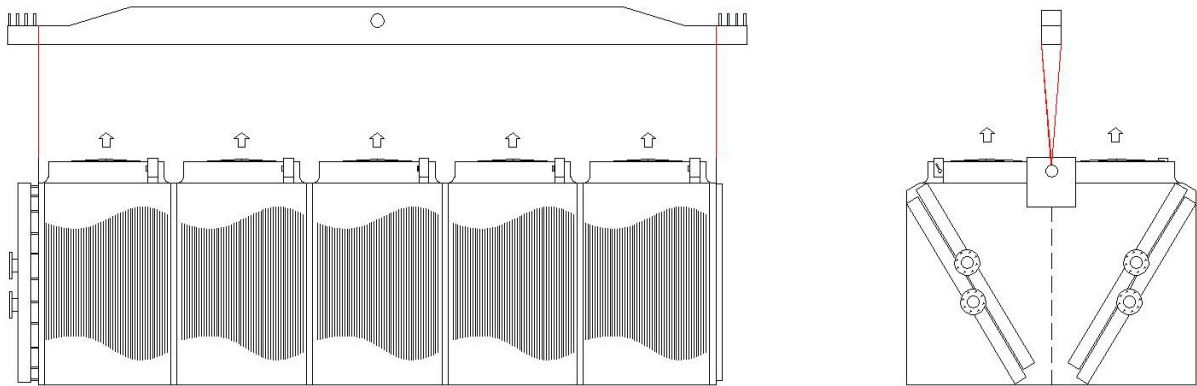
LIFTING

Use crane boom and lift holes. See picture 2 (EC08) and picture 3 (ECV08). Follow the instruction for maximum wire angles. Lift instruction are attached to each cooler.

Picture 2. EC08
(legs pre-installed at factory)



Picture 3. ECV08



INSTALLATION

Install cooler so that deaerating and drain vents are reachable. Deaerating vent is located at the top of header tube. Drain valve is located at the bottom of the header. If water is used for pressure test make sure that water is drained totally before refilling with permanent circulating fluid (usually antifreezing water solution) to prevent freezing of the cooler at cold climates. Refill the cooler as soon as possible to prevent inner tube erosion. Deaerate circulation fluid. Use of special deaerator and dirt separator equipment is highly recommended. Existence of visible and invisible air bubbles may lead to decrease of heat transfer performance and inner tube corrosion and void warranty.

CONNECTIONS TO INLET AND OUTLET

Tubes connected to inlet and outlet of cooler must allow thermal expansion of cooler, attenuate vibration noise and damp pressure shocks.

Use vibration dampers, flexible tubes and tube joints accordingly,

WIRING OF FANS

NOTE: Electrical connections must be made by qualified electrical personnel. All valid standards for connecting electrical equipment must be observed.

Fans should be used periodically according to the instruction label attached to cooler in order to remove possible condensed water inside the motor. Frequency inverter should be programmed so that it will warm the fans even when the fans do not run. This can be achieved by using DC-current or by setting fans to run at slow speed even if there is not demand for cooling.

TEST RUN

Test run should include at least the same tests that are required in service instructions (see next page). Preserve dated and signed trial protocol for later inspection.

REMEMBER TO CHECK FAN ROTATION DIRECTION ! Correct air flow is upwards or horizontally depending on the type the cooler.

To correct rotation direction:

3-phase fans without frequency inverter:

- swap two phase lines in the main electrical box connected to the end of cooler.

3-phase fan with frequency inverter

- reprogram the inverter or swap two phase lines at motor connections of inverter

DO NOT OPEN ELECTRIC BOXES AT THE TOP OF THE FAN. IT WILL VOID WARRANTY.

SERVICE INSTRUCTION

DOCUMENTATION

Manufactures requires that service inspection is done periodically. Service protocol has to be clearly documented, dated and signed by person responsible for procedures. It should include at least following checks:

- Visual inspection of fans and heat transfer surface, clean if necessary
- Noise and vibration check
- Fan motor current measurements
- Function of thermal protection devices
- Function of safety switches
- Condensation prevention (running of fans periodically manually or by inverter)

Only proper documentation ensures that warranty will be valid. Service inspection should be made once a year, at minimum.

HEAT TRANSFER SURFACE

Clean heat transfer surface if needed. Use compressed air or compressed water with care to avoid damage of the aluminium fins.

DO NOT SPRAY WATER OR COMPRESSED AIR TO THE FANS.

Detergents designed for cleaning electric filters are usually suitable for heat transfer surfaces. pH slightly above 10 is recommended. Do not use detergents that will damage aluminium, copper or galvanized steel.

Always follow instructions issued by detergent manufacturer.

Rinse off detergent with water spray after cleaning.

REPLACEMENT OF DEFECTIVE FAN MOTOR

**ALWAYS CONTACT SALES OFFICE FIRST FOR WRITTEN APPROVAL !
Warranty will void otherwise.**

**SWITCH OFF THE FAN BY MAIN SWITCH OR SAFETY SWITCH !!!
LOCK THE SWITCH TO PREVENT SWITCH ON BY ACCIDENT !!!**

ONLY QUALIFIED ELECTRICIAN MAY CHANGE THE MOTOR.

Use spare parts accepted or supplied by manufacturer to guarantee correct function of devices in all circumstances. Installing other kind of spare parts may void warranty.