



Installation and Maintenance of Oil-Air-Coolers

The installation and mounting of hydraulic systems or their components may only be carried out by suitably trained and qualified personnel.

Technical specification of the cooler element (for all types HK OILAIR)

| | | | |
|------------------|-----------|-------------------------|--------|
| - Material: | Aluminium | - Operating pressure: | 20 bar |
| - Test pressure: | 35 bar | - max. operating temp.: | 120 °C |

Installation

The exchangers can be fitted in a horizontal position, respecting the minimum distance from the wall (see Fig.1) so as to ensure a natural flow of cooling air. The exchangers is usually installed on oil tank return piping; it must also be protected from impacts and mechanical vibrations by supports and must be connected to the plant with flexible pipes. Avoid subjecting the exchanger to sudden changes in flow, hammering and pulsations that can cause irreversible damage to the element.

We recommend installing a by-pass valve (see Fig.2) to protect the exchanger from over-pressure generated when the plants is started up due to high oil viscosity.

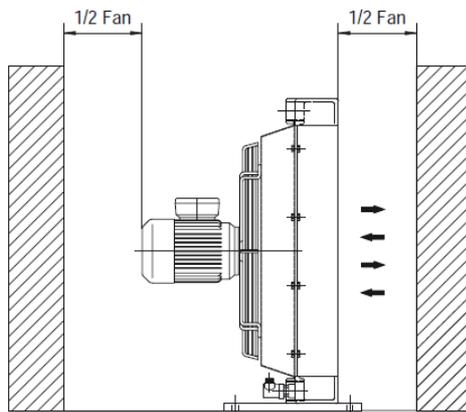


Fig.1

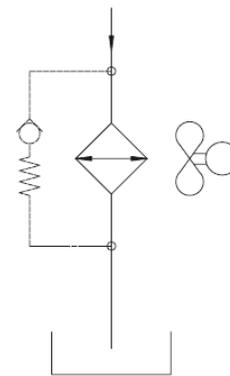


Fig.2

Maintenance

You should be particularly carefully in cleaning the cooler element to guarantee a natural exchange of air, in order to prevent a reduction in thermal efficiency.

For cleaning the oil-side the exchanger should be dismantled to clean on the oil side. The dirt can be removed by flushing, in counter-current, de-greasing substance, compatible with aluminium. Wash with hydraulic oil before re-connecting the product to the plant.

The cleaning on the air side can be done using compressed air or water, directing the jet parallel to the fins so as not to damage them. Oily dirt or grease can be removed with a jet of steam or hot water. During this operation, the electric motor must be disconnected from the voltage supply, and must be adequately protected.

Formula for choosing a heat exchanger

$$P_K = \frac{P_V}{(T_E - T_A)}$$

P_K = Heat exchange power [kW/°C]
 P_V = Power to dissipate [kW]
 T_E = Oil input temperature [°C]
 T_A = Ambient temperature [°C]

The product research is made by referring to the catalogue diagram which is relevant to each model.