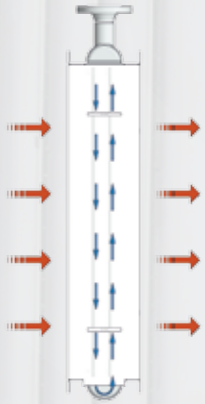
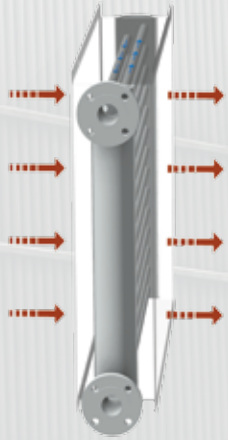
Installation positions

The position of installing a heat exchanger is of great importance.
The position of the nozzles and the drain and vent possibilities differ depending of the three different positions:



Position VH:
Vertical tubes, horizontal air flow.
This type is the main position for steam powered heat exchangers, for insertion types and for heat exchangers with a tubes length of more than 3 m. Only this position allows an optimal drain of condensate using steam powered heat exchangers. In case of tube sided liquid applications a separate drain on the expansion header could be necessary except for insertion types.



Position HH:
Horizontal tubes, horizontal air flow.
This is the classical position for liquid powered heat exchangers. Drain and vent nozzles are not necessary.

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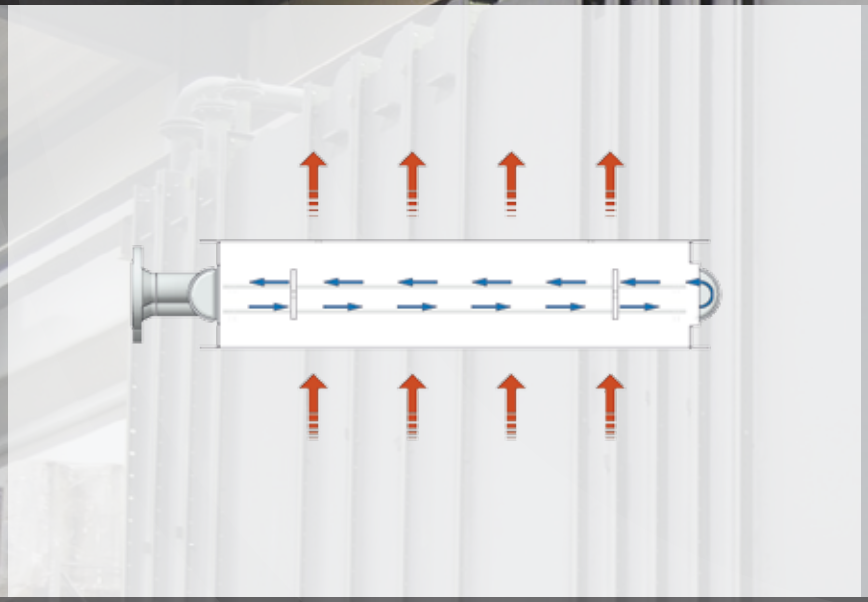
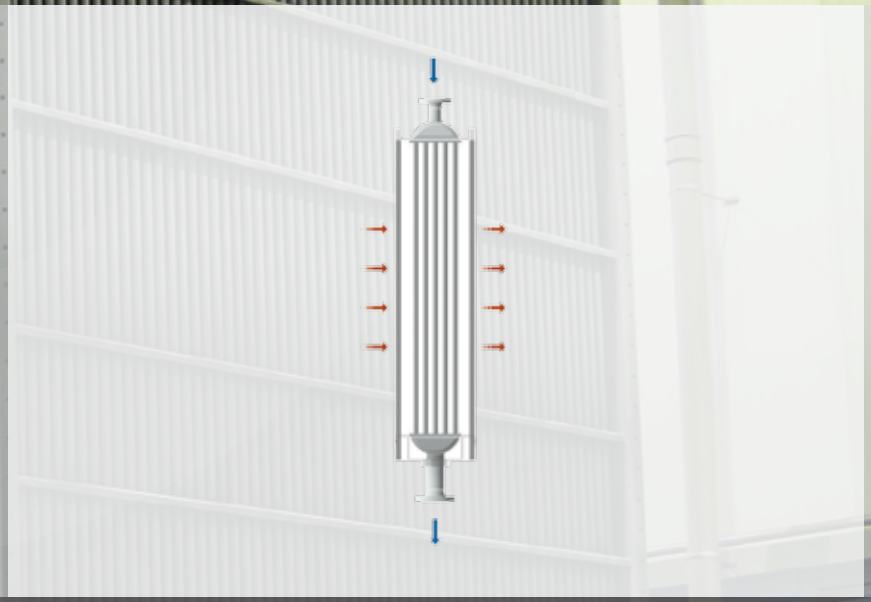
Installation positions





Position HV:
Horizontal tubes, vertical air flow.
This position is the standard position for air-cooled plants. In case of condensation of vapour or steam the tubes shall have a little inclination to allow the condensate drain and to avoid bottling. The condensate nozzles have to be placed at the lowest point of the outlet header. For cooling of liquids inlet and outlet nozzles are in height offset position.

Installation Positions for Steam powered Heat Exchangers

Position VH (vertical tubes, horizontal air flow):
This is the mostly used installation position for steam powered heat exchangers.
The condensate can drain easily providing that no closed valves will cause a condensate backwash subsequently.

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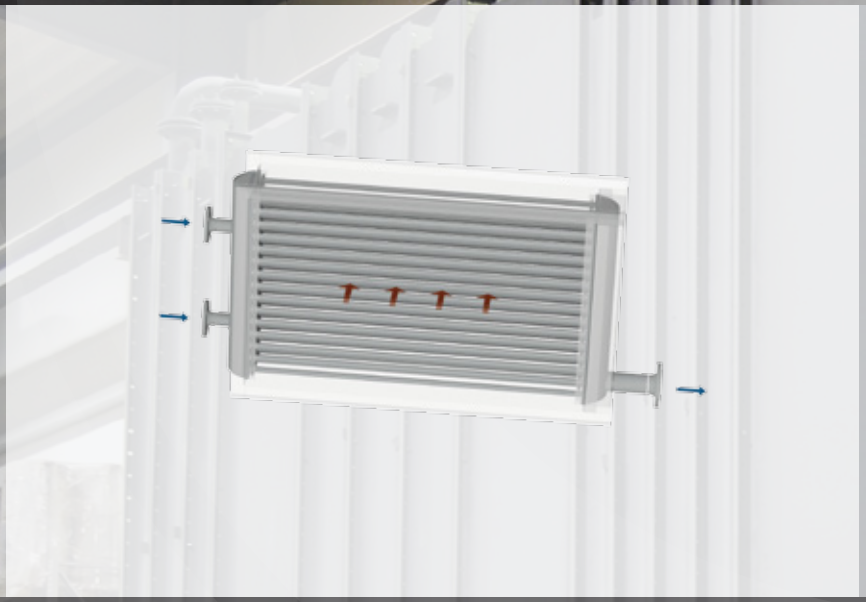
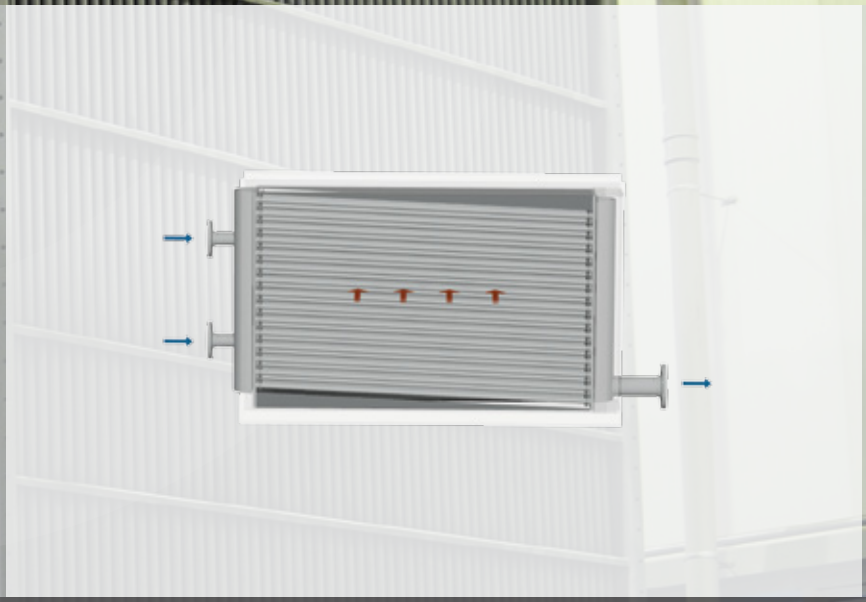


Position HH (horizontal tubes, horizontal air flow; bundle with inclination:
This position should only be used for small heat exchangers (i.e. a width < 600 mm) due to the uneven steam distribution. The necessary inclination of the bundle requires an angle which can prevent condensate backwash.



Position HH (horizontal tubes, horizontal air flow; bundle with inclined tubes:
This position should only be used for small heat exchangers (i.e. a width < 600 mm) due to the uneven steam distribution. The necessary inclination of the tubes requires an angle which can prevent condensate backwash.

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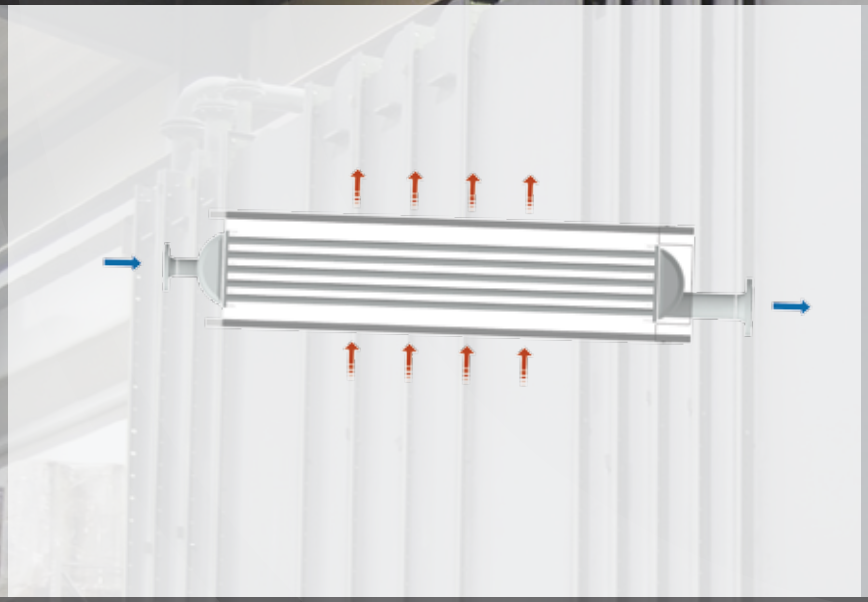
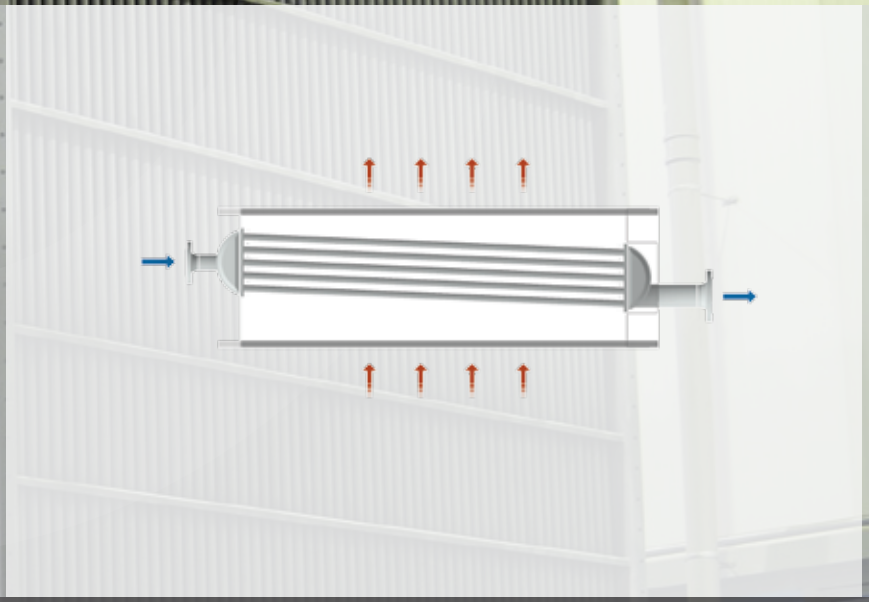


Position HV (horizontal tubes, vertical air flow; bundle with inclination):
This is the mostly used installation for air cooled condensers. The necessary inclination of the bundle requires an angle which can prevent condensate backwash.
By using additional condensate undercooling stages in air heaters these vessels need to be placed below the condenser with the same inclination in direction to the outlet. The air is always flowing upwards.



Position HV (horizontal tubes, vertical air flow; tubes with inclination):
A possible installation for air cooled condensers. The necessary inclination of the tubes requires an angle which can prevent condensate backwash.

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