

TRANSFORMER COOLING SOLUTIONS

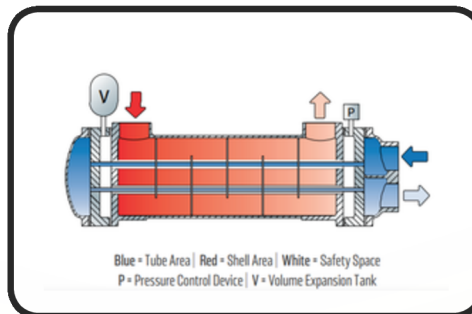
EXTRA SAFETY DOUBLE TUBE HEAT EXCHANGER

Shell & Tube OFWF coolers were designed to dissipate the heat generated by the transformer losses. In order to eliminate the risk of leakage from water to oil, double tube STE Shell & Tube exchangers are the key solution. Design of the exchangers can be done upon the design of the transformer

There are 2 layer of tubes which creates a space that is filling with water/coolant if there is leakage on the inner tube. With this, it is possible to detect the leakage by sensing the water/coolant or the pressure before it is mixing to the transformer oil.



STE Shell & Tube exchangers are optimized for transformer operation with its extra safety. To design the **OFWF** coolers; oil temperature rise, oil type, transformer losses, water/coolant type, flow rate, temperature; corrosion class requirement, environmental details has to be given. Also oil pump can be selected and provided by **STE**.



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EXTRA SAFETY DOUBLE WALL PLATE HEAT EXCHANGER

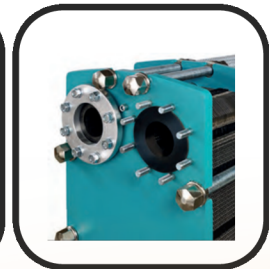
Plate Exchanger OFWF coolers were designed to dissipate the heat generated by the transformer losses. STE Double-Wall OFWF Plate Exchangers were designed to prevent mixture of oil and water in case of a leakage by implementing double-wall plates. In case of leakage, water will go through the plates and an alarm might be generated by built-in sensor.

There are 2 layer of wall which creates a space that is filling with water/coolant if there is leakage on the inner wall. With this, it is possible to detect the leakage by sensing the water/coolant or the pressure before it is mixing to the transformer oil.

STE Double Wall Plate Exchangers are optimized for transformer operation with its extra safety.



To design the OFWF coolers; oil temperature rise, oil type, transformer losses, water/coolant type, flow rate, temperature; corrosion class requirement, environmental details has to be given. Also oil pump can be selected and provided by STE.



STE Double-Wall OFWF Brazed Exchangers were designed to prevent mixture of oil and water in case of a leakage by implementing double wall plates. In case of leakage, water will go through the plates and an alarm might be generated by built-in sensor.

There are 2 layer of wall which creates a space that is filling with water/coolant if there is leakage on the inner wall. With this, it is possible to detect the leakage by sensing the water/coolant or the pressure before it is mixing to the transformer oil.

STE brazed heat exchangers are especially designed for renewables and wind turbines due to their compact and space-efficient design.

To design the OFWF coolers; oil temperature rise, oil type, transformer losses, water/coolant type, flow rate, temperature; corrosion class requirement, environmental details has to be given. Also oil pump can be selected and provided by STE.



STE OFAF Coolers were designed to dissipate the heat generated by the transformer losses to air. System can be designed to withstand the challenging environment conditions for a long term lifetime.

By applying STE - OFAF coolers, transformer radiator can be removed and overall size can be reduced. Also oil and tank cost can be decreased.



STE OFAF Coolers might be made of stainless steel, copper or aluminum. To design the OFAF coolers, oil temperature rise, oil type, transformer losses, ambient temperature, corrosion class requirement, environmental details has to be given. Also oil pump can be selected and provided by STE.

