ADVANCED HEAT EXCHANGERS

FLOODED EVAPORATORS
In the flooded evaporators, a pool of refrigerant in the shell is submerging the tubes to a set level. As the refrigeration load varies, a refrigerant-level control acts to maintain the liquid level in the shell. The refrigerant pool in the shell behaves as a flywheel, allowing the control of the flooded evaporator to successfully track the varying load of a batch process.

More than 10 years of specific experience and continue laboratory tests are combined in the ONDA FLS and FLT flooded evaporators. Now we are proud to declare that ONDA FLS and FLT evaporators are the best choice present in the market.

APPLICATION BENEFITS
- Low energy consumption in process cooling, air-conditioning and refrigeration applications.
- Minimal refrigerant charge.
- Maximum performance at minimum temperature approach.
- The minimum specific cost in terms of €/kW for medium and high power.

FEATURES
- High efficiency exchanging tubes for refrigerant boiling performance.
- Optimal refrigerant distribution and tube geometry, avoiding preferential flow.
- Specific ONDA demister integrated in the vessel to guarantee the total absence of liquid droplets in compressor suction pipe.
- Water side low pressure drop.
- Accessibility to evaporator tubes for mechanical cleaning.
- Oil separator (vertical or horizontal) and oil jet pump in case of screw compressors.

The FLS and FLT series includes models up to 3000 kW (853 RT) of nominal cooling capacity in single or double refrigerant circuit version, 2 or 4 water side passes.

Higher capacity and special models are available on request. The differences between FLS and FLT are in the type of exchanging tubes, and in the tubes lengths. As general information, FLS are providing the best performance, but with an higher water pressure drop, while FLT are designed to keep a low level of water pressure drop.

From a constructive point of view, and for the supplied accessories, the two series are identical. Through Onda's selection software and the support of the technical department, each customer can find the most accurate and economical solution for his requirements.

FLS and FLT are available both according to CE, and to ASME approval.

<table>
<thead>
<tr>
<th>Approval</th>
<th>PS (bar)</th>
<th>Tubes Side</th>
<th>Shell Side</th>
<th>TS (°C)</th>
<th>Tmin (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Water Side</td>
<td>Refrigerant Side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE</td>
<td>10 (16)</td>
<td>20</td>
<td>90</td>
<td>-10</td>
<td></td>
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<tr>
<td>ASME</td>
<td>Ask ONDA Commercial Department</td>
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MATERIALS
Standard materials are:
- Copper for exchanging tubes
- Carbon steel for the other components

Copper-Nickel or carbon steel exchanging tubes are also available for special applications

STANDARD EQUIPMENT
- Refrigerant sight glass (each circuit)
- Flexible joint water connections
- Welded feet

ACCESSORIES ON REQUEST
- 19 mm (3/4”) expanded reticular polyethylene foam for thermal insulation
- Additional connections for liquid level control
- Additional chamber (dome) for liquid level control
- Welded supports for compressors
- Square tube-sheets
- Flanged water connections
- Additional couplings and valves