THERMAL – MULTI TUBES (TMT)

The TMT - Thermal Multi Tubes is the ideal solution for high-efficiency thermal processes, designed to meet the most demanding heat exchange needs. With an innovative and robust design, the TMT offers superior performance for a wide range of applications with low pressure drop, ensuring reduced operating costs and simplified maintenance.

Advantages of TMT - Thermal Multi Tubes

- **Reduced Exchange Surfaces:** Smaller heat exchange area required, optimizing process and efficiency.
- **Reduced Product Contact Time and Retention:** Less time of exposure to heat while preserving product integrity.
- **Sanitary:** Designed to be used by the sanitary industry, in membrane skids, process lines, CIP plants, etc.
- **Reduced Wash Time:** The turbulence generated increases efficiency and reduces CIP time.
- **Versatile Installation:** It can be installed in a vertical or horizontal position, adapting to different plant layouts.
- **High Pressures and Temperatures:** Designed to withstand operations in extreme pressure and temperature conditions.
- **Expansion joint:** To eliminate the risk of cracks in the mirror welds, our equipment is always supplied with an expansion joint.
- **Passes:** For sanitary reasons it is manufactured with a single pass, which contributes to the reduction of pressure loss on the product side.
- **Modularity and Ease of Installation:** System easy to assemble and adapt according to the needs of the application, and can be installed in series or parallel with other TMTs.

Applications

- Thermal processes of products or water, with medium flow.
- Uses: Normally in Central CIP, membrane skids, product heaters.
- Applications involving particles in the fluid (ideal for mixtures, pulps, products with seeds or pure liquids).
- Food, pharmaceutical, chemical, and beverage industries.

Quality

We only work with certified material, qualified welders, equipment is released after hydrostatic and liquid penetrant testing.

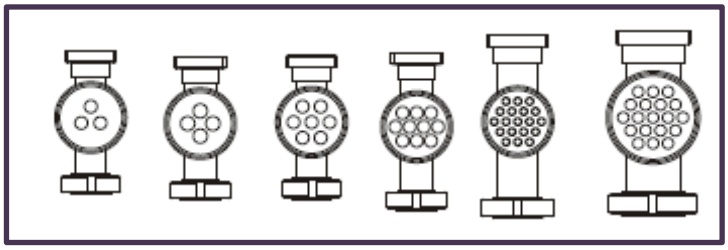
Operation

The TMT - Thermal Multi Tubes is a highly efficient heat exchanger, composed of small diameter tubes, arranged inside an outer jacket, with both sides welded end to end. The product that needs to be thermally processed circulates in the smaller pipes, while the service fluid circulates in the outer space, between the pipes and the cover. This design allows for excellent thermal exchange and can be used in a wide variety of processes.

Pattern

- Stainless Steel: AISI 304, can be supplied in 316L
- **Finish: Suitable for sanitary industry with** Ra < 0.8 µm in contact with product
- Design Pressure: 10 bar

- Several configurations available, on request.



- Equipment designed to work vertically, and equipment for horizontal can be supplied.
- Equipment supplied without thermal insulation, and can be supplied with insulation.
- ASME B16.5 Class 150 Steam/Condensate Flanges, can be supplied in Class 300.
- SMS sanitary unions, which can be CT or DIN.

Safety Instruction:

Power and Utilities Shutdown:

Before beginning any maintenance or adjustment procedures, make sure that the equipment involved is turned off and disconnected from the power supply and utilities, whether water, steam, or any other type of fluid involved.

Pressure and vacuum check:

Heat exchangers can operate under pressure. Before beginning any operation or maintenance, check that the internal pressure of the equipment has been completely relieved. Avoid releasing pressure quickly or abruptly, as this can create a risk of injury.

Temperature Check:

Heat exchangers can operate under high temperature. Before starting any operation or maintenance, wait for the temperature of the equipment to return to temperatures suitable for handling.

Safety Valve:

The equipment may under no circumstances be operated in a condition of temperature/pressure higher than that indicated as the design temperature/pressure. If there is a risk of overpressure on the equipment, whether due to an incorrectly held valve, pump *shutoff* pressure or any other reason, the equipment needs to be protected by safety devices.

Maintenance:

Replacement of all gaskets is necessary in order to avoid leakage of product and/or chemical elements. The

During the operation and maintenance of the air ejector, it is mandatory to use appropriate PPE (Personal Protective Equipment), such as:

- Safety helmet;
- Goggles;
- Key money;
- Safety boots;
- Ear protector;
- Among others;