THERMAL – Multipass (TMP)

The Multipass Heat Exchanger (TMP) is a high-efficiency tubular heat exchanger specifically engineered for industrial and sanitary steam heating — using either direct live steam or low-pressure / reduced-pressure steam.

Featuring straight-tube bundles arranged in multiple passes with external return bends, the TMP combines straightforward mechanical inspection, high fluid velocity, and safe operation from 0 to 500 bar for both thin liquids and viscous products.





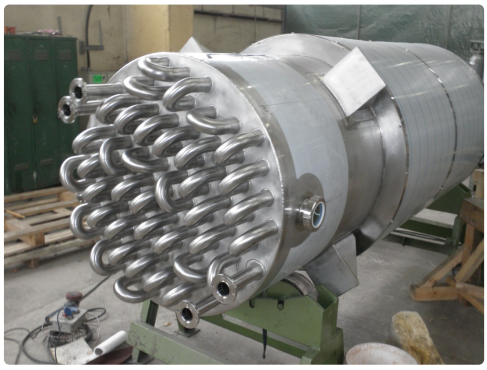
Key Advantages of the TMP:

- Engineered specifically for steam heating (live steam or low-pressure steam) with precise temperature control;
- Straight-tube multipass layout maximizing thermal performance within a compact footprint;
- Operates at low or high pressures (0 to 500 bar) — high-pressure designs reduce residence time and fouling;
- Ideal for food, dairy, sanitary, and chemical industries handling clean or viscous fluids;
- Easy end-access for inspection and maintenance, built with certified materials and 100% PT and hydrostatic tested.

Notice: Every TMP is custom-engineered in number of passes, tube sizing, and pressure class to match the exact steam and product conditions of your plant.

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Safety & Maintenance Instructions:

Utility Isolation:	Before performing any maintenance or inspection, ensure the equipment is shut down and locked out from all water, steam, process fluid, and power sources.
Pressure & Vacuum Relief:	Heat exchangers may operate under pressure or vacuum. Gradually and completely relieve internal pressure before opening any connections or flanges. Never tighten unions while the unit is operating.
Temperature Check:	The equipment may operate at high temperatures. Allow the unit to cool down to safe handling levels before servicing.
Overpressure Protection:	Never exceed the specified design pressure or temperature. Whenever overpressure risks exist (improper valve closure, pump shutoff head, etc.), properly sized safety relief devices must be installed.
Gasket Maintenance:	Periodic inspection and annual replacement of all gaskets (or shorter intervals depending on process media) is recommended to prevent leaks. Periodic hydrostatic tests must be performed by qualified personnel.

⚠ During operation and maintenance of thermal equipment, proper PPE is mandatory: safety helmet, safety glasses, thermal/mechanical gloves, safety boots, and hearing protection.

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