

# PHARMA-GRADE HEAT EXCHANGERS

# **COMPLIANCE LEADERSHIP**

Our engineers participate in ASME-BPE committee meetings to ensure our team meets the latest industry standards in hygienic design and fabrication. Our cGMP's and quality program minimizes the risk of contamination and provides our customers peace of mind.





#### **DOUBLE TUBESHEET DESIGN**

Enerquip's double tubesheet design provides added protection from cross-contamination of process fluids between the shell and tubes. The gap between our tubesheets allows for differential radial thermal expansion, minimizing stress on the tube to tubesheet expansions.

### **TUBE TO TUBESHEET JOINING**

Because quality matters, we handle each tube to tubesheet weld with care. We roller expand tubes into double grooved tubesheets, then seal weld the tubes in place and polish the surface to the specified finish for enhanced stability and contamination prevention.





### **BONNET POCKET DESIGN**

Enerquip's return pockets and weep slots are fully radiused and polished to enhance cleanability and drainability. Our product side O-ring design in the bonnet is truly cleanable, with the O-ring exposed to the cleaning fluids in accordance with ASME-BPE standards.



# **DRAINABLE DESIGNS**

Enerquip incorporates weep slots in the pass partitions to facilitate draining of fluids. Our exchangers can also be pitched to encourage gravity draining of the unit, on both the product and utility sides. Due to surface tension in highly polished tubes, air or heat may be required to fully drain exchangers.

# **POLISHED EXTERIOR FINISH**

We polish the exterior of our exchangers and insulation jackets to 40Ra for enhanced cleanbility during wash-down, while also giving the equipment a more uniform appearance. Need an even lower Ra? We can do that. Electropolishing is also an option.





# **PASSIVATION SERVICES**

Enerquip offers passivation of product side (tube side) surfaces to ensure your equipment is clean, degreased, and more passive to corrosion. Passivation is performed in-house following final hydrostatic testing.

### **INSULATION JACKETS**

If insulation is required, Enerquip offers a chloride free Inswool ceramic insulation material, with durable fully welded exterior pipe jackets. Nozzle covers can be either tack welded stainless sheet or PipeTite boots. We also offer an optional Thermalux coating on the interior shell to serve as a moisture barrier between the inner jacket and the insulation.



Want more? Enerquip also designs and builds bayonet heaters, condensers, and more. Learn for yourself why Enerquip's quality and service is unmatched in the industry. Call us, today!



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