

Tube in Tube Exchangers

The Allcool Tube in Tube Exchangers utilise corrugated tubes which generate turbulence in both media to ensure uniform temperature distribution. This improves the heat transfer co-efficient by up to 60% compared to a conventional smooth tube design. We offer two types of exchanger. The mono-tube design has a single tube within a tube and the multi-tube design has a number of tubes inside a shell.

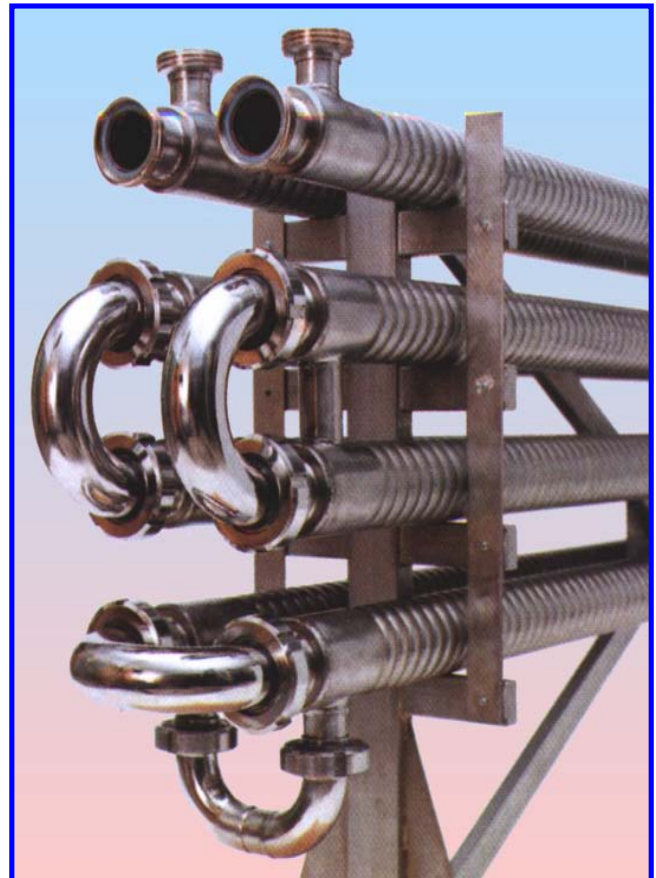
Applications

The mono-tube design is used to process fluids containing large particulates, fibres and cells up to 50 mm diameter including:

- Effluent water
- Dye-house effluent
- Grain slurry
- Pet food
- Digestion sludge
- Fruit pulps

The multi-tube design is suitable for viscous media and media containing small particulates including:

- Dairy products
- Sugar syrups
- Malt extracts
- Juices
- Purees
- Sauces
- Process water
- Paint
- CIP heaters
- Concentrates
- Tomato products
- Veg wash water



Advantages

- Uniform temperature distribution & thermal processing
- Increased run times before cleaning is required due to turbulent flow substantially reducing fouling
- High response to cleaning in place (CIP)
- Low maintenance cost

MONO-TUBE DESIGN



The mono-tube unit is an all welded tube in tube type exchanger. The process fluid passes through the inner tube, whilst the service media goes through the outer tube. Both the inner and outer tubes can be corrugated.

For high temperature duties expansion bellows are incorporated into the outer tube.

MULTI-TUBE DESIGN



The multi-tube unit consists of a number of small diameter tubes mounted inside a larger diameter shell. The process fluid passes through the tubes with the service media passing through the shell. The exchanger can either be supplied fully welded or have removable ends to allow greater access to the inner tubes. For high temperature duties expansion bellows are incorporated in the shell.

TECHNICAL SPECIFICATION

- Standard materials: Stainless steel AISI 304 & 316
- Standard tube lengths: 1,000, 2,000, 3,000 & 6,000 mm
- Standard maximum working pressure: Process side 25 bar (g)
Service side 16 bar (g)

Standard units can be connected in series and/or in parallel by means of 180° bends to suit the specific design requirements. Multiple units can be mounted on a stainless steel frame.

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