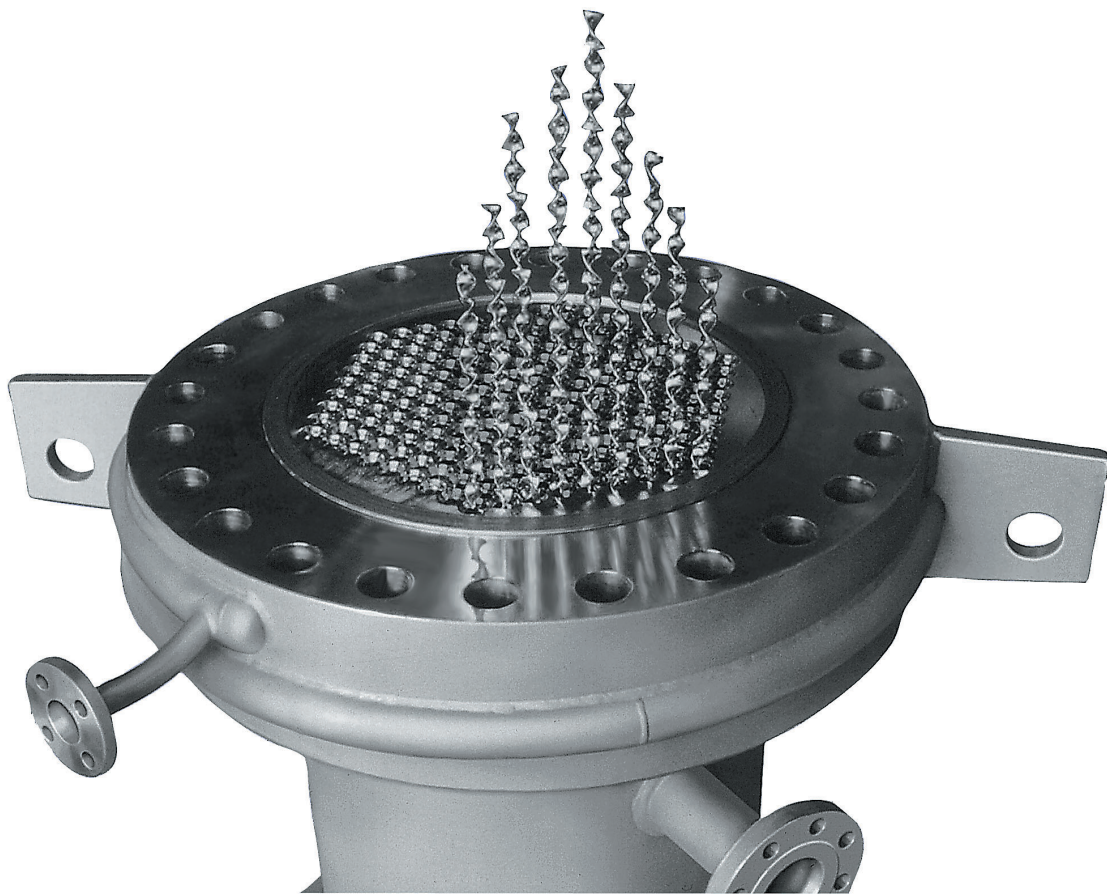


blendrex®

Heat exchanger for the polymer industry



maag pump systems specializes in the design and application of blendrex® heat exchangers used to preheat polystyrene melt prior to devolatilization and to cool polyester prior to spinning or pelletizing.

blendrex® heat exchangers are problem solvers for many types of difficult heating and cooling applications.

Your benefits

- Significantly improve heat transfer rates of polymers and other viscous products. Three to seven times the rate obtainable compared to an "open tube" (no blendrex® elements) design
- Provide a shorter product residence time inside the unit
- blendrex® tube is a "plug flow" device
- Tubes eliminate localized "hot spots", and provides uniform temperature profile across the tube section
- Contain alternating helical twist elements to obtain the high performance capabilities

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Typical media

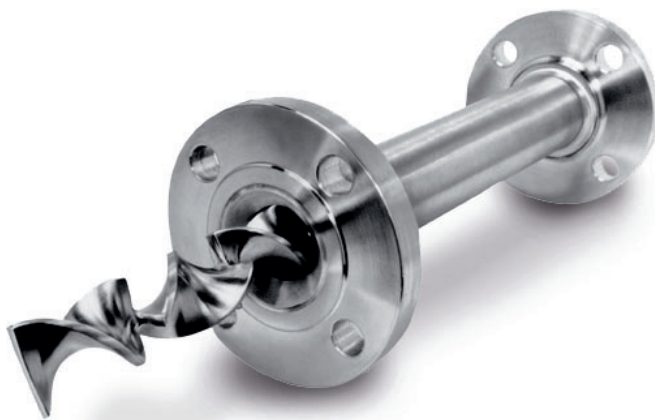
- Cellulose acetate
- Elastomers
- Epoxy resin
- Phenolic resin
- Polyacrylonitrile
- Polyamide
- Polycarbonate
- Polybutylene Terephthalate
- Polyethylene Terephthalate
- Polymethylmethacrylate
- Polypropylene
- Polystyrene (incl. ABS, EPS)
- Polysulphone
- Silicone
- SBR Latex
- And others

Materials

- 304 and 304L (low carbon) stainless steels
- 316 and 316L (low carbon) stainless steels
- 321 stainless steel
- Carbon steels (economical, good strength)
- Titanium
- Carpenter 20 alloy
- Hastelloy (including grades "B" and "C")
- Inconel

Further information

- Using a proprietary program, an analysis of the proposed design may be evaluated from the viewpoint of flow distribution of the product through the bonnets and the tubes. From this analysis, elimination of stagnant flow areas and reductions in product residence time can be achieved.
- All product exposed surfaces can be electropolished (very highly polished by a proprietary process) in order to minimize product degradation and avoid product "hang-up" in the unit.
- maag pump systems patented "Two Phase Flow Technology" (U.S. Patent #5,785,808) may be employed to provide heat transfer in applications where volatiles are to be removed from process streams. This technology prevents premature vaporization of volatiles in the product, thereby significantly improving overall heat transfer rates to allow for more compact and economical design of the blendrex heat exchanger.



Certificates

blendrex® heat exchangers can be designed, fabricated, tested, and certified in accordance with most international standards organizations, including the following:

- ASME (American Society of Mechanical Engineers) Section VIII, Divisions I and II
- API (American Petroleum Institute)
- CODAP Standards
- TÜV Standards
- Chinese Safety Quality License (SQL)
- TEMA (Tubular Exchanger Manufacturer's Association) "B", "C" and "R"
- DIN (Deutsche Institute Normal) Standards