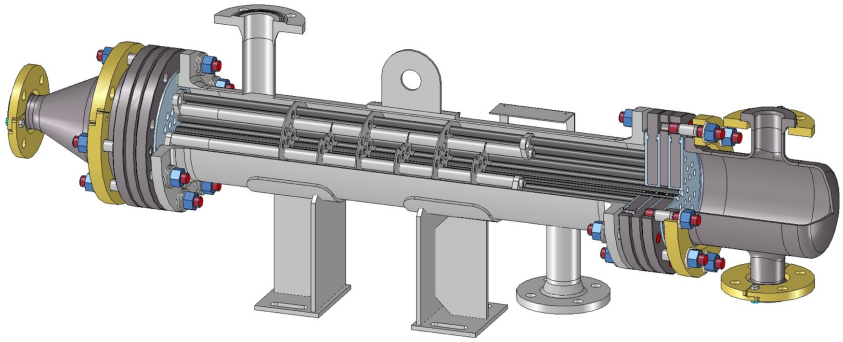
SR

Silicon Carbide Shell & Tube Heat Exchanger CORRESIC®-SR Series

Product Information (SR-1)

CORRESIC® - Silicon Carbide Shell & Tube Heat Exchanger

- Universally corrosion-resistant pressureless sintered SiC (SSiC) tube material with very high thermal conductivity
- Resistant to all leaches, acids, solvents and halogens
- Non-leaking tube sheet sealing system
- Material selection for shell and headers depending on the application (carbon steel, stainless steel, glass-lined, PTFE-lined)
- Vertical, horizontal or horizontally inclined operation possible



CORRESIC®-SR Shell & tube heat exchanger DN200 (NPS 8) with 1.5 m (6“) bundle length

Setup and Design

- SSiC tubes Ø14 or 19mm (0.55“ or 0.75”)
- Tube sealing by compact sealing system
- Double sealing FFKM/FFKM resp. FFKM/FKM as standard
- No threaded connections of the tube sheets in the corrosive area

- Heat transfer area: 0.4m² to 65,5m² (4 to 705ft²)
- Shell diameter: DN100 to 500 (NPS 4 to 20)
- Bundle length: 1.0 to 4.5 m (39.4 to 177.2“)

Applications

- Liquid/liquid heat transfer of acids, caustic media and all kinds of organics, e.g. acid mixtures, sulphuric acid, nitric acid
- Condensation processes
- Condenser units including main and trap condenser and cooler
- Gas cooling with elementary halogen compounds (dry and moist)
- High purity chemical processes and final stage API manufacturing
- Acid concentration

Features and Benefits

- Optimal corrosion resistance against acids, leaches, halogen compounds and oxidising media
- Excellent thermal conductivity
- Great abrasion resistance
- High resistance against thermal shocks
- Extremely pure, no contamination
- Condensation on both, shell and tube side
- Optimized tube sheet allows for low cost and compact design
- Improved transfer area to shell volume relationship
- Best available sealing system (double sealing FFKM resp. FKM)
- No corrosion and leakage risk
- Completely drainable

Design Parameters

-1/+6 (+10) bar

(FV/87/145 psig)

-30/+220°C (-22/+428°F)

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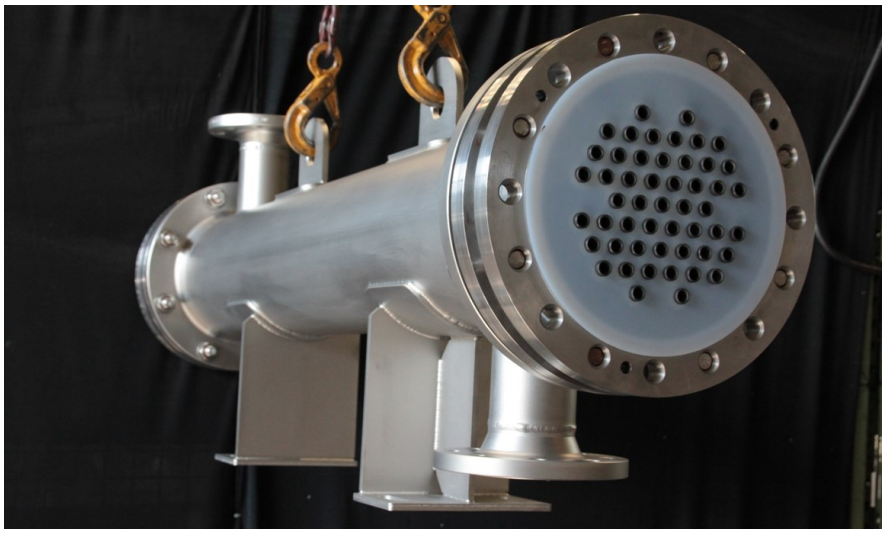
Materials Used and Material Options

Tubes:	Pressureless sintered, single-phase α-silicon carbide (SSiC) SSiC tubes Ø14 or 19 mm (0.55“ or 0.75“)
Sealing system tube / tubesheet:	Double sealing FFKM/FFKM resp. FFKM/FKM
Tubesheet:	PFA-lined stainless steel
Shell:	Carbon steel, stainless steel, glass lined, glass, PTFE-lined steel
Headers:	Carbon steel, stainless steel, glass lined steel, PTFE-lined steel

Design and inspection

- CORRESIC® heat exchangers are designed, manufactured, tested and inspected according to the Pressure Equipment Directive (PED)
- Other design and manufacturing codes available upon request



CORRESIC® SR shell & tube heat exchanger DN 200 (8“), 3 m² (32ft²)

Additional information

- Data sheet SR-1 includes information on terminology and main dimensions.
- Further developments and complementary information (brochures, corrosion resistance charts, product information, data sheets,…) are available for download at de.mersen.com

Benefits of Shell & Tube Design

- Modular setup
- Application-focused material choices
- Great cleaning options

Technical Perfection

- Application in single-purpose and multi-purpose plants
- Optimal thermal performance at compact dimensions
- Long lifetime

Economically Outstanding

- Standardization with a focus on major sizes and material combinations
- Short lead times
- Low operation and maintenance costs
- Competitive pricing

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