

SHE

sanitary heat exchanger



spirax
/sarco

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Spirax Sarco has a long history of designing and manufacturing heat exchangers. As a leading designer and supplier of clean and pure steam generators, multi-effect distillation and hygienic components, we have an intimate knowledge of the functional, documentation, certification and support requirements the Bio-pharmaceutical industry demands.

With this wide experience and knowledge of the needs of sanitary systems, Spirax Sarco has designed a sanitary heat exchanger that fully meets the requirements of the Food and Drug Administration (FDA), current Good Manufacturing Practices (cGMPs), and the ASME BPE standards for bioprocessing equipment.

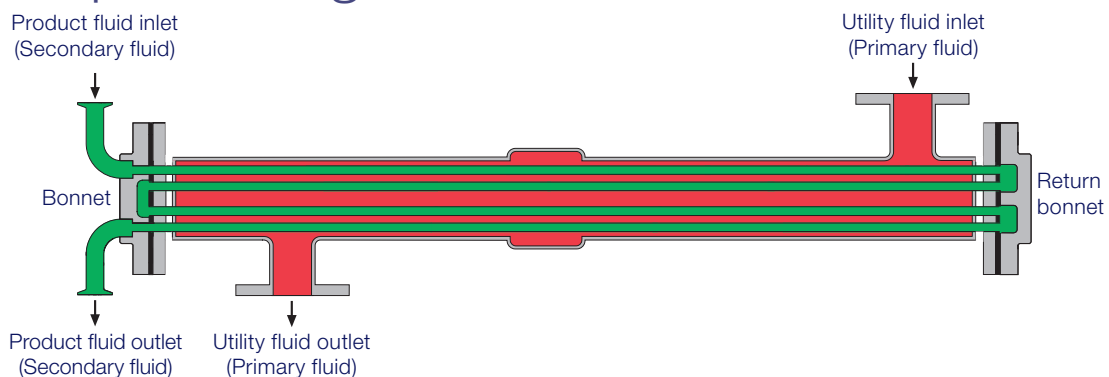
Key features



Applications

- Product media temperature control
- High purity water heating and cooling
- WFI and purified water point of use heating and cooling
- CIP fluid heating and cooling
- Re-circulated batch heating and cooling
- Condensing pure steam

Multi-pass design



- Compact solutions for large heat exchange duties
- Zero dead-leg return bonnet
- 2 or 4 pass configurations
- Straight tubes for ease of cleaning and inspection
- Fully drainable bonnets designed in accordance with ASME-BPE
- Optimised return bonnet bypass for drainability and thermal efficiency
- No 'U' bends avoiding structural and surface finish imperfections

Key features and benefits

Key features	Key benefit
 Double tube sheet construction	Double tubesheet design to prevent cross-contamination and quickly identify leaks.
 Self-draining crevice free	No areas where media can accumulate and cause hold-up, product loss or contamination.
 Bespoke flexible design	Design is precisely matched to each customer's needs. Multiple pass units available. Flexibility of nozzle position, size and connection type.
 Stringent testing and inspection	Full range of standard and optional quality and performance tests. Factory and customer on-site testing and inspection are fully supported. Full validation documentation and certification service.
 Modular heat exchanger packages	Pre-engineered and assembled heat exchange system with all the necessary control and ancillary equipment. Minimal installation and onsite commissioning.
 Part of a dedicated high purity range from Spirax Sarco	Provides customers with a single source of supply for all their high purity needs.
 Steam industry leader with vast application knowledge and understanding of heat transfer technology and steam and utility controls	Steam specialists in both the high purity and plant side of your business. Global company with worldwide local expertise and support.
 Compliant to all international pharmacopeia and industry standards	Heat exchangers can be designed to meet all international pharmacopeia and industry design standards.

Sanitary heat exchanger design

Each sanitary heat exchanger is individually designed and tailored to meet our customer's exact needs. Our long experience in heat exchanger design and high purity systems means that we are able to advise our customers on the best design to meet their exact requirements.

A Spirax Sarco high purity specialist will consult with you to understand exactly what your needs are, and will then work with our heat exchanger designers to arrive at the optimum design. This consultation process will also identify your testing, documentation and certification compliance requirements.

Manufacturing and design standards

- ASME BPE
- ASME VIII Boiler Pressure Vessel Code
- European Pressure Equipment Directive 97/23/EC
- cGMP
- FDA and USP
- ISPE Baseline Guides

Each sanitary heat exchanger will have a double tube sheet design to ensure that in the unlikely event of a leak, cross contamination shall be prevented and it can be identified quickly and easily. If required, bellows will be incorporated into the shell design to inhibit thermal fatigue. All units will be polished and certified to meet your surface finish requirement.

The Spirax Sarco SHE can be supplied with multiple passes, has flexibility of where connections are placed and the length and diameter of connection nozzles. If required, the heat exchanger can be supplied pre-insulated complete with a stainless steel jacket.

Our gasket design is self-positioning and material selection avoids over compression and deformation whilst complying with USP class VI and US FDA requirements.



Consultation

- High purity specialists
- Identify application needs
- Identify compliance needs
- Solution agreement

Design

- Thermal and mechanical heat exchanger design specialists
- High purity compliance specialists
- Internationally recognised thermal and mechanical design platforms
- Bespoke design

Testing and inspection

Each heat exchanger is subject to a rigorous regime of testing and inspection to ensure it meets all customer and statutory requirements. A complete set of tests and inspections are carried out on each heat exchanger to ensure that it meets these requirements and Spirax Sarco's stringent quality expectations.

Additional optional testing and inspection is available to meet individual customer requirements.



Optional tests and inspection

- Factory acceptance test
- Site acceptance test
- Boroscopic inspection
- Radiographic inspection
- Dye penetration inspection
- Surface roughness inspection
- Material ferrite inspection

Documentation and certification

Standard documentation

- General arrangement drawing
- Data sheet
- Design and functional specification
- Calculations notes approved by a notified body
- Installation, use and maintenance instructions
- Hydrotest report and CE conformity declaration
- Weld documentation
- Material certificates
- Pickling, passivation and finishing procedures certificates

In addition to the standard documentation, a wide range of additional documentation and certification can be supplied such as roughness certificates, calibration certificates for testing equipment, ferrite content certificates and vibration analysis.

Packaging

All units are packed and shipped in a controlled manner including cleaning, passivation, purified water rinsing, air dried and capped. options including pressurising with inert gas for transportation and storage.

Spirax-Sarco s.r.l.

"Soggetta alla direzione e coordinamento di
Gruppo-Sarco Engineering P.le."

Capitale Sociale Euro 2.582.300 i.v.

Sede = Stabilimento

Via per Cinisello Bò - 20054 NOVA MILANESE - RI

Tel. 0362 - 49.17.1 - Fax: 0362 - 49.17.310

CE DECLARATION OF CONFORMITY

Con la presente la Spirax-Sarco S.r.l. sita in Via per Cinisello 18
20054 Nova Milanese (MI) Italia,
dichiara che il prodotto:

SCAMBIATORE DI CALORE
A FASIO TUBERO RETTILINEO

DESCRIZIONE Caratteristiche		LATIT MANTELLO mm	LATIT LINO mm
PRESINCRONIZZAZIONE MODEL	Isola/10' + F.V.	10' + F.V.	F.V.
TAMP. E PRODOTTO IN	-10° C	170,4	170,4
PRESINCRONIZZAZIONE PRESSURE	bar	16,31/63	16,31/63
DIMENSIONI ESTERNE	mm	/	/
Oscillazioni min./max.	-10° / +10°	0,85	0,85
GARANZIA	Anni	10	10
TAMP. DI LEGNACIAZIONE	-10°	10/12	19/13
CONDIZIONI AMBIENTALI	min	0	0
BOMBERE DI COPRA	cm	7,2	24
CONNETTORI PERMANENTI	cm	2000	2000
VALVOLA A TRE VIE	cm	16,80	16,80
N. DI SERIE	1	4	4
COLLAUDO			
AUTORIZZATO ACCREDITATO	PER IL LOTTO REGISTRAZIONE		
ANNO DELL'ACCREDITAMENTO	ANNO DELLA REGISTRAZIONE		
MATERIALI APPROFONDITI	PER IL LOTTO CE		
REQUISITI ANTI-CORROSIONE			
PROTEZIONE ANTIRIFLESSO			

che ottempera ai requisiti richiesti dalla

Direttiva Europea 97/23/CE (Pressure Equipment Directive)

Modello	Procedura di valutazione della Qualità	NB (Ente notificato)	Certificato n°
H	GARANZIA QUALITA' TOTALE	Lloyd's Register <i>Inidirizzo:</i> : Hiramford Middle-march Office Village, Sixton Drive, Coventry CV3 9PJ	
N° notifica:			

Nova Milaneze,

Il Direttore di stabilmento
Angelo Cantavelli

siprax/
sarco

Sede legale: via per Cinisello, 18 – 20054 Nova Milanese – MI
Iscrizione Reg Impe e Codice Fiscale 06527560568 – Iscrizione R.E.A. Milano – Partita IVA 11336030151

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Some products, services or solutions may not be available in certain markets

Spirax-Sarco Limited
Cheltenham UK
GL53 8ER
t: +44 (0) 1242 521361
f: +44 (0) 1242 573342
e: uk.enquiries@uk.SpiraxSarco.com
www.SpiraxSarco.com

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