

HEAT EXCHANGERS

SEC





About SEC

Established in 1998, S.E.C. (Systems Equipment Corporation) is a specialist in the design and fabrication of heat exchangers.

With two manufacturing locations and a team of seasoned engineers, designers, and manufacturing specialist, SEC leads the field by providing advanced heat transfer solutions.

The design of our products has been proven since **1998**. Our focus on quality and the use of automated production processes enables SEC to carry out the most complex and technologically advanced projects.

Our state-of-the-art facilities utilize; leading edge processes, advanced automation and robotic assembly and welding systems. Computational fluid dynamics analysis and simulation software improve our modelling capabilities and help analyze thermal designs including those demanding complex variations.

Our in-house tube mills and sophisticated CNC equipment provide substantial cost savings and shorter product development times on products where multiple units are required, be it **500** or **50,000** pieces.

SEC products are manufactured in accordance with the guidelines of ASME and PED and most other globally recognized design and safety codes.

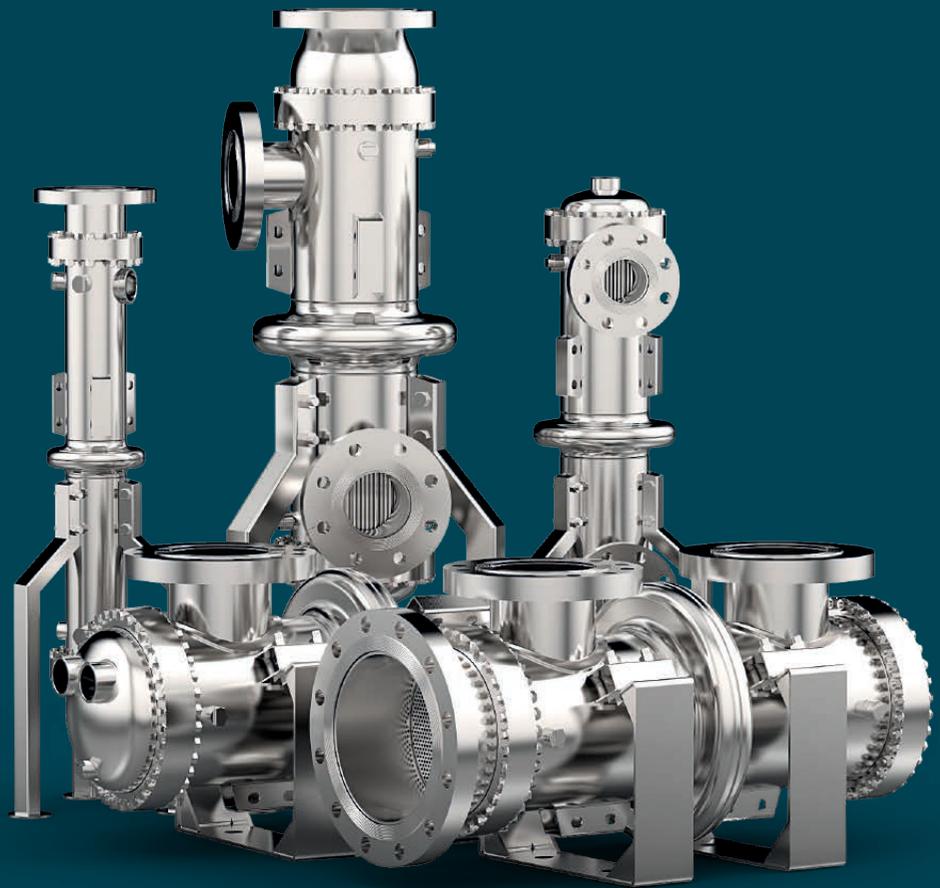
We offer 'private label' services for clients with marketing strength but who select to use SEC's manufacturing facilities. Whether the end product is developed by SEC or our client, quality is always our foremost concern.

Please feel free to contact us to discuss your heat transfer needs.

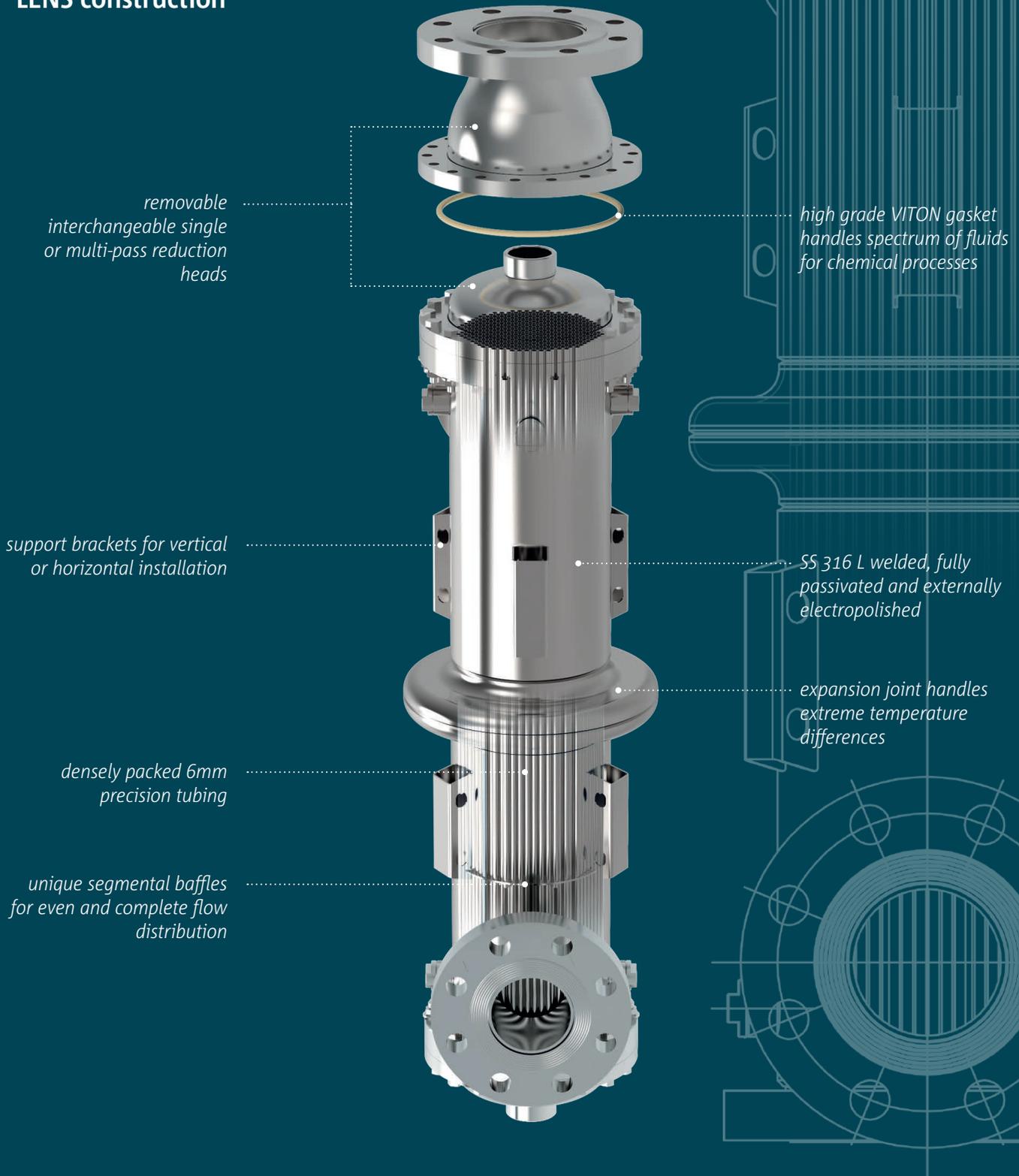
LENS heat exchangers

Blend of technical excellence, creative ingenuity, and experience in thermal technology resulted in a carefully crafted SEC design.

Modular concept of a heat transfer system built with high attention to detail, rich in characteristics, and practical features.



LENS construction



Advantages

- dense heat transfer area packed in a compact construction
- high flows with low pressure drops
- small footprint
- multiple configurations of removable single or multi-pass heads
- possibility of large connections for low density vapours
- close temperature approach and condensate sub-cooling
- versatile working positions and connection orientation

Typical applications

- steam condensers (flooded heat exchangers)
- oil / gas coolers
- chilled water systems
- process cooling
- district energy
- hydronic heating

Modular LENS heat transfer system

Effortlessly create a customized heating system using modular LENS components. Whether to optimize a single design, or to construct a multi-sectional, integrated structure, the potential is boundless.

The strength of LENS system lies in its adaptive and modular nature, easily modified for maximum effectiveness in varying applications.

From hydronic heating to steam condensers, and all processes in between, the LENS offers clients unrivalled quality with the highest degree of flexibility.

Construction

The rugged, yet refined, stainless steel LENS heat exchanger features elements that are intrinsic to the heightened aptitude of the product.

The innovative use of 6mm stainless steel precision tubing in the mainstream heat recovery market, especially in the construction of steam condensers, elevates the level of product performance to new standards, allowing for a higher breadth of functionality.

The densely packed tube bundle maintains a compact structure with smaller footprint requirements, while delivering more uniform heating and greater heat transfer potential.

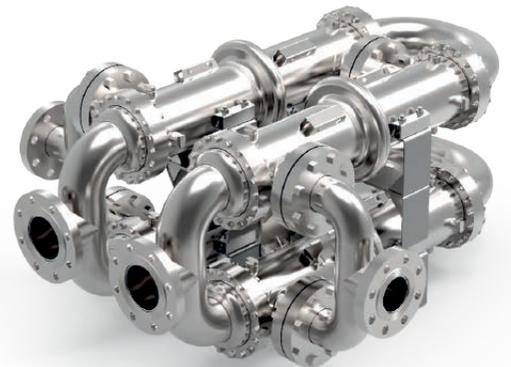
Multiple stainless steel, interchangeable heads, readily fitted in the field, with a selection of configuration options, adjust for diversity in flow requirements.

For maintenance purposes, heads are removable for unfettered access to the tube bundles.

Multi-LENS Concept



Hairpin modules.

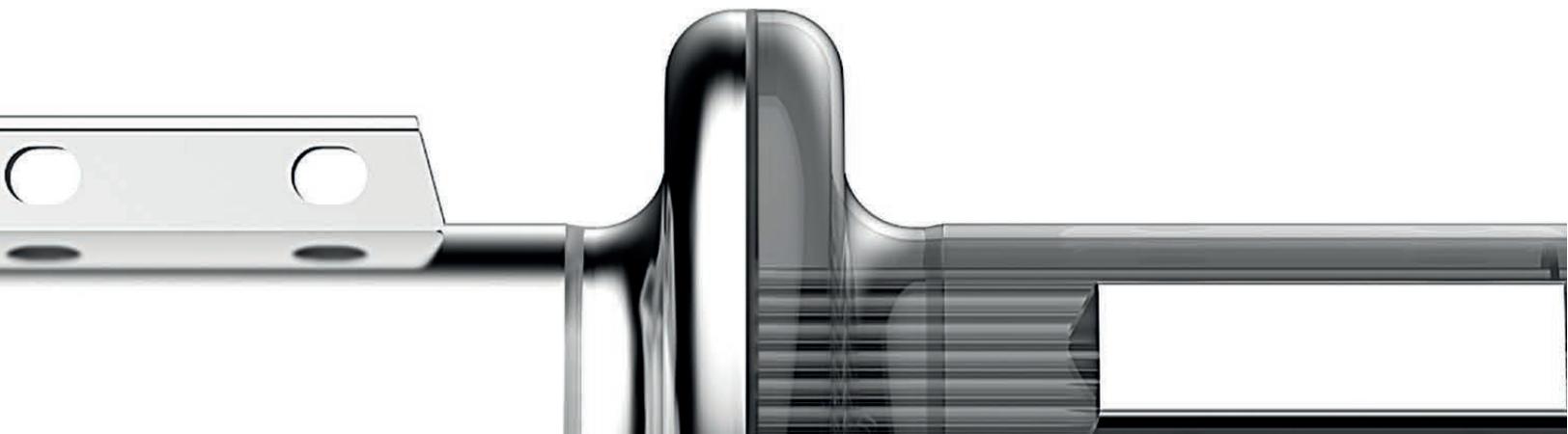
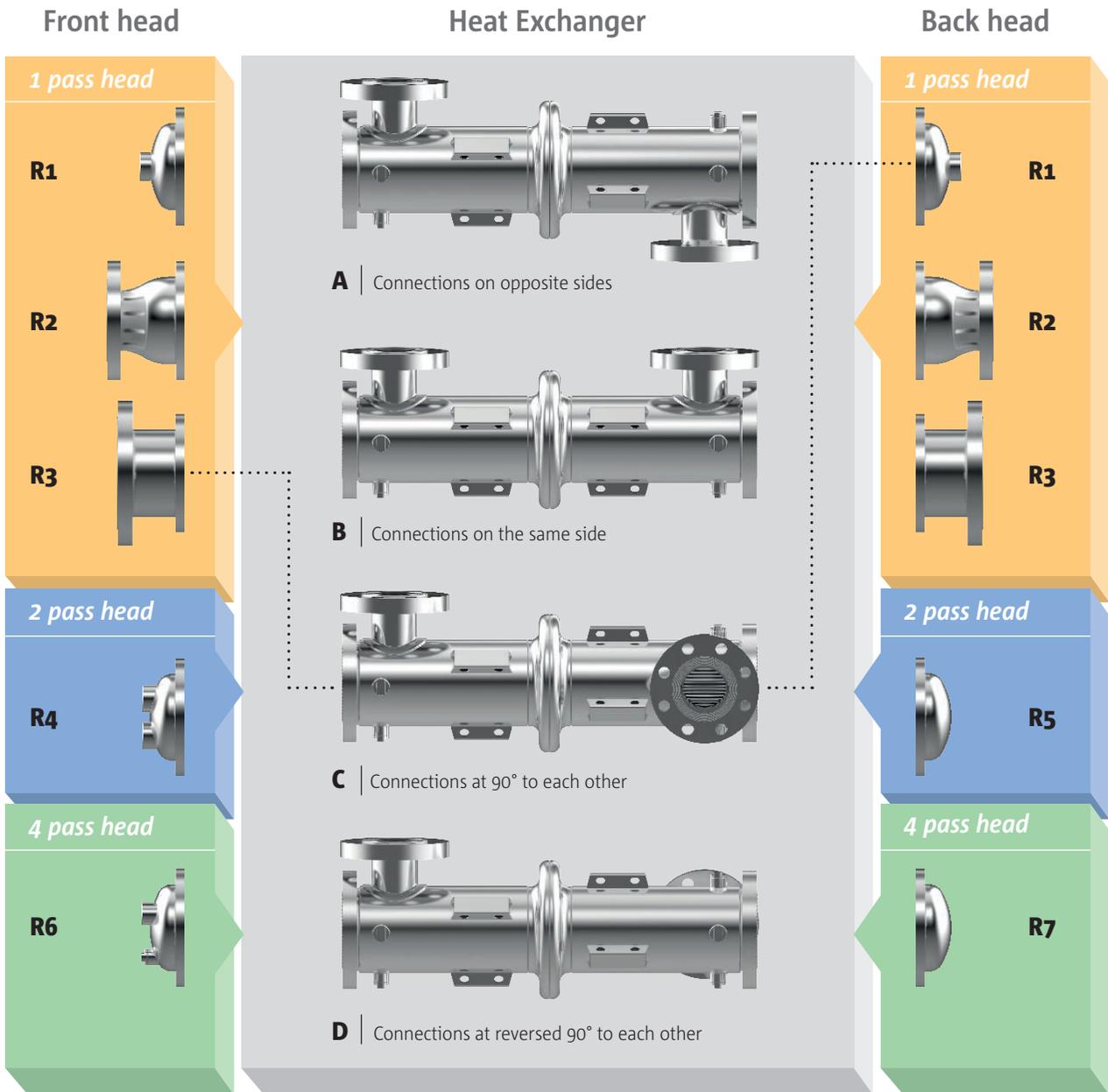


Cube module of 4 units in a series-parallel arrangement.



LENS Matrix

Over 100 configurations available in single or multi-pass designs



Materials

The reliability and sturdiness of the LENS heat exchangers rest on their materials of construction, and application support features.

All LENS components are fabricated from grade 316 L stainless steel for strength of structure. Complete units are fully passivated and externally electropolished for advanced corrosion resistance.

High grade VITON gaskets are used for superior sealing and for handling a broad spectrum of fluids in chemical processes.

Expansion joints are built in to handle a wide range of temperature differentials, while unique segmental baffles serve even and complete flow distributions.

Versatility

While most heat exchangers are developed to function in a singular position, the LENS system is designed to operate in both horizontal and vertical modes.

These inherent product advantages eliminate the need for ill-equipped, over or undersized products, by accounting for changes of fluid phases and space constraints.

Alternating tube side connections enhances the thermal performance of the heat exchanger, without the need to compromise product selection.

Large connection sizes on smaller diameter models are particularly useful for low pressure vapour applications. Same side or alternating connection arrangements are possible to support existing piping infrastructure.



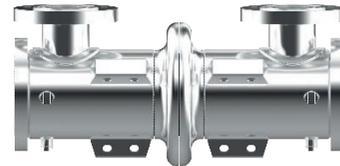
LNS 4



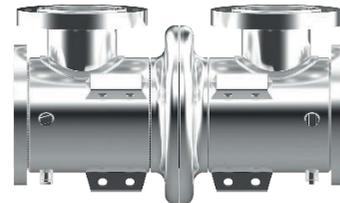
LNS 6



LNS 8



LNS 10

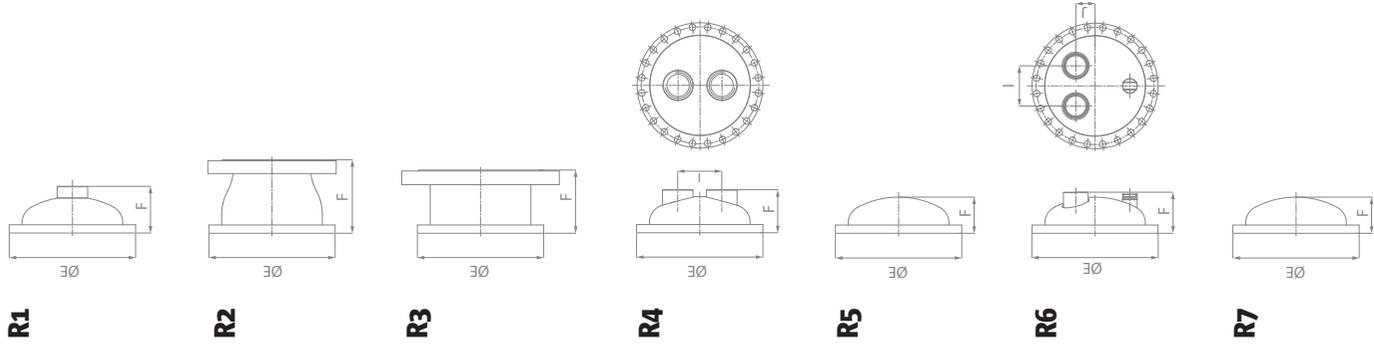
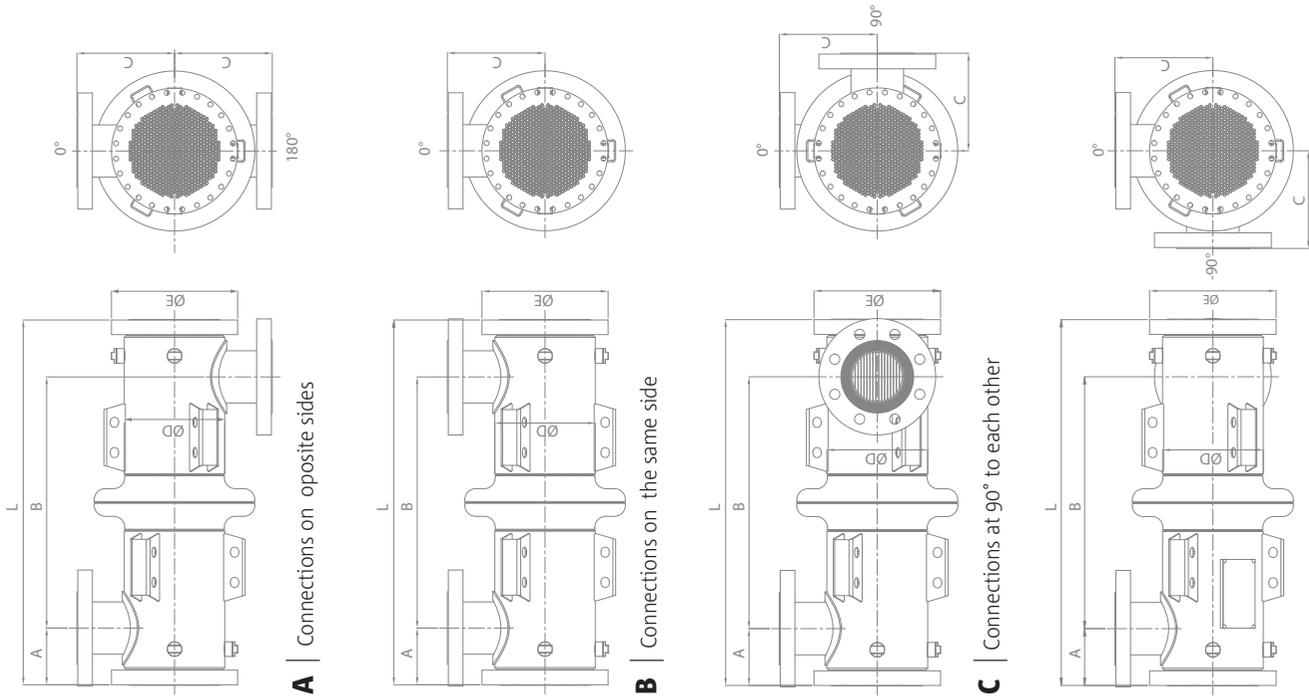


Designed for horizontal and vertical modes.

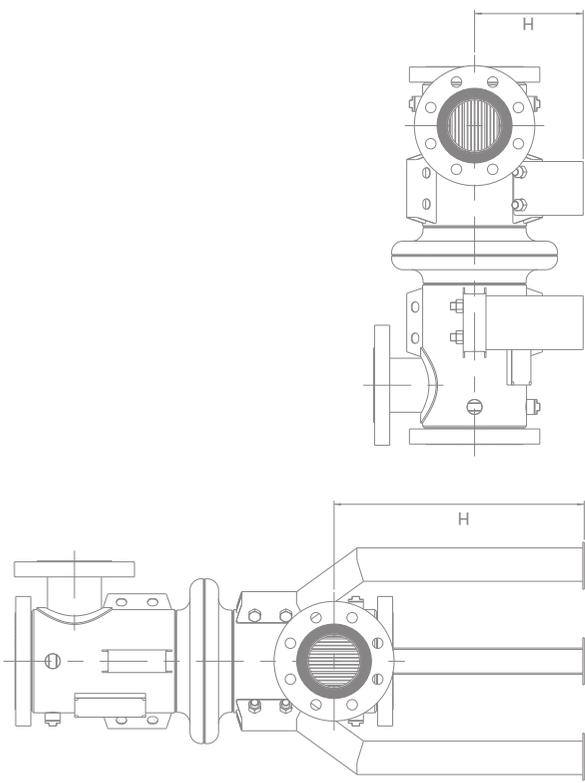
LENS available in four sizes - 4", 6", 8", 10".



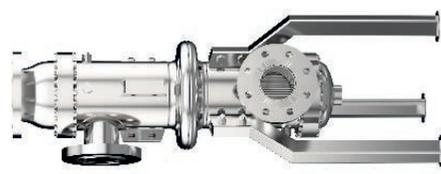
Dimensions



Floor support		Vertical position			Horizontal position			
Shell Size	LNS4	LNS6	LNS8	LNS10	LNS4	LNS6	LNS8	LNS10
H	<i>mm [in.]</i>			<i>mm [in.]</i>				
	338,3 [13.32]	393,3 [15.48]	529,4 [20.84]	579,4 [22.81]	153,0 [6.02]	173,0 [6.81]	229,0 [9.02]	239,0 [9.41]



Sample configuration



LNS10 - R6R7CH

LNS4 - R3R1CV

LNS8 - R2R1DV

Original. Effective. Versatile.

Surpassing conventional heat exchangers with its fresh, inventive design, the LENS heat exchanger system skillfully incorporates in all the 'must-have' thermal features valued in the heat recovery market, excelling in all competencies through uncompromising quality and fine craftsmanship.



MATERIAL OF CONSTRUCTION

STAINLESS STEEL 316L

STANDARD DESIGN PARAMETERS

	TUBES	SHELL
TEMPERATURE	217°C (422°F)	217°C (422°F)
PRESSURE	10 bar (150 PSI)	21 bar (300 PSI)

We are certified by renowned international inspection authorities. Our quality process and management systems fulfill the requirements of ISO 9001 Quality Management System. SEC heat exchangers are designed, tested and manufactured in accordance with ASME (Section IV and VIII) and PED (97/23/UE) regulations.



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