



EXONDER®
A World of High Quality Products

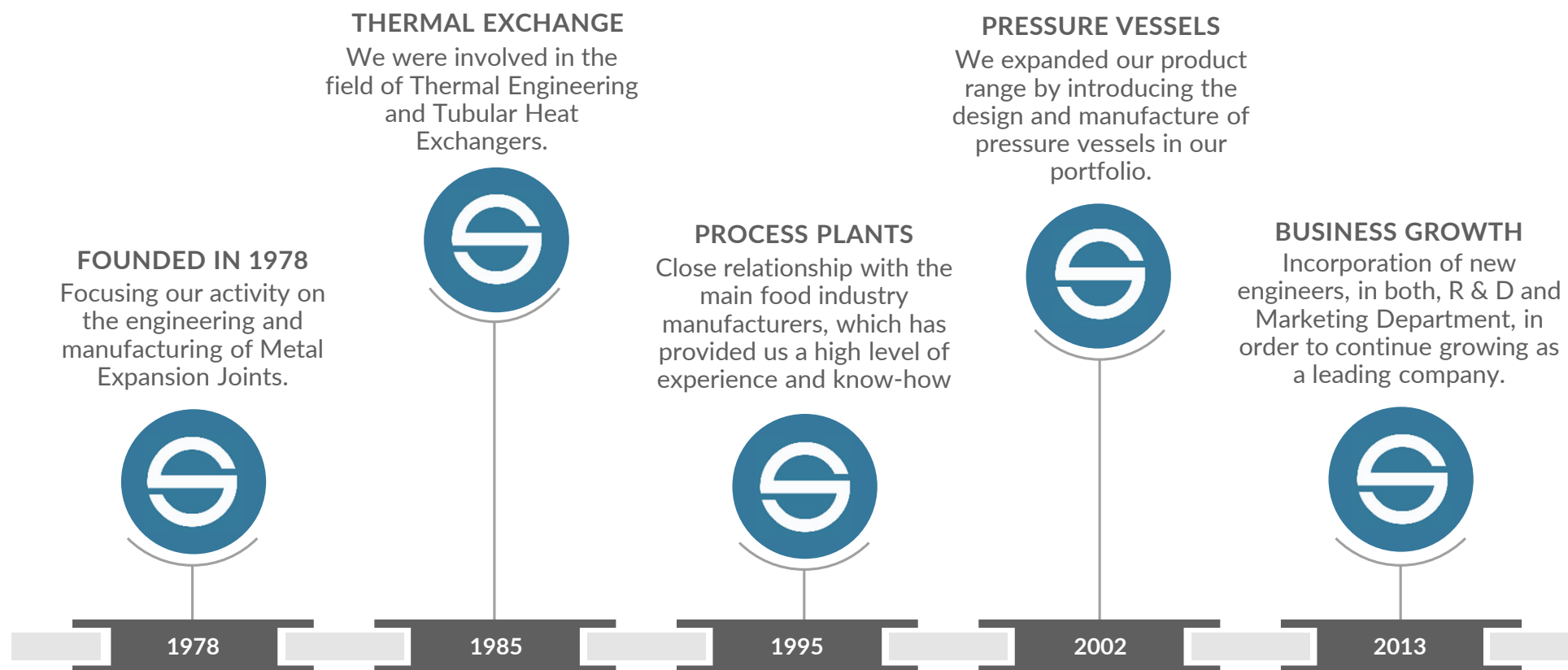


PHARMACEUTICAL
LINE

TUBULAR HEAT EXCHANGERS

SACOME | TIMELINE

ENGINEERING, DESIGN AND MANUFACTURING SINCE 1978





SACOME | VALUES

EXPERTISE

More than 6.000 references worldwide.

RELIABILITY

Innovation & continuous improvements.

QUALITY

Quality products that fully meet the needs of our clients.

TEAMWORK

Teamwork skills and cooperation.



RESPONSIBILITY

We honour our commitments and agreements.

CUSTOMER-FOCUSED

In-depht analysis of customer needs and requirements.

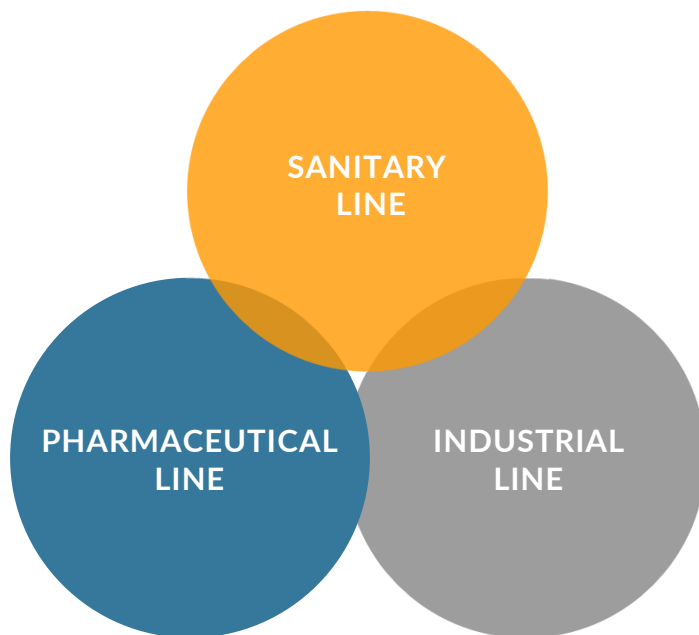
FLEXIBILITY

Fully adapted and customized designs.

HONESTY

An ethical approach of honesty as integral part of our philosophy.

SACOME | NEW LINES



SANITARY LINE

Optimized designs to favor a good CIP (Clean In Place) cleaning of the product channel, guaranteeing the best finishes and the drainability of the equipment.

PHARMACEUTICAL LINE

Designed in accordance with the recommendations set by the FDA. To avoid cross-contamination the exchanger has a double tubesheet. The finished meet the highest standards, with certified roughness if required. The design ensures drainability and product recovery.

INDUSTRIAL LINE

Designed both thermal and mechanically to ensure long life and high reliability.



SACOME| MAIN ADVANTAGES

MANUFACTURING SINCE 1978

ENGINEERING & DESIGN

CUSTOM-MADE MANUFACTURING

QUALITY MANAGEMENT SYSTEM

RESEARCH, DEVELOPMENT & INNOVATION

**REGULATION & CONTROL FOR OUR
SYSTEMS & SKIDS**



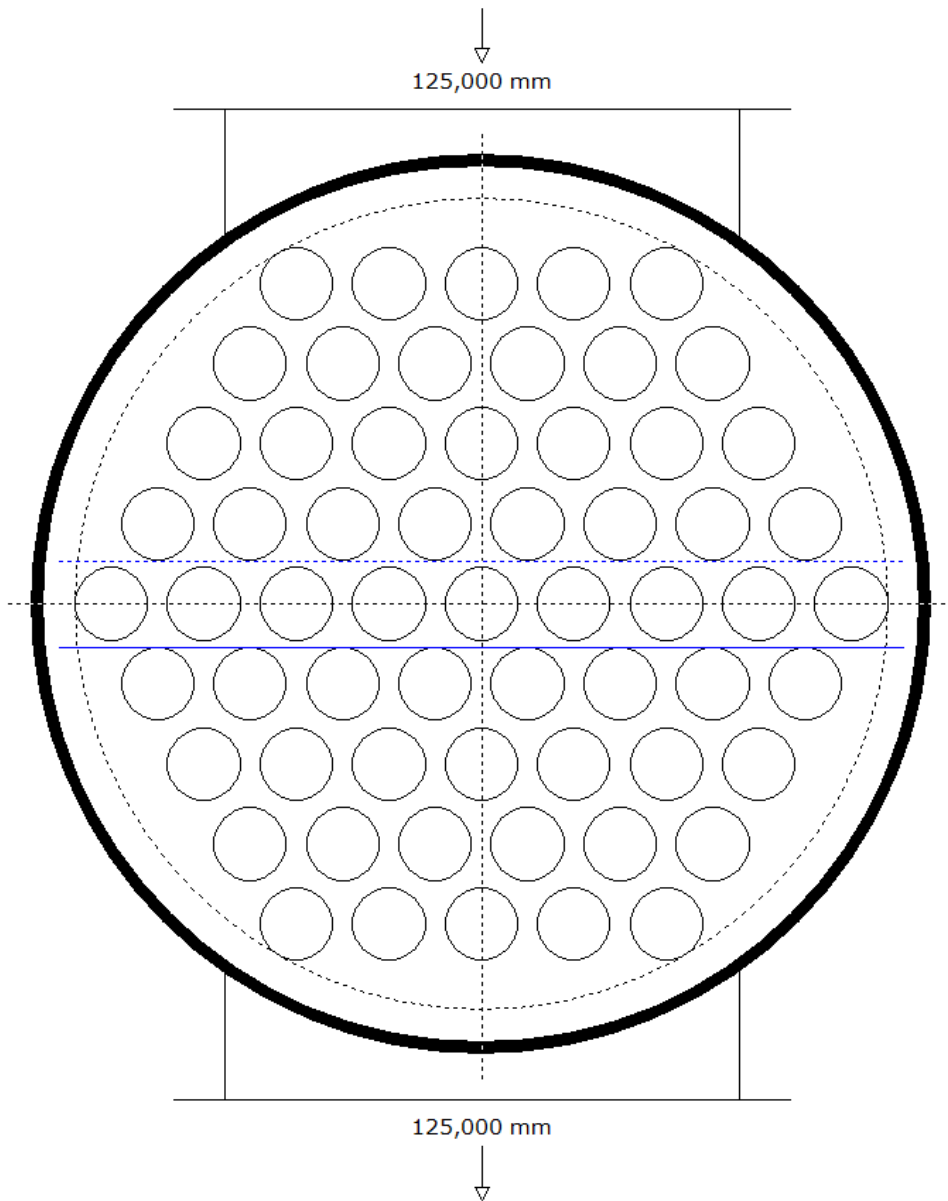
SACOME | QUALITY CERTIFICATES

ISO 9001:2008
QUALITY SYSTEM UNE-EN-ISO9001: 2008

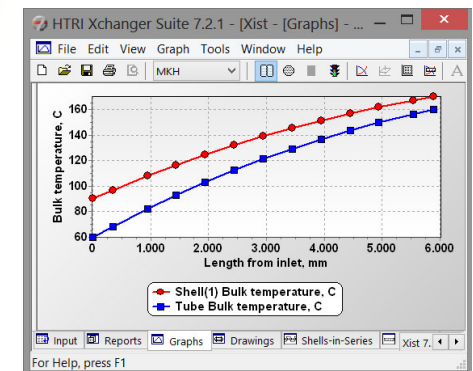
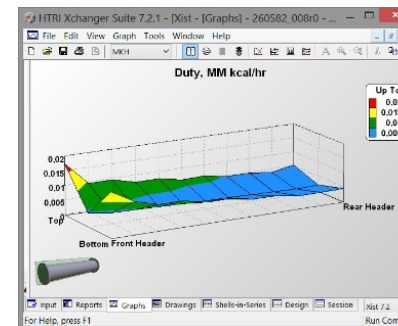


2014/68/EU
NEW DIRECTIVE 2014/68/EU



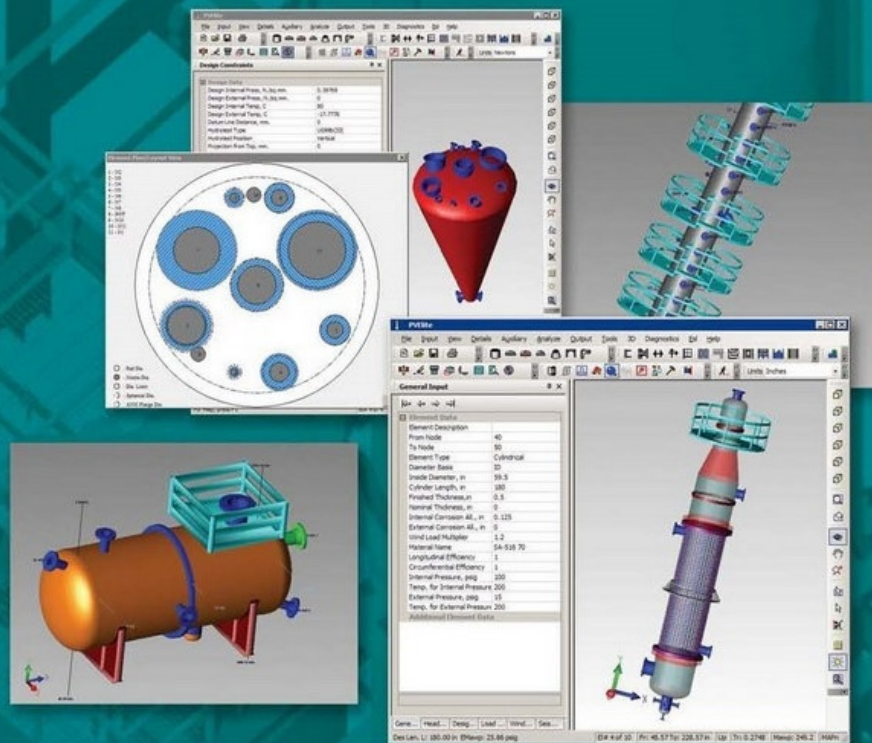


SACOME THERMAL DESIGN



PV Elite®

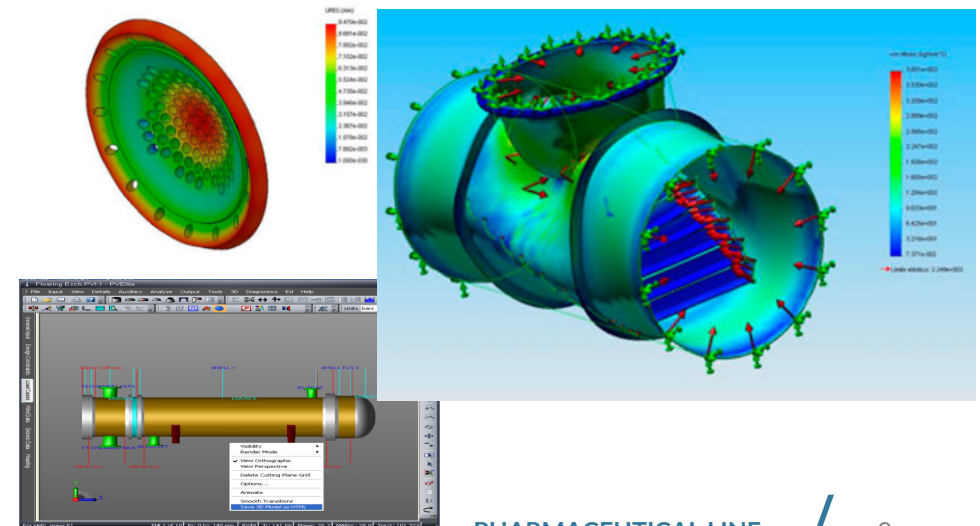
Vessel and Exchanger Analysis



SACOME MECHANICAL DESIGN

» FINITE ELEMENTS ANALYSIS (FEA)

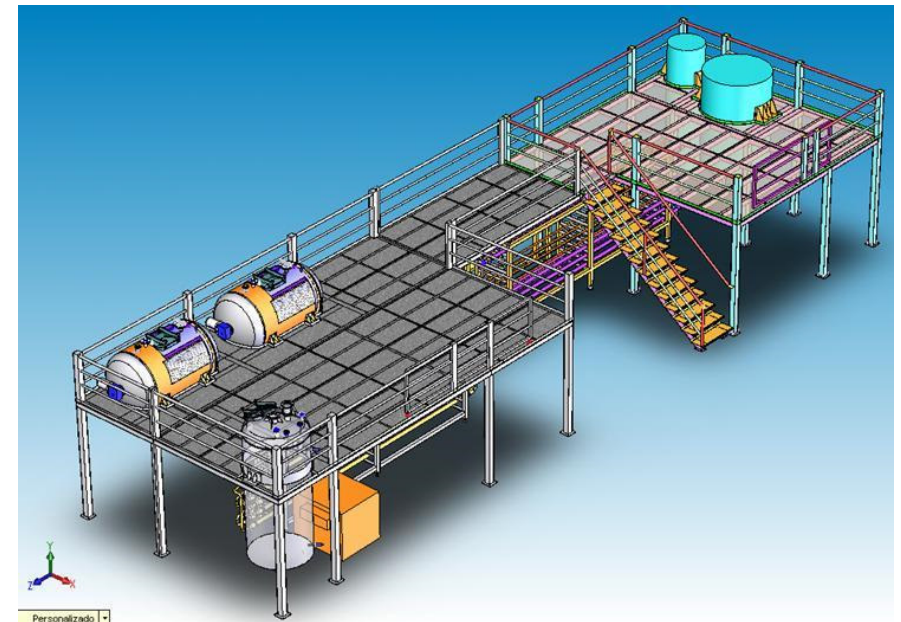
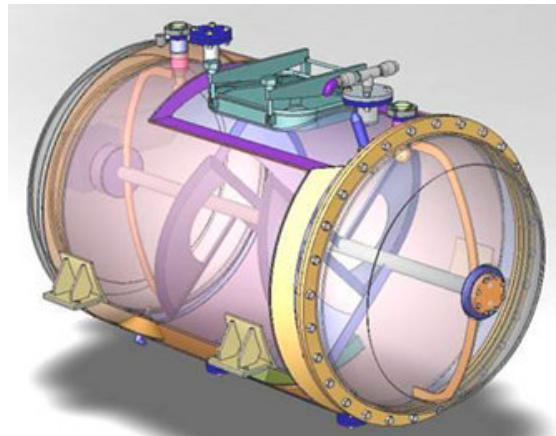
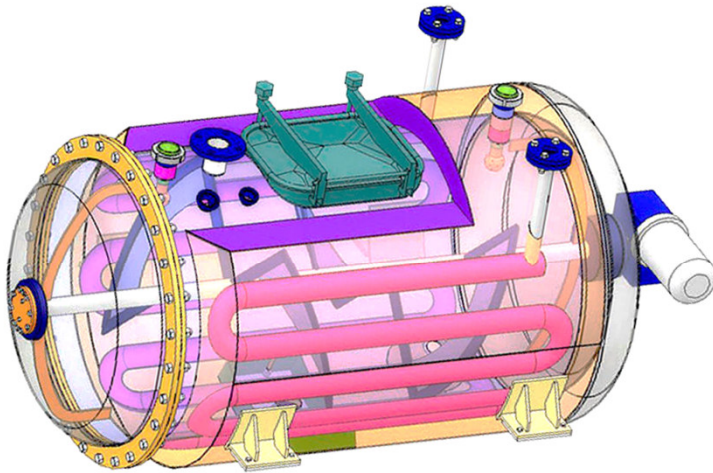
» PV Elite



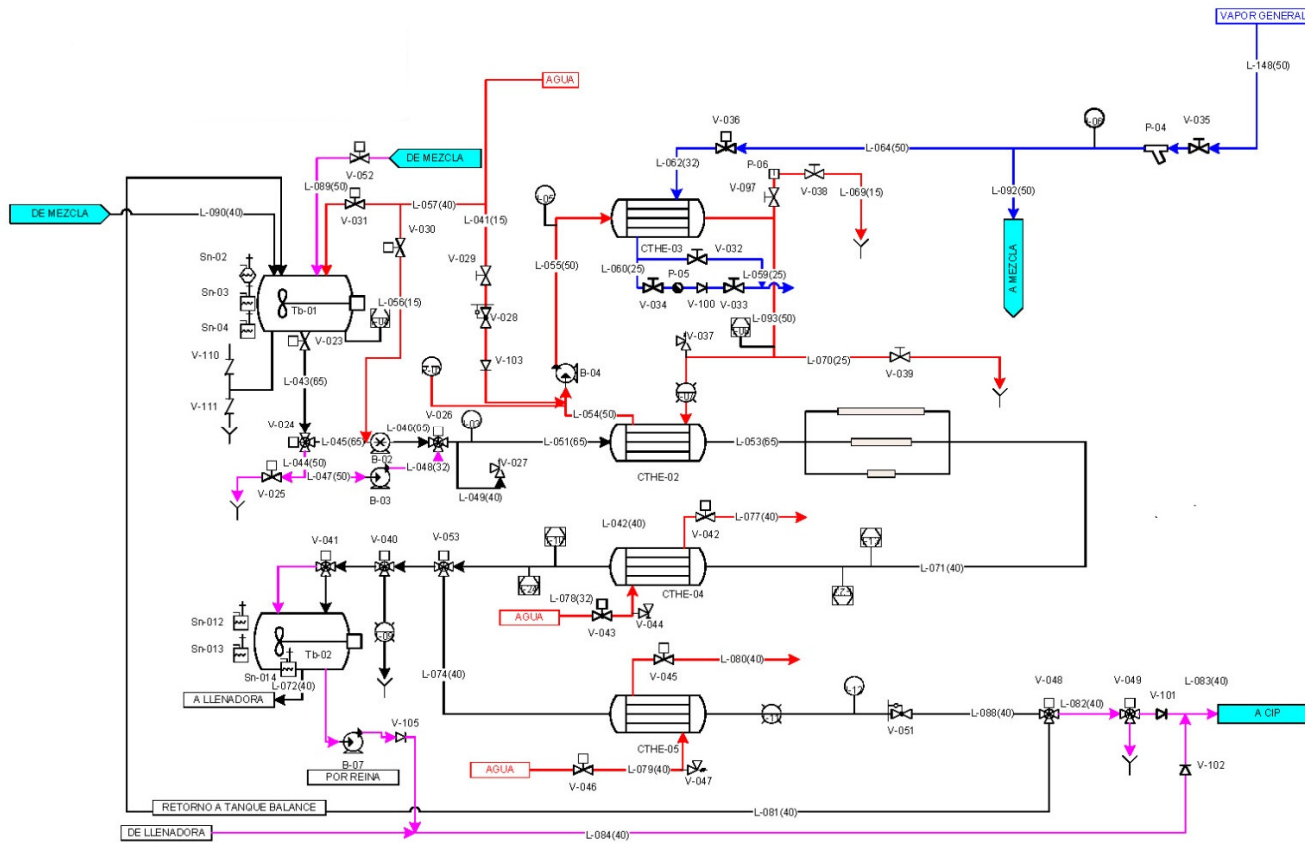
PHARMACEUTICAL LINE

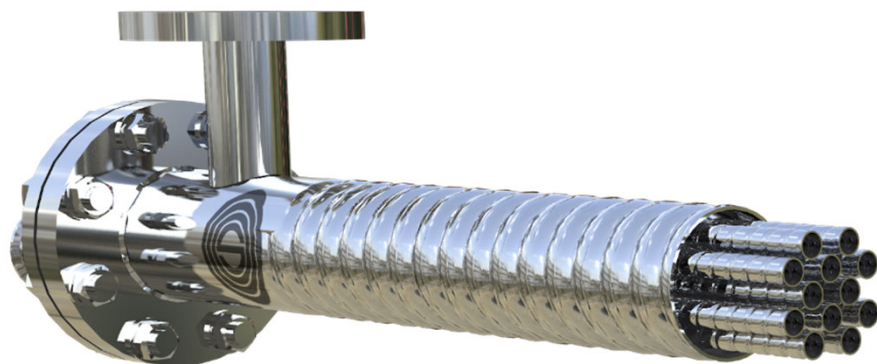
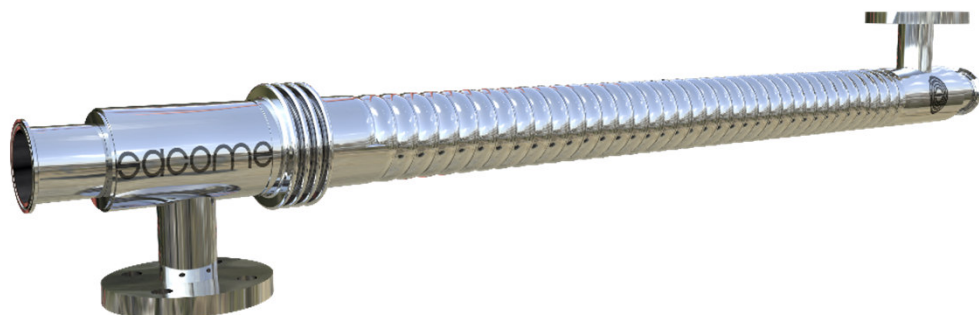


SACOME CAD 2D & 3D DESIGN



P & ID - VISIO





ADVANTAGES HEAT EXCHANGERS

SACOME TUBULAR HEAT EXCHANGERS

LOW MAINTENANCE COSTS

HIGH WORKING PRESSURES

HIGH WORKING TEMPERATURES

PROCESSING OF PARTICULATE OR FIBRE
PRODUCTS

EASY INSPECTION AND DISASSEMBLY

HIGH SECURITY IN ASEPTIC PROCESSES

EASY TO ENLARGE



CORRUGATION TECHNOLOGY

ADVANTAGES OF CORRUGATED HEAT EXCHANGERS

HYGIENIC PROFILE

DIFFERENT CORRUGATION GEOMETRIES (SOFT /
HARD)

TURBULENT FLOW, THAT IS ACHIEVED WITH LOWER
REYNOLDS NUMBER THAT FOR SMOOTH TUBES

HIGHER HEAT TRANSFER COEFFICIENTS

LOWER EXCHANGE AREA

HOMOGENEOUS THERMAL TREATMENT

LOWER FOULING

SHORTER RESIDENCE TIMES

LONGER RUNNING TIMES

PHARMACEUTICAL LINE

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PHARMACEUTICAL HEAT EXCHANGERS

Designed in accordance with the recommendations set by the FDA.

To avoid cross-contamination the exchanger has a double tubesheet.

The finished meet the highest standards, with certified roughness if required.

The design ensures drainability and product recovery.



PHARMACEUTICAL HEAT EXCHANGERS

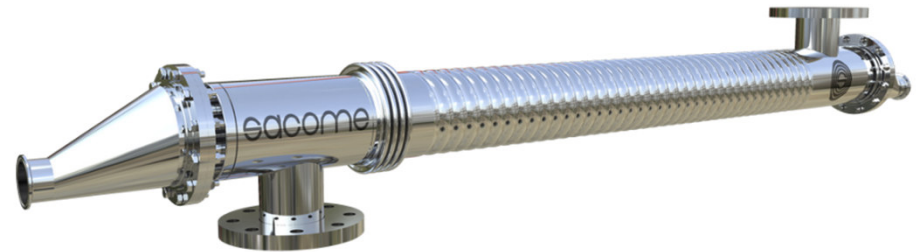
PHARMACEUTICAL HEAT EXCHANGERS

P-TF20-I TUBE IN TUBE HEAT EXCHANGER



NOT REMOVABLE INNER TUBE

P-TFM-I MULTITUBULAR WITH DOUBLE TUBE SHEET



NOT REMOVABLE TUBE BUNDLE

P-TF20-I TUBE IN TUBE

PHARMACEUTICAL HEAT EXCHANGERS



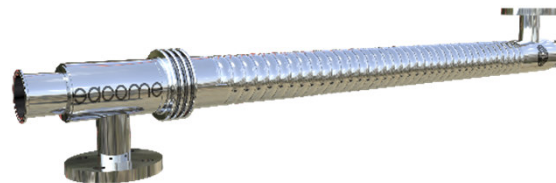
GENERAL DESCRIPTION

The P-TF20-I is a **monotubular heat exchanger** consisting of **two concentric tubes**. The product flows through the inner tube while the service flows through the space between the two tubes.



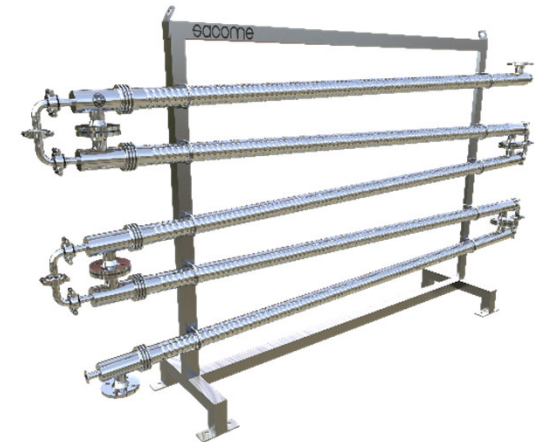
APPLICATIONS

Heating or cooling water for injection (WFI), distilled water, products of biotechnology or pharmaceutical industry, as can be glucose, emulsions or cosmetics among others.



FRAME

In case the equipment contains several units in series, SACOME can provide the interconnections for the product channel and the service channel.



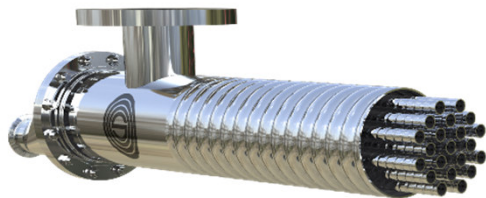
P-TFM-I MULTITUBE

PHARMACEUTICAL HEAT EXCHANGERS



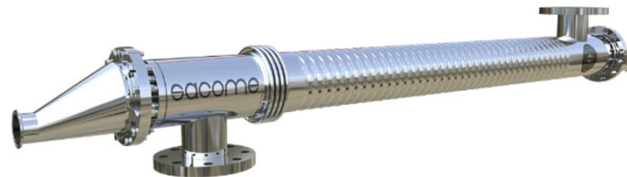
GENERAL DESCRIPTION

The **P-TFMI-I** is a tubular heat exchanger consisting of a **tube bundle within a shell**. The product flows through the inner tubes while the service flows through the outer channel. This model incorporates a double tube sheet that avoids the risk of cross contamination between product and service.



APPLICATIONS

Heating or cooling water for injection (WFI), distilled water, products of biotechnology or pharmaceutical industry, as can be glucose, emulsions or cosmetics among others.



FRAME

In case the equipment contains several units in series, SACOME can provide the interconnections for the product channel and the service channel.



APPLICATIONS PHARMACEUTICAL LINE





APPLICATIONS WATER FOR PHARMA USES

Within the production processes that are part of the Pharmaceutical Industry, **water** is one of the elements most used as the main component of the different formulations, cosmetics, lotions and other pharmaceutical products. In fact, **water is considered the main raw material in the Pharmaceutical Industry processes.** In addition to being used as a raw material, water is usually used for the cleaning and rinsing processes required in the production plant, being also a regular agent for cleaning of reactors and other pharmaceutical equipment.

SACOME is well aware that the production process of **Purified Water, High Purity Water and Water for Injection**, as well as **maintenance of production systems**, are key factors in the production processes of the Pharmaceutical Industry.



APPLICATIONS

EMULSIONS, LOTIONS & COSMETICS

Emulsions, lotions and cosmetics are mainly composed of water, which is where most formulations of wetting agents (such as glycerin, sorbitol, propylenglycol) are incorporated in order to prevent the drying and dehydration of the products.

In addition, from the point of view of formulation, **emulsions, lotions and cosmetics** facilitate the dissolution of certain assets incorporated in this type of pharmaceutical products.

Despite the difficulties in formulating **emulsions, lotions and cosmetics**, and the multiple factors of instability of these pharmaceutical products (heat, cold, vibrations, evaporation, etc.), they are the most commonly used vehicle in dermatology and cosmetics within Pharmaceutical Industry.



APPLICATIONS OTHERS USES FOR PHARMA INDUSTRY

The Pharmaceutical Industry demands processes with exceptional **safety** and **hygienic design**. Our corrugated tube heat exchangers are specially designed to work in **high risk processes where total asepsis is required**.

From SACOME we offer tailor-made solutions to guarantee and ensure that there is no presence of microorganisms or cross-contamination. Thus, our range of pharmaceutical heat exchangers are specially designed without dead zones, and the roughness of the inner surface is $Ra \leq 0.4 \mu m$ or less (electropolished under special requirement). Our equipment is specially designed for the treatment of various products and applications within the Pharmaceutical production, such as blood plasma, CIP solutions, glucose, methanol / ethanol, lactates, collagen, etc.

PHARMACEUTICAL REFERENCES





Our References



sacome

ENGINEERING, DESIGN AND
MANUFACTURING SINCE 1978



CONTACT US!

Our Technical Staff shall be delighted to
provide you with detailed information



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