



Furnace Products and Services Overview

Heurtey
Petrochem
SOLUTIONS

Editorial



Jean Sentenac
Axens Group Chairman and CEO

In 2018, Axens acquired 100% of the shares of Heurtey Petrochem, a world leader in the design and manufacture of process furnaces for the refining, petrochemicals, hydrogen and syngas markets. Following this acquisition, Axens has expanded its portfolio of solutions and is now capable of supplying its customers with an integrated offer. This includes a comprehensive range of solutions for the conversion of oil and biomass into clean fuels, the production and purification of the major petrochemical intermediates, as well as the treatment and conversion of natural gas by providing technologies, equipment, furnaces, modular units, catalysts, adsorbents and associated services. The historical Heurtey Petrochem furnace business has been repositioned under the Heurtey Petrochem Solutions brand.

It will continue to supply furnaces based on multiple licensor technology, guaranteeing third party information protection within the Group, and will also be expanded through synergies with Axens' own technologies, combined with its energy efficiency and digitalization services.

Heurtey Petrochem SOLUTIONS

- › Process furnaces: from process design to turnkey Engineering, Procurement and Construction solutions
- › Furnace studies & revamps
- › Spare parts, technical support & training

Heurtey Petrochem Solutions Key Figures



More than
3,500
furnaces sold
(with more than 2,000 references)



More than
300
heater studies



More than
300
heater revamps



Offices in
10
countries



More than
60
years experience

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Global Presence

► Axens

S.A. Share Capital 156,285,689.85 €
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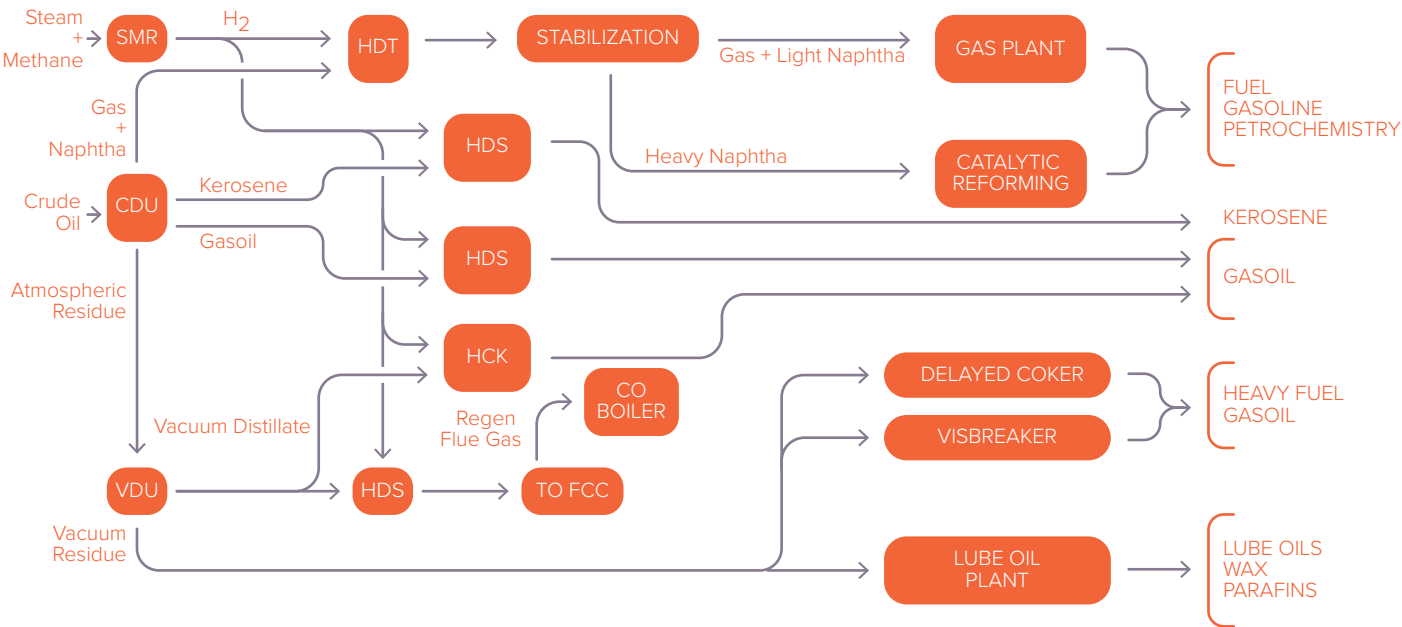
<https://www.heurtey.net/contact/contact-us/>

Markets Served

Heurtey Petrochem Solutions currently operates in 3 markets and is recognized as a world-leading supplier of furnace equipment and services to the refining, petrochemicals and syngas & hydrogen markets.

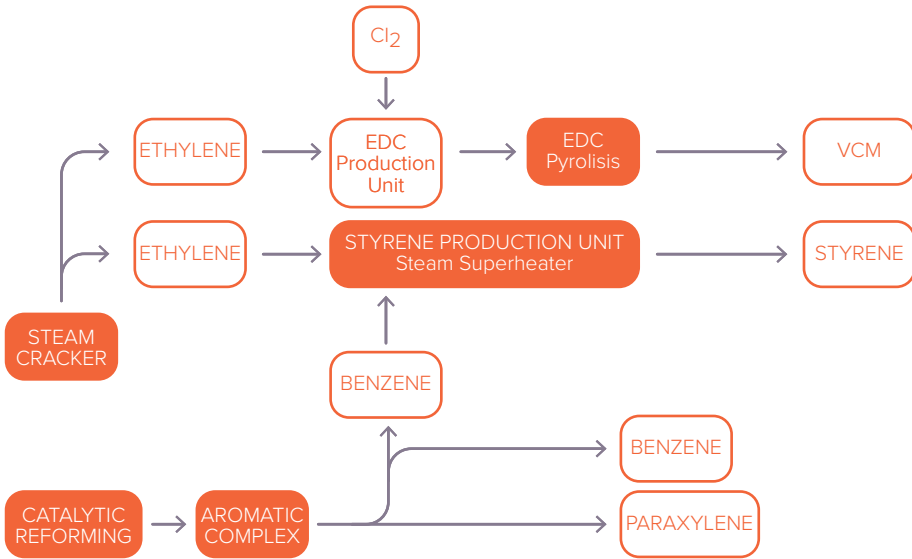
Oil Refining

Heurtey Petrochem Solutions is offering a comprehensive range of refining furnaces (see scheme below). Heurtey Petrochem Solutions is unique in being capable of designing, procuring, manufacturing all types of refinery heaters combined with significant expertise in modularization, operation and specific country regulations. Therefore, it is a partner of choice from design to erection.



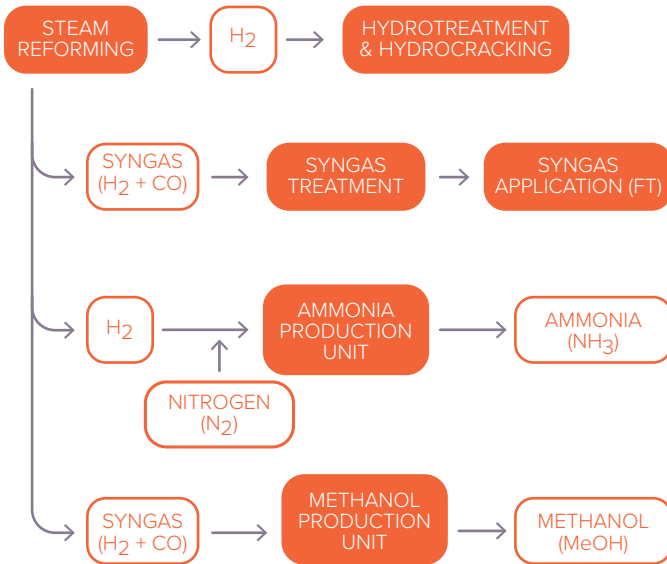
Petrochemicals

The petrochemicals industry is complex and includes a large range of intermediate products. Using oil products from the refineries, petrochemical units are able to produce olefins and aromatics that will generate a large range of products used all over the world. It offers a wide range of furnaces for ethylene and aromatics production units with considerable expertise in Ethylene Dichloride (EDC) Cracking furnaces.



Gas Syngas & Hydrogen

Heurtey Petrochem Solutions has built up an extensive expertise and reputation in the syngas and hydrogen markets, with hundreds of steam reforming furnaces and Waste Heat Recovery Units in operation worldwide. It provides a comprehensive range of furnaces for hydrogen or syngas production units (steam reforming), ammonia and methanol production units.



Waste Heat Recovery Units (WHRU)

WHRU are used to recover heat by generating steam/ superheating steam, heating thermal fluid, heating regenerated gas (with cyclic operation), heating natural gas, heating various hydrocarbon fluids. Heurtey Petrochem Solutions has expertise in the design, engineering and supply of WHRU in all of the markets served.

- › LNG plants
- › CO incinerator boilers for FCC
- › CCR / reforming units
- › Hydrocracking units
- › Ethylene crackers
- › Steam methane reformers
- › Methanol reformers
- › Ammonia reformers

Emission Reductions

Heurtey Petrochem Solutions is commercializing processes & equipment for emission reductions from various sources:

- › Heater / Burner modification for NO_x and CO emission reduction
- › Post combustion
 - Selective Non-Catalytic NO_x Reduction (SNCR) and Selective Catalytic NO_x Reduction (SCR) using solid urea, urea solution, anhydrous ammonia or aqueous ammonia solution
 - Catalytic CO
 - Catalytic VOC
- › SO_x
- › Particulate matter

Integrated Project Approach

Each furnace is unique and custom-designed by Heurtey Petrochem Solutions' teams to meet the end-user's specific needs. Heurtey Petrochem Solutions is able to manage all types of contracts, ranging from feasibility studies, process and mechanical design, project management, purchasing and manufacture, to turnkey construction on production sites, including complex revamping projects.

Control all Phases of the Project




1 Early Phase

-  Feasibility studies
-  Mechanical studies
-  Process studies
-  Field survey & assessment

2 Execution Phase

-  Detailed engineering
-  Prefabrication & modularization
-  On-site installation
-  Commissioning & start-up

3 Aftersales

-  Revamping & modernization
-  Spare parts sourcing
-  Technical support & training



Key Competitive Advantages

An Integrated Engineering:

- › Several engineering centers around the world in France, Korea, India and US
- › Ability to offer consistent execution and delivery thanks to a number of operating centers worldwide
- › Strong relationship with licensors
- › Proprietary technologies
- › Owner of PFR Engineering software and licensor of FRNC-5PC® and REFORM-3PC® furnace simulation software

Inhouse Construction/Erection Resource

- › Ability to undertake selected furnace projects including construction/erection works

Integrated Manufacturing Facilities:

- › High quality manufacturing standards in the Indian plant; high quality and tight schedule control
- › Close management of partners' networks

Capability to Conduct Large Projects:

- › Full hydrogen plants
- › Unique capability to manufacture modularized furnaces > 2,000 tons (MegaModules)

Process Field Services

A project is successfully completed thanks to a personal relationship. In this challenging industry, the need for optimization, upgrade and maintenance is drastically increasing. Heurtey Petrochem Solutions is committed to support the customers with these requirements.

Studies and Revamps

According to the International Energy Agency, the energy transition to low-carbon requires redoubled efforts by all segments of the energy sector, with a key focus on energy efficiency. In this industry, energy efficiency is a major potential contributor to the reduction of direct GHG (GreenHouse Gases) emissions. Improving the energy efficiency of furnaces is a key factor in reducing GHG emissions.

Therefore, Heurtey Petrochem Solutions is able to implement any heater study and revamping project, from simple studies to the replacement of large modules.

Software Simulation Programs

Heurtey Petrochem Solutions, through its historical acquisition of PFR Engineering Systems, provides industry leading software (FRNC-5PC®, REFORM-3PC®) for Fired Heater and Furnace rating, widely used in the industry by EPCs and Fired Heater designers. It also provides associated services, training and support.

For modeling of combustion airflow patterns, combustion of fuel / flux profile, flue gas flow patterns and gas mixes, Heurtey Petrochem Solutions utilizes Computational Fluid Dynamics (CFD) software, implementing in-house simulation/calculation programs.

Connected Offering

The development of remote operation optimization through Connect'In™, a real time monitoring tool, brings added value by predicting Heater critical KPI's and potential bottlenecking features for a specific set of operating conditions, notably feed throughput, unit severity and H₂/HC ratio.

Spare Parts Management

Heurtey Petrochem Solutions also offers comprehensive spare parts management, through its own dedicated teams combined with full organizational support (quality control, technical supporting departments, suppliers' approved network, etc.). The teams offer full services for supplying from gaskets or a single burner tip, to a fully modularized radiant coil or convection section.

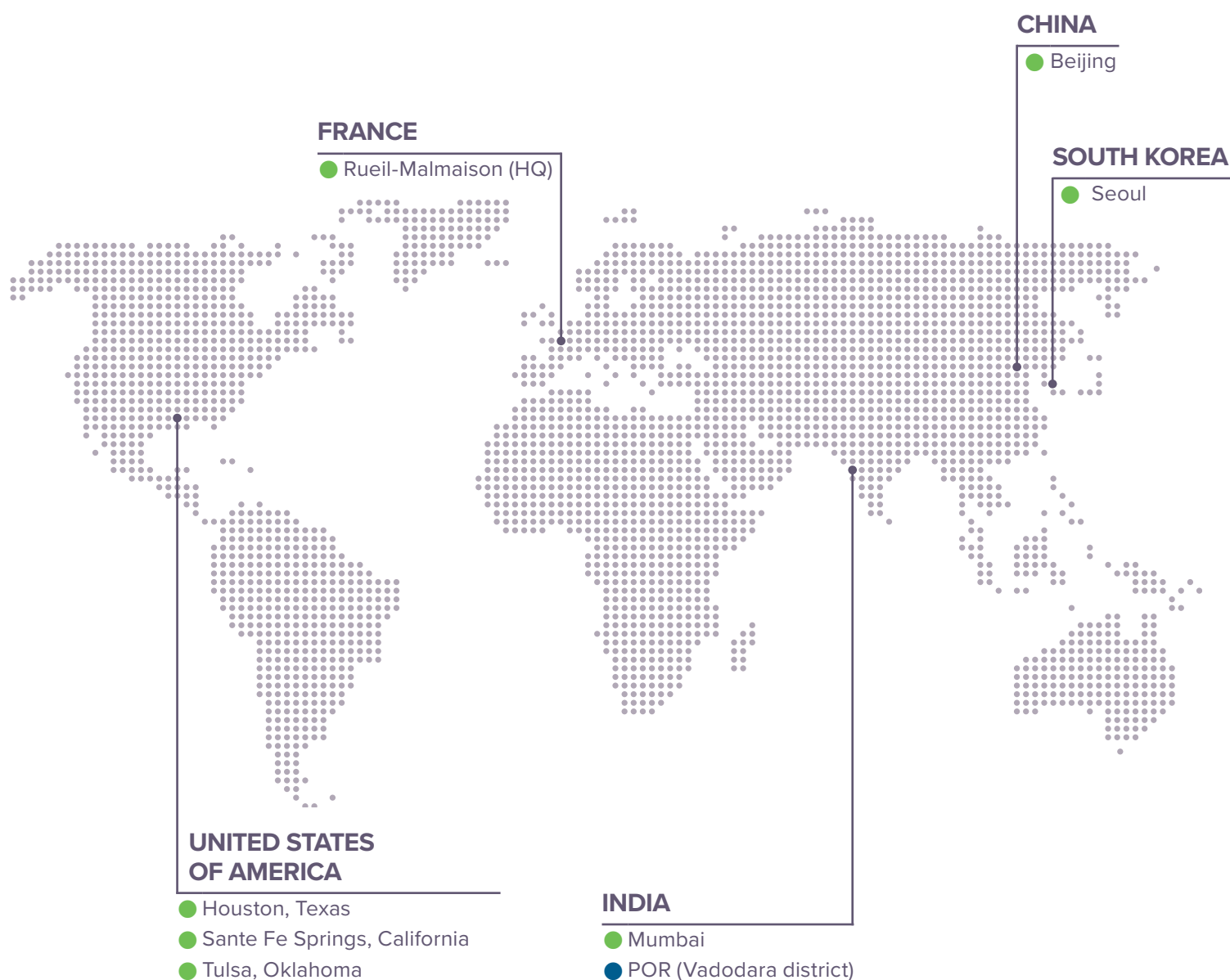
Other Services

- › Erection on end user site
- › Pre-commissioning, commissioning & mechanical completion
- › Start-up & dry out
- › Performance test
- › Training courses
- › Site surveys, existing unit inspection and analysis

Global Presence

Heurtey Petrochem Solutions has a local network with a presence in all strategic foreign markets. Its teams have significant expertise in thermal and mechanical design, fabrication and modularization of equipment, and project management.

The teams have a worldwide presence through Regional Operating Centers and partners, working in close cooperation with the head office in France to ensure that projects are implemented according to the Axens Group's QHSE standards.



OIL REFINING



PETROCHEMICALS



GAS
SYNGAS & HYDROGEN



Heurtey Petrochem Solutions is a world leader in process furnaces for the refining, petrochemicals, syngas and hydrogen markets. Heurtey Petrochem Solutions provides a comprehensive range of solutions including furnaces, waste heat recovery units, emission reduction equipment, services such as furnace performance optimization, revamp studies, CFD modeling and revamps as well as the supply of spare parts.