



INDUSTRIAL EQUIPMENT & TECHNOLOGY PORTFOLIO



ENGINEERED PRODUCTS • PROCESS EQUIPMENT • LICENSED TECHNOLOGIES
www.petroenergyman.com

KNOWLEDGE-BASED

01

FIRED EQUIPMENT

Thermal and steam-generation equipment portfolio

PRODUCT RANGE

- Water-Tube Boilers
- Heat Recovery Steam Generators (HRSG)
- Fired Heaters
- Economizers
- Superheaters
- Fire-Tube Boilers - Joint Venture
- Condensing Boilers - Joint Venture
- Hot Oil Boilers - Joint Venture
- Hot Water Boilers - Joint Venture
- Furnaces



HEAT EXCHANGERS

Heat-transfer equipment across multiple exchanger configurations

PRODUCT RANGE

- Kettle Reboilers
- Fixed-Tube-Sheet / U-Tube / Floating-Head Exchangers
- Falling-Film Exchangers
- Spiral Heat Exchangers
- Air / Oil Preheaters



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COLUMNS & TOWERS

Column and tower fabrication portfolio

PRODUCT RANGE

- Distillation Columns
- Side Strippers
- Stabilizers
- Vacuum Columns
- Steam Strippers
- Fractionation Columns
- Regeneration Columns
- Absorption Towers
- Stripping Towers



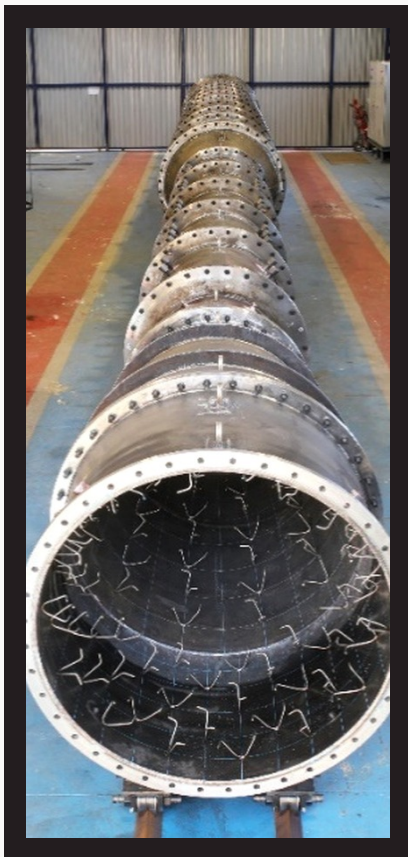
04

REACTORS

Reactor configurations for a range of process applications

PRODUCT RANGE

- Jacketed Reactors
- Half-Coil Reactors
- Coil Reactors
- Continuous Stirred-Tank Reactors (CSTR)
- Fixed-Bed Reactors
- Trickle-Bed Reactors
- Fluidized-Bed Reactors
- Oxidation Reactors
- Claus Reactors
- TGTU
- Reformers



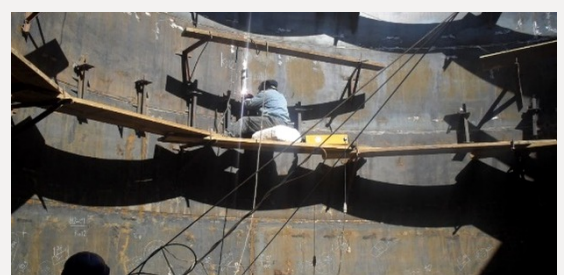
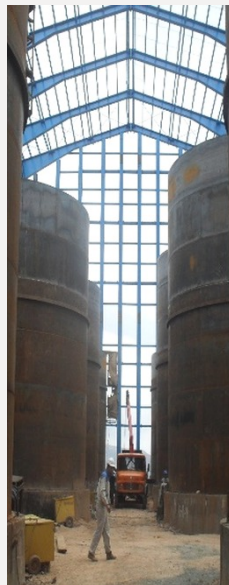
05

PRESSURE VESSELS, TANKS & DRUMS

Fabricated vessels, drums and storage systems

PRODUCT RANGE

- Autoclaves
- Deaerators
- Expansion Vessels
- Flash Drums
- Blowdown Drums
- Slop Tanks
- Desalters
- Buffer Vessels
- Surge Vessels
- Air Receivers
- Fixed-Roof Storage Tanks
- Fuel-Oil Storage Tanks



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PROCESS EQUIPMENT

General process equipment and supporting structures

PRODUCT RANGE

- Cyclones
- Quench Towers
- Knockout Drums
- Dryers
- Pelletizers
- Strainers
- Stacks



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MIXING EQUIPMENT

Mixing tanks and agitated chemical reactors



PRODUCT RANGE

- Mixing Tanks
- Agitated Chemical Reactors



08

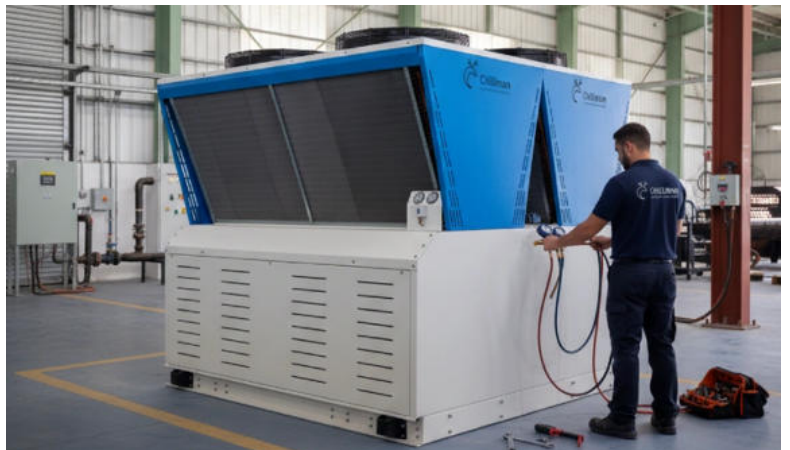
COOLING, CHILLING & TREATMENT PACKAGES

Joint-venture package solutions

COOLING & CHILLING PACKAGES

JOINT VENTURE

- Air-Cooled Chillers (Scroll / Screw)
- Air Handling Units
- Overhead / Side-Stream / Product Air Coolers
- Fan Coils
- HVAC Systems



WATER & CHEMICAL TREATMENT

JOINT VENTURE

- Water Softeners
- Sand Filters
- Dosing Packages
- Cartridge Filters
- CIP Systems
- Water Treatment Systems

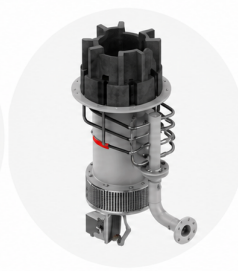
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BURNERS & COMBUSTION SYSTEMS

Joint-venture combustion equipment portfolio



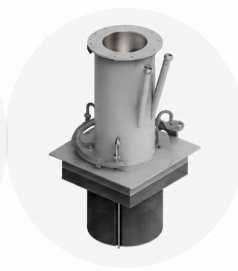
DUCT BURNER



FLARE BURNER



**WATER-TUBE BOILER
BURNER**



ROOF TOP BURNER



**HYDROGEN SULFIDE
BURNER**

- Duct Burners
- Flare Burners
- Water-Tube Boiler Burners
- Rooftop Burners
- Hydrogen Sulfide Burners



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LICENSED TECHNOLOGIES

Foreign joint-venture technology portfolio

TECHNOLOGY PORTFOLIO

- Catalytic Cracking Technology (DCC)
- Hydrogen Peroxide to Propylene Oxide (HPPO) Technology
- Adsorption Separation Technology
- Heavy Oil to Chemicals BCC Technology
- CO₂ Hydrogenation to Methanol Technology
- POE Elastomer Technology
- Propylene-Based PDO (1,3-Propanediol) Technology
- Waste Heat & Pressure Utilization Technology
- Carbon Black Production Technology
- Precipitated Silica and Fumed Silica Production Technology





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