

Zamil Steel Industries Process Equipment Division

Process Equipment on a different scale



Zamil Steel Industries

Zamil Steel is a global manufacturer of high-quality steel products, including pre-engineered steel buildings, steel structure, process equipment, high-rise buildings, transmission and telecommunication towers, open web steel joists and decking. The company provides related services and solutions to a diverse group of world-wide clients.

Zamil Steel operates through four distinct divisions:

- ▶ Process Equipment Division (PED)
- ▶ Pre-Engineered Buildings Division (PEB)
- ▶ Structural Steel Division (SSD)
- ▶ Towers & Galvanizing Division (T&G)



Zamil Steel Process Equipment Division (PED)

Zamil Steel Process Equipment Division (PED) is one of the business units of Zamil Steel Industries. Established in 2003, PED has a large production capacity, with expertise in the field of manufacturing, site construction and heavy lift.



Quench Tower
9.6m diameter x 40m long
Saudi Kayan Project - Sabic



Reactor Vessels
9.7m diameter x 38m long
Emirates Iron Steel Factory, UAE



Phenol Flare KO Drum
5.2m diameter x 17m long
Saudi Kayan Project - Sabic



Lights Column
1.4m diameter x 19m long
GACIC BDO Facility, Sipchem

INDUSTRIES SERVED

- ▶ Petrochemical Plants/Refineries
- ▶ Steel and Aluminum Mills
- ▶ Fertilizer Plants
- ▶ Desalination Plants
- ▶ Power Plants

PRODUCT RANGE

- ▶ Pressure Vessels
- ▶ Columns/Reactors
- ▶ Heat Exchangers
- ▶ Desalters
- ▶ Fired Heaters
- ▶ Air-Cooled Heat-Exchangers
- ▶ Skid Mounted Modules
- ▶ Desalination Evaporators
- ▶ Oil/Gas Separators
- ▶ Furnaces
- ▶ Storage Tanks

All our products and services incorporate the highest level of engineering technology



FACILITY INFORMATION

Zamil Steel Process Equipment Division (PED) has a fabrication area of over 100,000m². The annual production capacity of 12,000 tons has been developed to undertake major mechanical and heavy lift contracts on a wide variety of process plants including:

- ▶ Petrochemical Plants/Refineries
- ▶ Steel and Aluminium Mills
- ▶ Desalination Plants
- ▶ Power Plants

A dedicated team is in place to undertake all activities related engineering, management and execution of large projects for oil, gas and petrochemical industries in the Gulf region. All our products and services incorporate the highest level of engineering technology and are manufactured in strict accordance with internationally recognized codes and standards.

- ▶ Total Site Area - 100,000m²
- ▶ Covered Work Area - 30,000m²
- ▶ Office Area - 1,200m²
- ▶ 7 Bays each 22m wide x 175m long. Under hook height 10m with Over Head Crane 100 ton
- ▶ Hydraulic Bogies of 400 ton capacity for internal movement



▶ Cold Rolling machine with capacity of 200mm thick



▶ PWHT Furnace Capacity: 30m Long x 13m Height x 13m Width



▶ Plate Cutting Machine



ENGINEERING

PED has a dedicated team of professional design engineers who prepare the most cost effective design based on client specific job requirements and applicable codes. Our experienced engineering drafting team develop outline & detailed shop drawings using AutoCAD and Micro-Station. Drawings can be transmitted to the client through the FTP/internet.



Zamil Steel, Process Equipment Division has the following mechanical design computer software for in-house engineering and design of items to relevant codes:

PVElite	Mechanical design for Pressure Vessels/Columns as per ASME SECTION VIII division 1 & 2 & PD 5500
Mircroprotol	Mechanical design of Heat Exchangers as per TEMA & ASME (Shell & Tube)
Sant'Ambrogio	Software for mechanical design and cost evaluation of pressure vessels and heat exchangers
HTRI	Thermal design of shell & tube heat exchangers, waste heat boilers, feed water heaters
E-TANK Software	Mechanical Design & structural design of Tank as per A.P.I. 650 / 620 Version 2.3
STAADPRO, X-STEEL	Structural design
AutoCAD & Microstation	Drafting Software
ANSYS	Finite element analysis



► Propylene-Propane Splitter
7.8m diameter x 97.6m long
x 939m tons
Al Fasel PDH< Project, Yanbu

MANUFACTURING

PED manufactures and delivers high quality fabricated process equipment to both local and international clients. Our commitment to workmanship, cost efficiency and quality have proven the key to our business success. Our highly qualified and motivated workers utilize the latest equipment and machinery (e.g. a cold rolling machine with capacity of 200mm thick) to serve and satisfy our valuable customers. Our close proximity to major regional refineries and plants not only facilitates quick delivery but also results in a great saving on transportation costs to both the end user and our EPC clients.

FABRICATION BAYS



Our commitments to workmanship, cost efficiency and quality have proven key to our business success

QUALITY ASSURANCE & CERTIFICATIONS

Zamil Steel PED endeavour to exceed the quality requirements on all manufactured products. Our Quality Assurance & Process Improvement programmes are designed & implemented to meet the stringent requirements of various international customers.

Zamil Steel Process Equipment Division (PED) is an ISO 9001:2008 certified company and holds ASME "U" "U2", "PP", "S", NBBI "R" certificates. Our welders are well experienced and qualified in accordance with ASME SEC IX / BS / AWS Standards for processes like SAW, SMAW, GMAW, FCAW, GTAW etc. Dimensional & NDE inspections are conducted by experienced technicians qualified in accordance with CSWIP / SN-TC-1A / CP-189. Surface Preparation & Coating activities are monitored & approved by BGAS / NACE certified coating inspectors.



PRESSURE VESSELS

We design and manufacture all types of high quality pressure vessels from small to large heavy vessels, including Oil & Gas separators. Our custom designed and fabricated vessels/separators comply with international standards ASME Sec VIII Div. 1 & 2 and PD5500. We have extensive experience with a wide range of material including Carbon Steel, Stainless Steel, Cladded, Alloy, Inconel, and non-Ferrous metals. Our submerged arc welding equipment will soon be coupled with other welding procedures, covering welding parameters to thickness up to 250mm.



HP Drum
2m diameter x 7.3m long x 90mm thick
Az Zour Project, MEW Kuwait



Surge Vessel
2.8m diameter x 16m long x 83mm thick
Shuqaiq Phase-II WTS Project - SWCC



HP Steam Drum
2.4m diameter x 6m long x 95mm thick
Dubai GTX Project, UAE

COLUMNS / REACTORS

A wide variety of ASME coded columns such as reactors, distillations, fractioners, strippers, absorbers and towers in carbon steel, stainless steel, alloy and cladded steels, are fabricated in accordance to our clients specific requirements. We can supply the columns in fully modularized condition by installing the trays, insulation, platform and ladders.



Oxidizer
6.6m diameter x 30m long x 16+3 mm
thick (Clad) - Saudi Kayan Project, Sabc



Recovery & Swing Reactor
6.5m diameter x 9.1m long x 68+3mm
thick (Clad) Saudi Kayan Project, Sabc



Axen Reactor
1.9m diameter x 10m long.
Saudi Kayan Project, Sabc



Acetelyne Reactor
4.8m diameter x 56m long x 91mm thick
Saudi Kayan, Sabc



DEBUTANIZER Tower
5.6m diameter x 43m long
Ju'aymah Gas Plant, Aramco



H2S Stripper
1.8m diameter x 31m long
QAFCO-5 Project, Qatar

HEAT EXCHANGERS

We design and fabricate all types of high quality heat exchangers such as Shell & Tube, Double-pipe hairpin, Bayonet type, air coolers, condensers, boilers and evaporators for Refinery, Petrochemical & Power industries in accordance with International codes and standards such as TEMA and ASME.



Main Condenser
1.6m diameter x 12m long
Rabigh Refinery, Aquatech / Aramco



Butane Cooler
2m diameter x 4m long
Yansab Sabic



HP Cooler
0.7m diameter x 6m long
Yanbu Petrochemical Complex, Sabic

SKID MOUNTED MODULES

Our superior workshop facilities are complete with ample floor space and lifting capacity of 100 MT. Head room of 6.5 to 10m under the hook of the crane enables us to serve our customers with a wider scope, i.e. skid mounted units built within our facilities in a dry and clean environment. To compliment the above services, we are able to manufacture skid frames, install vessels, pumps, process equipment, valves, instrumentation, perform electrical installations, install insulation, fireproof and paint to international standards.

OTHER PROCESS EQUIPMENT

In order to ensure the successful operation of our customers plant, PED offer a flexible and diversified approach. We have the capacity to design, fabricate and assemble at site. We can also pre-assemble in modular form a wide range of process equipment, such as gas-fired heaters, furnaces and evaporators (MSF & MED type) in all types of materials.



Thermal Oxidizer
6.4m diameter x 15m long
GACIC BDO Facility, Sipchem



Bio Acid Tanks
5.4m diameter x 7m height
Haradh Crude Oil Project - Aramco



Sulphur Silo
3.5m diameter x 24m long
DHT Complex, Yanbu, Aramco

CONSTRUCTIONS AND HEAVY LIFT

Zamil Steel PED has undertaken major construction maintenance, mechanical and heavy lift contracts on a wide variety of process plants including:

- Petrochemical Plants/Refineries/Fertilizers
- Steel and Aluminium Mills
- Desalination Plants
- Power Plants

PED has developed a dedicated team to undertake all activities related to management, planning, quality control, safety, material procurement and heavy lift.



ZIMIPCO

ZIMIPCO is a diversified business of the Process Equipment Division of Zamil Steel, with highly skilled manpower and resources in the field of Maintenance & Plant Turnaround.

ZIMIPCO are located in the Zamil Steel Process Equipment Division and utilize the facilities and resources of Zamil Steel to meet the maintenance and shutdown activities of client facilities. We have the capability to allocate any number of skilled technicians at short notice to meet the project requirement. Our facility in the 2nd Industrial City of Dammam can handle repair/modification of equipment involving 'R' stamp up to 200mm wall thickness.



ZIMIPCO has the capability to do the following work:

- Turnaround & Inspection
- Heat Exchanger Refurbishment
- Mechanical Installation/Heavy Lift
- Storage Tank
- Process Piping Maintenance

PETROCHEM-ZAMIL

Petrochem is the world's largest heater company. It focuses exclusively on all aspects of Fired Heaters & Process Furnaces and with Zamil Industries, one of the largest Steel Fabrication companies in the world has formed Petrochem-Zamil.

Petrochem-Zamil has the capability to do the following work:

- Feasibility Studies
- Environmental Impact Evaluation
- Engineering Efficiency Studies



- Heater Optimization Studies
- Commissioning and Post Start-up Services
- Revamps of Existing Heaters
- Retrofits of Existing Heaters
- Emergency Response
- CFD Modeling
- NOx Reduction
- Spare Parts Sales

Zamil Steel

Process Equipment Division

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