SGG-water tube & fire tube boilers
steam and heat generators
pressure vessel & heat exchanger
SGG Since 1980
Sanaye Garma Gostar Co., (SGG) is a leading process plant engineering & Construction Company which designs and builds the most challenging process plant equipments. We integrate processing solution, system components and process control into turnkey production plants. As an EPC contractor our project services include process analysis, engineering & construction of turnkey production plants, qualification and commissioning as well as maintenance and training.

We are primarily involved in supply of steam generation unit for processing liquids, pressure vessels, heat exchangers and pressure piping in following industries:
- Oil, Gas and Petrochemical Industries
- Power Plant Industry
- Food industry
- Paper industry
- Steel industry
- Other industry

Historical profile:
The company is a vision of Mr. Mirkhan Aghazadeh and he has embedded its position as one of the leading players in process plant industry in Iran. He established the company under Sun Boiler Co.in 1980 in Tehran and changed the company name to Sanaye Garma Gostar Co.

Milestone in a success story
1980
Company foundation and manufacture boiler system for central heating with fewer than 20 employees.

1982
SGG start to provide services for various heavy Industries, such as Oil, Gas, Petrochemical, Food and Steel Industries.

1985
SGG became partner with a west European Company for design and construction fire tube shell Boilers. The product range, included steam boilers up to 70,000 lb/hr and hot water boilers up to 35 MBTu/hr. All of our shell boiler mechanical design and drawing approved by Lloyd’s Register and based on performance acceptance & garanty of ERK (Germany).

1988
License agreement with Mitsui Babcock Co. UK for design and manufacturing industrial water tube boiler, SGG developed it activities in the field of water tube boiler & know-how of Bi-drum type water tube boilers.

1995
SGG becomes a leading EPC contractor for steam generation plant by utilizing in House design & simulation from design stage to fabrication, inspection and installation for combined cycle power plants and utilities. SGG is the first company in Iran to be approved by accordance with ISO9001 and ISO/TS29001.

2004
SGG has signed an exclusive license agreement with ERK EckRohrKeseel of Germany. Our partnership with ERK improves our capabilities in the field of water tube boiler energy conversion and advanced heat transfer equipments. SGG can manufacture First class mono-drum water tube boiler, heat recovery steam generator, heaters, etc. The first Eckrohr-Boiler was designed and manufactured in 2004 for Karoun Petrochemical Co. with capacity 90t/hr, working pressure 43 Bar and temp 430 °C.

Our strength
SGG design & manufacture complete Turnkey process plant system, our all around expertise includes consultancy services to the government department for various industries. Over the last 40 years we have established a sound infrastructure facility which is equipped with latest machines such as high-tech welding machines, plate rolling, cutter, drilling machines and surface roller. All our products are tested on well defined quality parameter to meet the highest demand of our costumer. The first steam boiler left our plant in 1982 with capacity 500 kg/hr oil fired, fire tube, shell boiler for Sina hospital in Tehran. After 33 years in operation the boiler is under operation with desire working condition.

Our clientele
We follow an ethical business approach, placing the requirement of the clients on center stage. This has successfully enabled us to garner the trust of most reputed clients from various industries. Our long list of clientele includes the following:
- Razi Petrochemical
- Bandar Abbas Oil Refinery (NIOC)
- Jam Petrochemical Co.
- West Karoun Area NGL 3200 Project (NIOC)
- Chadormalu, Yazd and Sirjan power plants in south of Iran.
The above table gives a general view about a boiler manufacture program surely being the largest one of Asia within these capacity ranges and application fields, under license of ERK EckRohrKessel GmbH (Germany) that is one of the most famous designer of European countries.

Naturally we will not only manufacture oil or gas fired boilers. The question of the respective fuel does not mean a problem for us. We could design and manufacture suitable boiler plant for almost any fuel available all over the world. The modern firing practice will show that optimal operating results can be also reached by firing residual fuels requiring minimum attendance only. For more information, please ask us required special technical data.
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D-type Water Tube Boiler

Proven Design for Reliable & Economical Steam Production

D-type boiler designs offer many benefits not available with competitive units. Dependable performance for a wide variety of industries, D-type water tube boiler continues this tradition of excellence with many units in operation.

Proven D-type construction, which has separate convection and furnace sections, creates proper geometry of the burning chamber resulting in increased combustion efficiency.

Sanaye Garma Gostar (SGG) provides the high capacity and efficiency D-type boiler for various industries. The compact and efficient design of our D-type water-tube boilers allows for economical shipment via truck or ocean vessel. D-type boiler has arranged for both shop and field assembly, shippable by truck or ocean vessel.
Eckrohr-type Water Tube Boiler

First-Class Water Tube Boilers

Eckrohr, ERK, Eckrohrkessel and Corner Tube Boilers are international registered trademarks for our water tube boilers. The Eckrohr-Boiler is a natural circulation water tube boiler.

The ERK Eckrohrkessel GmbH has developed in Berlin over 70 years ago. More than 6,000 references of Eckrohr-Boiler throughout the world, testify to Eckrohrkessel performance and innovation.

Sanaye Garma Gostar (SGG) has manufactured various Eckrohr Boilers within the framework of a know-how license contract with ERK Eckrohrkessel GmbH. Range of operation until now:

- Steam rating from 0.4 to 600 ton/h
- Steam pressure from 8 to 136 bar
- Steam temperature to 535°C
- Larger capacities are possible as well.

The unique design results in a number of advantages inherent to the boiler system:
- Rapid start-up
- Excellent response to fluctuating loads
- Self-supporting structure (earthquake-resistant)
- High purity of steam
- Limited number of joints at the drum
- Option of full pre-assembly in the workshop
- Adaptability to spatial conditions on site

1. drum
2. corner tubes (unheated downcomers)
3. header
4. mixture tubes
5. steam drain tubes
6. overflow tubes
7. corner tubes (unheated return tubes)
8. unheated downcomers
Fabrication Facilities
Work Shop No.1
Manufacturing Area: 3200 m²
Cranes: Lifting Capacity up to 10 ton

- Hot forming corrugating machine
  20x2200x6000 mm
- Three Unit Tube Bending Machine OD up to 4"
- High-frequency Welded Finned Tube Machine
  Solid and serrated fin
  Tube diameter up to 219 mm
  Tube length up to 16000 mm
Fabrication Facilities
Work Shop No.2
Manufacturing Area: 3200 m²
Cranes: Lifting Capacity up to 20 ton

Plate Beveling Machine

Tube Swaging Machine

ESAB - CNC Plasma & Oxy Cutting Machine
14000mm x 4000mm
Fabrication Facilities
Work Shop No.3
Manufacturing Area: 3200 m²
Cranes: Lifting Capacity up to 40 ton

- Haeusler Plate Rulling Machine
  - Plate thickness up to 140 mm
  - Plate width up to 3150 mm

- Automatic Panel Membrane Wall Welding Machine

- Five Unit Radial Drilling Machine
  - Hole Diameter Up to 110 mm
  - Table Dimension: 3000x12000 mm
Fabrication Facilities
Work Shop No.4 & 5
Manufacturing Area: 4800 m²
Cranes: Lifting Capacity up to 150 ton

Two Unit Esab Automatic Saw Machine

Orbital Welding Machine

Automatic Circle Welding On Pipe and Pressure Vessel From 2” OD Up to 24”
Design, Engineering and Technical Department

Engineers and Technicians are at your disposal in our planning and constructing departments for the use of **SANAYEH GARMA GOSTAR (SGG)** products. Our performances comprise plans and boiler proposals even for complete boiler stations including control and measuring plants, ready for realization.

Modern Methods of Production combined with effective planning, rational production and thorough material control, allow the standard type production of boilers and boiler parts, but likewise individual treatment and utmost care at the production of high capacity boilers and complete plants.

Trained Specialists, among others experienced high pressure welders, guaranty the high quality and reliability of SGG products.


**Inspection, Quality Control & Test plants**

**Non Destructive Tests**
Complete NDT testing including X-ray and ultrasonics testing are at our disposal for development, test and control of material and manufacturing.

**Testing Stand & Trial Plant**
A boiler test stand and a trial plant existing at SGG, equipped with the most modern control, measuring and supervision devices, permit the testing of modern and non-polluting boiler and firing systems.

**Manufacturer Responsibilities**
Examinations carried out by the inspecting authority shall not absolve the manufacturer from his responsibility for compliance with the applicable requirements of standards.
Jam Petrochemical Co.
Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing,
Construction & Civil Work (EPCC)
Jam Petrochemical Co.
Steam Generation Unit

Unit Technical Specification:
- Eckrohr-Type Steam Boiler
- Capacity: 2x120 Ton/hr
- Working Pressure: 43 Bar
- Super heater outlet temperature: 430°C
West karoun Area  NGL 3200
Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing, Construction (EPC)

Unit Technical Specification:
- D-Type Steam Boiler
- Capacity: 3x10³ Ton/hr Including 3 Steam Turbine
- Total Steam Plant Output: 309 ton/hr
- Working Pressure: 10 Bar
- Super heater outlet temperature: 230°C
Razi Petrochemical Co.
Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing, Construction & Civil Work (EPCC)

Unit Technical Specification:
- D-Type Steam Boiler
- Capacity: 150 Ton/hr
- Working Pressure: 27 Bar
- Super heater outlet temperature: 288°C
Bandar Abbas Oil Refinery Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing & Construction (EPC)

Unit Technical Specification:
- D-Type Steam Boiler Including Steam Turbine
- Capacity: 175 Ton/hr
- Working Pressure: 45 Bar
- Super heater outlet temperature: 380°C
- Stack Height: 76 m
Pars Oil Refinery Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing & Construction (EPC)

Unit Technical Specification:
- Eckrohr Type Boiler
- Capacity: 85 Ton/hr
- Working Pressure: 15 Bar
- Super heater outlet temperature: 300° C
Karoun Petrochemical Co.
Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing, Construction & Civil Work (EPCC)

Unit Technical Specification:
- Eckrohr- Type Boiler
- Capacity: 90 Ton/hr
- Working Pressure: 42 Bar
- Super heater outlet temperature: 420° C
Iranian Offshore Oil Co.

Sirri Island
NGL Steam Generation

Project Scope of Work:
Engineering, Procurement, Manufacturing & Commissioning (EPC)

Unit Technical Specification:
- D-Type Steam Boiler
- Two Boilers with Capacity: 55 Ton/hr

Lavan Island
Steam Generation

Project Scope of Work:
Engineering, Procurement, Manufacturing & Commissioning (EPC)

Unit Technical Specification:
- D-Type Steam Boiler
- Two Boilers with Capacity: 30 Ton/hr
Kermanshah Polymer Co.
Steam Generation Unit

Project Scope of Work:
Engineering, Procurement, Manufacturing & Construction (EPC)

Unit Technical Specification:
Eckrohr-Type Boiler
Two Boilers with:
- Capacity: 2x50 Ton/hr
- Working Pressure: 43 Bar
- Temperature: 430° C
One Boiler with:
- Capacity: 2.5 Ton/hr
- Working Pressure: 58 Bar
- Temperature: Saturate
Twin Furnace Fire Tube Steam Generation for Process Consumption

First Class, High Efficiency, Twin Furnace Three-Pass Wet Back Condor Boilers

GHADIR Petrochemical Co. Steam Generation Unit
5 x 25 Ton/hr Fire Tube Package Boiler

Project Scope of work:
Engineering, Procurement, Manufacturing & construction (EPC)

Twin Furnace Fire Tube Steam Generation for Process Consumption

First Class, High Efficiency, Twin Furnace Three-Pass Wet Back Condor Boilers

AMAK Steam Generation Unit
5 x 32 Ton/hr Fire Tube Package Boiler

Project Scope of work:
Engineering, Procurement, Manufacturing & construction (EPC)
6730th SGG Boiler Reference Till December 2015

End User: SIRJAN POWER PLANT

Boiler Technical Specification:

- Boiler Type: Twin furnace fire tube steam boiler
- Boiler Model: MT55 Condor Boiler
- Capacity: 55,000 Lb/hr
- Working Pressure: 8.5 Brag
- Superheater Outlet Temperature: 230 °C
- Fuel: Oil & Natural Gas
- Efficiency: 90.43%
- Based On Performance Acceptance From ERK (Germany)
- Serial No.: 6730
- Manufacturing Date: December 2016
Boiler MT58 - Performance Acceptance
Project no. 10_0176ING

Dear Mr Aghazadeh,

This is to certify that ERK Eckrohrkessel GmbH performed heat transfer calculations for the following boiler named as Model MT58 with the operation condition indicated as following:

Capacity: 58,000 Lb/hr (26.8 t/h)
Working pressure: 16 bara
Steam temperature: 250°C
Efficiency:
  a) 88.90% related to the calculated LHV (lower heating value) of natural gas at 34,451 kJ/Nm³ with feed water temperature of 111°C.
  b) 90.43% related to the calculated LHV (lower heating value) of fuel oil at 42,101 kJ/kg with feed water temperature of 111°C.

These efficiencies can be reached assuming a good burnout of the burner system for the named fuels and with design solution done to avoid by-pass of the flue gas.

Best regards

[Signature]

i.A. Michael Beyer
ERK Eckrohrkessel GmbH
SGG Since 1980

Three-pass wet back fire tube boilers

More than 7700 boilers and other fix equipments of Sanaye Garma Gostar (SGG) testify our performance and capabilities.

- Single furnace steam boiler up to 25 Ton/hr
- Twin furnace steam boiler up to 50 Ton/hr
- Single furnace hot water boiler up to 55 MBtu/hr
- Twin furnace hot water boiler up to 110 MBtu/hr

Three Condor Twine furnace steam boilers on skids for transport each boiler saturrated steam flow Rate 60,000 lb/hr for Caspian Paper Co.
Engineering, Design, Procurement

- Mechanical Design
- Process calculation for equipments
- Nace Material with HIC & SSC Tests
- Pressure Rating up to 2500 #
- Simulation of Tower & Strippers

Design Standards:
- ASME
- ANSI
- API
- TEMA
- DIN
- BS
- EN

Design & Engineering Softwares:
- PV Elite
- COMPRESS
- HTRI
- Aspen B-jac
- TANK
- HYSYS
- PRO II
- Nozzle PRO
- ANSYS
- Auto CAD
Fixed & Rotary Equipment of Oil, Gas, Petrochemical Industries & Power Plants

- Pressure Vessel with Internal Demister Pad & Eliminator
- Tower & Stripper with Internal
- Shell & Tube Heat Exchanger
- Double Pipe Heat Exchanger
- Separator
- Scrubber
- Chemical Reactor
- Deaerator
- Storage Tank
- Filter
- Strainer
- Knock out drum
- Recuprator Bundle
- Packed Column
- Mixer
- Agitated Vessel
- Condencer
- Absorber Tower
- Chemical Blender
Manufacturing Capabilities (Ton/Year)

- Fire Tube Boilers 2,000
- Water Tube Boilers 3,000
- Pressure Vessels 1,000
- Heat Exchangers & Condencer 800
- Towers & Strippers 700
- Storage Tanks (Shop Build) 3,000
- Chemical Reactors & Blenders 500
- Filters, Strainers & Mixers 800
- Industrial Steel Structures 10,000
YOUR PARTNER IN
AFFORDABLE
STEAM & HEAT GENERATOR