



- Head Office |** 12, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea  
Tel. 82-55-212-6500 Fax. 82-55-212-6525
- Seoul Office |** 124, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea  
Tel. 82-2-2604-3030 Fax. 82-2-2604-7667
- Gunsan Plant |** 19, Jayumuyeok 3-gil, Gunsan-Si, Jeollabuk-do, Republic of Korea  
Tel. 82-63-441-5538 Fax. 82-63-464-5449
- Haman Plant |** 195, Bugwon-ro, Chilbuk-myeon, Haman-gun, Gyeongsangnam-do, Republic of Korea  
Tel. 82-55-587-3025 Fax. 82-55-587-3226



Globalized Company Dreaming New Environment-Friendly Technology



# Science N Technology SNT Energy Co.,Ltd.

Now equipped with the systematic network, environmental friendly  
company to become one of world's best

## CONTENTS

- Greetings from the CEO
- Brief History
- Business Part
  - Air Cooled Heat Exchanger
  - Heat Recovery Steam Generator
  - Selective Catalytic Reduction
  - Surface Condenser
  - Air Cooled Condenser
- Production Capacity
- Manufacturing Facilities
- Design
- Quality Control and Assurance
- Certificates
- Global Business







## “Company that intends on being world best in a extremely specific business field”

Our Work Spirit and Devotion to each and every product come from our sense of responsibility as a leader in the machinery industry. Techniques based upon scientific knowledge and automation of the Heat Exchanger making process effectively reduces labor cost and allows us to focus our attention on every products we make.

SNT Energy Co.,Ltd. aims at perfection in our Heat Exchanger production facilities allowing our professional workers to concentrate more on technical operation. Genuine work spirit comes from the full understanding of the products we make. It is because SNT Energy Co.,Ltd. employs many professional experts who have comprehensive better products.



## Greetings from the CEO

To realize the ideology of SNT Energy Co.,Ltd. “Prosper the country and the mankind by the company’s prosperity”, the executives and the employees of our company will do our best.

Dear Customers,

Since the foundation in 1979, SNT Energy Co.,Ltd. have been working hard and investing constantly to become the best in the heat exchanger industry by loan free management, and we are growing up to a global corporation exporting our manufactured products to all around the world.

In 1986, SNT Energy Co.,Ltd. already developed and produced high frequency welded fin tubes with our own technology to lead the undeveloped field of the Korean market. Based on that experience, our production of high frequency welded fin tube is the best in the world.

Yet, we are not satisfied. We are putting tireless efforts to become the best also in the fields of air cooled heat exchanger and heat recovery steam generator.

Now the global environment is rapidly changing. SNT Energy Co.,Ltd. will continuously make investments and pursue realization of clean and open management for even more determined status as the global leader in this small field. Also, with our experiences, world-class technology and competitive power, we will accomplish a continuous growth through the maximization of core capabilities.

We consider the customers’ satisfaction as the top priority and we are trying ceaselessly to satisfy them with the best quality, the best price and the precise delivery.

We are always looking forward to greeting you as our customers. Thank you for your continuous encouragement and keen interests.

CEO of SNT Energy Co.,Ltd.



## B R I E F HISTORY



Since 1979, long history and experience in the design of all major products(Heat Recovery Steam Generators, High Frequency Welded Spiral Finned Tubes, Air Cooled Heat Exchangers, and several other types of heat Exchangers...) allow SNT Energy Co.,Ltd. to provide customers with an undivided guarantee in the thermal and mechanical performance of our equipments.

### 1980

- 1979. Established Samyoung Machinery Co. as a professional manufacturer of thermal equipment.
- 1982. Renamed the company, Samyoung Heat Exchanger Co.,Ltd.(SYHE)  
Completed the construction of Kimpo Plant.
- 1987. Awarded a prize of the president commendation in the parts of national production and development.

### 1990

- 1991. Signed the License agreement with Kentube (Fintube Limited Partnership) of U.S.A. for High Frequency Welded Finned Tubes.
- 1993. Authorized for ASME Stamps U, S and PP and completed the construction of Yicheon Plant.
- 1995. Awarded a prize of the export tower for five million US dollars.
- 1996. Signed the License agreement with GEA-BTT of France for Air Cooled Heat Exchangers.  
Completed the construction of Changwon Plant and Seoul Office Building.
- 1997. Awarded a prize of the president commendation in the part of excellent capital goods and development.
- 1998. Authorized for ISO 9001 Certificate and ASME Stamps U, S and PP for Changwon Plant.  
Completed the construction of Haman Plant.
- 1999. Authorized for ASME Stamps U, U2, S and PP for Haman Plant.

### 2000

- 2000. Listed on KOSDAQ.  
Authorized for SQL of China for Changwon Plant.
- 2001. Renewal of ASME Stamps U, S, and PP for Changwon Plant.  
Awarded a 50 million Export Tower in the 38th Annual Trade Day.
- 2002. Renamed the company to Samyoung Corporation.  
Established Guangzhou SY Heavy Industry Co., Ltd in China.  
Awarded a 70 million Export Tower in the 39th Annual Trade Day.
- 2003. Completed the construction of Changwon plant.  
Authorized for ISO 9001 Certificate and ASME Stamps U, U2, 2 and PP for Changwon Plant.  
Authorized for SQL of China for Changwon Plant.
- 2004. Signed the License agreement with CMI Belgium for vertical HRSG (Heat Recovery Steam Generator)
- 2005. Renamed the company to S&T Corporation.
- 2006. Founded the S&T Group.
- 2007. Awarded a 100 million dollar Export Tower and the Bronze Tower Order of Industrial Service Merit in the Annual Trade Day.
- 2008. Re organized by the split into S&T Holdings and S&T Corporation.
- 2009. Signed the License agreement with FW for Surface Condenser.  
Authorized for ASME Nuclear Certificates N, NPT, N3 and NS, for Changwon and Haman plants.  
Authorized for KEPIC Nuclear Certificates MN and SN.

### 2010

- 2010. Signed the License agreement with Deltak of USA for Horizontal HRSG,(Heat Recovery Steam Generator)
- 2012. Established S&T Gulf Co., Ltd. (Saudi Arabia)
- 2016. S&T GULF in Kingdom of Saudi Arabia is registered as ARAMCO approved vendor.

### 2020

- 2020. Signed MOU for Localization of Air Cooler, Surface Condenser, HRSG for ARAMCO.
- 2021. Renamed the company to SNT Energy Co., Ltd.
- 2022. Acquire Intellectual Property from Hamon Deltak Inc. for Horizontal HRSG.  
Signed the LICENSE AGREEMENT with INNOSPIN of Switzerland for Air Cooled Condenser  
Signed Corporate Procurement Agreement with Saudi ARAMCO
- 2023. Merged Korea Heat Exchanger (Gunsan Plant)



Air Cooled Heat Exchange

SNT Energy Co.,Ltd. is a worldwide leading company in the field of Air Cooled Heat Exchangers(ACHE) for petrochemical, gas refinery, incineration and power plants. SNT Energy Co.,Ltd. undertakes all aspects of engineering from planning and design to fabrication and start up with a computer aided design system. Our accumulated engineering experiences will satisfy our customers' need and solution to any of their problems.



Air Cooled Heat Exchanger

AIR COOLED HEAT EXCHANGER

Essential products in Petrochemical, Oil Refinery and LNG plants.

Existing water cooling heat exchangers had the demerits of giving bad influence to environment such as corrosion and sea water warming because they used sea water in the simple cooling method.

Also, the water cooling heat exchangers had many problems in use because in desert areas like the Middle East, the industrial water is absolutely insufficient.

SNT Energy Co.,Ltd.'s Air Cooled Heat Exchanger takes an improved method of cooling with air instead of water. It does not have problems of water supply, and it reduces the environmental pollutions by the destruction of the ecosystem.

With constant research, development and investigation based on the advance technology, and with various experiences gained over the 20 years, SNT Energy Co.,Ltd. is being more and more recognized and increasing market share in the world market with products of low price and high efficiency.

SNT Energy Co.,Ltd. has the air cooler manufacturing capacity of more than 4,000 bundles a year.







Heat Recovery Steam Generator

H.R.S.G.

A complex thermal power plant uses hot waste gas generated in the operation of gas turbines of existing thermal power generation to generate steam for the operation of steam turbines. It is an environmentally friendly power generation enabling efficient electric power generation in two steps.

A heat recovery boiler uses waste heat to generate steam for the operation of a steam turbine. What mainly influences the quality of a heat recovery boiler is the quality of high frequency finned tubes and the know-how of designing and manufacturing.

SNT Energy Co.,Ltd. is one of the biggest H.R.S.G. manufacturing factory in the world. With the manufacture of high frequency finned tubes followed by the manufacture of the H.R.S.G. modules, time and cost is much reduced.

Presently, SNT Energy Co.,Ltd. has the manufacturing capacity of max 2,000 panels a year.







NOx, Dioxin, SOx, Dust Cleaning Technology

# SELECTIVE CATALYST REDUCTION

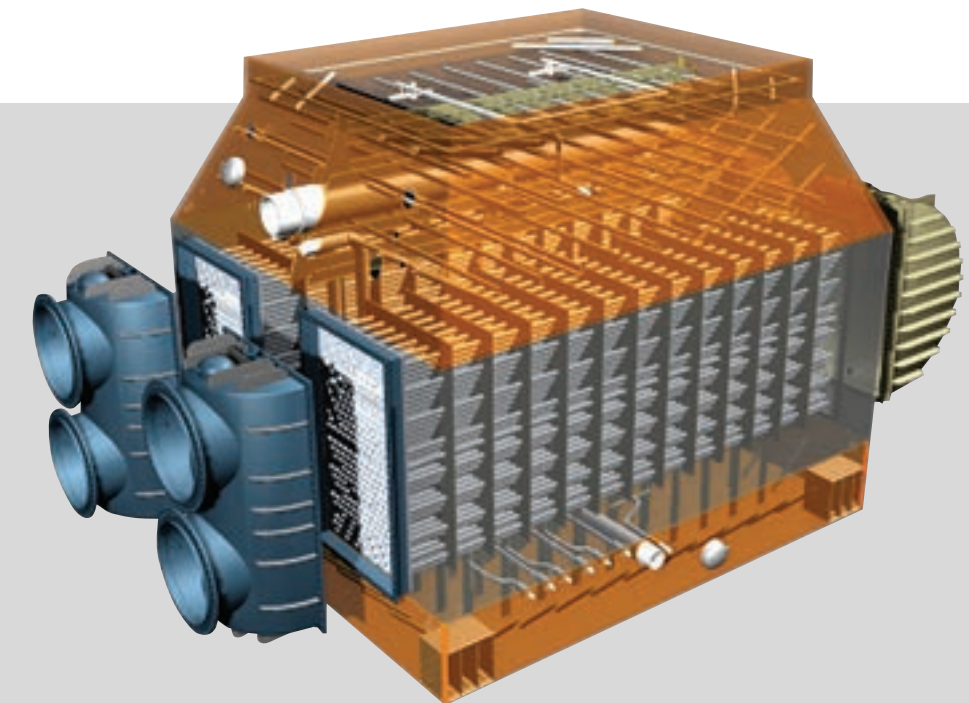
Air pollutants are NOx, dioxin, SOx, dust and such harming the ecosystem including human beings, animals and plants seriously. These occur when waste gas is discharged from boilers or automobiles which exchange fuels such as fossil fuels, LNG to energy by burning.

De-nitrification plants remove nitrogen oxides(NOx) generated in the burning condition. A Separate De-NOx facility is necessary after the burning because there is a technical limit of the NOx reduction only by the improvement of burning conditions. As the disposal method after the burning, SCR system is most reliable, and it takes up the most of nitrogen oxides plant market.



# SURFACE CONDENSER

Surface Condenser



The main design features of the surface condensers are

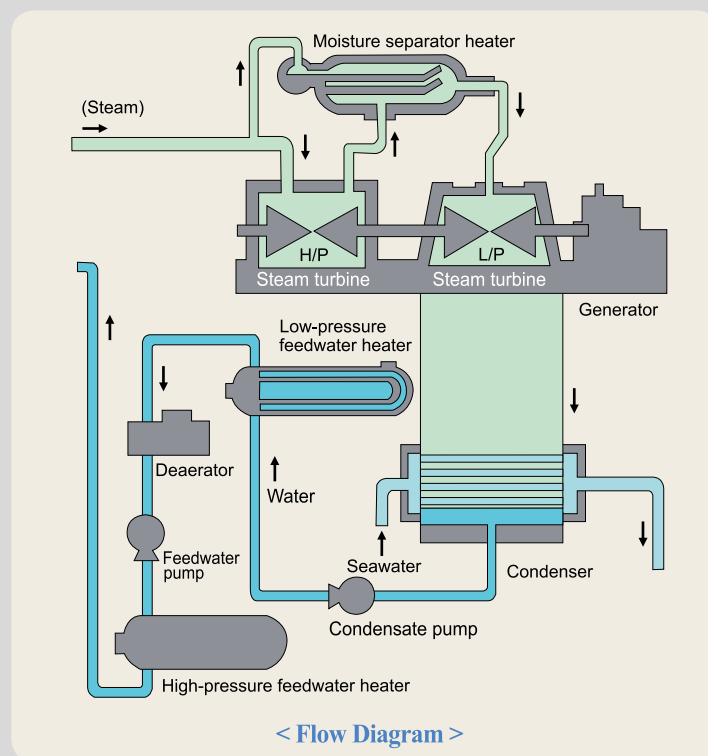
- Shell type : Rectangular
- Number of shells : Single, twin, triple shell
- Number of CW passes : One or two passes (or per customer' s requirements)
- Number of Pressure zones : Single pressure, dual or triple pressure
- Type of Tubes : Titanium, copper alloy, stainless steel, alloyed stainless steel
- Down-flow, axial flow, lateral and double lateral flow design



Surface condenser is the commonly used term for a water cooled shell and tube heat exchanger installed on the exhaust steam from a steam turbine in power stations. These condensers are heat exchangers which convert steam from its gaseous to its liquid state at a pressure below atmospheric pressure.

SNT Energy Co.,Ltd. designs and manufactures surface condensers with a wide range of power generation application under the full technical and manufacturing know-how transferred from Foster Wheeler which is our technical licensor.

SNT Energy Co.,Ltd. supplies superior efficiency and availability, as well as compatibility with any turbine to meet any needs of our clients in the power generation, chemical, petrochemical and marine engineering industries.







Air Cooled Condenser

## Air Cooled Condenser

The optimization and integration of cooling systems is an extremely complex and demanding process which has a decisive influence on the overall design of the power plant.

The choice of cooling system plays an important part in determining the location of the plant. Or vice versa.

Systems with air-cooled condensers make it possible to opt for a location without a water supply, close to existing power grids, close to the consumer and close to the available fuel resources. They also make it easier to fulfill environmental requirements.

The cooling system of the future will exploit the principle of 'natural draught' – airflow generated by temperature differences – eliminating entire cooling-fan systems and the auxiliary power needed to drive them.





## PRODUCTION CAPACITY



Our three factories represent a total production capacity of

- Max 2,000 Panels Heat Recovery Steam Generator per year
- 4,000 Bundles Air Cooled Heat Exchanger per year
- 6,000 km Mechanical Bonded Finned Tubes per year
- 12,960 km Extruded Finned Tubes per year
- 8,711 km H/F Welded Spiral Finned Tubes per year
- 30,000 ton Hot Dip Galvanizing per year
- 6,000 ton Painting per year



## MANUFACTURING FACILITIES

SNT Energy Co.,Ltd. is fully equipped with various modern machinery and tools such as cranes, CNC drilling machines, automatic welding systems and several types of automatic finning systems.

### 1) Heavy Weight and Handling Equipments

- 100Ton Mobile Crane
- 5~100Ton Overhead Cranes
- 20Ton Gantry Crane

### 2) Finning Machine Systems

- H/F Welded Tube Finning Machines
- M/B Automatic Tube Finning Machines
- Extruded Automatic Tube Finning Machines

### 3) CNC Drilling Machine

### 4) CNC Vertical Type Machining Center

### 5) CNC Boring Machine

### 6) Deep Hole Drilling Machine

T1,100 × X,6000 × Y4,000

### 7) Bending Equipment

- Bending Roller (Max : T175mm)
- Tube Bending Machine (0. ~ 180. )

### 8) Universal Milling Machine

### 9) Tube End Scarping Machine

### 10) Demi-water Equipment

### 11) Welding Equipments

- Gas Tungsten Arc Welding Machine
- DC/AC Submerged Arc Welding Machine
- Flux Core Arc Welding Machine
- Orbital Welding Machine
- Auto GTAW Machine

### 12) Painting & Galvanizing

- Shot Room
- Hot Dip Galvanizing





## Design

### Thermal Design

Since we developed a basic program for the steam air heater with our own technology in 1983, all products manufactured by our company is designed by our unique computer program.

The program for air cooled heat exchanger and thermal designs made by a French company is now added on SNT Energy Co.,Ltd.'s designing knowhow to realize the best designing size. It's updated continuously.

We use TCAP, the SNT Energy in-house computer program for Horizontal HRSG (Heat Recovery Steam Generator) engineering.

### Mechanical Design

Our production design team is in charge of basic and detailed design including strength calculation and weight calculation of steel structure for all manufactured products.

These designing programs thoroughly reflect the demands of our major clients and what designing specification and API 661 demands. These programs are continuously updated.

### Auto-cad and 3D simulation

All of our design drawings for the manufacture are operated and examined by the auto-cad program and the 3D program. To make the best of products, they are continuously updated to the latest versions.



## Quality Control and Assurance

SNT Energy Co.,Ltd. applies thorough and perfect examination in every step of the manufacturing process of all products to ensure the best quality.

In every step, employees with the quality maintaining capabilities examine if the accurate ASME code is applied to by comparing the products with the drawings. They do not allow a single error.

Based on regulations such as ISO 9001:2015 and ASME(PP, S, U, U2) and KEPIC(MN,SN), SNT Energy Co.,Ltd. focuses on the safety of its products and the customers' satisfaction. It also cares for safety and environmental management of ISO 14001:2015 and 45001:2018.

### Global business

Our products are used worldwide mainly in the engineering business such as oil, gas, petroleum, power plants and so on. We will not be content with the present. With ceaseless efforts, we will do our best to satisfy our customers of the present and the future.





# CERTIFICATES

22

23

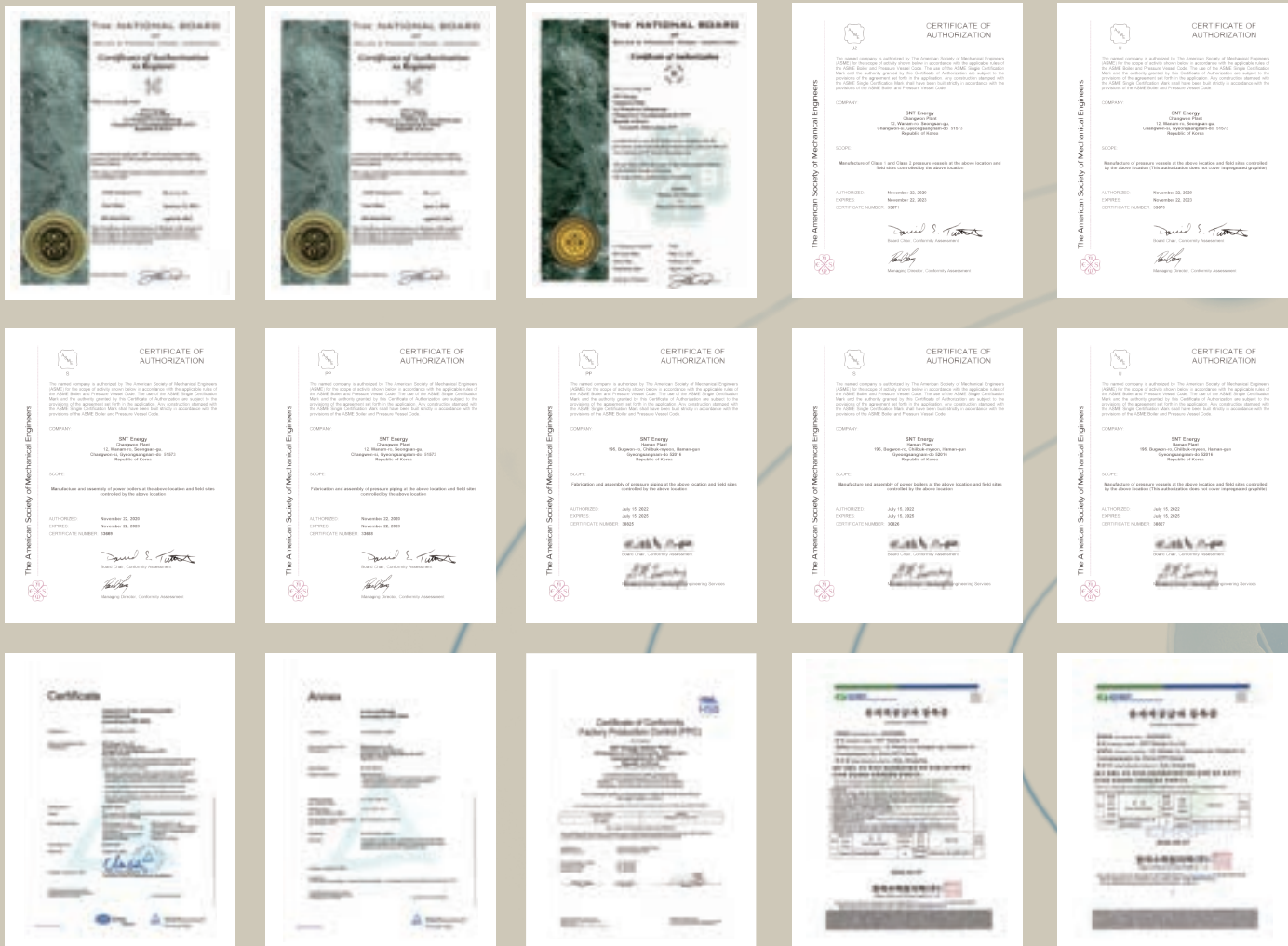
CWB, IAS, ISO 9001, ISO 14001, ISO 45001



KEPIC Nuclear Certificates MN, SN



ASME Non nuclear Certificates S, U, PP, U2, NB, ISO3834, EN 1019-1



# GLOBAL BUSINESSES



Our Products are being utilized at the forefront oil and gas companies, petrochemical companies, power plants and major engineering companies in the world. We will continue striving to enhance our production efficiency and capabilities in order to bring full satisfaction to our esteemed present and future customers.



SNT Gulf Co., Ltd.

Adress P.O.Box 41033, Dammam, 31521, Saudi Arabia  
TEL.+966-13-510-8899, +966-13-510-8900  
FAX.+966-13-510-8901