

Prequalification

SAMWON ENGINEERING CO., LTD.



C O N T E N T S

- GREETING
- COMPANY PROFILE
- HISTORY
- INTERNAL VIEW
- BUSINESS SCOPE
- ORGANIZATION
- FINANCIAL STATEMENT
- MAJOR PRODUCT
- WORKING PROCESS
- CERTIFICATES
- REGISTRATION SUPPLIER
- OVERSEASE AGENT
- EQUIPMENT
- MAJOR CUSTOMERS
- MAJOR EXPERIENCE
- EXPERIENCE(3YEARS)



Samwon Engineering is a authentic, strong business entity as a forerunner of the research & planning in the field of EJECTOR, VACUUM SYSTEM, DESUPERHEATER, IN LINE HEATER, STATIC MIXER. We have the country's most advanced quality, and produce Customized designs for enterprises.

Our products are used in many industries (Petrochemical Industry, Power Plant, Textile Industry, Water Treatment) to increase efficiency and to achieve the efficient energy application. In special, Samwon Engineering carries out drastic investment on technical development and manpower resources.

We shall focus on the improvement of existing products and the development of new products.

Therefore, we have become -21st century the world's leading brands EJECTOR- and will be the leader of its kind based on the various experiences and rich fund & techniques.

GREETING

We promise that all of executives and staffs will do our best wholeheartedly to give trust and heart-moving sincerity with one accord.

COMPANY PROFILE



Site Area : 1,514.1 m² (Office: 556.5 m², Factory: 957.6 m²)

- COMPANY : SAMWON ENGINEERING CO., LTD
- CEO : IL DONG KIM
- MAJOR PRODUCT : EJECTOR, DESUPERHEATER, INLINE MIXER
- ADDRESS : 12 Bodeum-4ro, Seo-gu, Incheon-si, Korea. 22664
Tell : +82 32-553-5276 /
Fax : +82 32-553-5297
- HOME PAGE : <http://samwoneng.kr/>
- E-MAIL : samwon@samwoneng.net

INTERNAL VIEW

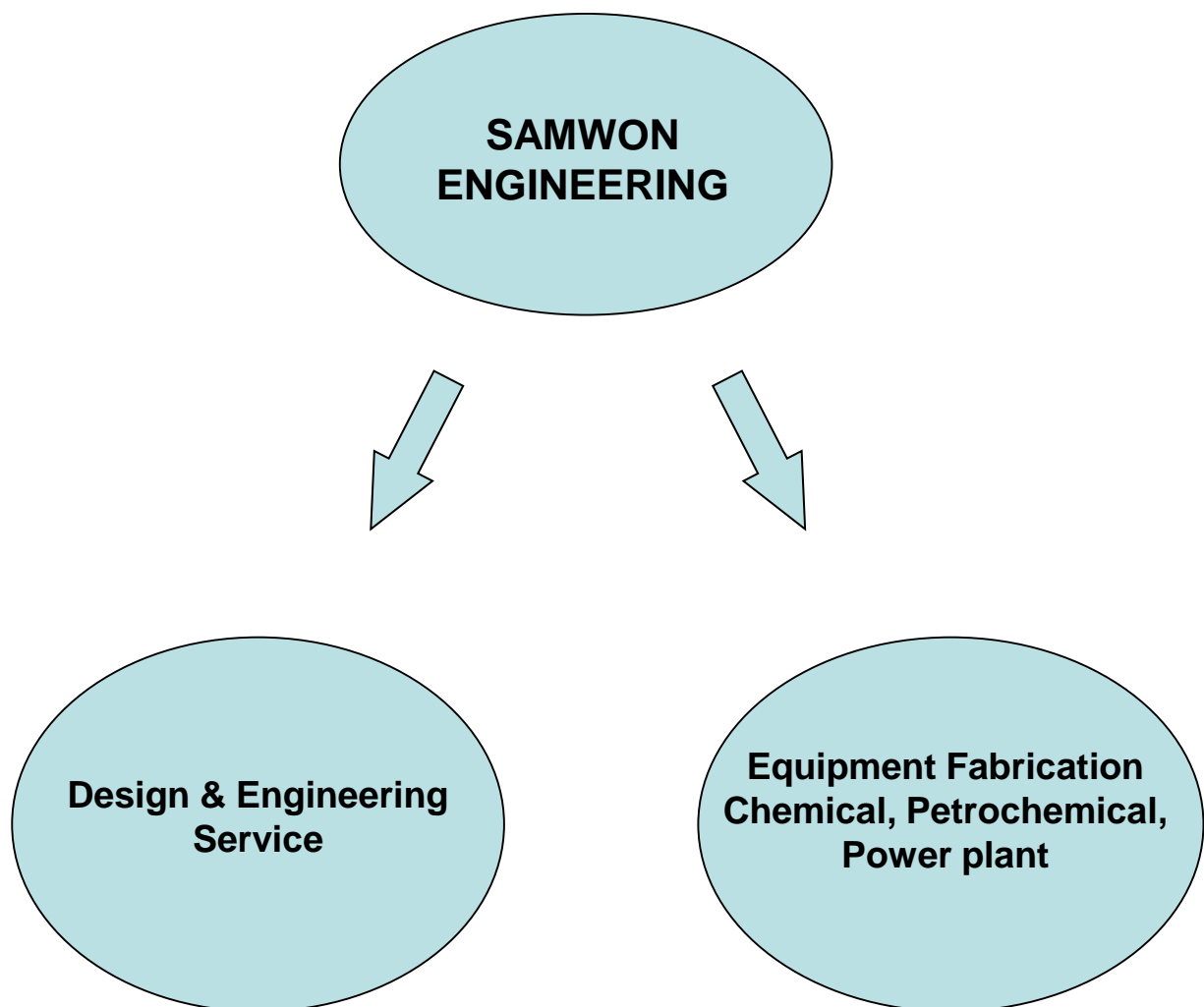


HISTORY

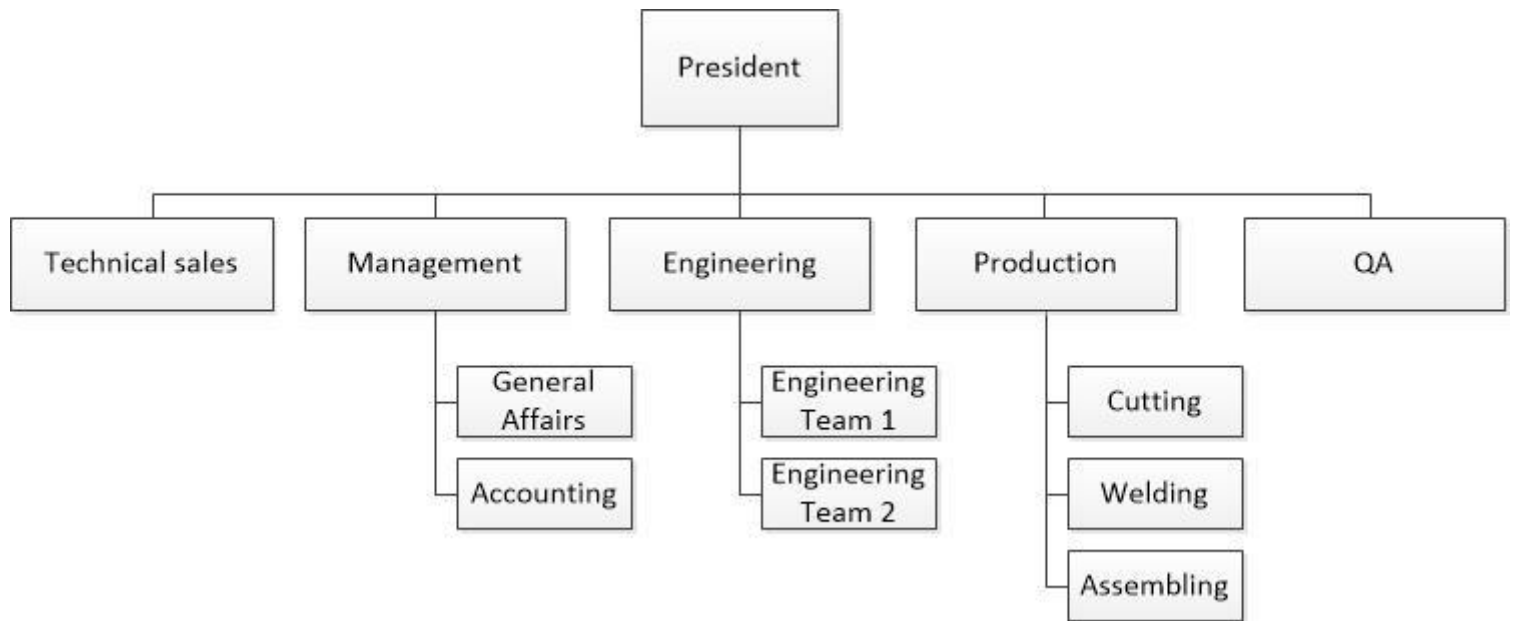
2019	Apr	Obtained 'Main-Biz' certification
2018	Dec	Registered supplier of 'ARAMCO'
	Oct	Agent contract with 'INTERNATIONAL DEVELOPMENT'(in UAE)
	Mar	Agent contract with 'DOME ENGINEERING'(in Oman)
	Jan	Agent contract with 'FLOPERFECT ENGINEERING'(in Singapore)
2017	Oct	ASME STAMP(U, S) 2017 Update
	Oct	Registered supplier of 'KOLON ENGINEERING'
	Jul	Registered supplier of 'AMEC FOSTER WHEELER'
	Jul	Promising Export Firm by Small & Medium Business Administration
2016	Dec	Agent contract with 'BASEERA ENGINEERING(in Malaysia)'
	Sep	ISO 9001/14001 : 2015 Update
	Jul	Certificate of maintenance qualified company(Korea power plant)
	Mar	Agent contract with 'AL-HASEMI'(in Kuwait)
	Jan	Establishment of R&D center
2014	Dec	ASME STAMP (U, S)
	Jul	Agreement for technology development project(Small and medium enterprises)
	Jun	Moved head office and factory to Incheon-Si
2013	Oct	ISO 14001:2004 certification is obtained
2012	Dec	Agreement for "Family Company "(Cheju National University & Samwon engineering).
	Nov	Registered Gimpo factory.
	Apr	Obtained INNO-BIZZ certification
2011	Sep	Registered research department.
2009	Jan	Registered as 'Samwon ENG' corporation.
2003	Oct	Renamed to Samwon ENG. From Samwon Engineering Co.
	Apr	ISO 9001:2000 certification is obtained

BUSINESS SCOPE

**“The 21th Century’s first class
of EJECTOR maker in the world”**

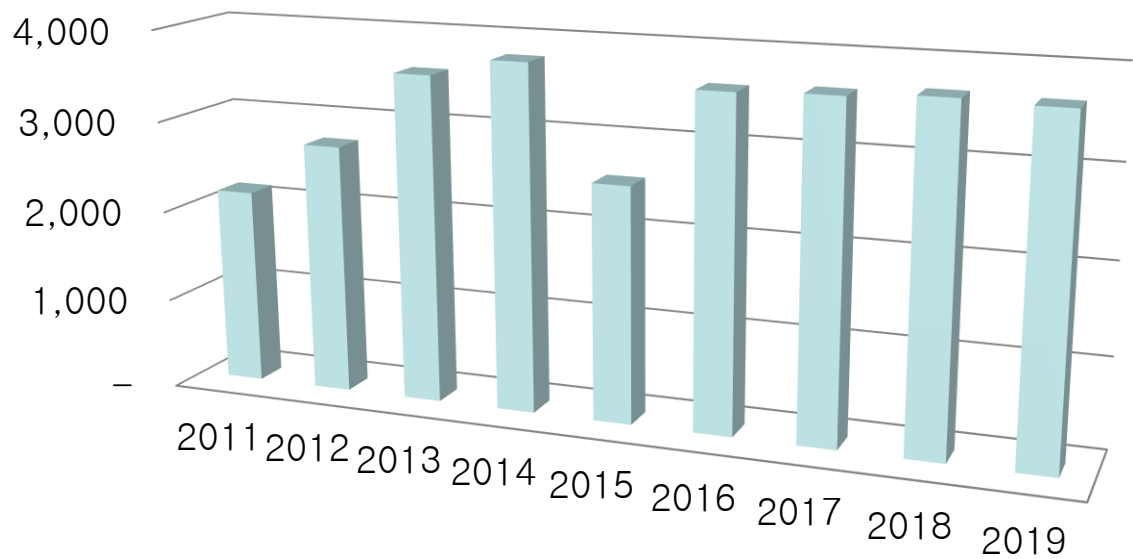


ORGARNIZATION



FINANCIAL STATEMENT

Sales



Unit : Million KRW

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sales	2,158	2,752	3,600	3,800	2,586	3,625	3,655	3,704	3,676

MAJOR PRODUCT

EJECTOR

Air Ejector
Water Ejector
Gas Ejector
Steam Jet Ejector
TVR (Thermo Vapor Recompressure)
Ejector System (Vacuum Unit)



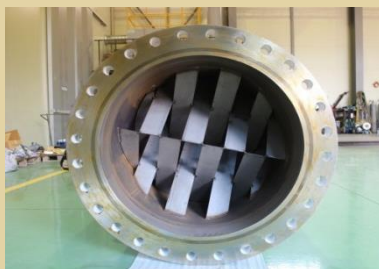
DESUPERHEATER

Single nozzle type
Multi nozzle type
Venturi type

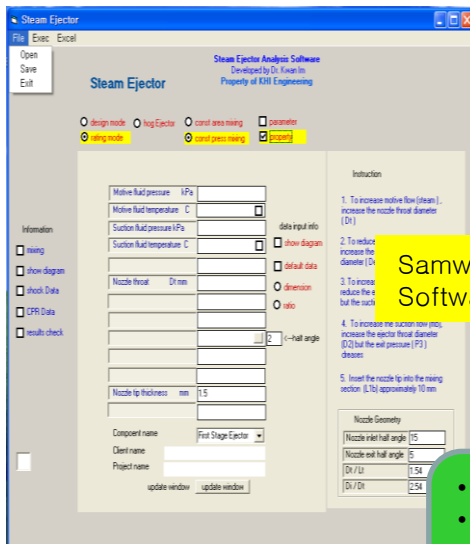
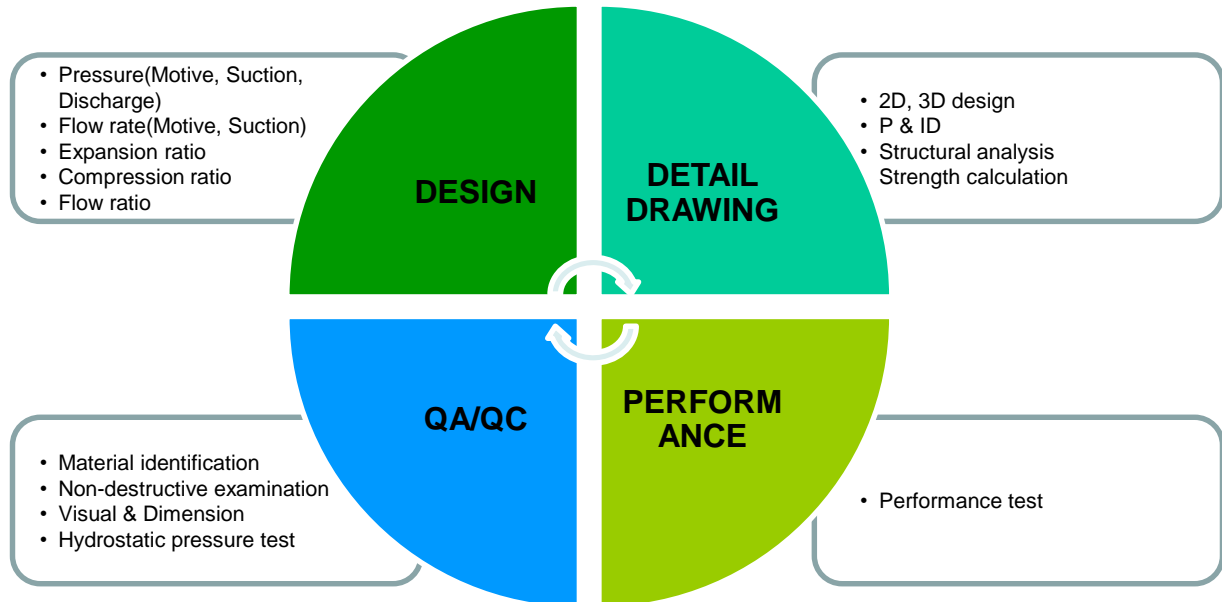


MIXER

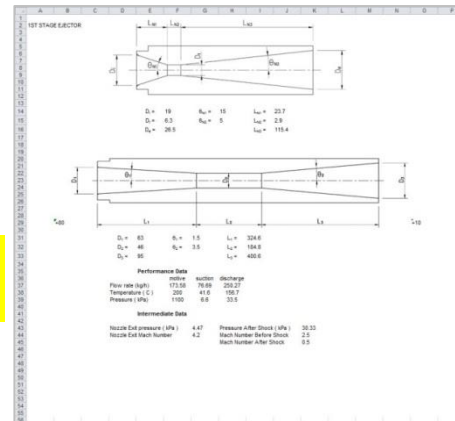
Helical type
SMX/SMXL
SMV



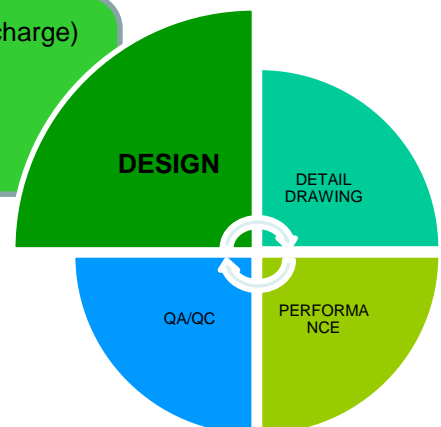
WORKING PROCESS

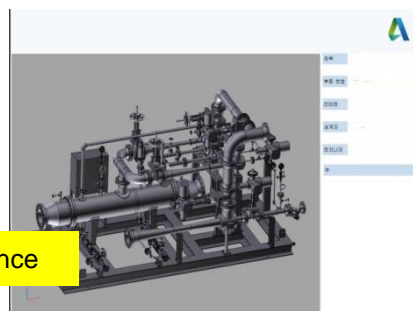
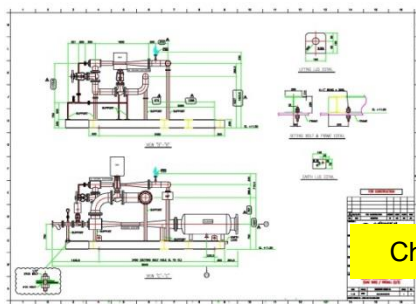


Samwon's Design Software

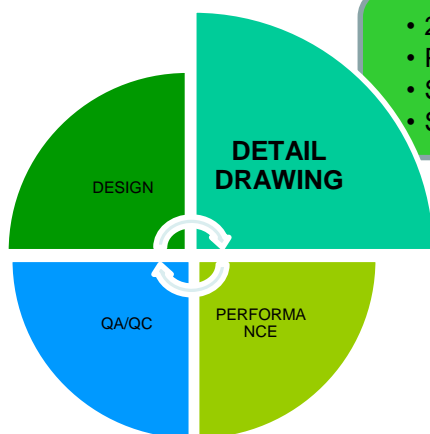


- Pressure(Motive, Suction, Discharge)
- Flow rate(Motive, Suction)
- Expansion ratio
- Compression ratio
- Flow ratio

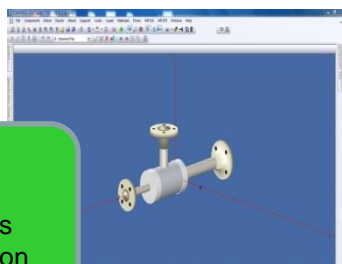




Check pipeline interference



- 2D, 3D design
- P & ID
- Structural analysis
- Strength calculation

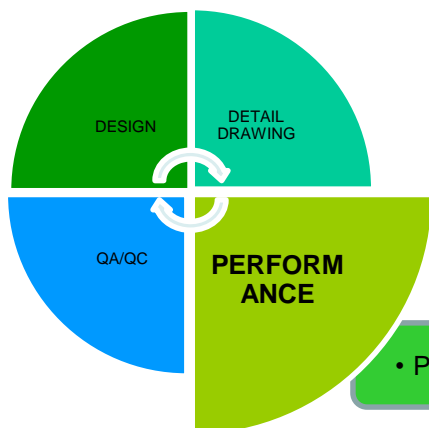
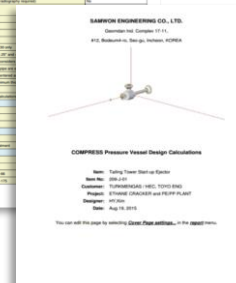


Product strength calculation

Design Summary

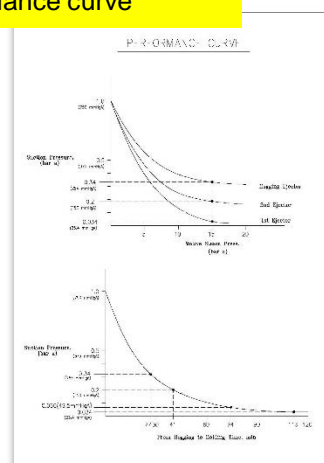
General Information	
Project Name	...
Client	...
Design Engineer	...
Check Engineer	...
Approval Date	...

Design Parameters	
Design Pressure	...
Design Temperature	...
Material	...
Corrosion Allowance	...
Weld Joint Efficiency	...
Factor of Safety	...



- Performance test

Shop performance test & performance curve



Motive & suction & discharge condition control

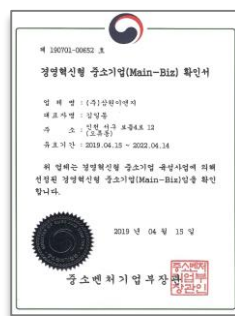


CERTIFICATES

Description	Ref. No.	Certification Authority
CERTIFICATE OF INO-BIZ	R120701-00741	SMALL AND MEDIUM BUSINESS ADMINISTRATION
CERTIFICATE OF MAIN-BIZ	190701-00652	SMALL AND MEDIUM BUSINESS ADMINISTRATION
CERTIFICATE OF MAINTENANCE QUALIFIED COMPANY(Korea Power Plant)	WITHU20160702718	WITH-U
INDUSTRIAL R&D CENTER	2016110039	KOITA
ASME CERTIFICATES "U"	48866	ASME
ASME CERTIFICATES "S"	48865	ASME
ENVIRONMENTAL MANAGEMENT SYSTEM (ISO 14001:2015)	E 1729	HSB
QUALITY MANAGEMENT SYSTEM (ISO 9001:2015)	Q 1729	HSB
PROMISING EXPORT FIRM CERTIFICATE	THE 17 TH INCHEON-13	INCHEON EXPORT CENTER, SMBA
EXCELLENT TECHNOLOGY EVALUATION COMPANY	NICE-2019-77-000277	NICE



INO-BIZ



MAIN-BIZ



Certificate of maintenance qualified company (korea power plant)



R&D CENTER



ASME U, S STAMP



ISO 9001,14001 : 2015



PROMISING EXPORT FIRM CERTIFICATE



EXCELLENT TECHNOLOGY EVALUATION COMPANY

REGISTERED SUPPLIER

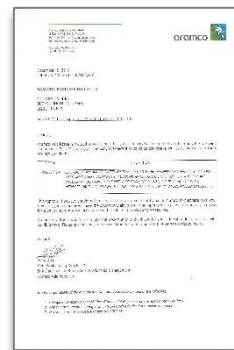
Company	Description	Ref. No.	Date
AMEC FOSTER WHEELER	Ejectors Vacuum System	503896	2017.07
KOLON ENGINEERING	Static Mixer, Line Mixer	-	2017.10
ARAMCO	Ejector(Steam, Air, Water)	6000017131 (9COM)	2018.12



AMEC



KOLONG



ARAMCO

OVERSEASE AGENT

Company	Country	Date
AL-HASEMI	Kuwait	2016.03
BASEERA ENGINEERING	Malaysia	2016.12
FLOPERFECT ENGINEERING	Singapore	2018.01
DOME ENGINEERING	Oman	2018.03
INTERNATIONAL DEVELOPMENT COMPANY	UAE	2018.09

EQUIPMENT

1) Production Equipment

Item Name	Manufacturer	Model	Quantity
Lathe	Hwacheon	HL 580*2000GN, HL460*1000	2
Milling M/C	Heunghwan	HHM-1350HUD	1
Drilling M/C	Kyungmin processing	KM-DM23	1
Band sawing M/C	PABALmachine	-	1
Argon welding M/C	Weld line, Shinwoo Tech	AC, DC, 500AD, TIG-500ST *5	2
Arc welding M/C	Daesin Industry	7.5KW	1
Tig(DC/AC) Welding M/C	Perfect	-	1
CO2 Welding M/C	Dewell Tech	500A	1
Oxygen Welding M/C	-	-	1
Plasma Welding M/C	DAIDEN	SC-61C	1
Overhead Crane	bando	7.5TON / 2.8TON / 1 TON	3

2) Inspection equipment.

Item Name	Manufacturer	Model	Quantity
Flow meter	KOMETER	0~150 m ³ /h	7
Multimeter	KAISE	SK-7718	1
Film thickness meter	QUANIX, POSITECTOR, JFE ADVANTECH	QN-4500-FN, 6000-FNS1, TI-45N	3
Temperature Meter	CENTER	`-200 ~ 1370℃	1
Infrared Thermometer	TESTO, OPTEX	`-30 ~ +400 °C, PT-2LD	2
Thermograph	HANWOOL	0~100 °C	2
High Pressure Compressor	AIL AIRTECH	100 (Kg/cm ²)	1
Water circulation pump	HYOSUNG HEAVY INDUSTRIES	65 m ³ /h x 140m x 60HP	1
Wet Vacuum Pump	CHEONGWON PRODUCTION CENTER	5.5 m ³ /min x 73cm/Hg x 15kw	1
PRESSURE RECORDER	HANWOOL	0~25 MPa	2
Silencer	DB ENG CO., LTD.	-	1
Pressure gage	HISCO	-0.1 ~ 35Mpa	90
Vacuum pressure gauge	KANE	0~1040 mbar	1
Cylinder bore gauge	KRAIS	13.97~18.034mm	1
Performance test (Steam boiler, Cooling tower, vacuum pump)	Dujin ENG	-	1

MAJOR CUSTOMERS

Overseas company



Domestic company



MAJOR EXPERIENCE

Vacuum system

RAPID 5

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location Johor, Malasia

Capacity : 53.1 kg/hr air & water vapor

Suction P : 25 mmHg

Discharge P : 990 mmHg

Material : A106 (Steam chest, Body), A27
6 TP316(Jet nozzle),
A516(Diffuser)



S-OIL SUPER PROJECT PACKAGE 2

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location Onsan, Korea

Capacity : 255.3kg/hr air & water vapor

Suction P : 0.185 kg/cm2 a

Discharge P : 1.38 kg/cm2 a

Material : A106 (Steam chest)
A276 TP316(Jet nozzle)
A312 (Body)
A240(Diffuser)

CHP DCP

Two stage, condensing type with shell and tube condenser(to vacuum pump)

Location Yeosu, Korea

Capacity : 74.6 kg/hr air & water vapor

Suction P : 1.2 mmHg A

Discharge P : 80 mmHg A

Material : SUS316 (Jacket)
SUS316 (Jet nozzle)
SUS316 (Body)
SUS316 (Diffuser)



MAJOR EXPERIENCE

Vacuum system



Gimcheon Combined Heat and Power Plant(60 MW)

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Kimcheon, Korea

Capacity : 65.3 kg/hr air & water vapor

Suction P : 0.08 bar a

Discharge P : 1.07 bar a

Material : A106 (Steam chest, Body),
: A276 TP304(Jet nozzle),
A105(Diffuser)

KIRIKKALE IPP

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Kirikkale Province, Turkey

Capacity : 98 kg/hr air & water vapor

Suction P : 0.034 bar G

Discharge P : 1.06 bar G

Material : A106 (Steam chest, Body),
: A479 TP316(Jet nozzle),
A516(Diffuser)



Therma Visayas Energy Project

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Toledo City, Philippines

Capacity : 81.6 kg/hr air & water vapor

Suction P : 25.4 mmHg

Discharge P : 800 mmHg

Material : A106 (Steam chest, Body),
: A276 TP316(Jet nozzle),
A516(Diffuser)

MAJOR EXPERIENCE

Vacuum system

GE3 Project(60 MW)

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Gusan City, Korea

Capacity : 65.3 kg/hr air & water vapor

Suction P : 0.065 kg/cm² a

Discharge P : 1.07 kg/cm² a

Material : A106 (Steam chest, Body),
A276 TP304(Jet nozzle),
A105(Diffuser)



RAS DJINET CCPP Project (1131.1 MW)

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Alger, Algeria

Capacity : 81.6 kg/hr air & water vapor

Suction P : 0.034 bar a

Discharge P : 1.07 bar a

Material : A106 (Steam chest, Body),
A276 TP304(Jet nozzle),
A516(Diffuser)

UCH II EXPANSION Project(136.9 MW)

Two stage, condensing type with shell and tube intercondenser and aftercondenser

Location : Pakistan

Capacity : 98 kg/hr air & water vapor

Suction P : 0.034 bar a

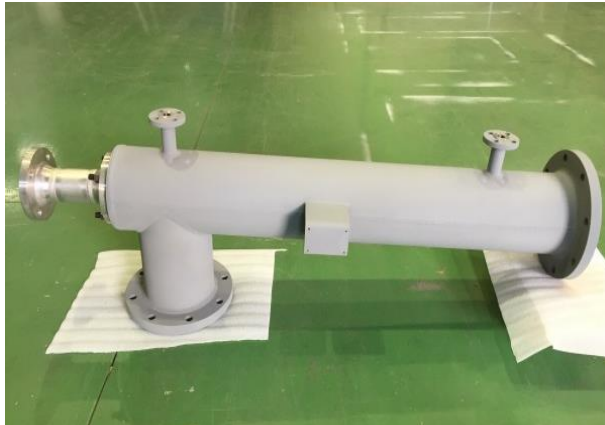
Discharge P : 1.07 bar a

Material : A106 (Steam chest, Body),
A276 TP304(Jet nozzle),
A516(Diffuser)



MAJOR EXPERIENCE

Ejector



HOU PROJECT

Jacket type steam jet ejector

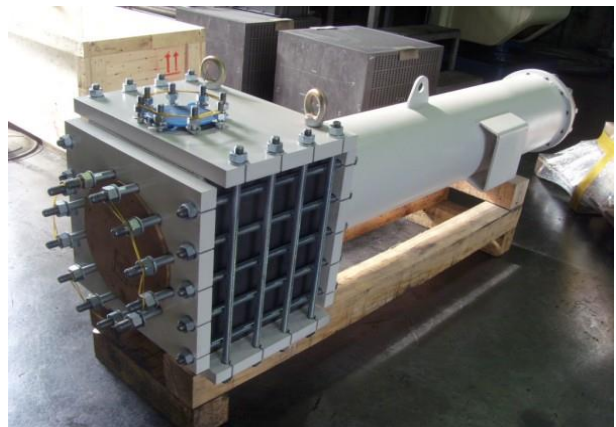
Location	: Ulsan, Korea
Capacity	: 1878 kg/hr air & H ₂ S
Suction P	: -0.08 kg/cm ² g
Discharge P	: 0.11 kg/cm ² a
Material	: A312 (Steam chest, Body) A279 TP304(Jet nozzle) A106 (jacket) A240 TP316(Diffuser)

ASC Phase-VI PROJECT

Jacket type steam jet ejector

Location	: Banten, Indonesia
Capacity	: 506 kg/hr mixed vapor
Suction P	: 0.75 kg/cm ² g
Discharge P	: 0.4 kg/cm ² g

Material	: Graphite + C.S(Body) Graphite (Jet nozzle, Diffuser)
----------	---



SK GAS ULSAN PDH PROJECT

Steam jet ejector

Location	: Ulsan, Korea
Capacity	: 21,445 kg/hr mixed vapor
Suction P	: -0.53 kg/cm ² g
Discharge P	: 0.135 kg/cm ² a

Material	: A312 (Steam chest) A182 (Jet nozzle) A240 (Body, Diffuser)
----------	--

MAJOR EXPERIENCE

Mixer

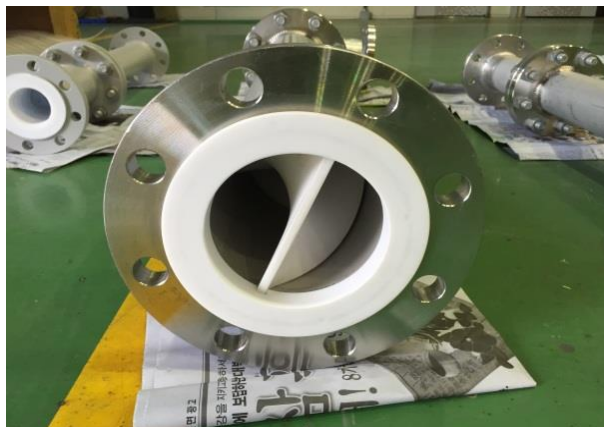
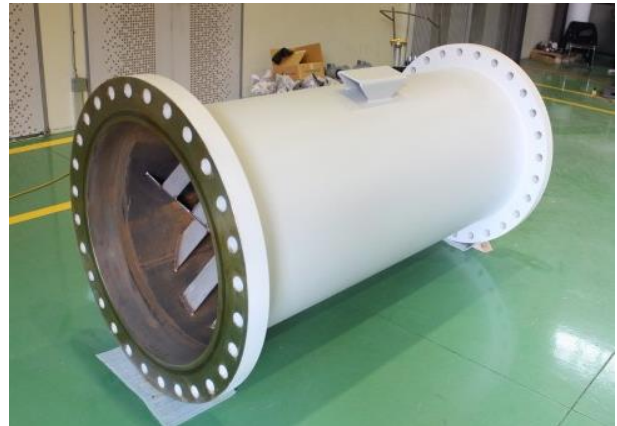
Phase-1 SPOF Project

SMX type static mixer

Location : Rabigh, Saudi-arabia

Capacity : 1,800 Ton/hr

Material : SA516(Housing)
SA105(Flange)
SA240-316L(Element)



MODERNIZATION PROJECT

Helical type static mixer

Location : Changwon, Korea

Capacity : 153,790 kg/hr, steam

Material : A240-304H(Housing, Element)
SA182-F304(Socket)

CR PROJECT

Helical type static mixer

Location : Shenyang city, China

Capacity : 100 Ton/hr

Material : SUS316(Housing)
SUS304L(Flange)
TEFLON (Element)



MAJOR EXPERIENCE

Desuperheater



CPC No.11 DHDS PROJECT

Venturi nozzle type desuperheater

Location : Kaoshiung, Taiwan

Capacity : Steam 1,000kg/hr
Water 290kg/hr

Turn down ratio : 5:1

Material : A312 TP304H(Body)
A276 TP304(Venturi nozzle)
A182 F304H(Flange)

JAZAN REFINERY AND TERMINAL PROJECT

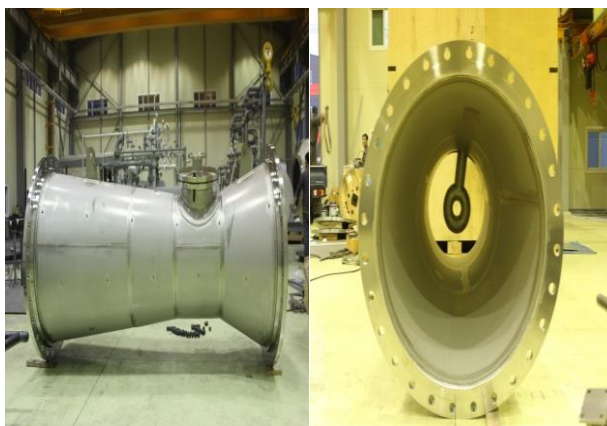
Spray nozzle type desuperheater

Location : Jazan, Saudi-arabia

Capacity : Steam 14,579kg/hr
Water 1,204kg/hr

Turn down ratio : 50%

Material : A240 TP316L(Body)
A276 TP316L(spray nozzle)
A182 F316L(Flange)



Steam Introduced to the polymer plant PROJECT

Venturi nozzle type desuperheater

Location : Ulsan, Korea

Capacity : Steam 43,783kg/hr
Water 2,317kg/hr

Turn down ratio : 10%

Material : A516 (Body)
A276 TP304(Venturi nozzle)
A182 F304H(Flange)