

TAEHWA INDUSTRY



➤ **Company profile**

➤ **History**

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➤ **Financial Report**

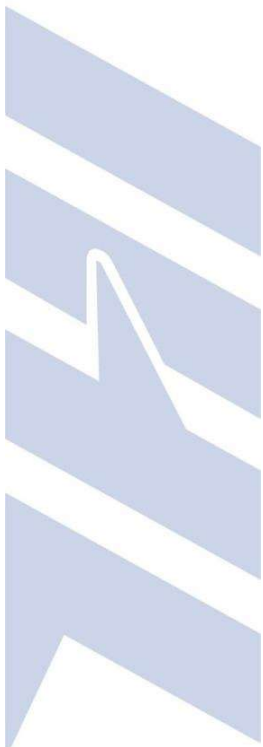
➤ **Business scope**

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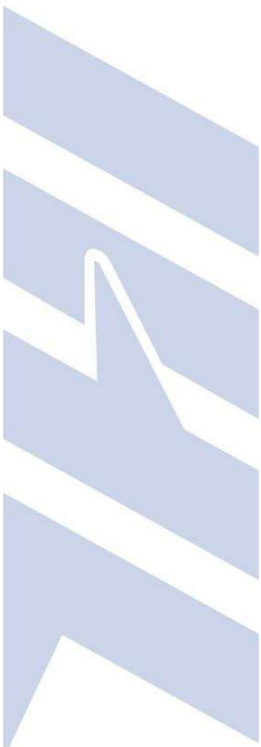
Company profile



THI Refrigeration was established in 1988 and has been located in Seoul for head office and in Busan for factory & branch.

With 30 years of experience and know-how, THI specializes in the engineering, design, manufacturing, installation and service of industrial & process refrigeration system and has various references in wide range of application including petro-chemical & chemical process industry and food & beverage industry.

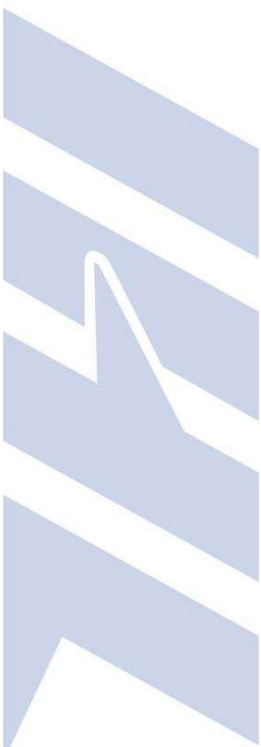
Our solutions ensure energy savings and environmentally friendly systems to meet the requirements of each customer.



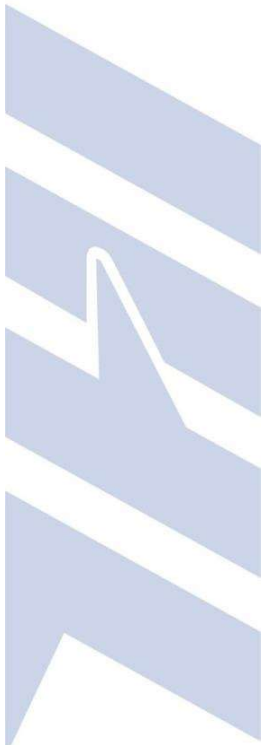
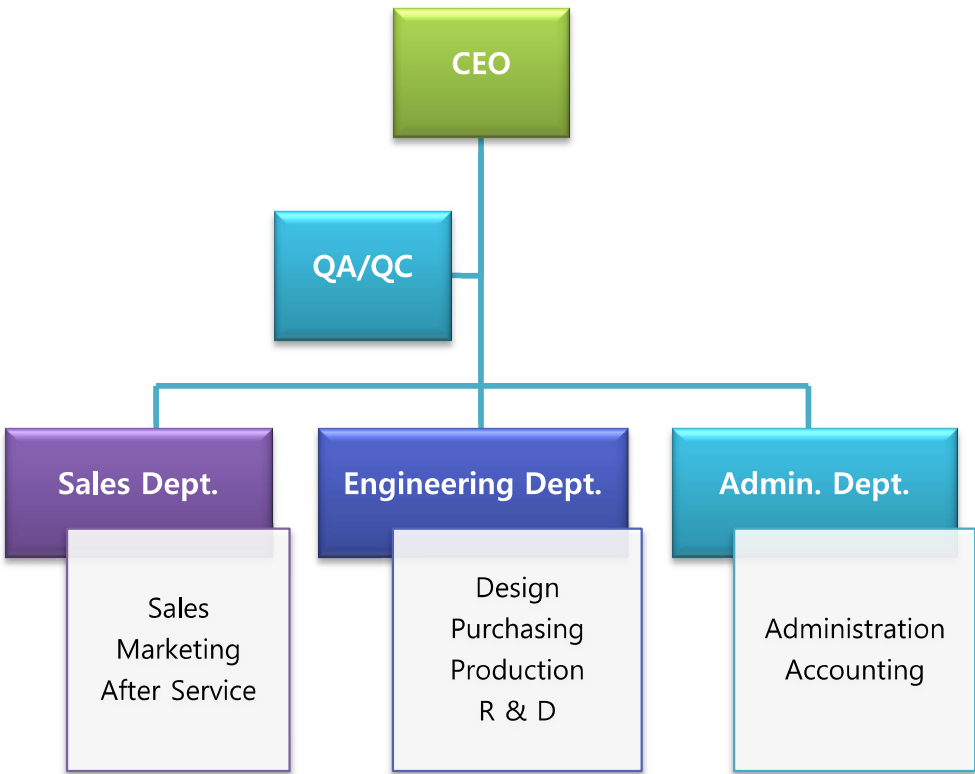
History



- 1988. 08 Established in Busan
Sales representative of Sabroe Refrigeration
(Johnson Controls – York/Frick)
- 1993. 04 Head office was moved to Seoul
- 1997. 10 Busan factory was established
- 1997. 12 Obtained manufacturing & construction license
for Refrigeration Package
- 1998. 04 Obtained manufacturing license
for Heat exchangers/Pressure vessels
- 1999. 04 Manufacturing Evaporative condenser, based on Sabroe design
- 2003. 05 ISO 9001:2000 certified
- 2008. 03 ASME U-Stamp certified
- 2011. 11 2nd Factory was founded in Busan

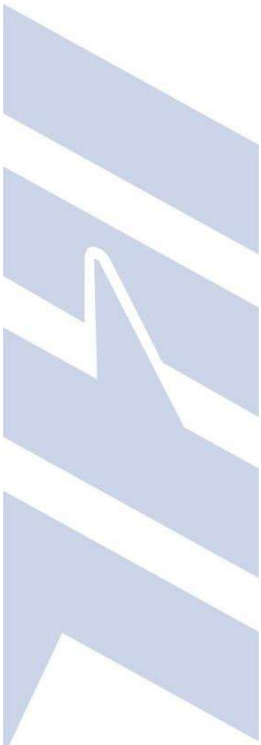
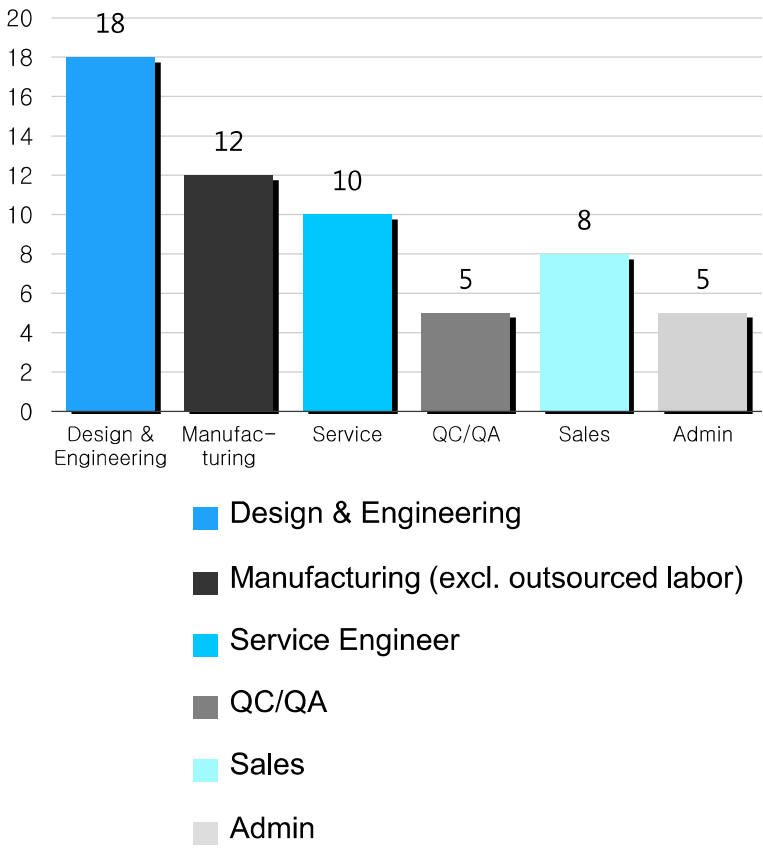


Organization



Organization

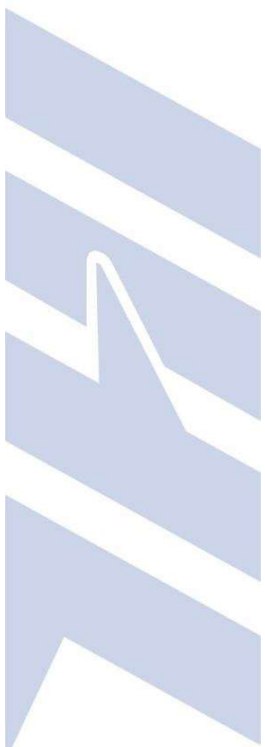
No. of Employees



Financial Report

Audited by Deloitte

US\$ Million	2018	2017	2016
Revenues	30.9	25.4	24.0
Net profit	3.7	2.2	3.3
Total Assets	35.3	29.8	30.4
Debit ratio	52.5%	43.3%	46.5%
Equity ratio	65.5%	69.8%	68.2%

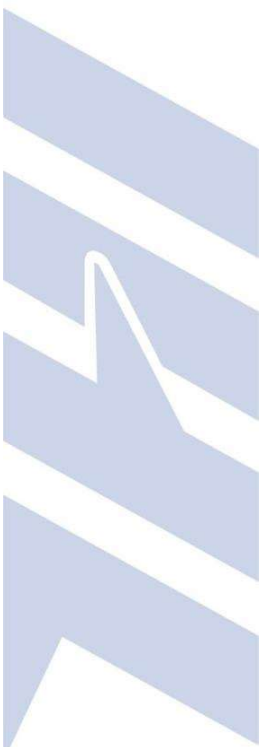
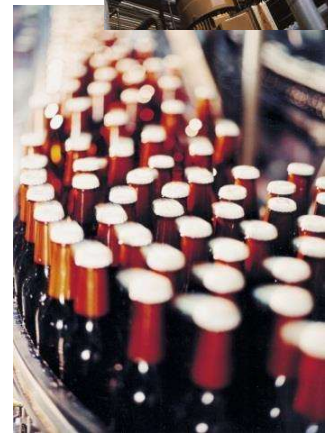
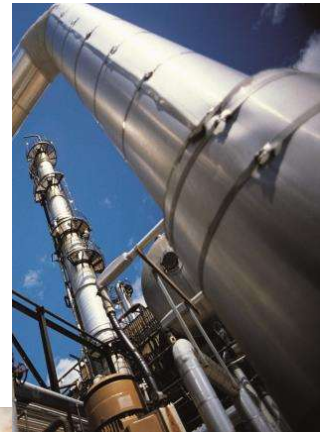
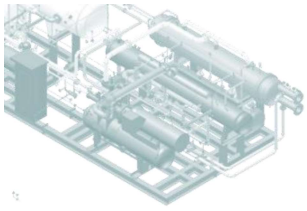


Business scope

THI provides solutions for the full range of sectors within modern industry such as processing and storing food or beverages, Chemical / Petro-chemical and other Non-food.

Our business scope is as follow;

- Chillers & Engineered refrigeration packages for Chemical/Petro-chemical & other Non-food
- Boil off gas condensing unit (BOG)
- Refrigeration Engineering and Contracting in Food & Beverage industry
- Refrigeration components :
 - Screw compressor, Recip. compressor, Condenser, Evaporator, Pressure vessel etc
- Tail gas / Fuel gas compressor package
- Process compressor package
- After service, maintenance & plant renovation
- PC/PLC system in industrial refrigeration

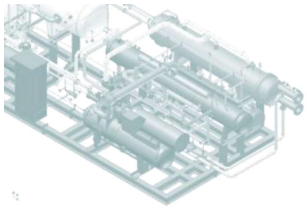


Design & Manufacturing Capability

THI has built its reputation by having the best technical sales, manufacturing and refrigeration engineers.

THI engineering team develops company standards for design of refrigeration package and component utilizing various computer-aided program & software.

Your special requirements and specification can be implemented into our design.



Features

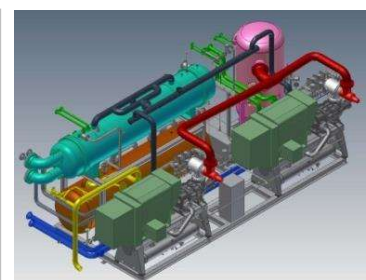
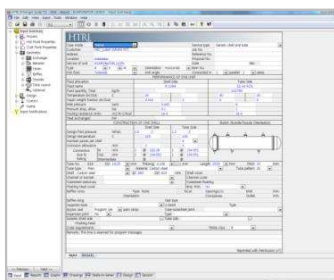
- Designed by professionals in the field of process and industrial refrigeration
- Based on screw, reciprocating and turbo compressors
- The latest technological advances provide the greatest efficiency, simplicity of operation, reliability and lowest operating cost
- Installation and start-up is by our own team of factory experts
- Refrigerant piping and welding is in accordance with all applicable ASME and local codes.

Application Code

- TEMA 9th Edition
- ASME Section VIII Div.1 2010 Edition
- KGS / KOSHA

Engineering Tools

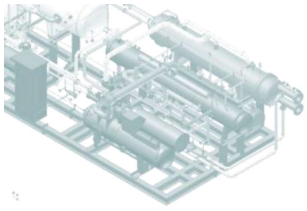
- HTRI
- COMPRESS
- AutoCAD (2D)
- CADWorks (3D)



Design & Manufacturing Capability

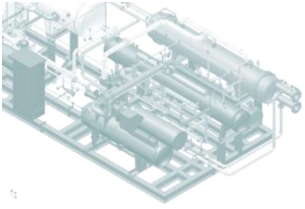
We fabricate various products from refrigeration components to engineered package units acc. to customer's specification

- including Compressor unit, Condenser, Evaporator, Receiver, Economizer, Liquid separator, Local gauge board and Control panel



Design & Manufacturing Capability

Manufacturing facility



Auto welding machine



Turning roller



Rotator



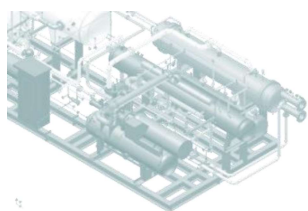
X-ray & Pressure test chamber



Overhead Crane (30T, 10T, 5T)

Design & Manufacturing Capability

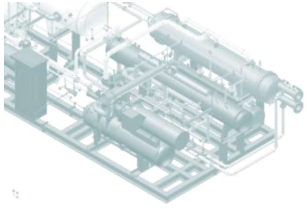
Manufacturing facility



Equipment Name	Description	Qty
Overhead Crane	30 ton	2
	3, 5, 10 ton	14
Submerged Auto welding machine	Ideal Arc DC-1000/LT-7	2
Rotator	1000A, tilting angle +/-50 deg.	2
Inverter DC TIG welding machine	500A	10
DC Co2-Arc welding machine	500A & 600A	6
BOC Arc welding machine	460A	2
Upright Drilling machine	Optimum B30GVM	2
Hydraulic Bandsaw	WE-350 DSA	2
Turning Roller	10 Ton, 20 Ton, 40 Ton	4
Hydraulic impact wrench	L-250N	1
Pipe Hole Cutter	KHC-600D	1
Positioner	300 kg	1
Gouging Machine	TSDWG 1000A	1
Auto pipe bending machine	5hp	1
Hydraulic angle punch	60 ton	1
Air Plasma	120SP	1
	125A-300A	1
Pipe Beveling machine	20A-100A	2
Lathe	580-1500	1
Air compressor	50hp	1
	10hp, 15hp	2
TIG for AL welding machine	500A	1
Battery Folk lifter	2.5 Ton	2
	1.5 Ton	1
Tube Expander, Hydraulic type	TR-504H	1
Tube Facer, Hydraulic type	PF-38AP	1

Design & Manufacturing Capability

Sub-contractor (Manufacturing)



Company Name	Scope of supply
Dearim Machinery Co., Ltd	Shell bending, Head forming
CHEIL HSP INC.	Heat Treating
International Nondestructive Testing Co., Ltd	NDE
DH ENGINEERING	Machining for tube sheet, Grith Flange
YOOSIN INDUSTRY CO.	Surface Preparation & Painting

Certification



Registered ISO 9001:2015

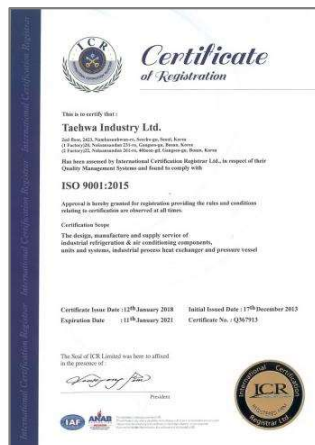
License

- Manufacturing license for Refrigerator under Korean high pressure gas regulations
- Manufacturing license for pressure vessels/Heat exchangers under Korean high pressure gas regulations
- Construction license in Industrial refrigeration & air conditioning
- Construction license in Electric & Control Equipment

Quality Control System

- ICR ISO 9001: 2015 Certified (Cert No. Q367913) for “the design, manufacture and installation of industrial Refrigeration and Air conditioning components, units and system”

ASME U-stamp



[ISO 9001 Certificate]



[ASME U-stamp]

After Market Service



THI provides After Sale Service for various sectors such as test-run of new equipment and plant, operator training, warranty service, preventive inspection, maintenance/repair, improvement of energy efficiency to support customer's refrigeration system to be operated and maintained in the optimum state.

- Commissioning & Start-up
- On-site training and instruction of operator
- Supply of original spare parts
- Service and inspection visits
- System optimization to save power consumption
- On-line and on-site troubleshooting
- Overhaul of refrigeration system or compressors
- Service agreements covering periodic service and maintenance
- System renovation



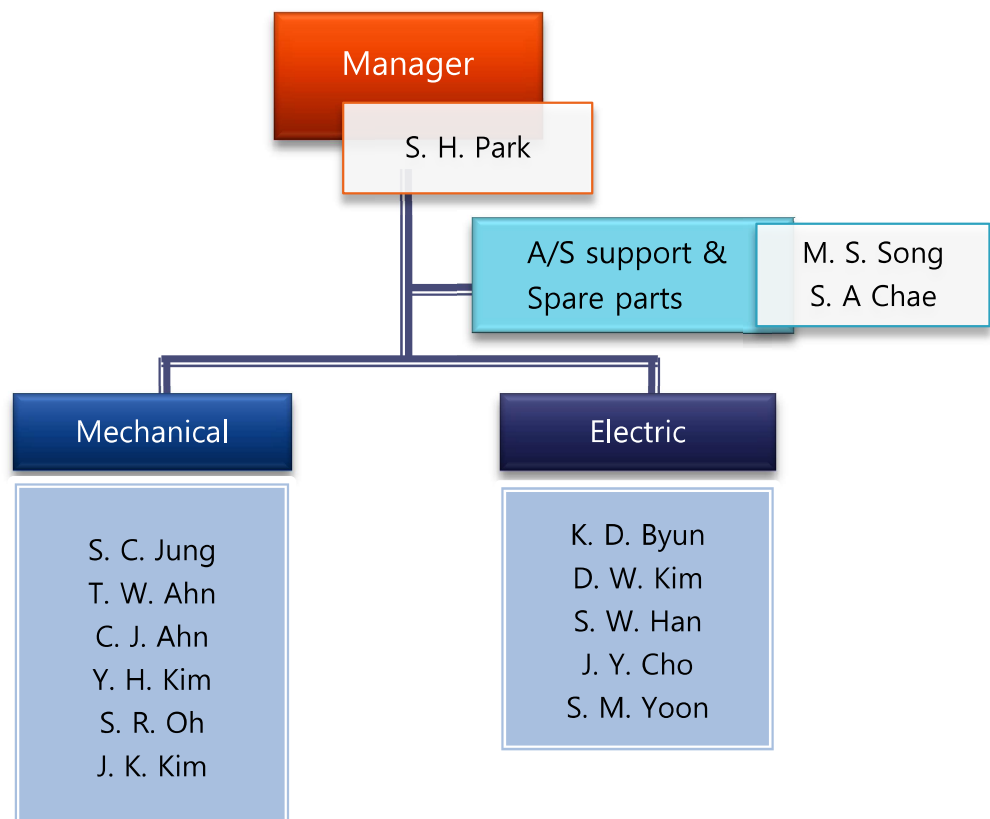
After Market Service



Contact for A/S

- Address : 2nd Floor Hanwon B/D, 2423, Nambusunhwan-ro, Seocho-gu, Seoul, Korea
- Tel : +82 2 598 1126
- Fax : +82 2 598 1129
- E-mail : taehwa@thi.co.kr

A/S Organization



Experience List - Client



Experience List - Job Report



P.T Dongjin Indonesia



- Project : Chilegon 2nd Project
- Item : Brine Chilling System
- Motor rating : 400 kW x 2 set
- Dimension :
4,340L x 3,520W x 3,500H, mm
- Location : Banten, Indonesia
- Delivered in July 2016

Kuwait National Petroleum Company



- Project : KLNG Project
- Item : Water Temperature Control Package
- Motor rating : 150 kW x 2 set
- Dimension :
13,890L x 3,500W x 3,700H, mm
- Location : Al-Zour, Kuwait
- Delivered in September 2018

Experience List - Job Report



Oman Oil Company Exploration & Production



- Contractor : Hyundai Engineering
- Project : Oman Musandam Gas Plant Project
- Item : Propane Compressor
- Motor rating : 1,400 kW x 1 set
- Dimension :
7,500L x 4,000W x 5,000H, mm
- Location : Musandam, Oman
- Delivered in March 2013

SABIC IBN SINA



- Contractor : Intecsa, Spain
- Project : Polyoxymethylene Project
- Item : Chiller Package
- Capacity : 3 x 1,270 kW
- Motor rating : 550 kW x 3 set
- Dimension :
7,900L x 5,700W x 4,500H, mm
- Location : Jubail, Saudi Arabia
- Delivered in March 2015

Experience List - Job Report



Hyundai Oilbank



- Contractor : Hyundai Engineering
- Project : HDC MX Project
- Item : Tail Gas Compressor Package
- Motor rating : 1,000 kW x 2 set
- Dimension :
7,900L x 4,900W x 4,100H, mm
- Location : Daesan, Korea
- Delivered in February 2016

Deokyang



- Project : CO2 Liquefaction Plant
- Item : Ammonia Chiller Package
- Motor rating : 850 kW x 1 set
- Dimension :
6,800L x 4,900W x 3,200H, mm
- Location : Ulsan, Korea
- Delivered in May 2015

Experience List - Job Report



Saudi Kayan Petrochemical Complex



- Contractor : Daelim Industrial
- Project : LDPE Project
- Item : Chiller Package Unit
- Capacity : 185 kW + 410 kW
- Motor rating : 150 kW x 4 set
- Location : Jubail, Saudi Arabia
- Delivered in July 2011

Saudi Kayan Petrochemical Complex



- Contractor : Daelim Industrial
- Project : HDPE Project
- Item : Refrigeration Package Unit
- Capacity : 946,000 kcal/hr + 3,010,000 kcal/hr
- Motor rating : 900 kW x 2 set, 1,480 kW x 1 set
- Dimension :
 - 15,200L x 7,130W x 4,150H, mm
 - 10,500L x 8,150W x 4,500H, mm
- Location : Jubail, Saudi Arabia
- Delivered in August 2009

Experience List - Job Report



Saudi Kayan Petrochemical Complex



- Contractor : Samsung Engineering
- Project : PP Project
- Item : Refrigeration Package Unit
- Capacity : 1,750,000 kcal/hr
- Motor rating : 9000 kW x 1 set
- Location : Jubail, Saudi Arabia
- Delivered in October 2008

DeokYang



- Contractor : CAMERON
- Item : CO2 COMPRESSOR PACKAGE
- Compressor : 5R3MSG x 1,200kW x 1
- Dimension :
10,000L x 5,200W x 4,600H, mm
- Location : Ulsan, Korea
- Delivered in October 2014

Experience List - Job Report



Ma'aden Bauxite and Alumina Company



- Contractor : Hyundai E & C
- Project : Mine and Refinery Project
- Item :
Drinking Water Chiller,
Safety shower & eye wash chiller
- Motor rating : 90kW x 1, 30kW x 1
- Dimension :
5,500L x 3,500W x 3,000H, mm
7,500L x 3,000W x 2,300H, mm
- Location : Ras Az Zawr, Saudi Arabia
- Delivered in July 2013

LUKOIL



- Contractor : Samsung Engineering
- Project : West Qurna Field 2nd Phase
- Item : Potable Water Chiller Package
- Motor rating : 45 kW x 2 set
- Dimension :
6,000L x 3,800W x 2,700H, mm
- Location : Basra, IRAQ
- Delivered in March 2013

Experience List - Job Report



SK Global Chemical



- Contractor : SK Innovation
- Project : Nexlene Project
- Item : Refrigerator
- Refrigerant : Propylene
- Motor rating : 1,900kW x 5 set
- Location : Ulsan, Korea
- Delivered in June 2013

Daelim Industrial



- Project : Poly-butadiene Plant (PB2)
- Item : Condensing Unit
- Capacity : 4,200,000 kcal/hr
- Motor rating : 1,600 kW x 2 set
- Dimension :
16,200L x 6,450W x 6,100H, mm
- Location : Yeosu, Korea
- Delivered in March 2009

Experience List - Job Report



Vietnam Oil & Gas Group



- Contractor : Hyundai Engineering
- Project : Dung Quat PP Project
- Item : Refrigeration Package Unit
- Capacity : 500,000 kcal/hr
- Motor rating : 200kW x 2 set
- Dimension :
 - 6,500L x 5,200W x 2,900H, mm
- Location : Dung Quat, Vietnam
- Delivered in June 2009

Tailand Bangkok PPC



- Contractor : Daewoo Engineering
- Project : HDPE Project
- Item : Brine Chiller Package
- Capacity : 830,000 kcal/hr
- Motor rating : 400 kW x 1 set
- Dimension :
 - 6,430L x 5,180W x 2,900, mm
- Location : Rayong, Thailand
- Delivered in October 2008

Experience List - Job Report



OCI



- Contractor : eTEC E & C
- Project : Polysilicon Project
- Item : Brine Refrigerator
- Motor rating : 1,500kW x 3,
1,000kW x 2, 700kW x 2, 300kW x 2
- Dimension :
11,500L x 4,400W x 5,700H, mm
7,500L x 4,000W x 3,100H, mm
- Location : Gunsan, Korea
- Delivered in August 2011

Deokyang



- Item : Tail Gas Compressor Package
- Capacity : 3,000Nm³/h
- Motor rating : 400 kW x 1 set
- Dimension :
5,000L x 3,300W x 5,000H, mm
- Location : Yeosu, Korea
- Delivered in October 2010

Experience List - Job Report



Hyosung



- Project : OFP Project
- Item : CO₂/NH₃ Cascade Refrigeration System
- Location : Ulsan Korea
- Delivered in December 2008



Hanmi Fine Chemical



- Item : Brine Chiller Unit
- Location : Sihwa, Korea
- Delivered in January 2007

