

GISAN FORGING CO., LTD.

www.gisan-forging.com

[Head Office & Factory]

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[Second Forging Factory]

26, Dasan-ro 175beon-gil, Saha-gu, Busan, Republic of Korea



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Overview

Company History

Major Products

Organization

Manufacturing Equipments

Quality Policy

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Certifications

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Greeting



As a result of utmost effort of all staffs and workers to make qualified forged products, GISAN Forging Co., Ltd. is now on its way to one of the best enterprises in free forging field only after 15 years of company establishment.

On the basis of extensive knowledge and experience acquired up to now, we intend to play a critical role as a leader in free forging industries by extending our endeavor into the manufacturing of forged products utilized in Shipment, Chemistry Plant, Wind Power, Power Plant and so on.

GISAN Forging Co., Ltd. promises not only to pursue in making a profit, but also to contribute to the advance of society's welfare by sharing our growth with our neighbors as well as our employees and our customers.

Founded : Aug 26, 1996 C.E.O / Founder : YOUNG-DUCK, CHUNG

Verview

Location [Head Office & Factory] #303-3, SINCHEON-RI, HANLIM-MYEON, GIMHAE-SI, GYEONGNAM, KOREA

[Second Forging Factory] #1504-9, DADAE-DONG, SAHA-GU, BUSAN, KOREA

[Machining Factory] #303-3, SINCHEON-RI, HANLIM-MYEON, GIMHAE-SI, GYEONGNAM, KOREA

No. of Employee : 34 Persons





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- Established GISAN RING FORGING CO., LTD. 1996.8
- 1996.11 Installed 1,000ton Press
- 1997.1 Installed Heating and Heat Treatment Furnace
- 2006.7 Obtained ISO9001:2000 Certification from ABS QE
- 2008.3 Extension of 2ndFactory in GIM-HAE-SI city Installed 4,200ton Press, Heating and Heat Treatment Furnace at GIMHAE factory Installed Ø3,200mm Ring Rolling Mill Machine
- Approved by ABS as a forging manufacturer of carbon and carbon-manganese steel 2008.4
- Approved by DNV as a forging manufacturer of carbon and 2008.5 carbon-manganese and alloy steel
- 2008.6 Conversion of company name from GISAN RING FORGING CO., LTD

to GISAN FORGING CO., LTD.

- Moved Head Office and Factory to GIMHAE factory. 2008.7
- Approved by GL and KR as a forging manufacturer 2008.9
- 2011.8 Approved by LR as a forging manufacturer
- 2014.3 Installed 2,500ton Press
- 2014.6 Approved by NK as a forging manufacturer
- Approved by BV as a forging manufacturer 2014.8
- PED (Pressure Equipment Directive), Certification from ABS Group Ltd. 2015.1
- Installed Smart-factory (MES, HMI) 2017.12
- 2018.12 Installed Electronic Heat Treatment Furnace at Gim-hae factory





Manufacturing Equipments

| No. | Name | Capacity | Q'ty | Remark |
|-----|------------------------|-------------------|------|--|
| | Ring Rolling Mill | Ø3200 mm | 1 | And the second secon |
| | | 1000 Ton | 1 | Second Factory |
| | Press | 2500 Ton | 1 | |
| | | 4200 Ton | 1 | |
| | Heating Furnace | 20, 15 Ton/Charge | 2 | Second Factory |
| | Heating Fullace | 40 Ton/Charge | 3 | |
| 4 | Heat Treatment Furnace | 20 Ton/Charge | 1 | Second Factory |
| - | | 80 Ton/Charge | 1 | and the second |
| 5 | Band Saw | Ø600 mm | 1 | Second Factory |
| 6 | Fork Lift | 20,16,10 Ton | 5 | |
| 7 | Manipulator | 10 Ton | 1 | |
| ' | | 5 Ton | 2 | Second Factory |
| 8 | Vertical Lathe | Ø1600, 1800 mm | 2 | Machining Factory |
| 9 | Horizontal Lathe | Ø500 mm | 1 | Machining Factory |
| 10 | NC Milling / MCT | #8 / #20 | 2 | Machining Factory |





This is facility for the optimum manufacturing of ring product by Ring Rolling

Process.Advanced ring rolling equipment can roll contours in both the inner and

outer diameter of the ring, allowing for excellent weight reductions, material



2500 Ton Press

Weight: Max. 15 Ton Outer Dia. : Max. Ø2,000 (for Blind) Length: Max. 6,000mm (for Bar)

This is four-column open-die forging press.

Heating Furnace

Weight: Max. 40 Ton / Charge SIZE: 2,000(W) x 4,500(L) x 2,800(H)

This is facility for material heating before forging process. Heating temperature is automatically controlled by computer program as per material grade. And step-by-step heating is also available which is suitable especially for the heating of special steel.

Heat Treatment Furnace

Weight: Max. 80 Ton / Charge SIZE: 3,000(W) x 8,000(L) x 2,800(H)

Its car type Heat Treatment Furnaces are suitable for performing heat treatment processes such as Normalizing, Normalizing & Tempering, Annealing and Stress Relieving. It uses LNG for energy resource so that it can achieve inside temperature uniformly to improve the quality of raw materials

Ø3200 Ring Rolling Mill

Weight: Max. 7 Ton Outer Dia. : Max. Ø3200 Height: Max. 800mm

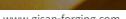


4200 Ton Press

Weight : Max. 15 Ton Outer Dia. : Max. Ø2800 (for Blind) Length: Max. 7,000mm (for Bar)

savings, and reduced machining cost.

This is four-column open-die forging press. This is able to flexibly produce forgings with complex forms.





This is able to flexibly produce forgings with complex forms.





Test & Inspection Equipments





Spectrometer

Capacity: 32 Channel

This is facility to analyze chemical substances of carbon steel, alloy steel, stainless steel and other materials.

Universal testing machine

Capacity: 50 Ton

This is facility to test mechanical properties of materials (Tensile, Yield Strength, RA etc.)



Spectrometer

Capacity: 30 kgf.m Facility to test Joule energy value of materials.



BRINELL Hardness Tester

Capacity: 3000 Kg Facility to test hardness of materials.



NDE Tester (UT, MT, PT)

Ultrasonic Tester, Magnetic Tester and Liquid Penetrant

Quality Policy

Name

Spectrometer

Universal Testing Machine

BRINELL Hardness Tester

CHARPY Impact Tester

Ultrasonic Tester

Ultrasonic Tester

Magnetic Particle Tester

Capacit Metal LA

50 Tor

3,000 k

30 kg f.

USK-7

YOKE

No.

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Better Quality,



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GISAN promise du our best service for forging materials by customer's requiremen

| ty | Q'ty | Remark |
|--------|------|--------------|
| ιВ | 1 | G.N.R Italia |
| PLOT - | 1 | Korea |
| gf | 1 | Korea |
| n | 1 | Korea |
| 3 | 1 | Germany |
|) | 1 | U.S.A |
| | 1 | Korea |

Best Products !!!

Major Products

Shipbuilding Items

PINTLE, Generator/Motor Shaft Propeller/Intermediate Shaft Connecting/Piston ROD Crank Throw, Rudder Stock Crane Wheel, Impeller Hub Forge Shell

Chemistry Plant Items

Nozzle, Self Reinforced Nozzle Hydraulic Main Shaft Welding Neck/Blind Flange Tube Sheet, Channel Cover

Wind Power & **Power Plant Items**

Door Frame, Yaw Ring Tower FLG, Motor Shaft Gear Rim, Distance/Lock Plate Diaphragm Ring Strip Holder, Packing Casing/Ring

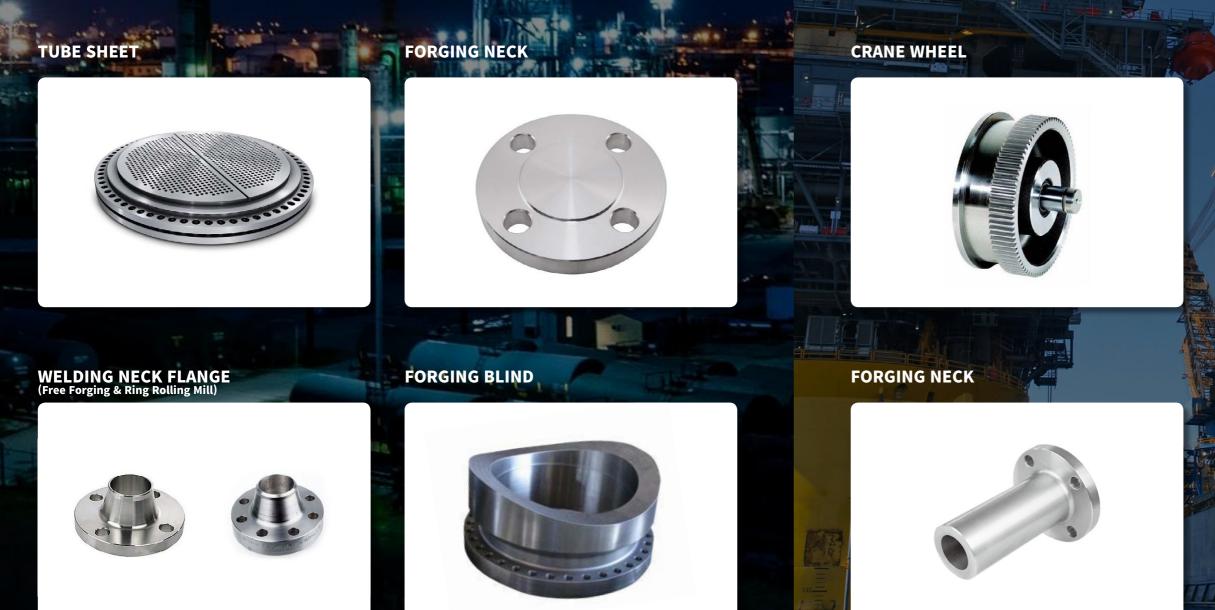
Inner/Outer Ring for Pitch Bearing

Others

Bolt, Nut, Nut Jack, Wheel BRG/Internal Gear, Flat Cover Slewing Ring/Hub BRG/Boss BRG Housing, Pump Plug Round/Square Bar Sole/Hook Plate, Gear/Slip Ring

Petrochemical Plant

Industries & Shipbuilding Plant Items



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Major Products

SHAFT







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Power **Plant Items**

Supplying Experiences

[Domestic]

| No. | ltem Name | Project Name | Customer Name | Delivery | No. | Item Name | Project Name | Customer Name | Deliver |
|-----|---|--------------------------------|---------------------------------|----------|------|-----------------------------------|-------------------------------------|---------------------------|---------|
| 1 | BOSS | HANWHA Storage Vessel | ILJIN E&C | 2005 | 23 | TUBE SHEET / BAFFLE | JUBAIL EXPORT REFINERY PJT | SAMSUNG ENG. | 2010 |
| 2 | BOSS | TAEAN Thermal Power Plant | JM | 2005 | 24 | FLANGE / NOZZLE / TUBE SHEET / | ESMERALDAS PJT | SK CON. | 2010 |
| 3 | WHEEL | | DAEDONG Heavy Ind. Co. | 2006 | 25 | BAFFLE FLANGE / NOZZLE | KPA REVAMP PJT | DAEWOO CON. | 2011 |
| 4 | NOZZLE | YOUHUNG Thermal Power Plant | JM | 2006 | 26 | TUBE SHEET / BAFFLE | Group IIIBase Oil Production PJT | HYUNDAI ENG. | 2011 |
| 5 | FORGED NECK | HOPKING UNIT HP2A | SEDAE ENERTECH | 2006 | | FLANGE / NOZZLE / | DOW FALCON | | |
| 6 | FLANGES | High Pressure BRAKER | HYUNDAI Heavy Ind. Co. | 2007 | 27 | TUBE SHEET / BAFFLE | PROJECT | SAMSUNG ENG. | 2011 |
| 7 | FLANGES | STD FLANGE | ILSIN PRECISION CO. | 2007 | 28 | TUBE SHEET / BAFFLE | JUBAIL EXPORT REFINERY PJT | SAMSUNG ENG. | 2011 |
| 8 | NOZZLE | PRP PJT | ILSIN PRECISION CO. | 2007 | | FLANGE / NOZZLE | SOUTH PARS 12 | HYOSUNG | 2011 |
| 9 | TUBE SHEET | 10 TDP DME Demo Plant TPE | TAEYANG PRECISION | 2007 | . 30 | FLANGE / NOZZLE / TUBE SHEET / | YANBU Export Refinery Package | DAELIM IND. | 2011 |
| 10 | BOSS / NOZZLE | HP PROJECT | TAEBANG | 2007 | | BAFFLE | #216 PJT | DALLENA MOT | |
| 11 | NOZZLE | QUATAR Gas 3&4 | ILJIN | 2007 | 31 | FLANGE / NOZZLE | RUWAIS LBO PJT | HYUNDAI ENG. | 2011 |
| 12 | NOZZLE | On-shore BORSIG NANHAI 3" | DAEKYUNG TECHNOS | 2008 | 32 | TUBE SHEET / BAFFLE | KISCO PJT | HYOSUNG | 2011 |
| 12 | FLANGES | KUMHO Petrochmical H/EX | YUHAN TECH | 2008 | 33 | TUBE SHEET / BAFFLE | MECELLOSE F-PLANT | SAMSUNG FINE CHEMICALS | 2012 |
| 13 | Branch B. | Plant | | | . 34 | FLANGE / NOZZLE / TUBE SHEET / | DAESAN BRA PJT | LG CHEMICAL | 2012 |
| 14 | TEST RING / FLANGE | VGO Plant Refinery EX | | 2008 | | BAFFLE | | | |
| 15 | FLANGES | | DAECHANG Machinery Co., Ltd. | 2008 | 35 | TUBE SHEET / BAFFLE | BPA PROJECT | LG CHEMICAL | 2012 |
| 16 | SHAFT / FLANGE | CHAN 1679 | DOOSAN ENGINE | 2008 | - 20 | FLANGE / NOZZLE / TUBE SHEET / | | SK ENERGY | 2012 |
| 17 | FLANGES | Green Diesel PJT | SE-A E&T | 2009 | 36 | BAFFLE | H PROJECT | | |
| 18 | FLANGES | ENECOGEN Steam Drum | DAEKYUNG TECHNOS | 2009 | 37 | TUBE SHEET / BAFFLE | PETRON BATTAN PJT | DAELIM IND. | 2012 |
| 19 | PLATE | HOT LEVELLER CASSETTE | TAECHANG | 2010 | 38 | TUBE SHEET / BAFFLE | MATIX PJT | HYOSUNG | 2012 |
| 20 | PLATE | POSCO PLATE | SMS EEMAG | 2010 | 39 | NOZZLE STF 13 & 14 | MIRAFA PJT | DKME | 2015 |
| 21 | FLANGE / NOZZLE | OIL UNIT | DONG HWA ENTEC | 2010 | | | | | |
| 22 | FLANGE / NOZZLE / TUBE SHEET / BAFFLE | BD BOTTOM H/C PJT | LG CHEMICAL | 2010 | | | - | | |

[Overseas]

| No. | ltem Name | Project Name | Customer Name | Delivery |
|-----|--|--|---------------------------------------|----------|
| 1 | STD FLG A182F304 | ARUN LNG RECEIVING HUB & REGASIFICATION TERMINAL | INDONESIA | 2015 |
| 2 | TUBESHEET SA765GR2 FLANGE SA350LF2 +INCONEL625 | TERENGGANU GAS TERMINAL(TGAST) DEVELOPMENT PJT | CAMERON / CARIGALI /SAMSUNG ENG | 2015 |
| 3 | STD FLG A182F304 / 304L | ESI CCI PJT & DODSAL ENG &CONSTRUCTION PTE LTD. | MASDAR / ADNOC, ABU DHABI | 2015 |
| 4 | STD FLG A105 | TOYO. INDORRAMA ELEME FERTILIZER AND CHEMICAL LTD PJT | N/A | 2014 |
| 5 | STD FLG A105 | PUSRI-IIB PJT2000 MTPD AMMONIA & 2750 MTPD UREA | PT. PUPUK SRIWIDJ AJA PALEMBANG | 2014 |
| 6 | NOZZLE SA105N | AGUADA PICHANA, PILOT FOR APXP- 1001 GEOLOGICAL CELL 12DRY GAS SHALE WELLS CONNECTION | TOTAL AUSTRAL | 2014 |
| 7 | NOZZLE SA182F316 | MALIKAI TLP PJT | MALAISIA | 2014 |

GISAN promise du our best service for forging materials by customer's requirements.

| DIAPHRAGM RING | DOOR FRAME (for WIND TOWER) | |
|----------------|--------------------------------|--|

Slewing Ring

| No. | Item Name | Project Name | Customer Name | Delivery |
|-----|--|--|--|----------|
| 8 | TUBESHEET SA182F51 | SAGAR PRAGATI CONVERSION PJT | OIL & NATURALGAS CORP. LTD INDIA | 2014 |
| 9 | STD.BAFFLE T/S SA266GR2 A36 FLG | E-270A/B TUBE BUNDLE FABRICATION | LOTTE CHEMICAL TITAN(H) SDN BHD | 2014 |
| 10 | STD. FLG | PGE Kamojang | INDONESIA | 2014 |
| 11 | TUBESHEET INCOLOY800 | HEATSOL SYSTEM PJT | EXXON MOBIL | 2014 |
| 12 | T/S SA266GR2+SB171 C70600 CLAD | REPLACEMENT HELIX BUNDLE : TOP CONDENSER | ODFJELL TERMINALS ROTTERTDAM BV | 2014 |
| 13 | STD. FLG SA105 | N/A | SABIC | 2014 |
| 14 | TUBESHEET & STD. FLG SA789 S31803 & SA105 | ARCTIC GAS PJT | BERNHARO SCHULT SHIP MANAGEMENT (UK) LTD | 2014 |
| 15 | TUBESHEET & STD. FLG SA105, SS400 & SA516GR70N | TEN Development PJT : EPSO Package | TULLOW GHANA LTD | 2013 |
| 16 | TUBESHEET & STD. FLG SA516GR70 | MANILDRA PJT | UNIQUIP ENG | 2013 |
| 17 | FVC FLANGE SA105N | Cilacap Resid Fluidcatalytic Cracking (RFCC) | PT. PERTAMINA | 2013 |
| | | | | |

Main Customers

DOMESTIC

S 전설 C (주)동국S&C 아HYOSUNG posco plantEC WOORIM





DOOSAN

DONGKUK S&C

HYOSUNG & Hyosung EBARA Co., Ltd. (주)포스코플랜테 WOORIM MACHINERY CO., LTD. 《 祐林機械株式會社

OVERSEAS



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