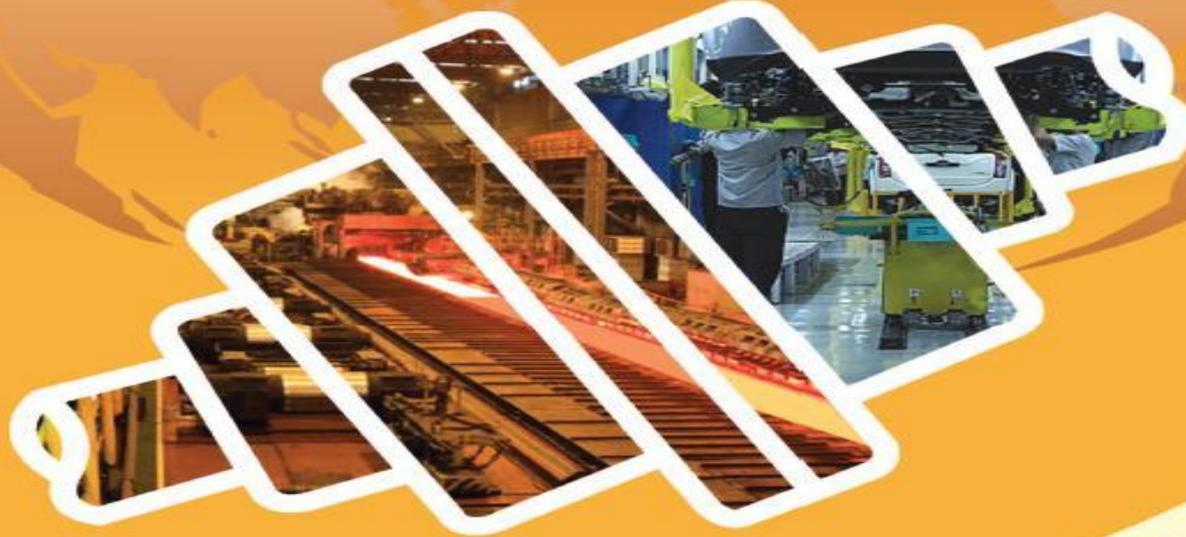


Line Shaft Coupling

Company Profile



JAC Coupling Co., Ltd.



Greetings

JAC Coupling Co., Ltd. has been supplying the high quality industrial power transmission couplings that are not only in the Korean domestic market but also in the major industrial countries in the world.

Our business philosophy is based on a long-term approach and we are dedicated to providing customer service and satisfaction.

Technical expertise is a key component of our business. Therefore, we take every measure necessary to provide the support required by our customers.

As you are a new partner, we will find the best possible solutions for all of your challenges that are related to utilizing couplings for your needs.



Summary of Company

Name	JAC Coupling Co., Ltd.
CEO	Han, Baek-Sool
Foundation	15 April, 1977
Address	69, Saebyeok-ro, Sasang-gu, Busan, South Korea
Contact number	Tel: +82-51-317-0822, Fax: +82-51-317-0855
Product	Couplings
Main Item	Gear/Grid/Jaw/Disc/Tire /Wind turbine Couplings
Capital	USD 500,000
Turnover of 2016	USD 12,000,000
Export Amount 2016	USD 1,200,000
Production Capacity	150,000 Sets / year
Employee	55 people
Web	www.jacoup.co.kr
Customer	POSCO, Hyundai Steel, Doosan etc, Japan, Thailand, Singapore, Brazil, China, US, EU & Etc.

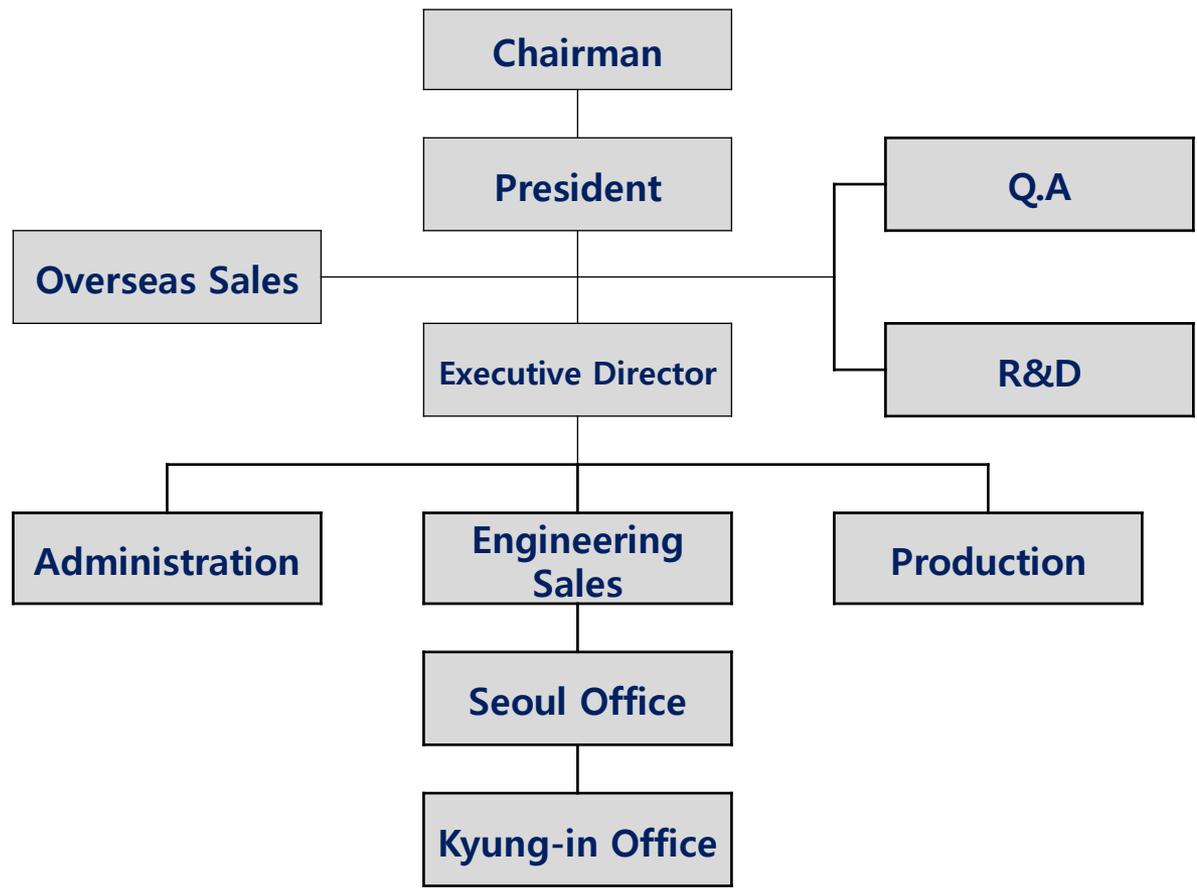


Company History

- 1977. 04. Established (Spare Parts for Auto Mobil and Farming Machinery)
- 1983. 03. Developing JAW FLEXIBLE COUPLING
- 1986. 09. Developing FLEXBLE DISC COUPLING
- 1989. 03. Designated Cooperator with POSCO
- 1995. 09. Completed Second Factory
- 2001. 02. Obtained Certificate of ISO 9001, QS 9000 (KMICC)
- 2001. 11. Changed company name from Jungang-sa to JAC coupling Co.
- 2006. 02. Obtained Certificate of Part material worth (KOR, German TUV, France BV.)
- 2006. 06. Constructed Building for Head office and Factory
- 2009. 06. Authenticated Export Promising Enterprise (Small/Medium Business Administration)
- 2009. 08. Authenticated Innobiz Enterprise (Small/Medium Business Administration)
- 2009. 12. Authenticated Enterprise Research Center(Industrial Technical Promotion Association)
- 2009. 12. Corporation conversion: JAC coupling Co., Ltd.
- 2010. 01. Selected as Technical Leading Enterprise (Busan City)
- 2010. 01. Excellent Small/Medium Enterprise Honoring (Ministry of Knowledge & Economy)
- 2011. 06. Obtained Certificate of Venture enterprise
- 2012. 05. Selected as 3MW Offshore Wind Turbine Coupling Development Leading Enterprise (Ministry of Knowledge & Economy)
- 2013. 07. Grand Prix of Good Small/Medium Enterprise Businessman rewarded by Busan Metro City
- 2013. 10. Korea-Japan Industry Cooperative Prize Rewarded (Minister of MOTIE)
- 2013. 11. 1 Million Export Tower Prize rewarded (Ministry of Trade, Industry & Energy)
- 2016. 06. Developing Composite Coupling of Cooling Tower



Organization



CEO	Board Members	Managers	Engineers	Production	R & D	Q.A	Total
1	4	4	7	33	3	3	55

Line Shaft Coupling



CUSTOMERS

Major Customers (Domestic)

COMPANY	ITEM
POSCO	Couplings
Hyundai Steel Mill	Couplings
Hyundai Rotem	Couplings
Hyundai Wia	Couplings
Doo San Heavy Industry	Couplings
Hyosung	Couplings
Kum O Heavy Industry	Couplings
Dong Bu Steel	Couplings
Shin Han Eng.	Couplings
Sam Sung Eng.	Couplings
And more than 200 customers	



Career & Reference

Special Equipment

North Korea Shinpo-ri 'LWR Nuclear Power Plant' Crane of nuclear transport

Steel Plant(Korea)

POSCO(Pohang) #1, #2, #3 PLATE MILL PLANT

POSCO(Pohang) #2 CGL PLANT

POSCO(Pohang) #1 HOT STRIP MILL Heating Furnace PLANT

POSCO(Pohang) #2 Yeonju Factory modification PLANT

POSCO(Gwangyang) #2 HOT STRIP MILL PLANT

POSCO(Gwangyang) TSMP FSB PLANT

POSCO(Gwangyang) #2 CCM Factory modification PLANT

POSCO(Gwangyang) #4, #5 COLD MILL PLANT

POSCO(Mexico) CGL PLANT

Hanbo Steel #1, #2 HOT STRIP MILL PLANT

Hyundai Hysco Yulchon Factory CGL PLANT

UNION STEEL #4 CCL PLANT

POSCO(Pohang) #3 STS HOT APL PLANT

POSCO(Pohang) STS CR PLANT

POSCO(Pohang) #1 Streamline construction billet, wire rod construction

POSCO(Pohang) #2 FINEX PLANT

POSCO(Gwangyang) CMCP PLANT

POSCO(Gwangyang) #2 MINI MILL PLANT

POSCO(Gwangyang) #1 CGL PLANT

POSCO(China) ZPSS PLANT

POSCO(Vietnam) CGL PLANT

Hwanyoung Steel PLATE MILL PLANT

UNION STEEL #4, #5 CGL PLANT

UNION STEEL PL-TCM PLANT



Career & Reference

Steel Plant(Korea)

Hyundai Steel(DangJin) PLATE MILL(Cooling phase) PLANT

Hyundai Steel(DangJin) PLATE MILL(COOLING BED) PLANT

Hyundai Steel(DangJin) PLATE MILL(Steel) PLANT

Dongbu Steel(DangJin) DBS UTSP PLANT

Dongkuk Steel(DangJin) PLATE MILL(Heating Furnace) PLANT

Steel Plant(Foreign companies)

KAWASAKI(Japan) Dongbu Steel CGL PLANT

KAWASAKI(Japan) Turkey Iron Plant PLANT

VAI(France) China Iron Plant PLATE MILL PLANT

KAHSING(Taiwan) Iron manufacture PLANT

Paper Facilities

Hansol Paper Pakistan Factory Paper Facilities PLANT

Samyoung Paper Paper Facilities PLANT

Dongil Paper Paper Facilities PLANT

Hyundai Steel(DangJin) PLATE MILL(TABLE ROLLER) PLANT

Hyundai Steel(DangJin) PLATE MILL(Material) PLANT

Hyundai Steel(DangJin) CCM PLANT

Dongkuk Steel(DangJin) PLATE MILL(COOLING BED) PLANT

KAWASAKI(Japan) Dongbu Steel KHI-APL PLANT

VAI(France) India Iron Plant HOT STRIP MILL PLANT

DANIELI(Italy) POSCO Iron manufacture PLANT

Youngpoong Paper Paper Facilities PLANT

Walsan Paper Paper Facilities PLANT

KEPPACK Paper Facilities PLANT



Career & Reference

Crane Equipment

Indonesia JNPT Crane Equipment

Kuwait VAI/USIC Crane Equipment

Singapore PSA Crane Equipment

China DSME Co.,Ltd.-China Crane Equipment

Incheon Port Crane Equipment

Malaysia SGT RMQC Crane Equipment

Egypt BESHAY Crane Equipment

Philippines Hanjin-Philippines Crane Equipment

Gwangyang Port Crane Equipment

Busan Port Step-3 Crane Equipment

Power plants

Boryeong Thermal Power Plant #3~#6 Coal PLANT

Muju pumping-up electric power station PUMP PLANT

Hadong Thermal Power Plant #5~#6 Coal PLANT

ETC

Hyundai Motors 5400 TON PRESS Facilities

KIA Motors Slovakia Factory 5400 TON PRESS Facilities



Line-up



COMPOSITE COUPLING



WIND TURBINE COUPLING



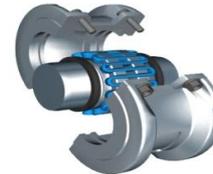
GEAR COUPLING



JAW FLEXIBLE COUPLING



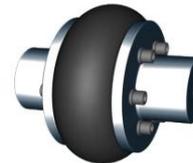
RUBBER FLEX COUPLING



GRID COUPLING



WIRE DRUM COUPLING



TIRE COUPLING



MUFF COUPLING



DISC COUPLING

Line Shaft Coupling

Line-up

COMPOSITE COUPLING

JAC-Composite Coupling is designed for installation in Cooling Tower.

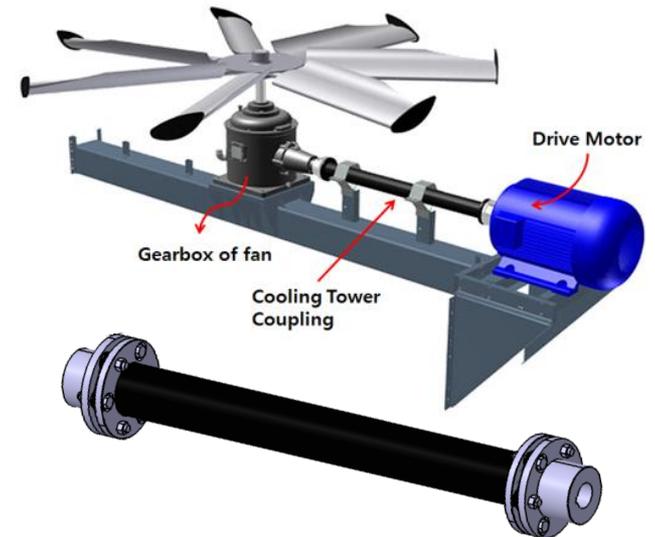
- Long distance power transmission without bearing support.
- Overcoming the corrosive environment of the cooling tower.
- Improved lifetime of cooling system by light weight.
- Improved power efficiency.

Specifications

- Spacer Out Dia.
: Ø210, Ø159, Ø108, Ø86, Ø70

Model No.

- JCT - 229, 171, 152, 133



Line-up

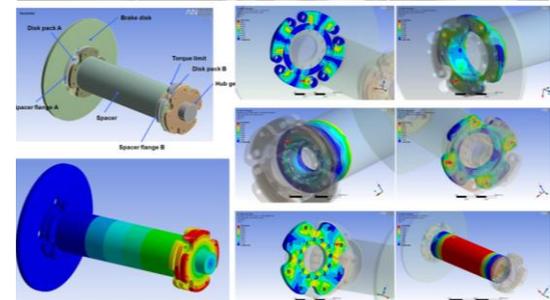
WIND TURBINE COUPLING

JAC-Wind Turbine Coupling is designed for installation in Wind turbine.

- Transmits power from the gearbox to the generator.
- Correct shaft misalignment.
- A torque limiter is installed to prevent overload.
- Insulation performance by applying composite material.

Specifications

- 0.75KW / 2MW / 3MW
- 5.5MW – Short & Long Version



Line-up

GEAR COUPLING

JAC-Gear coupling is basically conformable to the "Gear Type Shaft Couplings" specified by KS(Korea Standard) and other standards are further engineered to have them display higher performance by making the best use of its years of technical experiences and accumulated field experiments. With the capacity of handling heavy load, JAC gear coupling is much smaller and lighter than any other couplings. Noise or vibration is hardly produced even in high speed operation.



Specifications

- Double Engagement Gear Coupling : SSM, CCM, GD, GDL
- Single Engagement Gear Coupling : SEM, CEM, GS, GSL

TYPE

- Gear Coupling with Space : SAM, CAM, GDS TYPE
- Gear Coupling with Floating Shaft : SHM, CHM, GFO TYPE
- Gear Coupling with Brake Wheel : SSMB, SEMB, GDBW,

GSBW

- Special Purpose Gear Coupling

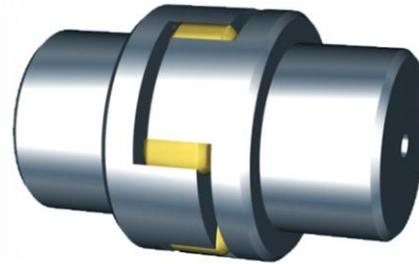
Model No.

- SSM, CCM, SEM, CEM, SAM, CAM
- GD, GDL, GS, GSL, GDS, GDBW, GFO

Line-up

JAW FLEXIBLE COUPLING

JAC-Jaw coupling is torsionally flexible and designed for positive torque transmission. It is puncture-proof. Operational vibration and shock are efficiently attenuated and reduced. Setting and repairing is easy.



Specifications

- Bore Dia : $\varnothing 0.5 \sim \varnothing 110\text{mm}$

Model No.

- CR 050 ~ 90100



Line-up

RUBBER FLEX COUPLING

JAC-Rubber coupling is easy to install and fit by eliminating most vibration, it also eliminates most noises to improve working conditions and lengthen machine's service life. Even under severe conditions, it requires absolutely no lubrication. It simplifies the design especially in case where shaft vibration could be the particular problem.



Specifications

- Bore Dia : Ø100 ~ Ø700mm

Model No.

- RF



Line-up

GRID COUPLING

JAC-Grid Coupling.

The movement of grid in the lubricated grooves accommodates parallel misalignment permits full functioning of grid – groove action in damping out shock and vibration. Under angular misalignment, the grid –groove design permits a rocking and sliding action.

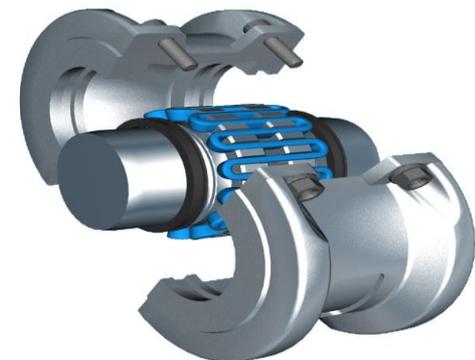


Specifications

- Horizontal Type : SH
- Vertical Type : SV
- Spacer Type : SAS, SFS
- Brake wheel type : SBW

Model No.

- 20S ~200S



Line-up

WIRE DRUM COUPLING

JAC-Wire Drum Coupling is designed for installation in drum drive of crane and conveying system. The Wire drum coupling can be used in a very difficult and rough operating conditions of iron and steel works and continued heavy load operations in shore cranes



Specifications

- Bore Dia : \varnothing 40 ~ \varnothing 470 mm

Model No.

- D 0.25 ~ 92



Line-up

TIRE COUPLING

The biggest advantage of the **JAC-MUFF Coupling** is that it uses standard material FCD45(JIS) Instead of FC(JIS)

Muff Coupling is designed as a dividing structure, therefore, it is easy to assemble, disassemble and removal from shaft.

Muff Coupling(MC) is suitable to be installed for crain & hoist, conveyance agitator, sliuce, iron manufacturing works and to connect long length line shaft.

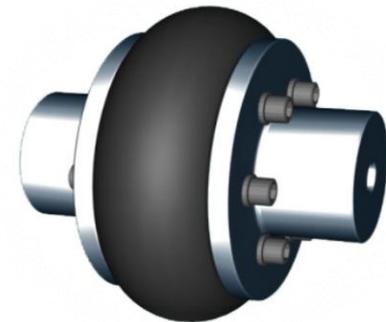


Specifications

- Out Dia : $\varnothing 100 \sim \varnothing 700$ mm

Model No.

- JAC-100 ~ 700



Line-up

MUFF COUPLING

JAC-Tire Coupling uses natural compounds which makes couplings suitable for using in most conditions. Such as, handling combinations of parallel, angular and axial displacements. Installation is quick and easy. No special tools needed for reduced torsion vibrations. This also absorbs shock loads after installation and eliminates the need for lubrication.

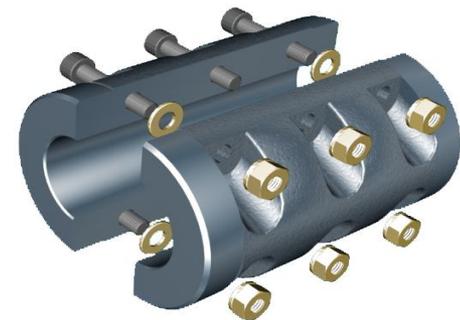


Specifications

- Bore Dia : Ø25H8 ~ Ø120H8

Model No.

- J-M25 ~ J-M120



Line-up

DISC COUPLING

Lubricating oil is unnecessary.

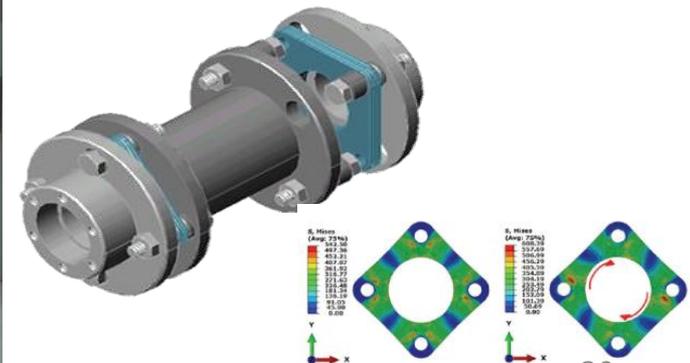
JAC-Disc Coupling has no sliding, frictional, or moving parts. Therefore, there is no friction or noise, and energy loss is low without dirty oil to cope with.

Higher torsion and no backlash. For equipment such as machine tools with numerical controllers, indexing system, and printing machines requiring accurate shaft rotation and phase control, **JAC-Disc Coupling** is best suited because of their high torsion stiffness.



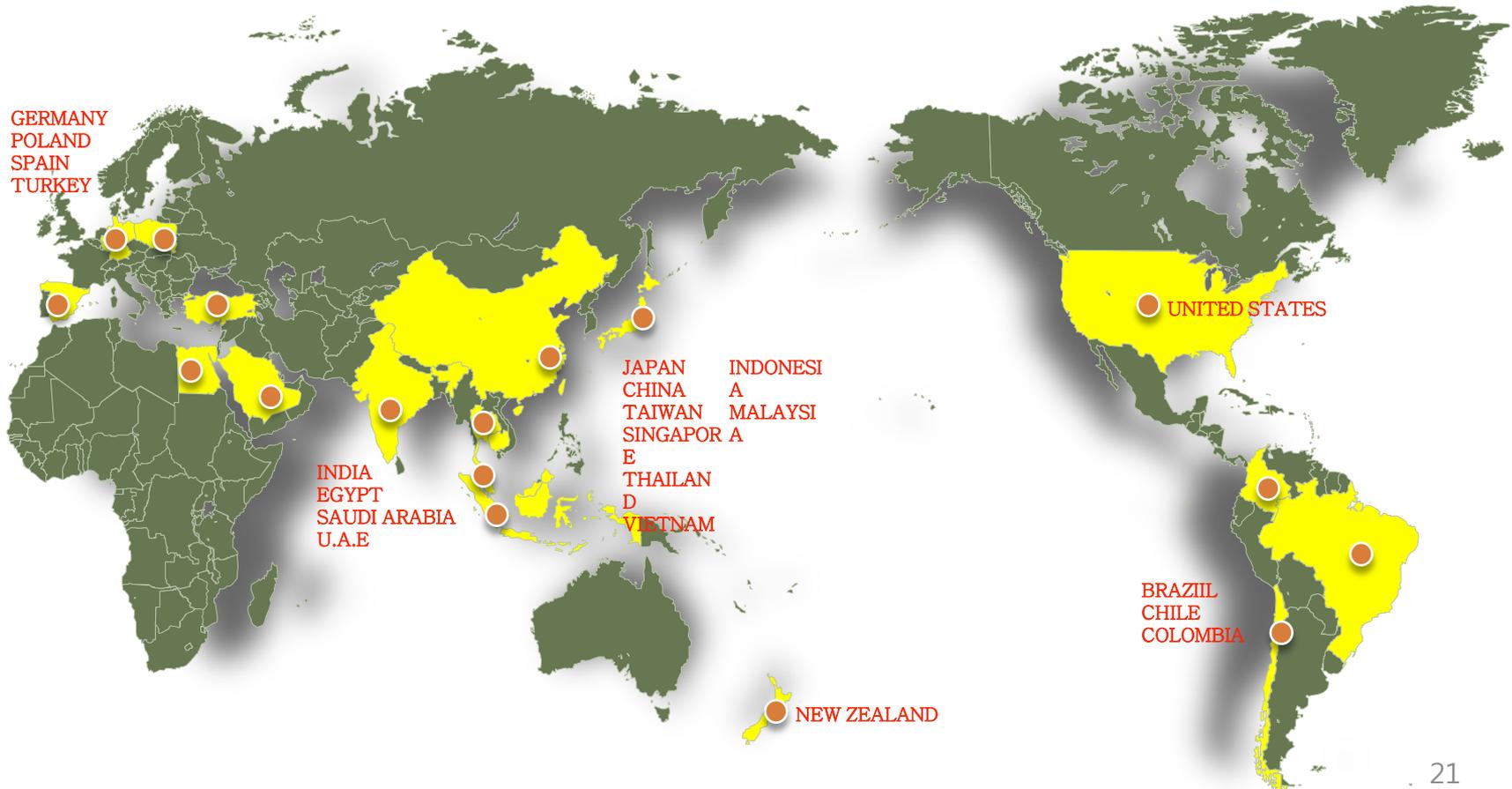
Specifications

- A-Type(4Bolt) : A3, AX, A4, A5
- E-Type(6Bolt) : E4
- G-Type(8Bolt) : G4
- Non- Standard
: Available as customer request



Customers around World

37 customers in 21 countries as of 2014, since 2008



Line Shaft Coupling



Certificates

Line Shaft Coupling

Certificate No. : 2006 - 6

Certificate of Reliability

Product : Coupling

- Category/Purpose : Industrial Gear Coupling
- Operating Pressure : (11-103) MPa, Humidity : (20)30 %
- Temperature Test : (23+10) °C
- Class : Confidence Level 60 %, Bu Life 1.0-10⁶ hours

Company : JAC Coupling Co.
 Representative : Back Sul Han
 726-2, Haejang-dong, Sasang-gu, Busan-si, KOREA
 Assessment Standard : RS B 0078

This is to certify that the above mentioned product has been recognized as reliable product in accordance with the clause 1 Article 25 of the Act on Special Measures for the Promotion of Specialized Enterprise for Component and Materials and the clause 3 Article 17 of the enforcement regulation of the Act.

February 22, 2006

Agency for Technology and Standards
 Ministry of Commerce, Industry & Energy
 Republic of Korea

ATS

WORKSHOP APPROVAL STATEMENT
 TO RINA

Further the assessments carried out and based of the documentation submitted, RINA hereby declares that:

Description : Workshop Approval
Type : Manufacturer of coupling
Manufacturer : JAC COUPLING CO. LTD.
Place of manufacture : 65, SAEBYEONRO, SASANG-GU 615-640 BUSAN, REPUBLIC OF KOREA
Reference standards : RINA Rules

On the basis of the proofs of the qualification level and experience, upon satisfactory outcome of the inspection carried out at the Company facilities and following the review of the relevant work procedures and instructions, the recognition as APPROVED WORKSHOP has been granted to the Company, in compliance with the RINA Rules for the Classification of Ships.

Issued in : BUSAN on April 8 2013. This Certificate is valid until : April 8, 2016.

This certificate consists of this page and 1 annex

RINA

RINA

CERTIFICATE of Conformity TÜV

Registration No.: AK 50086034 0001
 Report No.: 13006459 001

Holder: Joong Ang Coupling
 726-2, Haejang-dong, Sasang-gu, Busan, 617-020
 Rep. of Korea

Product: Coupling

Identification: 000 000
 Tested acc. to: 01 000 000 (first standard of the German Institute of Machinery & Mechanical Engineering)

The certificate of conformity refers to the above mentioned product. This is to certify that the product is in conformity with the standards mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Certification Body
 TÜV Rheinland Product Safety GmbH - Am Grauen Stein - D-51105 Köln

Cologne, 08.08.2008

TUV

CERTIFICATE OF CONFORMITY
 N° 64821-03-COC-KOR
 Ref. 3.36.679

BUREAU VERITAS KOREA attests that the conformity of reliability of an equipment identified hereunder has been verified in accordance with the provisions of Reliability Analysis Criteria RS B 0078 2004, and found to satisfy the provisions of the standards which apply to it.

Manufacturer (name): JAC Coupling Co.
 Address (address): 8726-2, Haejang-dong, Sasang-gu, Busan-si, KOREA

Equipment description: Coupling
 Category / Purpose: Industrial Gear Coupling
 Operating pressure : (8.1-10.9) MPa, Humidity : (20)30%
 Temperature Test : (23)10 °C
 Class : Confidence Level 60%, Bu Life 1.0x10⁶ hours

This certificate is valid until : June 1, 2011.

The Certificate is conditional upon the verifications in accordance with RS B 0078 2004 to be carried out by Bureau Veritas as per the provisions stated in the agreement signed by both the Korea Institute of Machinery & Materials and Bureau Veritas.

This certificate shall be deemed to be void and the manufacturer shall also bear any consequences pursuant to its use, where the manufacturer fails to comply with its undertakings as per the agreement in respect of its conformity of the equipment with the type (B) inspection and tests on the final product and generally where the manufacturer fails in particular to comply with any of its obligations under RS B 0078 2004 as transposed in the applicable standard(s).

Issued at Seoul Korea, on June 2, 2008

This certificate is subject to the terms of Bureau Veritas General Conditions of Service attached to the agreement signed by the applicant.

BV

Certificate Number: QMS-0001

SBCR

Certificate of Registration

This Certificate has been awarded to:

JOONGANG COUPLING

#720-1, Haejang-dong, Sasang-gu, Busan, Korea.

has been assessed and registered on meeting the requirement of

KS Q ISO 9001 : 2009 / ISO 9001 : 2008

SBCR Registrar certifies that the Quality Management System of the above organization has been assessed and found to be in accordance with the requirements of the scope of supply detailed below

Scope of Supply
 The Manufacture and Servicing of Coupling

Revision of ISO 9001:2008 : 1.26
 Initial Registration Date : 2001. 01. 20
 Expiry Date : 2013. 01. 19
 Renew Date : 2010. 01. 22

SBCR Registrar
 Seoul Business Corporation Registrar
 #700, West Bundang-ro, Bundang-gu, Seoul, Korea

ISO 9001

신기술인증서

기술명 : 750kw 공력발전기 파워트레인 고속커플링 제조 기술

회사명 : (주)중앙카프링

대표자 : 안벽술

소재지 : 부산 사상구 학정동 720-1

인증번호 : 제0831호

유효기간 : 2014년 4월 23일부터 2016년 4월 22일까지

위의 기술을 「산업기술혁신 촉진법」 제15조의2에 따른 신기술로 인정합니다.

2014년 4월 23일

산업통상자원부장관

NET

JAC Coupling Co., Ltd.
 726-1, Haejang-dong, Sasang-gu, Busan, Korea

27th May 2014

Subject: Approval of Coupling for the Turbine Configuration
 HSS DF2002/1004/endorse

Henceby AMSC confirms that the Coupling Integration with the scope stated in the SOWS102-021014 agreed between AMSC and JAC Coupling Co., Ltd. dated as of 12.03.2014 for the following AMSC configuration is successfully finished:

Drawn	Power	Version	Frequency	Shaft height	Rotor flange	Type	Mount	Mount angle
DF 2000	1	05	60	60	WTS6	SA	NSC	2°
DF 2000	1	05	60	60	WTS6	SA	OCV	2°
DF 2000	1	05	60	60	WTS6	SB	NSC	2°
DF 2000	1	05	60	60	WTS6	SB	OCV	2°

AMSC Assesst GmbH
 Name: Arsen Weid
 Title: Chief Mechanical Engineer Windturbine Solution
 Date: 2014/05/27

AMSC

CONFORMITY STATEMENT DNV-GL

Reference No.: 61400-22-0001
 Issue Date: 2014-05-27

Subject: Design Evaluation of HSS Coupling JWP 2000

Issued by: JAC Coupling Co., Ltd.
 65, Saebyeon-ro, Sasang-gu, Busan-si, Republic of Korea (KOR)

According to: DNVGL-SE-0074:2014-12 Type and component certification of wind turbines according to IEC 61400-22

Based on the document: 08-08-00001-08-0104-12-001-01 Evaluation Report, dated 2014-07-18

Changes of the design are to be approved by DNV-GL.

Notified Body: DNV-GL
 For DNV-GL Notification Certificate: DNV-GL
 For ISO 9001 Registration Certificate: DNV-GL

DNV-GL

Line Shaft Coupling



Briefing in front of President of Korea



Design inspiration For presentation
Gear Coupling Ø1,600



Booth in Exhibition



Member of Company 23

THANK YOU!

 **Coupling Co., Ltd.**

www.jacoup.co.kr
trade@jacoup.co.kr

Tel : +82 51 317 0822 / Fax : +82 51 317 0855

