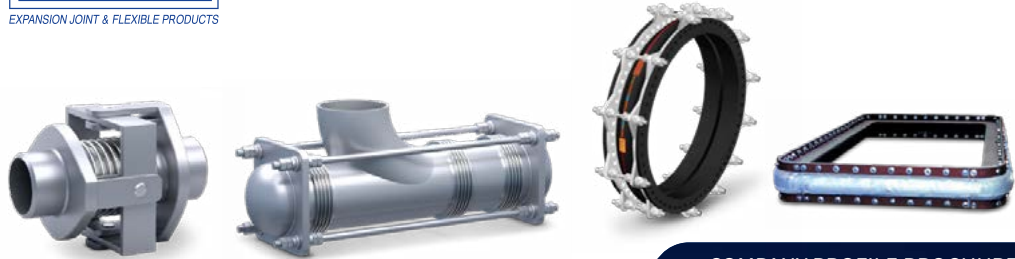


**MEGA
FLEXON**

EXPANSION JOINT & FLEXIBLE PRODUCTS



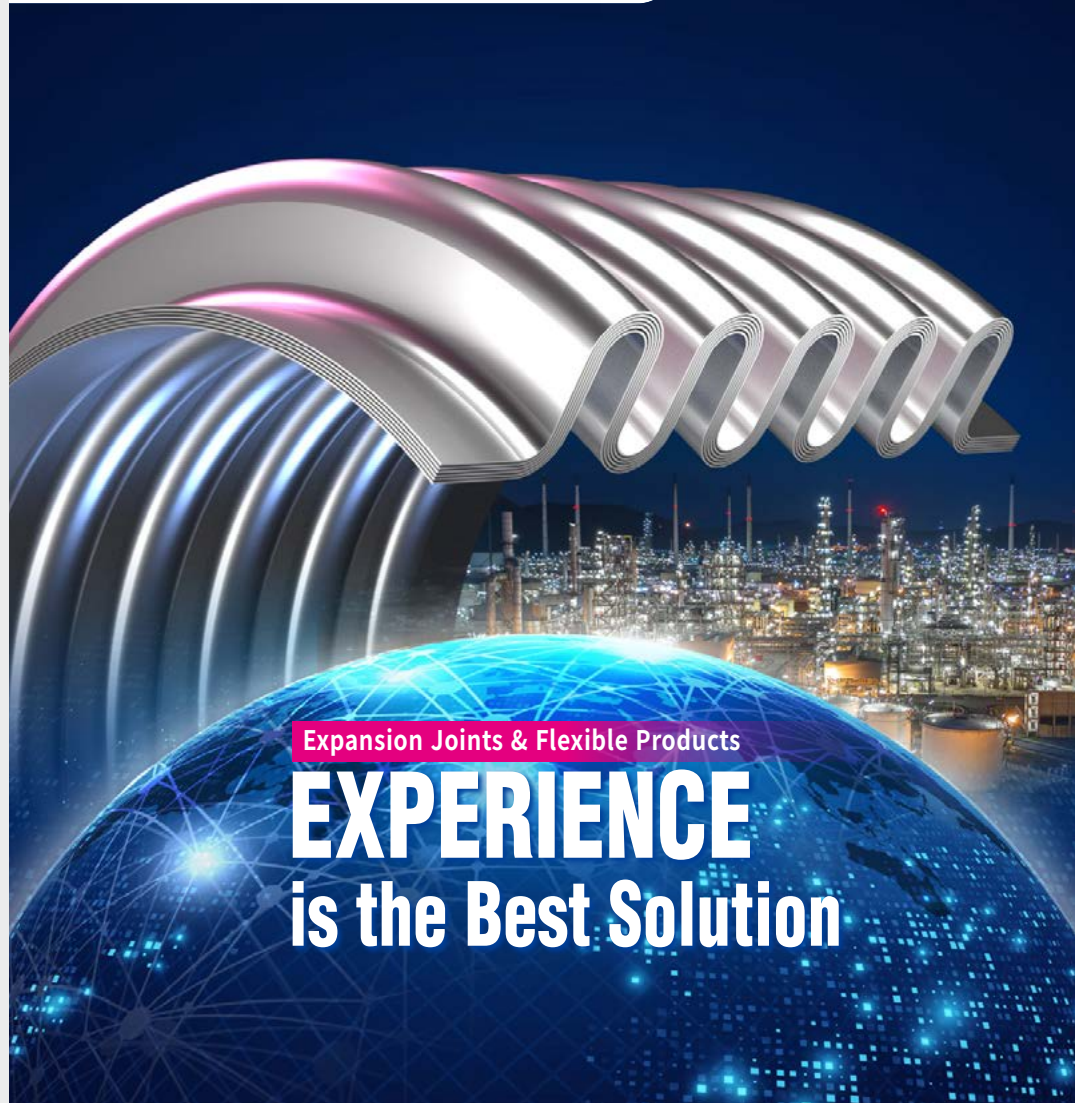
COMPANY PROFILE BROCHURE

KOREA

Ministry of SMEs and Startups | **KBIZ** Korea Federation of SMEs

أديبك | **ADNOC**

31 October - 3 November 2022
Abu Dhabi, United Arab Emirates



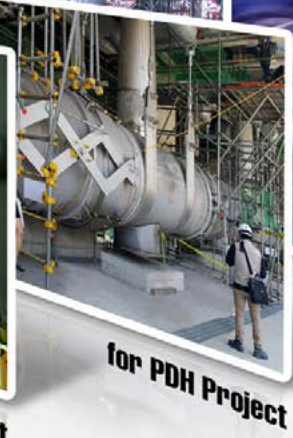
Expansion Joints & Flexible Products

**EXPERIENCE
is the Best Solution**

SHARING OUR TECHNOLOGY AND EXPERIENCE

PROVIDING THE VERIFIED SOLUTIONS

Expansion Joints are crucial to the successful operation of pipelines and are used extensively in power plants, steel plants, refineries, petrochemical, chemical, desulphurization, pulp and paper, mining and other sectors. With these expansion joints, the plant life will be much extended by reducing stress in the pipelines and protecting the equipment and systems there. Megaflexon has specially engaged in expansion joint industry and devoted ourselves to research, development, and manufacture of the high level of expansion joints in quality and reliability. Based on our accumulated technology and experience, all of our staff have an in-depth understanding of each industrial application and have done our utmost to meet customers' specific needs and requirements. As an expert in expansion joint industry, we never stop exploring new solutions for expansion joint applications, and will continuously provide high-quality products and on-site service to our customers.



Milestones

1986

Founded Manufacturing Metallic and Rubber Expansion Joints



2002



Obtained CE and PED mark issued by Bureau Veritas

2006

Obtained Patents,
 · Expansion Joints with Automatic Pressure Control Device
 · 2Ply Bellows Expansion Joint & Process



2009

· Obtained ASME “U” “S” “PP” Stamp



· Won the Presidential Citation at the 39th Industrial Technology Contest of Korea

2012

Contracted to supply GIS bellows to Hyundai Heavy Industry (1,700-2000 sets per year)



2020

Obtained ISO 45001 issued by ABS



ISO 45001

1997

Obtained ISO 9001 issued by TUV



ISO 9001

2003

Developed expansion joint design for GRP/FRP pipelines



2007

Achieved US Ten Million Dollars Export Records



2010

Obtained ISO 14001 issued by ICR



ISO 14001

2013

Obtained Patents, Design and Process of Dismantling Joints



Renewal CE and PED mark issued by HPI Verification Services (Ireland) Ltd.





ENGINEERING

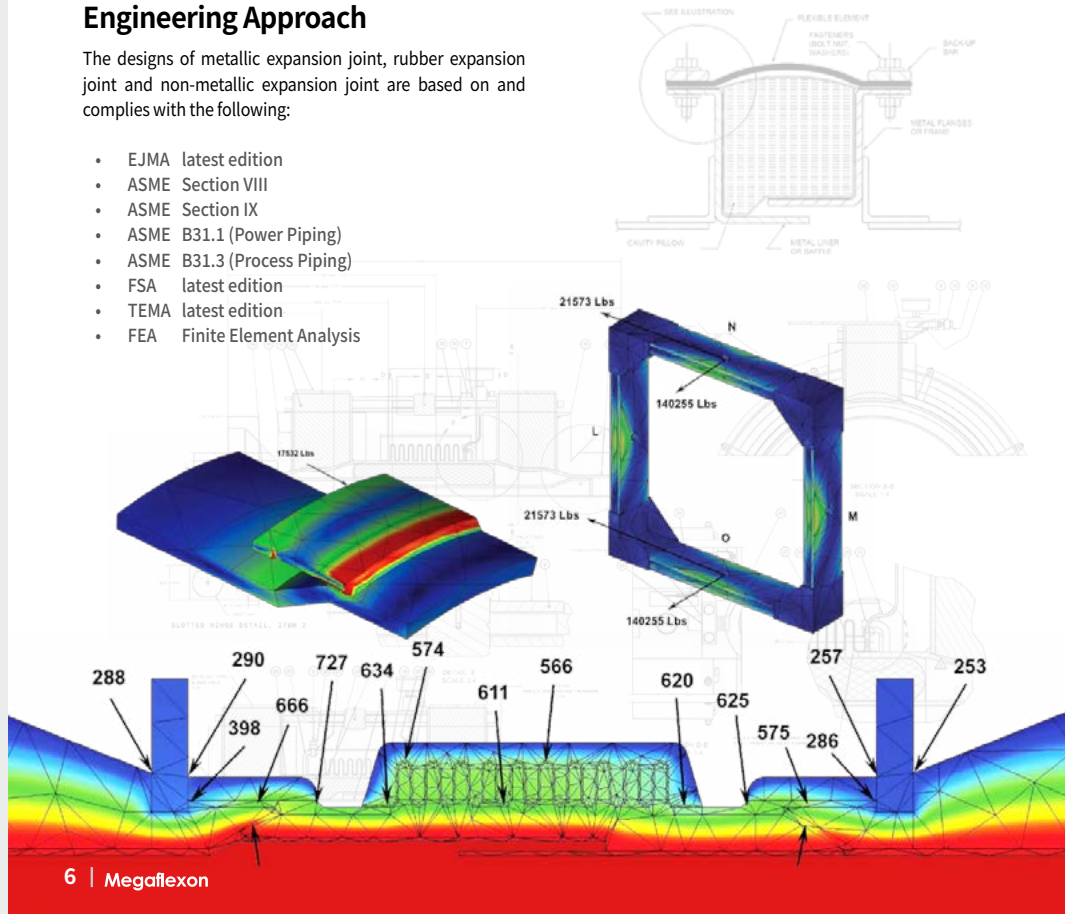


ENGINEERING

Engineering Approach

The designs of metallic expansion joint, rubber expansion joint and non-metallic expansion joint are based on and complies with the following:

- EJMA latest edition
- ASME Section VIII
- ASME Section IX
- ASME B31.1 (Power Piping)
- ASME B31.3 (Process Piping)
- FSA latest edition
- TEMA latest edition
- FEA Finite Element Analysis



Engineering Application

Expansion joints have a wide range of applications, and each expansion joint is designed based on its unique environmental and installation conditions - pressure, temperature, movements, space, and/or corrosion, etc. The applications of our expansion joints include the following:

- Oil Refineries Industry
- Chemical and Pharmaceutical Industry
- Fossil Fuel Power Generation
- Nuclear Power Plant
- Desalination Power Plant
- Petrochemical Industry
- District Heating
- Iron - and Steel Mills
- Pressure Vessel Manufacturing
- Automotive Industry
- Instrumentation Industry
- Waste Water Treatment
- Cryogenics Industry
- Marine Applications
- Pulp and Paper





CUSTOMERS

Major Customers

Megaflexon has supplied our quality products to worldwide leading partners located in America, Europe, Middle East and Asia. As an expansion joint specialist, we do every possible effort to produce the very best products which meet customers' demands and requirements. As usual, we will do our best to be the benchmark of this industry.

| OVERSEAS | | | DOMESTIC | | |
|----------|--|--|----------|--|--|
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QUALITY

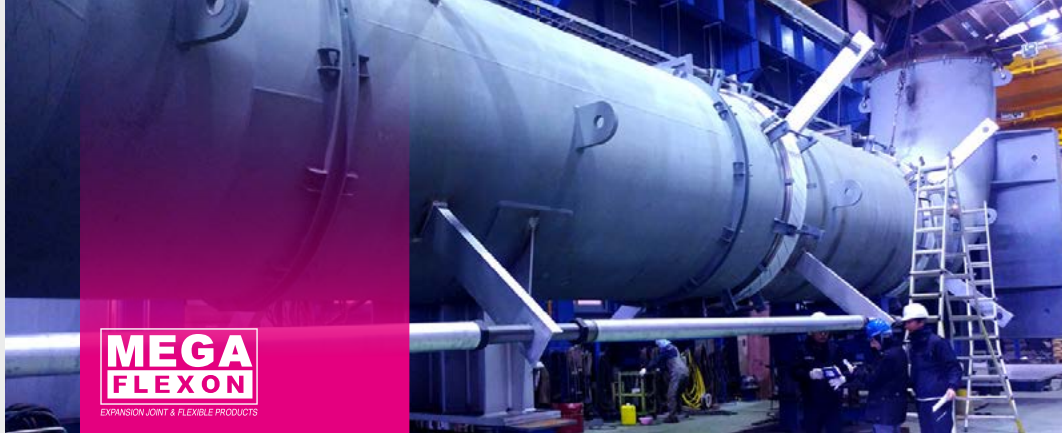
Certifications

Megaflexon declares that Quality and Service are our most TOP priority. We always put quality and service on our most top priority and will make sure to deliver zero-defect products and service on time to our customers. In order to ensure our quality commitment, our degreed quality specialists do strictly carry out all required activities for quality assurance.



- ASME "U" Stamp
- ASME "S" Stamp
- ASME "PP" Stamp
- CE PED
- ISO 9001
- ISO 14001
- ISO 45001
- FDA Test Certificate





MEGA FLEXON
EXPANSION JOINT & FLEXIBLE PRODUCTS

TESTING & INSPECTION

Testing

As an approved ISO 9001, ISO 14001, ISO 45001 organization, Megaflexon is dedicated to providing quality products and solutions backed with a complete guarantee. With our comprehensive quality assurance program, our products are inspected and evaluated extensively through each stage of production. Megaflexon quality team is capable of performing all types of nondestructive testing such as radiography, ultrasound, mass spectrometer, magnetic particle, hydrostatic and liquid penetrate inspection. We can also include x-ray testing, cycle testing, spring rate testing, hardness testing, impact testing, pneumatic testing, leak detection and positive material identification (PMI) as part of our quality assurance program. Megaflexon also holds an ASME "U", "S", "PP" stamps and CE PED certificate.



▲ Well-used ASME Stamp



▲ Pneumatic Testing



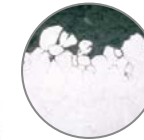
▲ Positive Material Identification (PMI)

Metallography Test

Metallography can identify the characteristics and composition of metal structure through research and observation in association with mechanical and physical properties in metals and alloys.



▲ Metallurgical Microscope



Intergranular corrosion. (200X)

Mechanical Test

Material properties such as strength, ductility, crack, etc can be easily determined through a mechanical test.

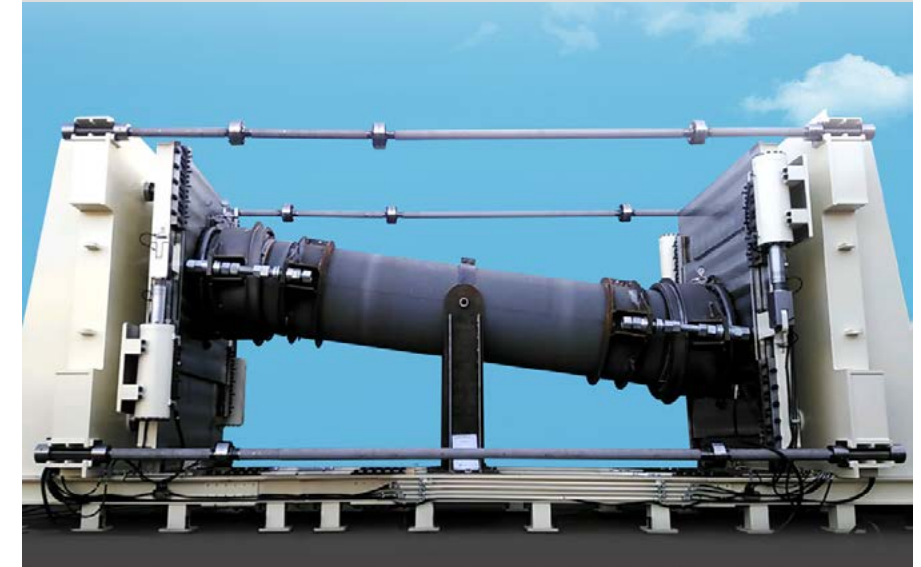


▲ Mechanical Testing Equipment

Performance Test [Axial & Lateral Movement]

[CAPACITY]

- Diameter : Max. 4,500mm
- Axial Movements : Max. ± 200mm
- Length : Max. 20,000mm
- Lateral Movements : Max. 1500mm



▲ Functional Test On DN 1400 (56") X 8500mL (Lateral Deflection 800mm)

According to customer requirements, the functional test was carried out on DN 1400 (56") X 8500mL under test pressure 15 Kgf/cm² in the presence of customers. The purpose of the functional test is to check the lateral movement and axial movement can reach to the designed 800mm and +/-50mm, respectively.



FACILITIES FOR MANUFACTURING



METAL EXPANSION JOINTS

Bellows Manufacturing

Megaflexon manufactures bellows using an expanding mandrel (punch forming) method followed by a finish rolling. A rectangular sheet is sheared and rolled into a tube. The tube is welded using an auto flat-bed welder with no filler metal added.

The longitudinal seam weld is then planished back down to the base material thickness. Dye penetrant, X-ray, or air testing is performed at this stage.

After testing, the convolutions are punched individually drawing material from the top and bottom of the tube. The drawing process eliminates any possible thinning in the bellows material. Then, re-rolling process and then trimming process will follow.

In addition to this, Megaflexon manufactures bellows using a variety of machines, including hydraulic forming machines and automatic hydraulic forming machines.



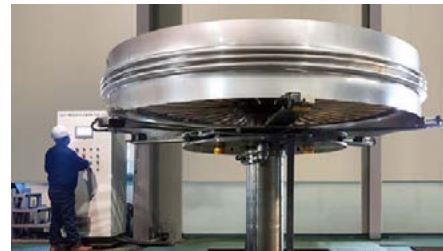
▲ Hydraulic Forming Machine (Max. : 2,200mm)



▲ Automatic Hydraulic Forming Machine (Max. 750mm)



▲ Automatic Longitudinal Seam Welding Machine



▲ Hydraulic Mandrel Punch Forming Machine (Max. : 4,500mm)

Customized Design

Full range of metallic expansion joints are produced in a variety of configurations to meet all kind of customer requirements and/or operating conditions.

We manufacture bellows from both ferritic and austenitic materials including series 300 and 400 stainless, titanium, aluminum and metal alloys, etc. and offer round type, rectangular type, oval & special shape type or big-sized metal expansion joints based on customers' specialized needs.

We also can provide a specially designed type metal expansion joint that can absorb axial, lateral and angular movements simultaneously.

- Diameter Capability: from 20mm to 8000mm

Single Expansion Joint

The simplest form of expansion joint, of single bellows construction, for the purpose of absorbing any combination of the three basic movements of the pipe section in which it is installed.

Megaflexon bellows have been improved to achieve an optimized relationship between the various parameters so that the bellows can withstand the greatest possible load without fail on normal operating conditions.



▲ Single Assembly



▲ Tied Single Assembly

Universal Expansion Joint

A universal expansion joint is one containing two bellows joined by a common connector for the purpose of absorbing any combination of the three basic movements: axial movement, lateral movement and angular rotation. It is usually furnished with control rods to distribute the movement between the two bellows of the expansion joint and stabilize the common connector.



▲ Universal Assembly



▲ Tied Universal Type Expansion Joint

Hinged Expansion Joint

Single hinged expansion joints contain one bellows and is designed to permit angular rotation in one plane only by the use of a pair of pins through hinge plates attached to the expansion joint ends. The hinges and hinge pins must be designed to restrain the thrust of the expansion joint due to internal pressure and extraneous forces, where applicable. Hinged expansion joints should be used in sets of two or three to function properly.



▲ Hinged Assembly



▲ Various Expansion Joints View

Dual hinged type expansion joints have two bellows separated by a pipe spool with overall length restrained by hinge hardware designed to contain pressure thrust. Dual hinged expansion joint accepts large lateral movements in a single plane with very low spring force.



▲ Dual Hinged Type Expansion Joint with Tie Rod

Gimbal Expansion Joint

Gimbal expansion joints are designed to permit angular rotation in any plane by the use of two pairs of hinges affixed to a common floating gimbal ring. The gimbal ring, hinge and pins must be designed to restrain the thrust of the expansion joint due to internal pressure and extraneous forces, where applicable.

Dual gimbal type expansion joint is similar to the dual hinged type except that the two expansion joints are gimbal type. By using this type expansion joint, large lateral movements and independent angular movements in any plane are absorbed.



▲ Dual Gimbal Type Expansion Joint



▲ Various Gimbal Type Expansion Joints

Pressure Balanced Expansion Joint

It is designed to absorb axial compression/extension and or lateral deflection while restraining the pressure thrust by means of tie devices interconnecting the flow bellows with an opposed bellows also subjected to line pressure. By using this design, such pressure thrust can be completely eliminated in the piping system on the main anchors.



▲ L-Type Pressure Balanced Expansion Joint for Nuclear Power Plant



▲ Various L-Type Pressure Balanced Expansion Joints



▲ Pressure Balanced Expansion Joint with Elbow

In-Line Pressure Balanced Expansion Joint

It is designed to absorb axial compression/extension and/or lateral deflection while restraining the pressure thrust by means of tie devices interconnecting the line bellows with outboard compensating bellows also subjected to line pressure. Each bellows set is designed to absorb the axial movement, and the line bellows usually absorb the lateral deflection. This type of expansion joint is used in a straight run of piping. This configuration incorporates two bellows that are same diameter as the nominal line size, and a third bellows that has an effective area that is twice the line size bellows. They are linked together by internal linkage to react the pressure thrust.



▲ In-Line Pressure Balanced Expansion Joint



▲ Internally Tied In-Line Pressure Balanced Expansion Joints



▲ In-Line Pressure Balanced Expansion Joint Fabrication View

Flanged and Flued Type Expansion Joint

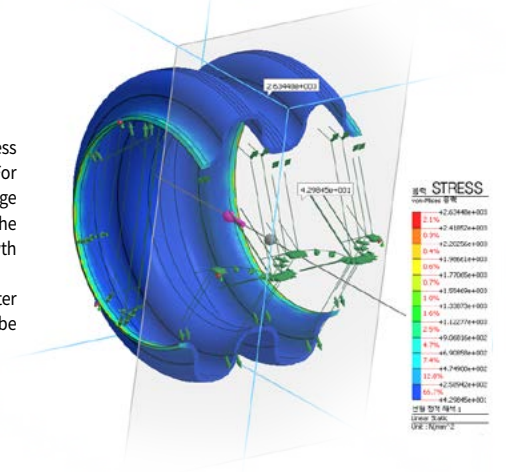
TEMA RCB-8, ASME SEC. VIII DIV. 1 APPENDIX 5

This expansion joints are used to restrain the heat stress that is generated by different temperature conditions. For it is cost-effective and very strong on mechanical damage or corrosion attacks compared to thin bellows, it is the right solution to piping, ducting and vessel thermal growth troubles.

Primarily it is used in heat exchangers and large diameter piping system where thin-wall expansion joints would not be sufficient.



▲ Flanged and Flued Type Expansion Joints / 58" (DN 1450) x 1750mmL x t35



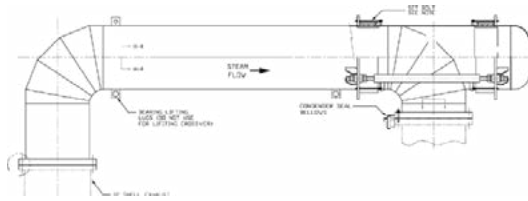
▲ Finite Element Analysis (FEA)





Cross-Over Expansion Joint

It is used to transfer the steam from LP hood of steam turbine system. It is designed to absorb different thermal movements between turbine and casing, and to keep the steam pressure stable during operation.



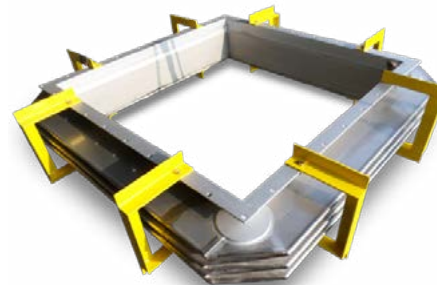
Rectangular Expansion Joint

Rectangular expansion joints are used to absorb axial, lateral and angular movements over a diverse cross section of operating conditions.

It is commonly designed for applications in gas turbine exhaust systems, steam turbine/condenser connections, flue gas ducting systems and other hot gas ducting systems. We can design it with single mitered corner, double mitered corner, camera corner and round corner according to specifications.



▲ Rounded Corner Type Expansion Joint



▲ Camera Corner Type Expansion Joint

GIS Expansion Bellows

For GIS system does normally use SF6 gas as medium, GIS expansion bellows are required to be extremely high quality. Megaflexon manufactures GIS expansion bellows under strict quality control and advanced engineering design and has supplied our GIS expansion bellows to world well-known GIS manufacturer, Hyundai Electric and Fuji Electric Japan for a long period.

We also offer specially-designed GIS expansion bellows. For it has an automatic pressure control device on tie-rods, it ensures the safety and reliability as well as easy maintenance.



▲ GIS Expansion Bellows



▲ GIS Bellows Welding Work

Penetration Seals Expansion Joint

Pipe penetration seals are used to allow tubes or pipes to expand thermally by penetrating the shell or pressure casing. Metal seals are designed to accept axial, lateral and angular movements therefore, lowering the stress on the tubes and pipes to which they are attached. Metal seals also provide good insulation between the boiler wall and the attachment ring.



Advantages of Using Penetration Seals:

- Personnel are protected
- No leaks
- Reduces pipe stress
- Increased boiler efficiency
- Noise reduction
- No maintenance
- With insulation on request

Clamshell Expansion Joints

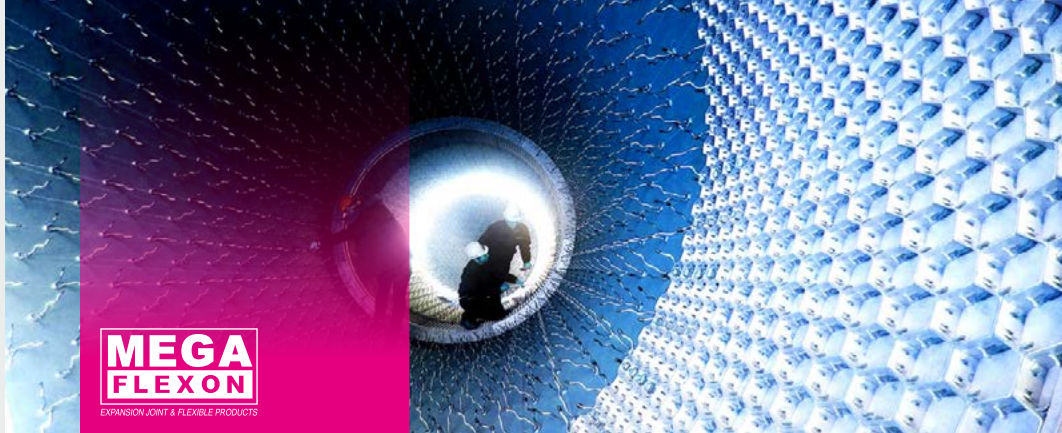
Clamshell seals perform the same service as normal seals, but the life expectancy of a clamshell seal is dependent on the quality of the convolution weld made by an experienced welder during installation.



▲ Over Size Clamshell



▲ Same Size Clamshell



MEGA FLEXON
EXPANSION JOINT & FLEXIBLE PRODUCTS

for FCCU Project
EXPANSION JOINTS

FEATURES

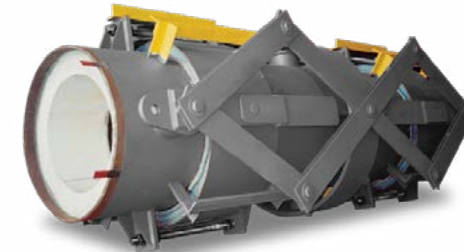
- Heavy duty expansion joints for high temperature, high pressure and high movement applications
- Withstand abrasive media like powder catalyst entrained in hydrocarbon flow
- Used in fluidized catalytic cracker units (FCCU)
- Shell wall temperatures do not exceed 340 °C

ADVANTAGES

- Reliable expansion joints in critical applications
- Extensive experience in FCCU business



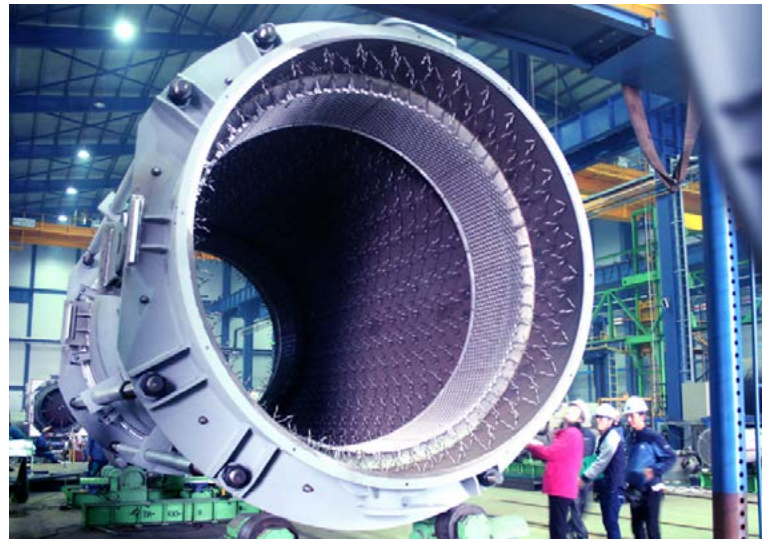
▲ Refractory Lining Working View



▲ Pantograph Type Expansion Joint for FCCU



▲ Dual Hinge Type Expansion Joint for FCCU



▲ Inspection View Before Refractory Works



▲ Various Cold Wall Type Expansion Joints for FCCU



**MEGA
FLEXON**
EXPANSION JOINT & FLEXIBLE PRODUCTS

for PDH Project
EXPANSION JOINTS

FEATURES

- Heavy duty expansion joints for high temperature, high pressure and high movement applications
- Withstand abrasive media like powder catalyst entrained in hydrocarbon flow
- Used in fluidized catalytic cracker units(FCCU's)
- Shell wall temperatures do not exceed 600 °C

ADVANTAGES

- Reliable expansion joints in critical applications
- Extensive experience in FCCU, PDH and Styrene Monomer business



▲ On Site Installation View



▲ Universal Pantograph Type Expansion Joint for PDH



▲ Floating Type Single Gimbal Expansion Joints with Purge Manifold



MEGA FLEXON
EXPANSION JOINT & FLEXIBLE PRODUCTS

RUBBER EXPANSION JOINTS

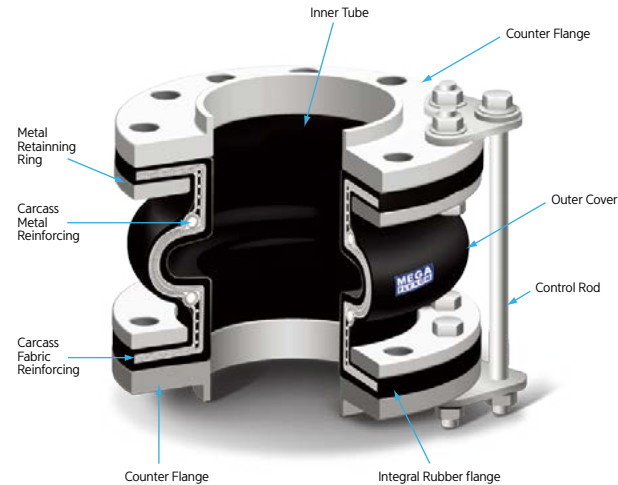
Designed Based on FSA Standard

Full range of rubber expansion joints are produced in a variety of configurations to meet all kind of customer requirements and/or operating conditions.

We offer normal gusset type, integral backing ring type or big-sized rubber expansion joints according to customers' needs and have supplied our expansion joints to world well-known engineering companies and power plants located in Asia, Europe, Middle East, South America with high reputation.

According customers' specialized needs, we also can offer a specially designed rubber expansion joint using special rubber materials such as VITON, etc.

- Diameter Capability: from 25mm to 4300mm



▲ Cross Sectional View of Standard Spool Type Rubber Expansion Joint

Spool Type

FEATURES

- Hand-built construction
- Single to multiple arches as required
- Internal sleeve or protective covers available
- Design according to pressure, vacuum ratings and temperature conditions
- ASME, DIN, KS, JIS and BS flange drilling code available
- Reinforcement/Spiral steel wire or steel bar
- Available from 2 inch to 176 inch

※ For other sizes, consult with Megaflexon.



▲ Single Open Arch Type Rubber Expansion Joint



▲ Rubber Expansion Joint Installation View

Eccentric Reducer Type



▲ 48" (DN1200) x 750mmL Eccentric Reducer Type

Concentric Reducer Type



▲ 48" (DN1200) x 750mmL Concentric Reducer Type

Integral Backing Ring Type



▲ Integral Backing Ring Type Rubber Expansion Joints



Pressure Balanced Type

Pressure balanced expansion joint is used most frequently in applications similar to those shown for the single expansion joint, but where pressure loading upon piping or equipment is considered excessive or objectionable. The major advantage of the pressure balanced design is its ability to absorb externally imposed axial movement without imposing pressure loading on the system.



▲ L-Type Pressure Balanced Rubber Expansion Joint



▲ In-Line Pressure Balanced Type Installation View

Hinged Type

A hinged Expansion Joint contains one bellows and is designed to permit angular rotation in one plane only by the use of a pair of pins through hinge plates attached to the Expansion Joint ends. The hinges and hinge pins must be designed to restrain the thrust of the Expansion Joint due to internal pressure and extraneous forces, where applicable. Hinged Expansion Joints should be used in sets of two or three to function properly.



▲ Double Hinged Type Rubber Expansion Joints

Buried Type

The buried type rubber expansion joints are designed for underground installation and absorb the movement of piping lines. It is used for raw water supply pipe lines, water treatment plant and drainage system line, etc. It absorbs movements in angular and lateral direction and provides a solution for broken piping lines, leakage or bending caused by earthquake, temperature difference, geology tenderness and exterior impact, etc.



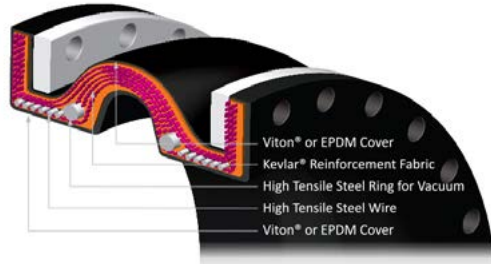
▲ Buried Type Rubber Expansion Joint



▲ In-Line Pressure Balanced Rubber Expansion Joints

For High Temperature

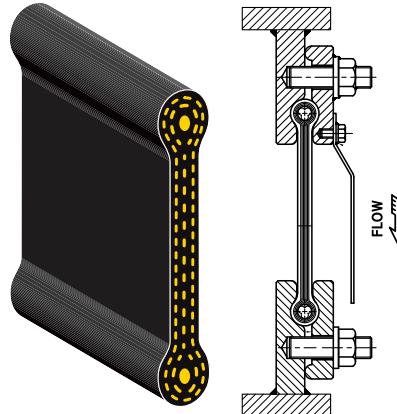
The rubber body is constructed with high temperature resistant Viton® or EPDM rubber with Kevlar® reinforcement and also includes full faced rubber flanges, high tensile steel reinforcement. According to the design conditions, hot dip galvanized retaining rings or integral backing rings type design is also considered. Control units like tie rods or limit rods can be used if load limitations are required.



▲ High Temperature cross-sectional detail

Dog Bone Belt Type

It is used as a flexible connection between low-pressure turbines and condensers and can absorb movement up to 1" compression and 1/2" lateral deflection. By designing it with extra heavy synthetic rubber on inside of joint, extended lifespan and better sealing on bulb ends are guaranteed.



▲ Dog Bone Belt Type Rubber Expansion Joint

PTFE-Lined Type

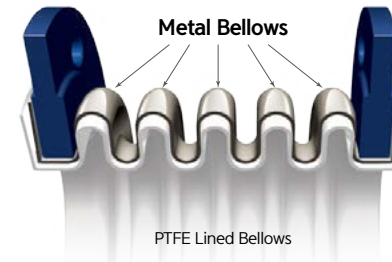


▲ PTFE - Lined Rubber Expansion Joint



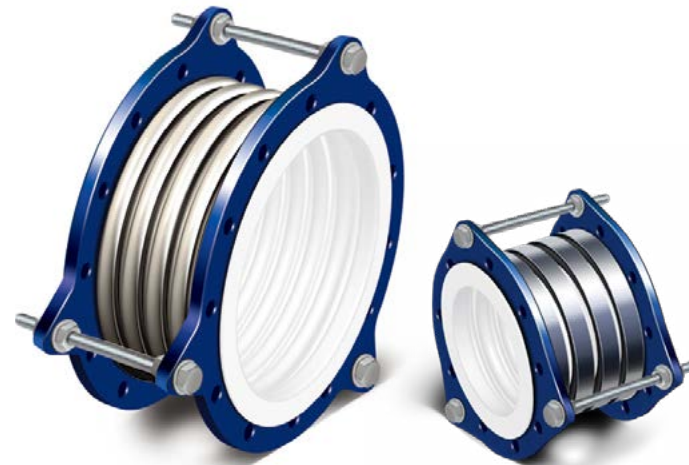
MEGA FLEXION
EXPANSION JOINT & FLEXIBLE PRODUCTS

PTFE
EXPANSION JOINTS



PTFE-Lined Expansion Joint

Megaflexon non-metallic type of expansion joints includes PTFE-lined expansion joint. This type of expansion joint has been used with highly corrosive media, with fiberglass of PTFE-lined piping or in heating, ventilating and air conditioning applications.



▲ Metal Expansion Joint with PTFE Lined

▲ PTFE Expansion Joint with Equalizing Rings



2 PLY BELLOWS
With PTFE Expansion Joints

PATENT NUMBER (10-0665322)

Megaflexon Patent Technology
2 PLY BELLOWS

- Outstanding Corrosion Resistance & High Temperature Capability



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FABRIC EXPANSION JOINTS



MEGA FLEXON
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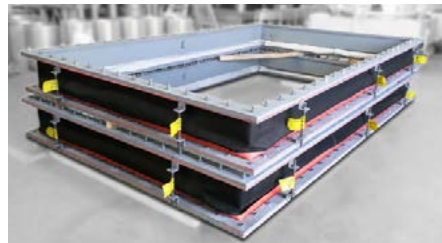
FLEXIBLE Industrial Utility Hoses

Designed Based on FSA Standard

Megaflexon fabric expansion joints are designed to provide stress relief in duct line systems by absorbing movement caused by thermal changes, vibration, misalignment of ducting, shock. Full range of non-metallic fabric and composite expansion joints are produced in a variety of configurations to meet all kind of customer requirements and / or operating conditions. In order to meet customers' specialized needs for ducting

systems having high temperature, corrosion caused by flue gas or hot air, we specially design our expansion joints using corrosion-resistant fabrics and materials such as PTFE(Teflon) coated fiberglass or VITON-B. In consideration of characteristics of medium such as flue gas or hot air, we specially design expansion joints using PTFE(Teflon) coated fiberglass materials or VITON-B, etc.

- Capability: from 25mm up to customer required size



Flexible Hoses

We offer metallic flexible hoses and rubber flexible hoses in a variety of configurations to meet all kind of customer requirements and/or operating conditions. We specially design and offer flexible hoses based on customers' specialized needs and also can provide a complete set of flexible hoses assembled with quick couplings.

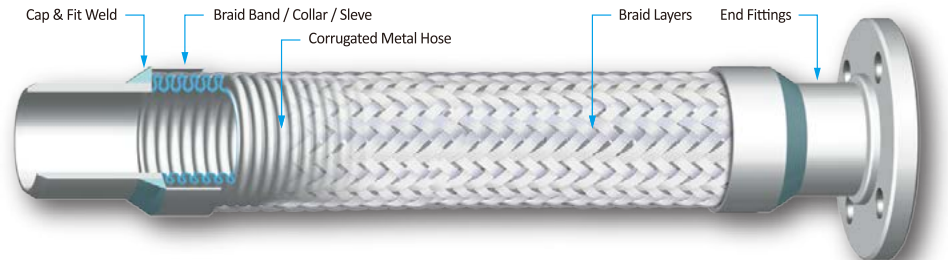


▲ Flexible Metallic Hoses



▲ Flexible Hose Assembly with PTFE Liner

Basic Metallic Hose Assembly



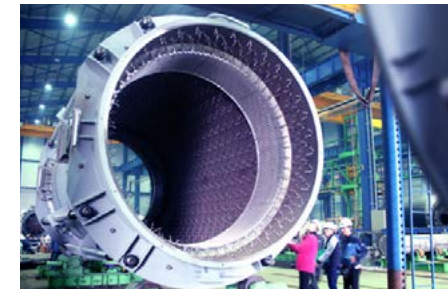
EXPERIENCE RECORDS

Latest Projects



▲ RAPID P1 PROJECT EXPANSION JOINTS SUPPLY VIEW

Expansion Joint for FCCU for PETRONAS RAPID P1 PROJECT, MALAYSIA



▲ Inspection View Before Refractory of Cold Wall Expansion Joint for FCCU



PETRONAS Refinery and Petrochemical Integrated Development (RAPID)

| | | | |
|---------------|----------------------------------|------------------------------------|--------|
| ● Year | : 2017 | | |
| ● Owner | : PETRONAS | | |
| ● Total Q'ty | : 36sets | | |
| ● Type & Size | : Tied Universal Expansion joint | DN 3200, DN 2900, DN 2400 | 12sets |
| | Double Gimbal Expansion joint | DN 2900, DN 2400, DN 1960 | 8sets |
| | Single Gimbal Expansion joint | DN 1200 | 4sets |
| | Single Hinge Expansion joint | DN 2900, DN 2400, DN 1960, DN 1860 | 12sets |



▲ Tied Universal Type Expansion Joints



▲ Dual Gimbal Type Expansion Joint



▲ Dual Hinge Type Expansion Joints



▲ Inspection View



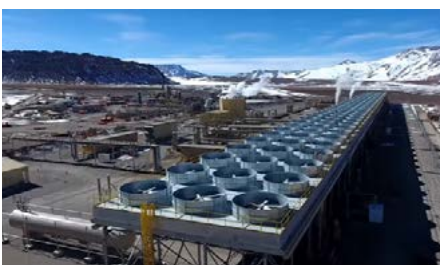
▲ Shipping View



L-Type Pressure Balanced Expansion Joint
for CERRO PABELLON GEOTHERMAL POWER PLANT, CHILE



▲ L-Type Pressure Balanced Expansion Joint



Cerro Pabellón, South America's first geothermal power plant and the world's first large-scale plant



- Year : 2019
- Owner : ENEL AND ENAP
- Total Q'ty : 6sets
- Size : 66" (DN1650) x 6700mmL 2sets
56" (DN1400) x 5382mmL 4sets



Flanged and Flued Type Expansion Joint

for CALCASIEU PASS LNG EXPORT TERMINAL, USA



▲ Bellows Thickness Measuring



Calcasieu Pass LNG is a ten million tonnes per annum (Mtpa) LNG export terminal to be developed by Venture Global Calcasieu Pass, a subsidiary of Venture Global LNG, in Louisiana, US.



- Year : 2019
- Owner : VENTURE GLOBAL LNG
- Total Q'ty : 6sets
- Size : I.D. 1448mm x O.D. 2000mm x 1340mmL, t35
- Material : ASTM A516 Gr 70



Expansion Joint for PDH Project

for SK GAS ULSAN PDH PLANT, KOREA



▲ Dual Gimbal Type Expansion Joint installation View



SK GAS ULSAN PDH PLANT facility is projected to produce 600,000 tons of propylene annually.

- Year : 2014
- Owner : SK GAS
- Total Q'ty : 69sets
- Single Slotted Hinge Type : 78" (DN1950) x 1850mmL
- Single Gimbal Type : 96" (DN2400) x 1950mmL
- Universal Pantograph Type : 96" (DN2400) x 4400mmL



L-Type Pressure Balanced Expansion Joint
for STEAM TURBINE PIPE LINE OF QATAR PETROCHEMICAL COMPANY (QAPCO)



- Year : 2009
- Owner : QAPCO
- Total Q'ty : 12sets
- Size : 60"(DN1500) X 6100mmL



Qatar Petrochemical Company is one of the world's largest and most successful producers of low-density polyethylene.



In-line Pressure Balanced Expansion Joint
for SHUWEIHAT S2 IWPP, ABU DHABI UAE



The site of the Shuweihat "S2" Independent Water and Power Project in Abu Dhabi, the United Arab Emirates.

- Year : 2010
- Owner : SHUWEIHAT S2
- Total Q'ty : 48sets
- Size : 96"(DN2400) X 3200mmL, etc.



Floating Type Dual Gimbal Expansion Joint
for CPC RFCC, TAIWAN



CPC now operates two refineries in Taiwan - at Taoyuan in the north and Dalin in the south - with a combined daily refining capacity of 600,000 barrels.

- Year : 2015
- Owner : CPC Corporation
- Total Q'ty : 6sets
- Size : 98"(DN2450) x 13800mmL
- Design : Hot Wall Floating Type
Bellows (777°C) / Pipe (538 °C)



Rectangular Type Expansion Joint
for MAILIAO POWER PLANT, TAIWAN



The Mailiao Power Plant is a coal-fired power plant in Mailiao Township, Yunlin County, Taiwan. With a total installed capacity of 4,200 MW, the plant is Taiwan's third-largest coal-fired power plant after Taichung Power Plant and Hsinta Power Plant.



- Year : 1995
- Owner : Formosa Petrochemical Corporation
- EPC : Mitsubish Heavy Industry
- Total Q'ty : 108sets
- Size : 11300mm X 4150mm X 3650mmL



Dual Hinged Expansion Joint

For NGHI SON REFINERY PLANT, VIETNAM



Nghi Son refinery has a designed capacity of 10 million tons of crude oil per year.



- Year : 2019
- Owner : NSRP (Nghi Son Refinery Plant)
- Total Q'ty : 7ets
- Size : 34" (DN 850) x 4891mmL 1set
24" (DN 600) x 1995mmL 1set
34" (DN 850) x 11515mmL 1set
12" (DN 300) x 5916mmL 1set
34" (DN 850) x 12391mmL 1set
16" (DN 400) x 4255mmL 1set

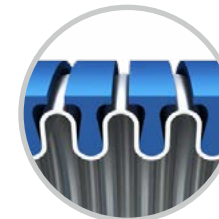


Metal Expansion Joint with Reinforcing Rings

for POSCO (POHANG IRON AND STEEL COMPANY), KOREA



POSCO is a South Korean steel-making company. It had an output of 42 million tonnes of crude steel in 2015, making it the world's fourth-largest steelmaker by this measure. In 2010, it was the world's largest steel manufacturing company by market value.



▲ Detail of Reinforcing Rings



▲ Reinforcing Rings

- Year : 2019
- Owner : POSCO
- Total Q'ty : 2ets
- Size : 30" (DN750) X 800mmL
- Design : Hydraulic Test Press 22.5kg/cm²
Pneumatic Test Press 16.5kg/cm²

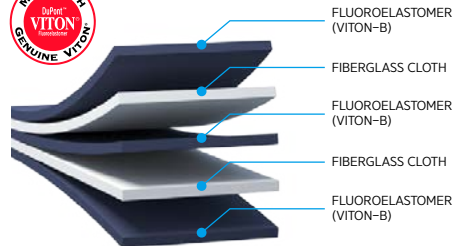


Rectangular Type Fabric Expansion Joint
for CENTRAL JAVA POWER PLANT, INDONESIA



▲ Rectangular Type Fabric Expansion Joints

- Year : 2017
- Owner : Central Java Power Plant
- Total Q'ty : 48sets
- Size : 1600 x 6000 x 160mmL



▲ Flue Gas Expansion Material Composition



Central Java Power Plant (CJPP) is an ultra critical Coal-fired power plant with 2 x 1,000 MW capacity in Batang Regency, Central Java.



L-Type Pressure Balanced Expansion Joint
for LUNG MEN NUCLEAR POWER PLANT, TAIWAN



- Year : 2008
- Owner : Taiwan Power Company
- Total Q'ty : 6ets
- Size : 84"(DN2100) X 6600mmL
- Design : 152 °C / 241 kPaG / FULL VACUUM
- Application : Steam Turbine Pipe Line



The Lungmen Nuclear Power Plant is a nuclear power plant in New Taipei City, Taiwan. It consists of two ABWRs each of 1,300 MWe net. It is owned by Taiwan Power Company (Taipower).



Rounded Corner Type Rectangular Expansion Joint
for KOREA MIDLAND POWER, KOREA



▲ Rounded Corner Type Rectangular Expansion Joint

- Year : 2015
- Owner : Korea Midland Power
- Total Q'ty : 115sets
- Size : 2000mm x 2830 x 400mmL 106 sets
4300mm x 5700 x 400mmL 9 sets



Korea Midland Power (KOMIPO) operates the Boryeong Thermolectric Power Plant Site Division and the Yeongheung Thermal Power Plant, and possesses 9,399 MW in total installed capacity (as of Dec. 2010).

Major Experience Records

| LEGEND OF ITEMS | | | |
|-----------------|------------------------|-----|------------------------|
| MEJ | Metal Expansion Joint | FEJ | Fabric Expansion Joint |
| REJ | Rubber Expansion Joint | FH | Flexible Hose |

| YEAR | OWNER | PROJECT NAME | LOCATION | ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY |
|------|----------------------------------|--|--------------|------|-------------------------------|----------------------------|------|
| 2019 | CHINGSHUEI GEOTHERMAL | CHINGSHUEI GEOTHERMAL POWER CORPORATION | TAIWAN | MEJ | Pressure Balanced | 1050 x 5300 | 2 |
| 2019 | GWANGYANG IRON WORKS | GWANGYANG INTERNAL UNION MAINTENANCE SECTION 2 | KOREA | PTFE | PTFE Lined | 740 x 425 | 4 |
| 2019 | VENTURE GLOBAL LNG | CALCASIEU PASS LNG EXPORT TERMINAL | USA | REJ | Flanged and Flued | 1448 x 1340 | 6 |
| 2019 | BSR | BSR | VIETNAM | REJ | Double Filled Arch | 1150 x 400 | 6 |
| 2019 | CPC | CPC TAOYUAN PROJECT | TAIWAN | MEJ | Hinge & Gimbal | 1050 x 1500 | 6 |
| 2019 | PTT ASAHI CHEMICAL | PTT ASAHI | THAILAND | MEJ | PTFE Lined | 200 x 250 | 5 |
| 2019 | NSRP | NSRP | VIETNAM | REJ | Single Open Arch | 1200 x 600 | 25 |
| 2019 | KAHRAMAA | UMM AL HOUL POWER IWPP | QATAR | REJ | Integral Backing Ring | 1950 x 500 | 24 |
| 2019 | OSAN COMBINED HEAT & POWER PLANT | OSAN COMBINED HEAT & POWER PLANT DEFECT REPAIR | KOREA | REJ | Triple Arch Gusset Plate Type | 1700 x 1080 | 2 |
| 2019 | GS CALTEX | PURCHASING 2020 OIL REFINERY TEAM TA EXPANSION BELLOWES | KOREA | MEJ | Universal | 3590 x 1500 | 5 |
| 2019 | CHITTAGONG BANGLADESH | CHITTAGONG | BANGLADESH | MEJ | Rectangular | 500 x 293.7 | 3 |
| 2019 | DAEWOO ENC | DAEWOO SOUTH JEJU COMBINED FIREPOWER | KOREA | FH | Metal Flexible Hose | 80 x 350 | 73 |
| 2019 | TNB REMACO | SHUAIBA NORTH CO-GENERATION POWER AND DISTILLATION PLANT | KUWAIT | REJ | Integral Flange | 1219 x 450 | 1 |
| 2019 | NSRP | NSRP CCR-WARRANTY | VIETNAM | MEJ | Dual Hinged | 850 x 12391 | 7 |
| 2019 | GE POWER | CHAI HUI | TAIWAN | REJ | Integral Flange | 300 x 250 | 52 |
| 2019 | MEW | DOHA SWRO | KUWAIT | REJ | Single Arch Integral Flange | 1200 x 550 | 1 |
| 2019 | ADNOC | UAE ADNOC REFINING WHRP | UAE | REJ | Single Arch Integral Flange | 2000 x 500 | 13 |
| 2019 | EVN (ELECTRICITY OF VIETNAM) | MONG DUONG 1 CFPP | VIETNAM | REJ | Double Arch Integral Flange | 500 x 300 | 1 |
| 2019 | MALAYSIAN REFINERY SDN. BHD. | MELAKA REFINERY DIESEL EURO 5 PROJECT | MALAYSIA | FH | Camlock, Forster, Wing Nut | 20 x 15000 | 800 |
| 2019 | KEPCO | APK GIHEUNG SUBSTATION, ETC. | KOREA | MEJ | Bellowes Convolution: 12 ~ 23 | 575 x 934 | 298 |
| 2019 | MERCURY ENERGY | NGATAMARIKI | NEW ZEALAND | MEJ | L-Type Pressure Balance | 1422.4 x 5932 | 4 |
| 2019 | AL ASILAH DESALINATION | SHARQIYAH INDEPENDENT WATER PROJECT | OMAN | REJ | Integral Type | 1000 x 500 | 48 |
| 2019 | KOREA SOUTH-EAST POWER CO. | GANGRUNG ANIN POWER PLANT | KOREA | REJ | Single Arch Gusset Plate | 700 x 250 | 6 |
| 2019 | ARAMCO | SULFUR RAILCAR LOADING FACILITIES | SAUDI ARABIA | FH | Steel Braid Hose with Q.C. | 25 x 15000 | 10 |

Major Experience Records

| YEAR | OWNER | PROJECT NAME | LOCATION | LEGEND OF ITEMS | | | |
|------|---|---|--------------|-----------------------|---|------------------------|---------------|
| | | | | MEJ | FEJ | REJ | FH |
| | | | | Metal Expansion Joint | Fabric Expansion Joint | Rubber Expansion Joint | Flexible Hose |
| ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY | | | | |
| 2019 | UZBEKISTAN GTL LLC | UZBEKISTAN GAS-TO LIQUIDS PROJECT | UZBEKISTAN | REJ / MEJ | REJ : Integral Tie-Rod MEJ : Tie-Rod | 1450 x 1110 | 39 |
| 2019 | BANGCHAK CORP. PCL | EFFICIENCY, ENERGY & ENVIRONMENT IMPROVEMENT PH.2 | THAILAND | MEJ | Externally Pressure | 40-50 x 740-910 | 3 |
| 2019 | ENEL AND ENAP | CERRO PABELLON | CHILE | MEJ | Tied Universal | 1650 x 6700 | 6 |
| 2019 | GC POLYOLS CO., LTD. | POLYOLS PROJECT | THAILAND | REJ | Single Arch Gusset Plate | 200 x 250 | 4 |
| 2019 | HANWHA CHEMICAL | PE-2 G-2 G | KOREA | REJ | Single Arch Gusset Plate | 450 x 310 | 1 |
| 2019 | LOTTE CHEMICAL | MEX3 PROJECT | KOREA | MEJ | Universal | 800 x 700 | 8 |
| 2019 | DUBAI ELECTRICITY & WATER AUTHORITY | DEWA JEBEL ALI PROJECT | UAE | REJ | Single Arch Integral Flange | 1350 x 500 | 4 |
| 2019 | Q POWER CO. | RAS LAFFAN B IWPP PROJECT (1,025MW & 60MIGD) | QATAR | REJ | Single Sphere Arch | 65 x 115 | 2 |
| 2019 | GS EPS | DANGJIN BIOMASS #2 POWER PLANT (105MW) | KOREA | REJ | Single Arch | 1350 x 600 | 7 |
| 2019 | GOSEONG GREEN POWER | GOSEUNG HAI THERMAL POWER PLANT | KOREA | FH | Ribbon Braid | 400 x 1200 | 29 |
| 2019 | HANWHA CHEMICAL | ECH | KOREA | MEJ | Externally Pressure | 800 x 1000 | 1 |
| 2019 | SK ENERGY | S PROJECT (VRDS) | KOREA | REJ | Single Arch Integral Backing Ring | 900 x 500 | 8 |
| 2019 | LOTTE CHEMICAL | LOTTE VERSALIS SPECIAL RUBBER PROJECT | KOREA | MEJ | Externally Pressured | 1000 x 400 | 16 |
| 2019 | KNPC | CLEAN FUEL PROJECT | KUWAIT | FH | Flange Assembly | 50 x 600 | 4 |
| 2019 | SWCC | RAS AL-KHAIR PLANT | SAUDI ARABIA | REJ | Integral Flange | 1900 x 500 | 1 |
| 2019 | GS CALTEX | TA EXPANSION BELLOWS REPLACEMENT. | KOREA | MEJ | Flange | 6110 x 1600 | 7 |
| 2019 | KOREA SOUTH POWER | SOUTH JEJU LNG CCGP | KOREA | REJ | Single Arch Retainer Ring & Gusset | 800 x 250 | 3 |
| 2019 | PTT ASAHI CHEMICAL | PTT ASAHI | THAILAND | MEJ | Metallic Expansion Joints | 500 x 500 | 3 |
| 2018 | ELEC. GENERATION CO. OF BANGLADESH LTD. | SIDHIRGANJ CCGP | BANGLADESH | REJ | Wide Arch Integral Flange | 1300 x 300 | 7 |
| 2018 | PT PLN (PERSERO) | KALSELTENG 2 CFSPP | INDONESIA | REJ | Dual Slot Hinge | 500 x 1620 | 3 |
| 2018 | DHURUMA O&M COMPANY LTD. | RIYADH PP11 IPP | SAUDI ARABIA | MEJ | Universal Single | 400 x 600 | 6 |
| 2018 | CIREBON POWER | [IBON] CIREBON 2 CFPP | INDONESIA | REJ | Two Arch Integral Flange | 1200 x 850 | 72 |
| 2018 | ADMA-OPCP | SATAH AL RAZBOOT FIELD DEVELOPMENT-PKG4 (SARB) | UAE | FH | Rubber Flexible Hose | 25 x 15000 | 77 |
| 2018 | ARAMCO | JRTP PKG-14 | SAUDI ARABIA | FH | Rubber | 25 x 15000 | 166 |

Major Experience Records

| YEAR | OWNER | PROJECT NAME | LOCATION | LEGEND OF ITEMS | | | |
|------|---|---|--------------|-----------------------|------------------------------------|------------------------|---------------|
| | | | | MEJ | FEJ | REJ | FH |
| | | | | Metal Expansion Joint | Fabric Expansion Joint | Rubber Expansion Joint | Flexible Hose |
| ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY | | | | |
| 2018 | HANWHA CHEMICAL | PE2 | KOREA | MEJ | Single Gimbal | 750 x 1728 | 4 |
| 2018 | UZBEKISTAN GTL LLC | UZBEKISTAN GAS-TO LIQUIDS PROJECT | UZBEKISTAN | REJ | Integral Tie-Rod | 900 x 700 | 47 |
| 2018 | LG CHEMICAL | 3NE PROJECT | KOREA | MEJ | Double Bellows with Tie Rod | 1200 x 2000 | 1 |
| 2018 | GOSEONG GREEN POWER | GOSEUNG HAI THERMAL POWER PLAN | KOREA | REJ | Single Arch Gusset Plate | 1950 x 300 | 22 |
| 2018 | LOTTE CHEMICAL | LOTTE CHEMICAL PC2 PROJECT | KOREA | MEJ | AXIAL | 350 x 400 | 12 |
| 2018 | ELECTRICITY OF GENERATING AUTHORITY | BANG PAKONG COMBINED CYCLE PROJECT | THAILAND | REJ | Single Arch Gusset Plate | 1950 x 300 | 59 |
| 2018 | SWCC | SHOAIBA RO PHASE 4 PROJECT | SAUDI ARABIA | REJ | Integral | 1800 x 450 | 250 |
| 2018 | PT PLN (PERSERO) | KALSELTENG 2 CFSPP (100MW x 2 Units) PROJECT | INDONESIA | REJ | Rubber Expansion Joint | 1650 x 500 | 23 |
| 2018 | SABIC | IBN ZAHR 3300 | SAUDI ARABIA | REJ | Single Filled Arch Gusset Plate | 1000 x 250 | 6 |
| 2018 | UZBEKENERGO | TAKHIATASH POWER EFFICIENCY IMPROVEMENT PROJECT | UZBEKISTAN | REJ | Two Arch Standard Spool | 700 x 650 | 49 |
| 2018 | HAGAY CARMONA | JAMNAGAR | INDIA | REJ | Single Filled Arch Integral Flange | 900 x 350 | 12 |
| 2018 | EDRA ENERGY SDN BHD. | MELAKA CCGP [MMCC] | MALAYSIA | REJ | Single Wide Arch Integral Flange | 1950 x 400 | 66 |
| 2018 | SOUTHERN POWER GENERATION SDN.BHD | TRACK 4A 1440MW CCGT POWER PLANT PROJECT | MALAYSIA | REJ | Single Wide Filled Arch | 1800 x 400 | 24 |
| 2018 | GS CALTEX | VGOFC 652 | KOREA | MEJ | Clamshell Bellows | 1750 x 3492 | 1 |
| 2018 | MINISTRY OF ELEC. & WATER STATE OF KUWAIT | DOHA RO PH.1 | KUWAIT | REJ | Rubber Expansion Joint | 600 x 400 | 13 |
| 2017 | KIPIC | KUWAIT AL-ZOUR LNG IMPORT PROJECT | KUWAIT | FH | Flanged | 20 x 15000 | 192 |
| 2017 | SK ENERGY | SK ULSAN CLX | KOREA | MEJ | Clamshell Bellows | 1200 x 560 | 2 |
| 2017 | SONELGAZ | KAIS CCGP | ALGERIA | MEJ | Rubber Expansion Joint | 350 x 1000 | 14 |
| 2017 | LOTTE CHEMICAL | LOTTE VERSALIS SR PROJECT | KOREA | MEJ | Metal Expansion Joint | 250 x 500 | 48 |
| 2017 | KIPIC | KUWAIT AL-ZOUR LNG IMPORT PROJECT | KUWAIT | REJ | Single Arch Split Integral Flange | 1100 x 400 | 16 |
| 2017 | MINISTRY OF ELEC. & WATER STATE OF KUWAIT | DOHA SWRO | KUWAIT | REJ | Single Arch Integral Flange | 1800 x 500 | 126 |
| 2017 | KNPC | KNPC ZOR Project | KUWAIT | REJ | Rubber Expansion Joint | 1600 x 1200 | 26 |
| 2017 | KNPC | KNPC ZOR Project | KUWAIT | MEJ | Metal Expansion Joint | 1600 x 1200 | 6 |
| 2017 | SOREK DESALINATION | SOREK | UAE | REJ | Rubber Expansion Joint | 1050 x 300 | 26 |

Major Experience Records

| YEAR | OWNER | PROJECT NAME | LOCATION | LEGEND OF ITEMS | | | |
|------|---|--|--------------|-----------------------|--------------------------|------------------------|---------------|
| | | | | MEJ | FEJ | REJ | FH |
| | | | | Metal Expansion Joint | Fabric Expansion Joint | Rubber Expansion Joint | Flexible Hose |
| ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY | | | | |
| 2017 | PTT GLOBAL CHEMICAL PUBLIC COMPANY LTD. | LLDPE EXPANSION AND HEXENE-1 | THAILAND | FH | Rubber Flexible Hose | 25.4 x 15000 | 130 |
| 2016 | E-CL S.A | RED DRAGON /PIEM PROJECT | CHILE | REJ | Rubber Expansion Joint | 2400 x 1000 | 18 |
| 2016 | USI CORPORATION | USI-EQUIPMENT FABRICATION | TAIWAN | MEJ | Metal Expansion Joint | 946 x 700 | 3 |
| 2016 | SOREK DESALINATION | SOREK | ISRAEL | REJ | Rubber Expansion Joint | 1050 x 300 | 26 |
| 2016 | E-CL S.A | RED DRAGON /PIEM PROJECT | CHILE | REJ | Rubber Expansion Joint | 2400 x 1000 | 18 |
| 2016 | USI CORPORATION | USI-EQUIPMENT FABRICATION | TAIWAN | MEJ | Metal Expansion Joint | 946 x 700 | 3 |
| 2016 | TURKMAENGAS | GTG EKSTRAWORKS | TURKMENISTAN | REJ | Rubber Expansion Joint | 1200 x 400 | 18 |
| 2016 | PTT GLOBAL CHEMICAL PUBLIC COMPANY | ATC REFORMER AND AROMATICS COMPLEX II;PTT GLOBAL | THAILAND | MEJ | Metal Expansion Joint | 100 x 1000 | 2 |
| 2016 | JIMAH EAST POWER SDN BHD | JIMAH EAST POWER CFPP (1,000MW x 2 Units) | MALAYSIA | REJ | Rubber Expansion Joint | 2200 x 500 | 55 |
| 2016 | PRPC UTILITIES AND FACILITIES SDN BHD | RAPID PACKAGE14 UTILITIES,INTERCONNECTIING, OFFSITE FACILITIES | MALAYSIA | REJ | Rubber Expansion Joint | 1200 x 350 | 34 |
| 2016 | PRPC UTILITIES AND FACILITIES SDN BHD | PETRONAS RAPID (PACKAGE NO.5 -EPDD OF STEAM CRACKER COMPLEX) | MALAYSIA | MEJ | Metal Expansion Joint | 1300 x 1200 | 18 |
| 2016 | ANRPC | ANRPC CCR | EGYPT | MEJ | Metal Expansion Joint | 400 x 11132 | 1 |
| 2016 | UMM AL HOUL POWER | UMM AL HOUL POWER IWPP | QATAR | REJ | Rubber Expansion Joint | 2200 x 350 | 97 |
| 2016 | ARAMCO | SULFUR RAILCAR LOADING FACILITIEA | SAUDI ARABIA | FH | Rubber Flexible Hose | 25 x 15000 | 54 |
| 2016 | ARAMCO | SULFUR RAILCAR LOADING FACILITIEA | SAUDI ARABIA | FH | Metal Flexible Hose | 100 x 1000 | 2 |
| 2016 | DOGUS INSAAT | DOGUS INSAAT | TURKEY | REJ | Rubber Expansion Joint | 2200 x 1800 | 3 |
| 2016 | FLEXSYS SOLUTIA,INC. | K2C PROJECT | KOREA | MEJ | Metal Expansion Joint | 540 x 620 | 5 |
| 2015 | KNPC | KNPC CLEAN FUELS | KUWAIT | REJ | Rubber Expansion Joint | 1200 x 600 | 9 |
| 2015 | DUBAI ELECTRICITY & WATER AUTHORITY | JEBEL ALI POWER & DESALINATION STATION 'L' | UAE | REJ | Rubber Expansion Joint | 450 x 200 | 3 |
| 2015 | KNPC | KNPC PROJECT | KUWAIT | MEJ | Metal Expansion Joint | 200 x 450 | 2 |
| 2015 | STATE CONCERN "TURKMANGAS" | TURKMENISTAN ETHANE CREACKER AND PE PP | TURKMENISTAN | REJ | Rubber Expansion Joint | 1200 x 350 | 28 |
| 2015 | EVN (ELECTRICITY OF VIETNAM) | THAI BINH II THERMMAL PLANT AND TRANSMISSION LINES CONSTRUCTIONS | VIETNAM | REJ | Rubber Expansion Joint | 1650 x 350 | 28 |
| 2015 | EVN (ELECTRICITY OF VIETNAM) | THAI BINH II THERMMAL PLANT AND TRANSMISSION LINES CONSTRUCTIONS | VIETNAM | MEJ | Metal Expansion Joint | 250 x 1500 | 6 |
| 2015 | RELIANCE INDUSTRIES LTD | JAMNAGAR | INDIA | REJ | Rubber Dismantling Joint | 1400 x 350 | 32 |

Major Experience Records

| YEAR | OWNER | PROJECT NAME | LOCATION | LEGEND OF ITEMS | | | |
|------|---|---|--------------|-----------------------|------------------------|------------------------|---------------|
| | | | | MEJ | FEJ | REJ | FH |
| | | | | Metal Expansion Joint | Fabric Expansion Joint | Rubber Expansion Joint | Flexible Hose |
| ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY | | | | |
| 2015 | RELIANCE INDUSTRIES | JAMNAGAR | INDIA | REJ | Rubber Expansion Joint | 1500 x 400 | 167 |
| 2015 | PARTNERSHIPS TECHNICAL BUREAU | AZ-ZOUR NORTH IWPP | KUWAIT | REJ | Rubber Expansion Joint | 750 x 250 | 3 |
| 2015 | MAE MOH POWER PLANT | MAE MOH | THAILAND | REJ | Rubber Expansion Joint | 2100 x 500 | 18 |
| 2015 | PETRONAS | PETRONAS FLNG 2 | MALAYSIA | REJ | Integral | 700 | 18 |
| 2015 | AMIC AND TOHO TITANIUM CO.,LTD | YNP PROJECT | SAUDI ARABIA | FEJ | Metal Expansion Joint | 350 x 400 | 18 |
| 2015 | AMIC AND TOHO TITANIUM CO.,LTD | YNP PROJECT | SAUDI ARABIA | MEJ | Metal Expansion Joint | 200 x 250 | 44 |
| 2015 | ALSTOM | KARAHU GEOTHERMAL POWER PLANT | INDONESIA | REJ | Rubber Expansion Joint | 1200 x 400 | 44 |
| 2015 | PMP CO.,LTD | JANGMOON COMBINED CYCLE POWER PROJECT | KOREA | MEJ | Metal Expansion Joint | 600 x 1500 | 5 |
| 2015 | PETRONAS | RAPID P1 PROJECT | MALAYSIA | REJ | Rubber Expansion Joint | 1200 x 450 | 4 |
| 2015 | PMP CO.,LTD | JANGMOON COMBINED CYCLE POWER PROJECT | KOREA | REJ | Rubber Expansion Joint | 250 x 200 | 224 |
| 2015 | PETRONAS | RAPID P1 PROJECT | MALAYSIA | MEJ | Metal Expansion Joint | 2900 x 18500 | 36 |
| 2015 | KNPC | KNPC CLEAN FUELS PROJECT | KUWAIT | REJ | Rubber Expansion Joint | 25 x 15000 | 557 |
| 2015 | MARAFIQ | MARAFIQ MED | SAUDI ARABIA | REJ | Rubber Expansion Joint | 900 x 300 | 10 |
| 2015 | MARAFIQ | MARAFIQ MED | SAUDI ARABIA | MEJ | Metal Expansion Joint | 125 x 600 | 2 |
| 2015 | RELIANCE | RELIANCE CCR REVAMP | INDIA | MEJ | Metal Expansion Joint | 150 x 740 | 1 |
| 2015 | ADMA-OPCP | SATAH AL RAZBOOT FIELD DEVELOPMENT-PKG4(SARB) | UAE | FH | Metal Expansion Joint | 100 x 6000 | 828 |
| 2015 | SWCC | YANBU POWER AND DESALINATION PLANT-PHASE3 | SAUDI ARABIA | REJ | Rubber Expansion Joint | 1400 x 500 | 6 |
| 2015 | TANJUNG BIN ENERGY ISSUER BHD | TANJUNG BIN 4 | MALAYSIA | REJ | Rubber Expansion Joint | 300 x 2300 | 4 |
| 2015 | KOREA MIDLAND POWER CO. LTD | "SHINBORYEONG TPP UNITS 1 & 2" | KOREA | MEJ | Metal Expansion Joint | 250 x 1040 | 11 |
| 2015 | MIRFA MSF REHABILITATION & REMINERALIZATION | MIRFA IWPP | UAE | REJ | Rubber Expansion Joint | 1400 x 450 | 39 |
| 2015 | TANJUNG BIN ENERGY ISSUER BHD | TANJUNG BIN 4 | MALAYSIA | REJ | Rubber Expansion Joint | 750 x 320 | 2 |
| 2015 | GROUPE OCP | MOROCCO JL FERTILIZER | MOROCCO | MEJ | Metal Expansion Joint | 250 x 400 | 2 |
| 2015 | BHP BILLTON | ESCONDIDA RO | CHILE | REJ | Rubber Expansion Joint | 1200 x 400 | 19 |
| 2015 | MOSCOW OIL | MOSCOW OIL | KOREA | MEJ | Metal Expansion Joint | 600 x 9630 | 12 |

Major Experience Records

| YEAR | OWNER | PROJECT NAME | LOCATION | ITEM | TYPE | SIZE (mm) I.D. x LENGTH | Q'TY |
|------|--------------------------------|---|--------------|------|-------------------------|----------------------------|------|
| | | | | | | | |
| 2015 | SHELL | PRELUDE FLNG | KOREA | FH | Metal Flexible Hose | 50 x 5000 | 34 |
| 2015 | KNPC | KNPC FCC,SWT,C/T FOR CFP AT MAA REFINERY | KUWAIT | FH | Metal Flexible Hose | 50 x 1500 | 6 |
| 2015 | GROUPE OCP | MOROCCO JL FERTILIZER PROJECT | MOROCCO | REJ | Rubber Expansion Joint | 500 x 200 | 2 |
| 2015 | SPE | RAS DJINET 1131.1MW PROJECT | ALGERIA | MEJ | Metal Flexible Joint | 250 x 1300 | 16 |
| 2015 | SNNC | SNNC FE-NI PLANT CAPACITY EXPANSION JOINT | KOREA | MEJ | Fabric Expansion Joint | 574 x 120 | 1 |
| 2015 | TUAS POWER GENERATION | TUAS CCPS | SINGAPORE | REJ | Rubber Expansion Joint | 250 x 220 | 2 |
| 2015 | TANJUNG BIN ENERGY ISSUER BHD | TANJUNG BIN 4 | MALAYSIA | REJ | Rubber Expansion Joint | 300 x 2300 | 17 |
| 2015 | SWCC | SWCC-YANBU MADINA PHASE 3 | SAUDI ARABIA | MEJ | Metal Expansion Joint | 900 x 960 | 29 |
| 2015 | BHP BILLTON | ESCONDIDA RO | CHILE | REJ | Rubber Expansion Joint | 25 x 600 | 53 |
| 2015 | ORIENTAL PETROCHEMICAL | OPC PTA PLANT PROJECT | CHINA | REJ | Rubber Expansion Joint | 1200 x 600 | 2 |
| 2015 | STATE CONCERN "TURKMANGAS" | TURKMENISTAN ETHANE CREAcker AND PE PP | TURKMENISTAN | MEJ | Metal Expansion Joint | 300 x 300 | 8 |
| 2015 | SHUWEIHAT S2 | SHUWEIHAT S2 IWPP | USA | FH | Metal Flexible Hose | 400 x 1000 | 1 |
| 2015 | BORYEONG LNG TERMINAL CO.,LTD | BORYEONG LNG TERMINAL | KOREA | REJ | Rubber Expansion Joint | 1500 x 700 | 9 |
| 2015 | SK ADVANCED | PDH PROJECT | KOREA | REJ | Rubber Expansion Joint | 750 x 500 | 3 |
| 2015 | PAGBILAO ENERGY CORP. | PAGBILAO COAL-FIRED POWER PLANT | PHILIPPINES | REJ | Rubber Expansion Joint | 2100 x 400 | 9 |
| 2015 | PMP CO.,LTD | JANGMOON COMBINED CYCLE POWER PROJECT | KOREA | REJ | Rubber Expansion Joint | 1800 x 309 | 76 |
| 2015 | TAIWAN POWER COMPANY | TPC LIN KOU POWER PLANT | TAIWAN | FH | Composite Flexible Hose | 40 x 10000 | 6 |
| 2015 | LOS HUMEROS III GEOTHERMAL PP | LOS HUMEROS III | MEXICO | REJ | Rubber Expansion Joint | 1500 x 350 | 15 |
| 2015 | LOS HUMEROS III GEOTHERMAL PP | LOS HUMEROS III | MEXICO | MEJ | Rubber Expansion Joint | 1200 x 745 | 12 |
| 2015 | KNPC | KNPC CLEAN FUELS | KUWAIT | FH | Rubber Expansion Joint | 25.4 x 15000 | 735 |
| 2015 | CPC | CPC TAOYUAN REFINERY | TAIWAN | MEJ | Metal Expansion Joint | 2450 x 13800 | 2 |
| 2015 | PARTNERSHIPS TECHNICAL BUREAU | AZ-ZOUR NORTH IWPP | KUWAIT | REJ | Rubber Expansion Joint | 750 x 2800 | 3 |
| 2015 | NSRP LIMITED LIABILITY COMPANY | NGHI SON REFINERY PROJECT PPU | VIETNAM | MEJ | Metal Expansion Joint | 250 x 1000 | 62 |
| 2015 | NSRP LIMITED LIABILITY COMPANY | NGHI SON REFINERY PROJECT PPU | VIETNAM | MEJ | Metal Expansion Joint | 500 x 300 | 20 |

| LEGEND OF ITEMS | | | |
|-----------------|------------------------|-----|------------------------|
| MEJ | Metal Expansion Joint | FEJ | Fabric Expansion Joint |
| REJ | Rubber Expansion Joint | FH | Flexible Hose |



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has specially engaged in the expansion joint industry since 1986



Since its founding in 1986, we have devoted ourselves to research, development, and manufacture of the high level of expansion joints in quality and reliability. Based on our accumulated experience and know-how, all of our staff have an in-depth understanding of each industrial application and have done our best to meet customers' specialized needs. As an expert in expansion joint industry, we never stop exploring new solutions for expansion joint applications, and will continuously provide high-quality products and on-site service to our customers.





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