



## M'News

Issue No.11

**M'News** is MACOGA's online news bulletin featuring the latest development of significant projects, achievements, events and expansion joints related news.

Visit us on [www.macoga.com](http://www.macoga.com) to keep up to date with our work.

You may also follow us on:

@MACOGAEJ

LinkedIn

### IN THIS ISSUE

01. Titanium expansion joints
02. FCCU Expansion Joint for Dung Quat Refinery in Vietnam
03. In-Line Pressure Balanced for Hitachi Zosen - Severnside Energy Recovery Centre, UK
04. MACOGA supplies Solar Power Plant in South Africa
05. Delivery of two FCCU expansion joints for a European refinery
06. MACOGA expansion joints for crude storage tanks in the North of England
07. Expansion joints with 2 ply testable and monitored bellows for North European refinery
08. MACOGA expansion joints for 2 biomass power plants in the British Columbia, Canada
09. FCCU Universal Pressure Balanced expansion joint for European refinery
10. Expansion joints for nuclear power plants



## TITANIUM EXPANSION JOINTS

MACOGA has successfully manufactured and delivered a large number of single axial flanged expansion joints with titanium bellows.

Titanium bellows are designed for applications that require a high strength material, light weight construction, and media compatibility.

Titanium bellows advantages can be summarized as follows:

- Exceptionally high strength-to-weight ratio.
- Outstanding corrosion resistance.
- High temperature stability.
- Very low thermal expansion coefficient.
- Durability and maintainability.

MACOGA manufactures single, multi-ply and two-ply testable bellows in sizes from 15 mm to over 8 meters in diameter.

Bellows materials used include stainless steels, nickel based alloys, titanium, super-duplex, etc.

 [Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

**MACOGA**  
ENGINEERED EXPANSION JOINTS

Телефоны для связи: +7 (495) 7774788, (925)7489626, 5007154, 55, 65 Эл. почта: [info@tisys.ru](mailto:info@tisys.ru) [info@tisys.kz](mailto:info@tisys.kz) [info@tisys.by](mailto:info@tisys.by)



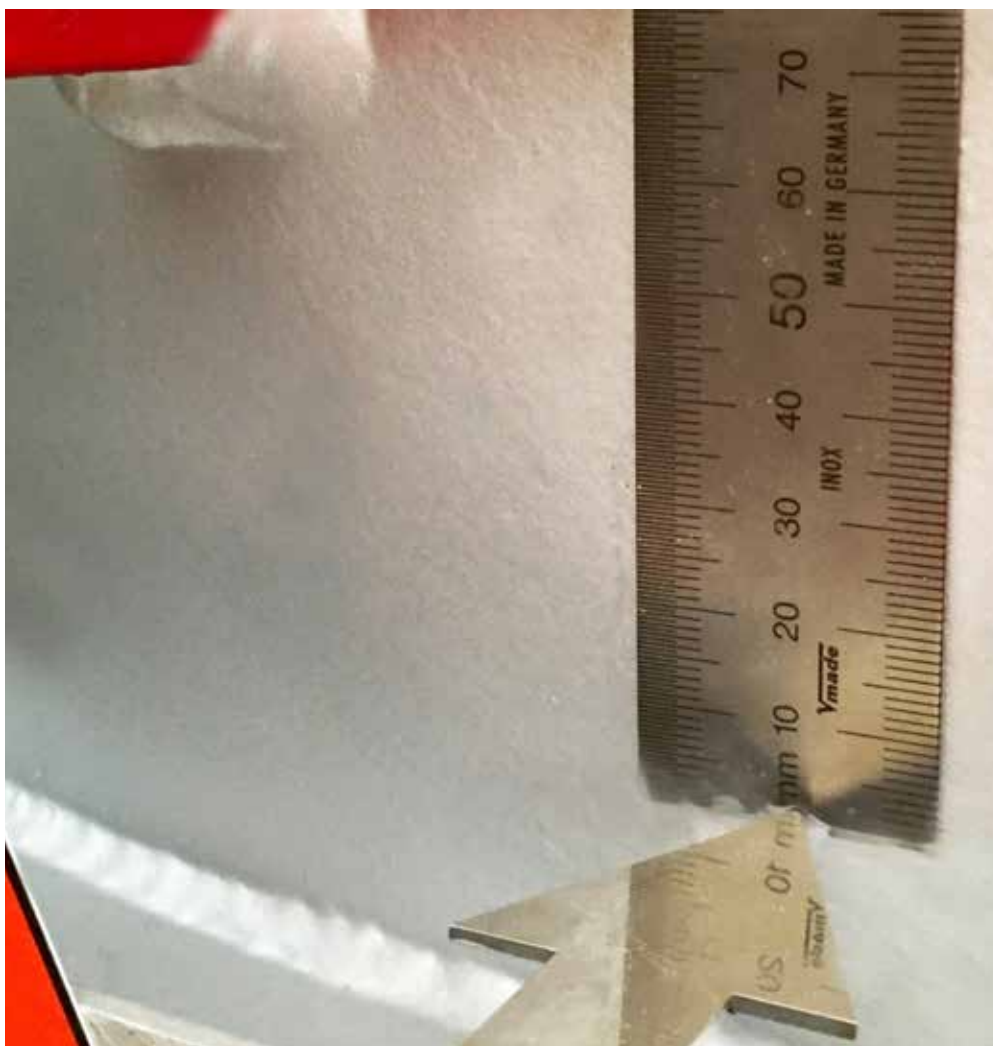
## FCCU EXPANSION JOINT FOR DUNG QUAT REFINERY IN VIETNAM

MACOGA has successfully manufactured a Single Axial **FCCU Expansion Joint** DN 28" (700) for the Dung Quat Refinery Additional Sulfur Recovery Unit in Vietnam.

The expansion joints includes:

- Inconel 625 LCF two ply testable and monitored sealed bellows
- Movement indicator
- Hexmesh SS 310
- Rescobond AA 22 S Abrasion resistant lining
- Resco RS17 EC Refractory lining

MACOGA is a leading international engineering and manufacturing company for oil and gas, refining, petrochemicals and power generation expansion joints for a broad spectrum of customers throughout the world.



[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

Телефоны для связи: +7 (495) 7774788, (925)7489626, 5007154, 55, 65 Эл. почта: [info@tisys.ru](mailto:info@tisys.ru) [info@tisys.kz](mailto:info@tisys.kz) [info@tisys.by](mailto:info@tisys.by)



## IN-LINE PRESSURE BALANCED FOR HITACHI ZOSEN SEVERNSIDE ENERGY RECOVERY CENTRE, UK

An **In-Line Pressure Balanced** MPB-I DN 3100 expansion joint has been successfully designed, manufactured and tested for the Hitachi Zosen Inova 34 megawatt energy recovery facility in South Gloucestershire, UK.

The expansion joint is installed in a plant processing the waste material that the 1.6 million people living in the London boroughs of Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond-upon-Thames have not been able to separate for recycling.

The facility will produce 34 megawatts of electricity, which is enough to power the equivalent of 50,000 homes and could also provide heat to local businesses.

 [Click for further information and related news](#)



## MACOGA SUPPLIES SOLAR POWER PLANT IN SOUTH AFRICA

MACOGA has successfully manufactured a set of 3 + 3 **Lateral and Hinged Expansion Joints** DN3000 and a **Dog Bone** DN4560 for Xina Solar One, 100 MW solar power plant in South Africa.

Xina Solar One will be located close to Pofadder, in the Northern Cape Province, next to KaXu Solar One, the first STE power plant in commercial operation in South Africa.

These two 100 MW plants will jointly shape the largest solar platform in sub-Saharan Africa, helping South Africa meet its ongoing energy demands and serving clean and reliable electricity.



[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)



**DELIVERY OF TWO FCCU EXPANSION JOINTS FOR A EUROPEAN REFINERY**

MACOGA has successfully delivered 2 large **FCCU Expansion Joints** DN 2400 to one of the largest refineries in Europe.

These expansion joints incorporate Inconel 625 LCF equalized sealed bellows and RESCO RS7 refractory lining.

The contract comprises on-site supervision by MACOGA on-site specialists during installation.

The expansion joints were installed during a planned shutdown in March 2015.

MACOGA designs and manufactures FCCU Expansion Joints according to UOP, ExxonMobil, KBR, Lummus, etc. specifications.



[Click for further information and related news](#)



## MACOGA EXPANSION JOINTS FOR CRUDE STORAGE TANKS IN THE NORTH OF ENGLAND

**In-Line Pressure Balanced DN450**  
**Double Gimbal DN 400**

MACOGA has successfully delivered In-Line Pressure Balanced DN450 and Double Gimbal DN 400 expansion joints for oil crude storage tanks in the North of England.

These expansion joints are installed to compensate tank to import and export pipework movement during filling and emptying of tank.

Crude storage tank capacity is 50,000 m<sup>3</sup> and crude is imported direct from Ecofisk oil field located in the North Sea.



[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

Телефоны для связи: +7 (495) 7774788, (925)7489626, 5007154, 55, 65 Эл. почта: [info@tisys.ru](mailto:info@tisys.ru) [info@tisys.kz](mailto:info@tisys.kz) [info@tisys.by](mailto:info@tisys.by)

## EXPANSION JOINTS WITH 2 PLY TESTABLE AND MONITORED BELLOWS FOR NORTH EUROPEAN REFINERY

MACOGA has successfully designed, manufactured, tested and delivered **Universal Tied** MWL DN 750 and **Hinged** MWP DN 700 & 600 expansion joints with 2-ply testable and monitored bellows for North European refinery.

In 2-ply testable bellows each ply is designed for the full operating conditions. If a hole or stress crack develops in the inner ply during service, the outer ply takes over without exposing operators to increased risk or creating the need for an unscheduled shutdown. The annular space between plies can be monitored for leakage to detect a ply failure. This will serve as a warning of an imminent problem. A pressure device in the outer ply alerts about the inner ply failure. The 2-ply testable bellows also allows inspectors to pressure test the inner and outer ply during shutdowns.

There are several types of devices used for monitoring the 2-ply testable bellows from simple pressure gauges to electronic devices and can be categorized as Active and Passive Monitors.



[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.пф](http://www.ти-системс.пф)





## MACOGA EXPANSION JOINTS FOR 2 BIOMASS POWER PLANTS IN THE BRITISH COLUMBIA, CANADA

A number of 4 units **Axial Un-restrained** MWA DN 3000, 2 **Lateral Tied** and 2 **Angular Hinged** DN2200 have been successfully designed and manufactured by MACOGA for the Fort St James and Merritt biomass power plants.

The two biomass plants are located in the province of British Columbia, in western Canada and once in operation, these plants will be two of the Canadian market's most powerful and will meet the needs of 160,000 households and avoid the emission into the atmosphere of around 570,000 tons of CO<sub>2</sub>.



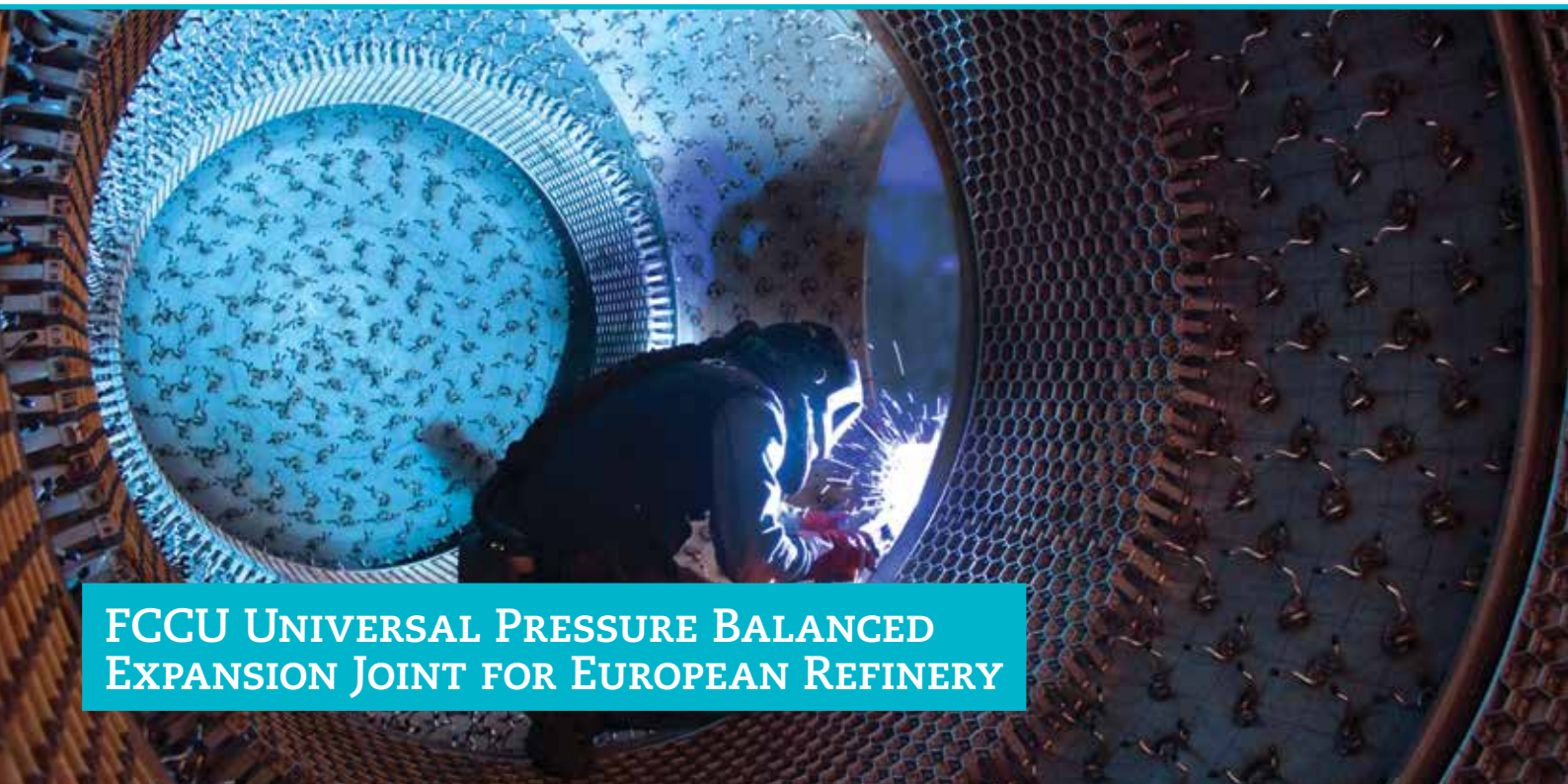
[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

**MACOGA**  
ENGINEERED EXPANSION JOINTS

Телефоны для связи: +7 (495) 7774788, (925)7489626, 5007154, 55, 65 Эл. почта: [info@tisys.ru](mailto:info@tisys.ru) [info@tisys.kz](mailto:info@tisys.kz) [info@tisys.by](mailto:info@tisys.by)

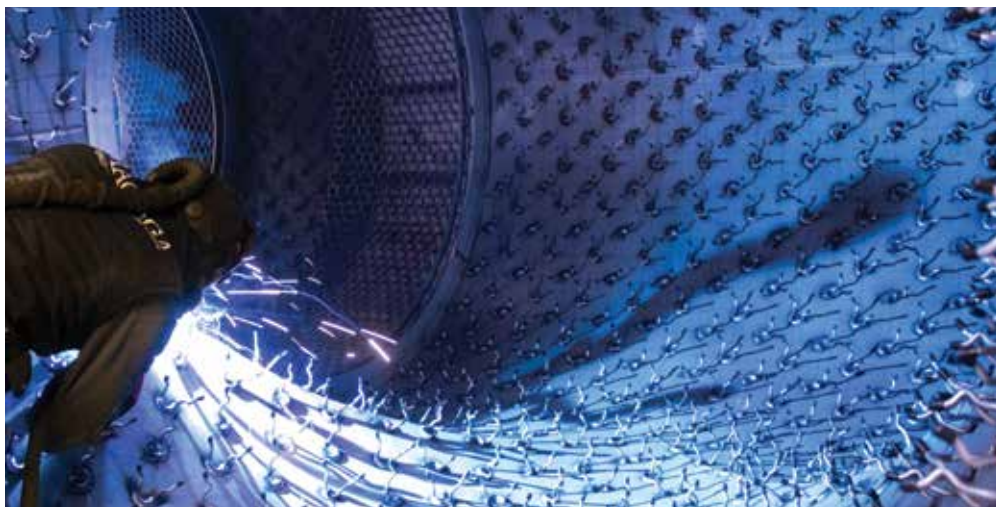



**FCCU UNIVERSAL PRESSURE BALANCED EXPANSION JOINT FOR EUROPEAN REFINERY**

MACOGA has successfully manufactured a large **FCCU Expansion Joint** DN 2,100 and 5,900 mm long for one of the largest refineries in Europe.

The expansion joint incorporates Inconel 625 LCF two ply testable sealed bellows and hexmesh for site abrasion resistant lining.

The expansion joint will be installed at the flue gas duct before boiler which is working in fluidized catalytic cracker unit.



 [Click for further information and related news](#)



## EXPANSION JOINTS FOR NUCLEAR POWER PLANTS

A large number of **Lateral, Pressure Balanced, Axial and Hinged Expansion Joints** from DN150 up to DN600 have been successfully manufactured and delivered to a European nuclear power plant.

The assembly of some critical units has been supervised by our specialists at site ensuring that the installation is done in strict compliance with the specifications and certifying the perfect performance of the units in these crucial systems.

MACOGA has developed and implemented a quality system to ensure that its products and standards meet or exceed the rigorous manufacturing and safety requirements demanded by nuclear power plants.



[Click for further information and related news](#)

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

Интернет: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

Телефоны для связи: +7 (495) 7774788, (925)7489626, 5007154, 55, 65 Эл. почта: [info@tisys.ru](mailto:info@tisys.ru) [info@tisys.kz](mailto:info@tisys.kz) [info@tisys.by](mailto:info@tisys.by)

# MACOGA

ENGINEERED EXPANSION JOINTS

## GLOBAL PRESENCE WORLD-CLASS COMMITMENT

Our expansion joints are present in more than 80 countries across all continents performing demanding tasks. MACOGA is always ready to provide support exceeding customer expectations.

We are conveniently located in NW Spain near two international airports (SCQ and LCG) and two deepwater oceanic sea ports (Vigo and La Coruna).