

The Africa Issue

KLINGER News
02/2013



KLINGER SCHÖNEBERG GmbH provides over 6,000 valves for “Medupi & Kusile” Power Plant in South Africa

Company:

Hitachi Power Europe GmbH (HPE), a subsidiary of Hitachi, Ltd., plans and builds fossil fuel-fired power plants. The plant builder provides core components such as utility steam generators, environmental technology, turbines and grinding plants.

As a market and technology leader in fields such as utility steam generators, HPE provides modern, environmentally-friendly and economical plants. In this manner, the company, which is headquartered in Duisburg, is doing its part to provide a secure power supply in different markets.

As a builder of power facilities, Hitachi Power Europe GmbH benefits from the increasing demand for electricity and the global boom in power plant construction. HPE is also playing an important role in modernizing the European fleet of power plants.

Products and solutions for fossil fuels:

Increasing populations, a growing economy, new products and services: Without electrical energy or power there can be no development. The main burden of power generation falls to power plants operated with fossil fuels: They are tried and tested, reliable over long periods of use and profitable.

With more than 100 years of experience in building power plants, Hitachi Power Europe GmbH has comprehensive know-how and state-of-the-art products for fossil fuel-fired power plants: This extends from complete power trains to individual core components such as utility steam generators, environmental technology, turbines, and grinding plants.

The power plant builder specializes in the planning, construction and commissioning of high-efficiency coal and lignite plants. In addition, Hitachi Power Europe provides turnkey gas and steam power plants tailored to customer requirements.

Project description:

Carrying out this project is a major milestone on the path to a stable and more environmentally sustainable power supply in South Africa. In the next few years until 2017, twelve coal-burning power plant blocks (output approx. 4,800 MW) will be built and, once completed, will provide 20 percent of South Africa's power.

The investment volume amounts to approx. 4 billion €. The end customer is the South African power supply company ESKOM.

Once completed and in operation, the coal power plant “Medupi & Kusile” will be the world's largest of its type.

for "Medupi & Kusile" Power Plant, South Africa many



Implementation: 2009 to 2017

Klinger Schöneberg Product portfolio for the project:

- Ball valves (Series INTEC and RK-Proball)
- High-performance butterfly valves (double and triple eccentric)
- Piston valves
- Gate valves
- Globe valves
- Piston check valves
- Check valves
- Strainers
- Knife gate valves
- Non-return valves
- Slide Gate valves
- Flap valves

Important factors that helped win this order for LPS valves (low pressure service) from Klinger Schöneberg GmbH were the knowledgeable technical advice and cost-benefit ratio of our supply concept with our subsidiary Klinger Pty Ltd. in Johannesburg, South Africa.

Klinger Pty Ltd. will store the entire volume of valves (approx. 6,300 units) over the entire implementation period.

This concept enables us to provide significant customer benefits such as volume bundling and price stability for the entire realization period until 2017. In addition, our customer has permanent local access and can call up valves as the construction project proceeds for individual units.

Total value of order:
approx. 3,800,000.00 €

For further information about Klinger Schöneberg GmbH please visit www.klinger-schoeneberg.de. ■





Full-scale gasket manufacturing facility in Angola

The Republic of Angola is the second largest oil producer in Africa, where the production capacity has increased significantly in the last decade to become a major oil exporter with an estimated 1.7 million barrels per day being exported in 2011.

With proven reserves held in numerous offshore shallow water, deepwater and ultra-deepwater blocks and the Angolan government planning to increase production levels to 2 million barrels per day by 2014, there is a positive outlook for the oil sector and the prospects of an exciting and energetic country.

Klinger UK is pleased to announce the joint venture partnership with Cariongo to establish the first and only full-scale gasket manufacturing facility in the Republic of Angola. Located in the Viana Park Business Centre, Luanda, the dedicated gasket factory is up and running and ready to serve the local demand.



Noticing an ever increasing requirement for gaskets in the country, the joint venture was formed with the focus on providing the highest levels of service and quality associated with Klinger products. Additional benefits include improved delivery of products that would usually take several weeks to source with long delivery times can now be manufactured quickly and delivered directly to the clients.

Using KLINGER UK's extensive manufacturing knowledge, several unique manufacturing machines were designed, assembled and commissioned at the Bradford Factory before being freighted over 6,000 miles to the new plant. Importantly, during this period several Angolan nationals had a thorough induction and intensive training at the UK factory so that gasket production at the Luanda facility is conducted as efficiently as possible and the quality standards are maintained. This is supplemented by a continuous training program of both the office and production staff with regular in-country technical representation by UK staff.

With all machines now in situ producing gaskets, any local demands from Oil majors such as BP and Total together with the Sonangol refinery can easily be met on an urgent basis. This proves to be beneficial as alongside the high quality products there is a significant

local content which is a clear sign of investment in the country. Employing 35 Angolan staff members in diverse roles ranging from production operators to technical and quality managers represents our emphasis on developing skills and product knowledge.



Klinger UK International Sales Manager, Ben Evans, comments: 'We are very pleased with the joint venture and the exceptionally high standard of the gasket factory. There is no doubt that any visitor coming to the Viana Park plant will be impressed with the production capabilities and the services on offer. Looking forward, we anticipate strengthening of the brand through increased awareness in the market and through expansion of the current facilities to offer an even greater Klinger product range in Angola.'

For further information about Klinger Limited please visit www.klinger.co.uk. ■

WSP's 25th Anniversary

WRIGHT-SEAL & PLASTICS (PTY) Ltd, South Africa



WSP's premises in Paarden Eiland

Wright Seal & Plastics (PTY) Ltd, situated in Cape Town South Africa and a Klinger Group Company since 2006, was established from humble beginnings in 1987, and over the past 25 years has grown into a leading manufacturer and supplier of mechanical fluid sealing and industrial products to a vast spectrum of industries.

Apart from servicing the general industry, it has become a household name to the marine, oil, gas, nuclear and petrochemical sectors.

The Klinger acquisition in November 2006, was viewed as a strategic move towards enhancing and strengthening Wright Seal's existing range of products and services with those offered by the Klinger Group of Independent Companies internationally.

Celebrating their 25th anniversary last year, WSP contributes their success to their loyal client base, being their biggest asset, as well as their 26 loyal staff members, „without whom we don't have a business“, says Director Guy Sampson.

From its inception, the company has been a forerunner in the supply, manufacture and distribution of asbestos-free products across its entire range. It has been offering a friendly and efficient service to its valued clients while con-

tinuously striving to supply them with products of the highest international standards.

WSP is a manufacturer and distributor of Klinger fluid sealing products including API rings and spiral wound gaskets, exchanger gaskets, graphite and non asbestos fibre gaskets and a full range of Klinger Pump & Valve Gland Packings. WSP are also distributors for AES mechanical seals, Belzona polymeric coating & repair products & Merus Rings.

The extensive gasket factory comprises both numerous hydraulic and CNC gasket cutters as well as CNC routers giving WSP the capacity to handle a large volume of various gasket requirements

at one time. Wright Seal also has a well-equipped machine shop focusing on the design and manufacture of specialized engineering plastic products including PTFE bellows and sleeves, chemical gaskets, valve kits, wear plates, scrapers and bushings.

Director Guy Sampson says: 'To further ensure WSP's strong foothold in the Cape, the company will be looking at an expansion of its manufacturing facilities and the acquisition of additional agencies.'

For further information about Wright-Seal & Plastics (PTY) Ltd please visit www.wsp.co.za. ■

WSP Celebrates 25 Years



Guy Sampson (middle) with some of WSP's staff who have been with the company for 25 years.

Gasket Production in Argentina

RICH. KLINGER S.A.A.C.I. y F., Argentina



Klinger Argentina resumes its gasket production

In 2001, the factory in Argentina was closed and Taranto took over the production as a Klinger licensee. In July 2012, the business was transferred back to Klinger Argentina.

From now on Klinger Argentina will produce spiral wounds, kammprofiles and double-jacketed gaskets for the domestic market as well as for exports to other countries in South America. As this offsets import restrictions, it is of substantial interest for Argentina.

As a part of our constant effort to sustain and expand our position as a leading sheeting supplier, we want to meet our customers' demands for Klinger gaskets 'Made in Argentina'.

Producing directly in Argentina enables us not only to shorten delivery times by controlling priorities and order compliance. We can also keep in touch with our end users to provide better solutions and gaskets known for their high KLINGER quality.

In former years, our industrial gasket production had already attained top quality recognition. Reinitiating the gasket production at Klinger Argentina provides benefits for our customers as well as for Klinger.



For further information about Rich. Klinger S.A.A.C.I. y F. please visit www.rklinger.com.ar.



KLINGER®thermica

RICH. KLINGER DICHTUNGSTECHNIK GmbH & Co KG, Austria



The new universal gasket material

For decades, Klinger has been keeping pace with modern times. Its strategic planning has always focused on the needs and demands of its customers.

KLINGER®thermica, the new universal flat gasket, has been invented to adapt to the new market requirements.

The main characteristics of the new sealing material are mica plates, which are used as filler components. These plates are – besides NBR and synthetic fibres – the main component of our new sealing material and they play a decisive role in its success.

KLINGER®thermica offers the following (usually conflictive) characteristics:

- High heat resistance
KLINGER®thermica is resistant to temperatures up to 400 °C, and can thus be used in thermally challenging situations.
- Excellent seal performance
KLINGER®thermica ensures safe and reliable sealing – a well-known key-characteristic of Klinger seal materials.
- Minor gasket seating
Assembled gaskets normally deform due to heavy load and temperature. The minor gasket seating of KLINGER®thermica, on the other hand, ensures a very reliable and safe operation without significant deformations.

Designed specifically for the Anglo-American market, pT diagrams for 0.8 and 1.6 mm measurements have been prepared in addition to our standard diagrams for 2.0 mm measurements.

All pT diagrams will be available for download on the Klinger web site www.klinger.co.at shortly.

The first prototypes of KLINGER®thermica have been in failure-free use without interruption since October 2011 in the boiler house of our own company. In this case KLINGER®thermica seals 12 bar of saturated steam under extremely demanding cyclic operating conditions. The seal is subjected to an extreme mechanical load due to the constant heating up and cooling down process.



A KLINGER®thermica seal on one of the flanges of the boiler house of our own company



A seal in front of a test flange for determination of the chemical resistance

KLINGER®thermica enriches our product portfolio and increases our competitiveness. With KLINGER®thermica, an additional innovative Klinger sealing material is available for our customers.

KLINGER®thermica was launched within the framework of Klinger's sealing conference in Leeds in October 2012.

For further information about KLINGER®thermica please visit www.klinger.co.at. ■



KLINGER Ballostar® Ball Valves KHSVI for Kazakhstan's biggest power plants

The Republic of Kazakhstan, the ninth largest country in the world, regularly faces -40 °C and below and therefore needs very reliable heating systems.

The capital is the young city of Astana, whereas the most important economic and industrial metropolis is Almaty. Due to a strong migration from the countryside into the cities, both cities are growing at fast pace.

As a result of the massive population growth, the demand in energy is increasing. In order to comply with this rising energy demand, the country's biggest power plant in Almaty has undergone a huge reconstruction and modernization project.

We have found a reliable partner in one of the top companies of Kazakhstan with their main business being construction, monitoring, supplying energy equipment, maintenance and repair works.

In the words of the person in charge: "With the majority of our clients being energy suppliers, reliability is the most important quality. During any time people need to meet primary needs such as heating, electricity and gas. This is the main reason why we haven't been hit by the crisis – even as it reached its peak, we have been able to gradually boost our production volume."

Over the past five years, a great deal of hard work has been put into preparing this project.

After numerous negotiations with design and construction companies as well as with the final customers, Klinger Fluid Control delivered 139 large size ball valves Ballostar® KHSVI, thereof 70 pieces in size 800, for a power station and its heat transfer station. Most of the KHSVI were equipped with a gearbox, an electro-mechanical actuator and an automation unit.

The customer has expressed its appreciation of Klinger Fluid Control's professionalism as well as of the benefits of the Klinger Ballostar® Ball Valves, which are:

- long life time
- low service costs
- reliability
- absolute tightness



Klinger representatives on site

The Klinger Ballostar® Ball Valves KHSVI have been delivered in the course of 3 years and the project exceeded 4 million €.

Investments are ongoing and Klinger Fluid Control will stay on the ball in order to make arrangements for further projects in this growing market.



Klinger Ballostar® Ball Valves KHSVI

For further information about Klinger Fluid Control GmbH please visit www.klinger.kfc.at. ■

KLINGER Denmark expands gasket & sealing activities

KLINGER DANMARK A/S



The acquisition of dmp and investments in staff, machines and facilities allow for a major improvement in customer services.

For more than 25 years, Dansk Maskinpakning a/s (dmp) and Klinger Danmark A/S have cooperated closely on the Danish market. Together, dmp and Klinger DK offer a full range of state-of-the-art seals and gaskets made of all kinds of materials.

Dmp celebrated its 100th anniversary on April 19, 2011. The company is widely known as a provider of technical gaskets and sealings with long experience in finding solutions for the customers' different needs.

Dmp has been a part of Klinger Danmark A/S since July 1, 2010. Following the acquisition, investments in new facilities and new fully automatic machines were made. On February 1, 2012 dmp's staff moved to the new Klinger DK facilities in Brøndby.



Fully automatic CNC-cutting and CNC-controlled punching machines as well as several manual punching machines allow

for a highly flexible production of both small and large orders.

Investments in new fully automatic cutting machines enable Klinger DK to move a part of the production closer to our customers. In the past, gaskets from Klinger DK were produced in our factories in the Netherlands, Germany and in the UK. Part of these activities can now be moved to Denmark step by step.



Customers come to Klinger with a drawing of a gasket. With the CNC machines and the ability to work with a vast variety of materials, we produce the gasket within an hour to help customers in emergency situations. Such flexibility has been one of the corner stones behind the success of dmp – Klinger Denmark is proud that this is now part of our standard service.



Collaboration and know-how is a key issue for all members of the Klinger Group. For this reason, members of the Klinger Sealing Group in Europe come together every year for the Sealing Conference in order to exchange their experiences and their knowledge. Together with regular special trainings of the Klinger staff, this is the foundation for our high-quality products and solutions.

For Klinger Danmark A/S, the key to success has proven to be an increase in staff while investing in new machines and maintaining the manufacturing of standard and special gaskets in Denmark. One thing Klinger Danmark A/S and dmp have in common is that providing the customer with excellent service is at the heart of what they do.

For further information about KLINGER Danmark A/S please visit www.klinger.dk. ■



Elastomer-coated gasket



Coated deep-drawn parts with packing

KLINGER Idstein meets requirements of automotive industry standard ISO/TS 16949

Klinger gaskets and materials are used all over the world. In addition to the predominance of our standard products in a wide variety of plants in the chemical, petrochemical and power-generating industries, they are also used in water supply systems, gas supply systems as well as by equipment manufacturers.

The situation in the automotive sector, though, is different. The demands placed on gaskets in engines and power units are exceptionally high and require very specific solutions. The company Klinger GmbH, based in Idstein, Germany, has been an active player in this sector for several years. Gaskets and other components are developed, manufactured and marketed by our highly specialized personnel in Idstein in association with our partners for stamping technology and toolmaking. These components are used for example in air intake systems and in the exhaust area.

The requirements for exhaust turbochargers in particular have increased significantly. The constantly increasing efforts to reduce pollution emissions lead to ever more complex designs and consequently higher demands on the sealing.



Gaskets for turbochargers

In the automotive sector, the demands made on the organization and its efficiency are also very high. Own quality standards for this sector have been under development for many years, confronting the companies with tasks that are not encountered in the 'normal' supply environment.



Multilayer gasket

It is all the more gratifying that since 2012 the company Klinger GmbH, together with its associate for stamping technology, has also met the requirements of ISO/TS 16949.



Corrugated bead gaskets and graphite bushing

With investments in metrology and new software for QA handling Klinger GmbH of Idstein is able to offer itself as an expert supplier of this product range to a worldwide growing market.

For further information about Klinger GmbH please visit www.klinger.de. ■

KLINGER UK Open Saudi Arabian Manufacturing Facility

KLINGER Limited, Great Britain



KLINGER UK Open Saudi Arabian Manufacturing Facility

Klinger UK are pleased to announce the official opening of their joint manufacturing facility in Saudi Arabia.

The partnership between Klinger UK and UBPC has seen the opening of the 'Klinger UBGF' gasket factory in Saudi Arabia.



The move by Klinger to work jointly with a Saudi based company in a country which had US\$ 37 billion-worth of oil and gas projects under design or construction during 2012 demonstrates the companies' commitment both to their customers and the Saudi market.

Officially opened in November by Christoph Klinger-Loehr, head of Business Development, and Alan Bates, Klinger UK Managing Director, the facility has already received approval from Saudi-based contractors and petrochemicals producers.

For further information about Klinger Limited please visit www.klinger.co.uk. ■

Additionally to holding large stocks of Spiral Wound Gaskets, Ring Type Joints and Klinger Materials, the new operation is able to manufacture Spiral Wound Gaskets which will strengthen Klinger's ability to service in the Saudi market.

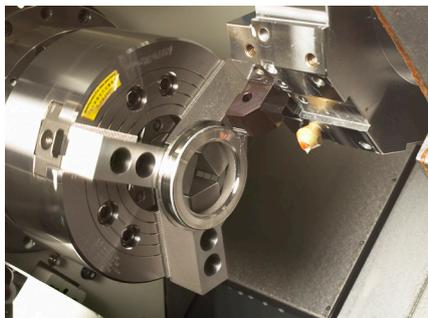


KLINGER UK Extend Precision Machining Facility

With the introduction of a second 160ton Press Line and the continued development of the automated assembly lines, the demands upon Klinger's Press Tooling Suppliers had become greater and greater.

As a company that offers a 24/7, 365 days per year service to its customers, Klinger expects suppliers to offer the same quality of service. It was becoming more difficult to ensure that these service demands were met, therefore the decision was made to manufacture the whole tooling range in-house at Klinger UK's production facility in Bradford.

Investment was made in a range of specialized machinery, including CNC Milling and Turning, Surface and Cylindrical Grinding, as well as the latest WEDM equipment.



Klinger Precision are now in a position to further develop the growing market for 'outsourced' highly complex machined parts.

Coupled with Klinger UK's pre-existing and ever increasing demand for exotic alloy RTJs for the offshore Oil and Gas Industries, Klinger UK believe this offers an excellent addition to the current portfolio of products.

Alan Bates, Managing Director of Klinger UK, commented:

'What initially started as a way of preserving our Press Tooling requirements has developed into a service that we can now offer which has shown great potential for growth in 2013.'



For further information about KLINGER Limited please visit www.klinger.co.uk. ■

Klinger International Sealing Conference 2012

KLINGER Limited, Great Britain



KLINGER Sealing Group Members sharing knowledge

The 4th & 5th October saw over 60 Klinger companies come together at Klinger UK's Bradford manufacturing plant to discuss the latest innovations and advances in gasket manufacturing.

Klinger UK's Managing Director Alan Bates commented: 'It is excellent to see a group committed to quality and innovation coming together from around the globe to share knowledge and ideas.'

For further information about KLINGER Limited please visit www.klinger.co.uk. ■



The conference coincided with Klinger UK opening its new extension at their Bradford Headquarters. Incorporating an investment in an Automated Ring Production Centre, this will increase the capacity of Klinger UK's ring production by 50 % in 2013.

The conference included technical presentations and training, concluding with a tour of the Bradford Manufacturing Facility.



Customer Feedback



Celanese, Germany:
"MRO Procurement Europe is using KLINGER SCHÖNEBERG as a preferred supplier of Ball Valves and we are currently testing the use of KS High Pressure Valves."



SE Tylose GmbH & Co. KG, Germany:
"We are pleased to be able to tell you that our new Tyloshin II plant has been started up successfully.
We would like to take this opportunity to thank you and your staff for your commitment and your support during this project. We have been and still are very satisfied with the quality of the delivered ball valves and the order processing on the whole. We can assure you that we will continue to address our inquiries from our daily business as well as our project business to you in the future."



Launch of the new Saidi Service Centre SSC

The Saidi Service Centre offers a wide range of value added services. The objective is to be independent from others and have shorter deadlines as well as to acquire more efficiency and flexibility. It will also improve the quality assurance of the product and the management, while developing our own procedures (Saidi know-how) at the same time.

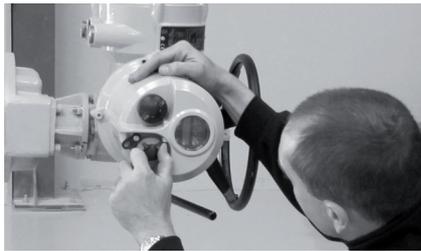
The Saidi Service Centre is divided into five main areas:

- Valve Automation Centre
- Valve Repair Express & Assembly
- Klinger® Gasket Workshop
- BOA Flexible Solutions
- Plastic Solutions

Valve Automation Centre

The Valve Automation Centre is focused on plant services in the following key sectors:

- Actuated valves: Mounting, regulation and start up of actuators, machining of mounting kits. Off-the-shelf delivery
- Control valves: Assembly, regulation, testing and start up, machining of special trims for troubleshooting
- Valve Lab: Communication test protocols and field buses, safety valve test bench, SAIDI University training courses



Valve Repair Express & Assembly

This area comprises all kinds of maintenance and repair work including painting and sandblasting as well as original spare parts for a vast variety of valves.



Klinger® Gasket Workshop

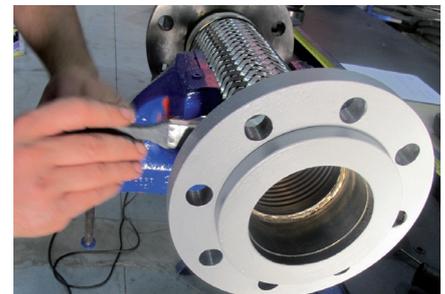
A centre for the Design and Manufacturing of Gaskets focused on a local plant service (plant shutdown):

- Manufacturing of metallic gaskets
- Tailor-made gaskets
- Plant shutdown management
- Assistance and training on gasket installation
- KLINGERexpert® (your gasket selector).



BOA Flexible Solutions

The BOA Group is one of the leading manufacturers of flexible metal elements. The products range from hoses and their assemblies, hydroformed and edge-welded bellows to expansion joints and vibration dampers.



Plastic Solutions

This area comprises the following services:

- Automation
- Machining and transformations
- Maintenance
- Piping Skids
- Official Service

For further information about Saidi please visit www.saidi.es. ■

Soft-Chem and Sealex used at Mountain Pass Mine THERMOSEAL Inc.



Soft-Chem and Sealex meet challenges of FRP piping systems

Mountain Pass Mine, located in the Clark Mountains of California, is 'one of the largest construction sites in the United States today.'

Due to the insatiable global demand for rare earth minerals, Mountain Pass Mine is also considered by some to be 'the most important industrial facility in the United States' because it is the only place in the country where rare earth elements are concentrated enough to mine.



This is but one example where Soft-Chem and Sealex have been called to serve outside their typical service duties and solved leak issues from existing and new piping systems made up of FRP resins.

FRP (Fiberglass Reinforced Plastic) piping systems are becoming more and more prevalent due to its corrosion resistance and therefore longer life. Better flow efficiencies due to the smoother bore means less horsepower is required to move media.

FRP piping systems are also light weight, and therefore, less equipment is needed to erect. FRP piping systems are found in a wide variety of industries that include chemical, pulp and paper, petrochemical, marine, mining, etc.

The process industry has long struggled with sealing FRP flanges for a number of reasons. Some of the challenges are related to flange design and condition, while other challenges focus on installation procedures and maintenance practices.

Thermoseal was recently tasked to solve problems in such applications. Using our technical experience and material selection, we were able to expedite start up and minimize downtime. Customers using Sealex and Soft-Chem are finding success time and time again.

Per ASTM standards, the FRP manufacturers often select the appropriate elastomeric gaskets based primarily



on its chemical resistance. However, in order to achieve a leak-free joint, there are many factors to consider. Thermoseal's expanded PTFE offerings seal due to their low minimum sealing stress, superior chemical resistance, superior temperature resistance, and their inherent forgiving properties and characteristics.

From standard 150# class flanges to manways, Soft-Chem and Sealex have sealed where thicker and more costly alternatives have failed.



For further information about Thermoseal Inc. please visit www.thermosealinc.com. ■



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