

World

Klinger News

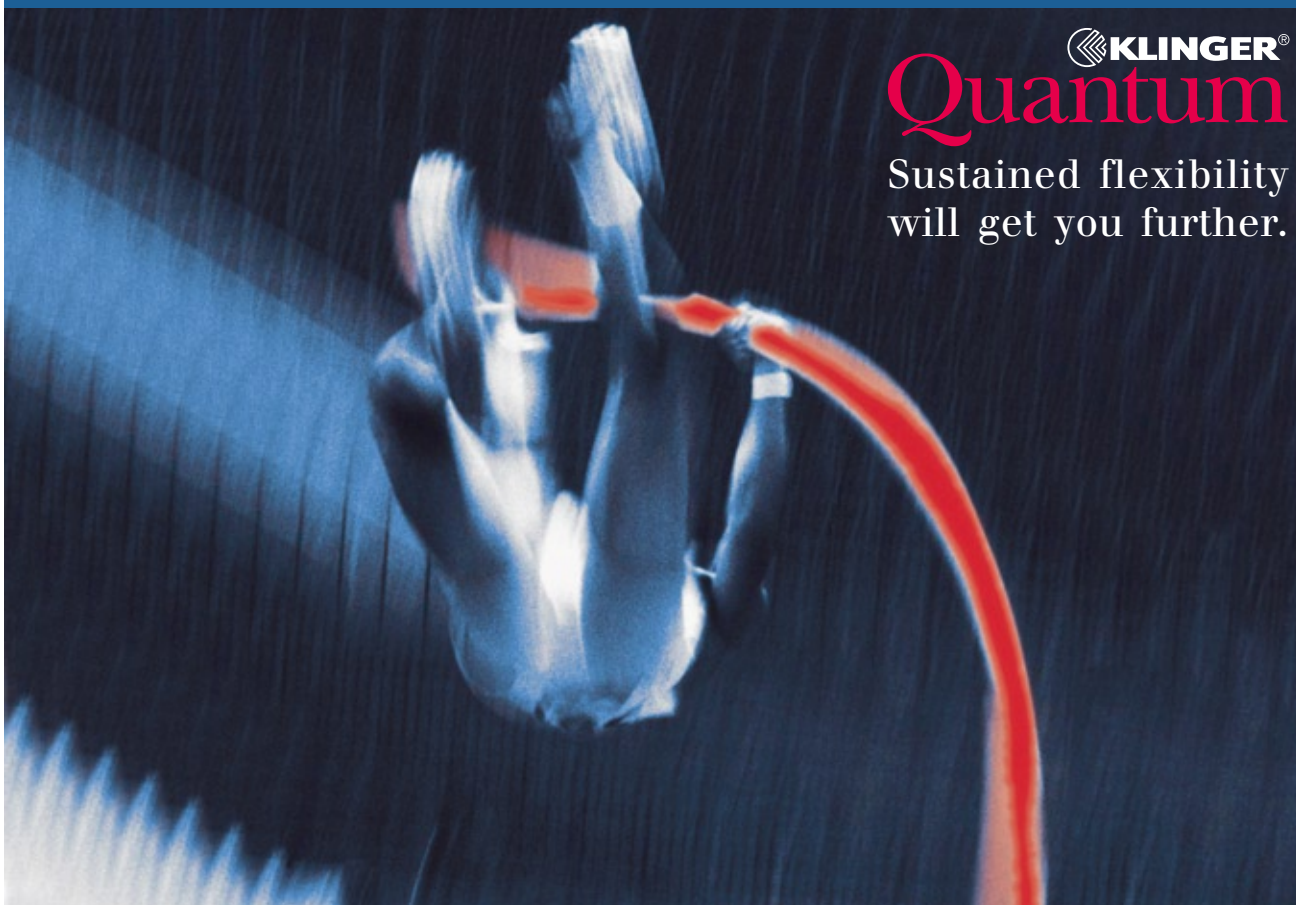
July 2009

www.klinger.ch



KLINGER® Quantum - a new era in gasket technology

Rich. KLINGER Dichtungstechnik GmbH & CoKG, Austria



 **KLINGER®**
Quantum

Sustained flexibility
will get you further.

Since the change-over to asbestos-free fibre gaskets, many users have been on the look-out for a gasket material with the same outstanding high-temperature properties as KLINGERit, a material that contained asbestos.

KLINGER is the leading manufacturer of static gasket materials and a pioneer in the development of asbestos-free fibre reinforced gaskets. The best result so far has been KLINGER® topsil-ML1. Although a large step forward, this product did not go far enough. Now, with the development of KLINGER® Quantum,



KLINGER has risen to the challenge and a new era in the world of gasket technology has begun.

Naturally, KLINGER®Quantum meets all present-day requirements for tightness and safety.

that withstands greater expansions without rupture results in a safer, more reliable joint.

A dream comes true

The development of KLINGER® Quantum began with a vision: to develop an asbestos-free, fibre-reinforced gasket material that would possess the same problem-free high-temperature characteristics as the earlier KLINGER®it. The material would also have to meet today's requirements for tightness and environmental compatibility.

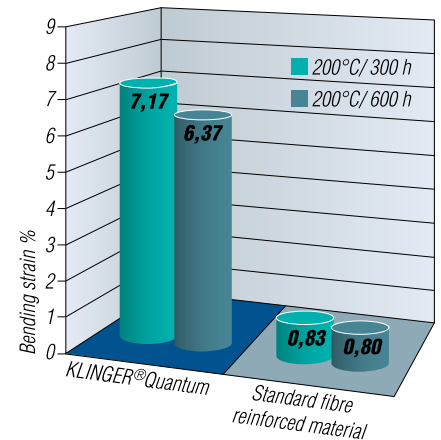
As a world-market leader, KLINGER had consistently sought an asbestos-free solution, and in 2004, exactly 111 years after the invention of KLINGERit, the company introduced the groundbreaking KLINGER®top-sil ML1.

In 2009, after the experience gained with KLINGER®top-sil ML1 and the consistent, further development of the production process, came the breakthrough: with the launch of the unique sealant material KLINGER®Quantum, KLINGER had finally succeeded in revolutionizing the capability of fibre-reinforced gaskets.

Flexibility at high temperatures

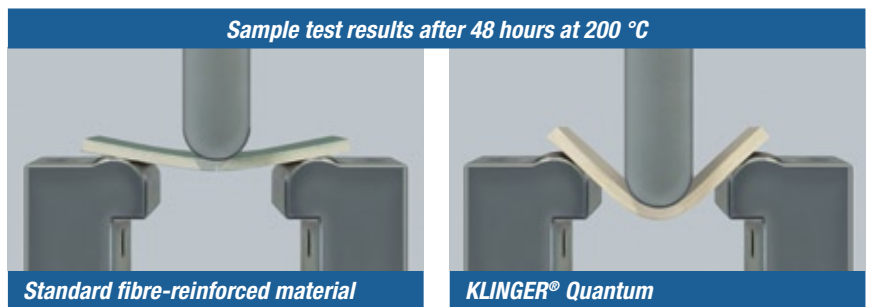
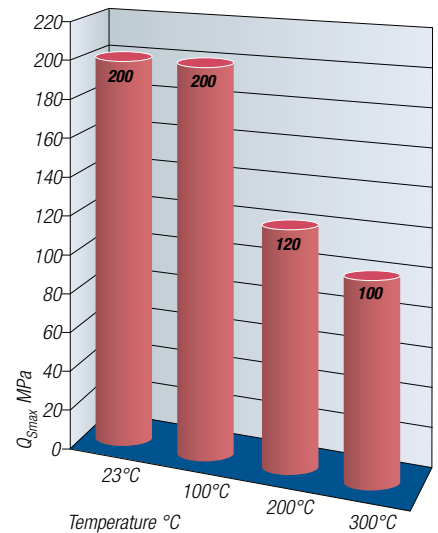
The 3-point bending test is often used as an evaluation method for the flexibility of fibre-reinforced gasket materials. Special tests on conditioned specimens provide an indication of the brittleness and hence the aging behaviour of the elastomers used. Specimens are conditioned prior to testing.

The flexibility required specimens of KLINGER®Quantum as well as a fibre-reinforced reference material to be exposed to temperatures of 200°C and 250°C for a period of 48 hours. Test results for these artificially aged samples provide information on the aging resistance of the two different materials and underscore the high performance of KLINGER®Quantum. Long-term tests in which KLINGER®Quantum was treated alongside a fibre-reinforced reference material at a temperature of 200 °C for 300 and 600 hours are even more impressive. After 600 hours at a temperature of 200 °C, KLINGER®



Gasket factors according to EN 13555

All values mentioned in the EN 13555 are available for KLINGER®Quantum. The following table shows the values for the maximum permissible surface pressure



Outstanding properties

KLINGER®Quantum offers unprecedented flexibility at continuously high temperatures, plus improved chemical resistance and a broader range of applications than all known fibre-reinforced gasket

Quantum demonstrated a unique flexibility that is 8 times higher than known fibre-reinforced gasket materials! Especially in steam applications, strong pressure shocks can often result in damage to the gasket material. A more flexible gasket

The determination of the maximum permissible surface pressures have been done up to a temperature of 300 °C. Even at such high temperatures

Offshore Southeast Asia Exhibition

KLINGER Ltd, Australia

In December 2008, KLINGER was represented at OSEA by Singapore partner Khong Lieng Trading. OSEA, staged at Suntec in Singapore, is Asia's largest exhibition for the oil and gas exploration and production industry. Established in 1979, the biennial event is one of the key industry venues in Asia. In 2008, OSEA featured a record 21,600 square metres of exhibition space, representing a remarkable 80 percent growth compared with the 2006 show.

Strategically located in Singapore, which counts as Asia's largest oil and gas supply hub and technology centre, OSEA 2008 brought together 1,400 leading companies from 49 countries, 25 percent of which were Singapore-based. The show also featured 14 national and regional group pavilions.

Supported by Singapore distributor Khong Lieng Trading, KLINGER Limited used the show as an opportunity to promote its products both to Singapore customers and the many visitors from the region, and also put the spotlight on its sealing solutions for the oil and gas industry. A sincere word of thanks is due to Eric Quek Boon Sim, Managing Director of Khong Lieng Trading, and his team for their total support. They helped turn OSEA 2008 into a resounding success for KLINGER products! ■

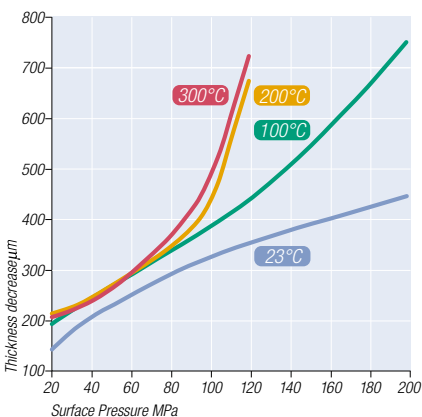


KLINGER®Quantum can be loaded with a surface pressure of 100 MPa without failing.

Thickness reduction at high temperatures

An indicator for the trouble-free behaviour of a fibre-reinforced gasket material at high temperatures is the thickness decrease under load.

The diagram shows that the thickness reduction of a 2,0 mm thick KLINGER®Quantum sample at 300 °C and loads of 60 MPa is approx.300 µm (15 %) which is an excellent result.



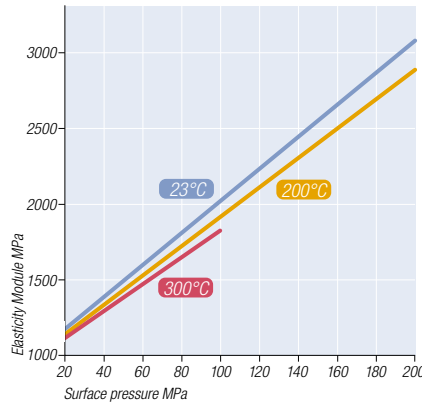
A further proof of the outstanding characteristics of KLINGER®Quantum.

Elasticity module EG according to EN 13555

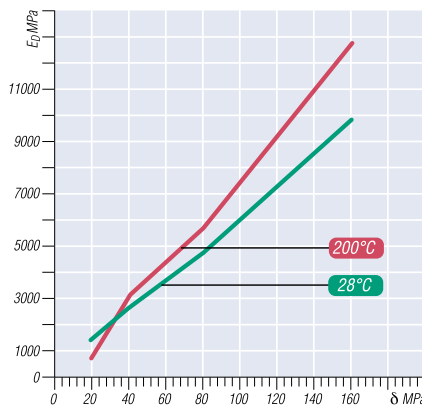
The determination is made from the unloading cycles of the QSmax test. The value for EG changes with the surface pressure on the gasket. A high EG value means a small recovery, and a low EG value means a higher recovery and is thus an indication of a lesser embrittlement.

The following diagrams show the modulus of elasticity of a KLINGER®Quantum and of a standard fibre-reinforced gasket material.

KLINGER®Quantum



Standard material



The difference in elasticity to KLINGER®Quantum is huge. The modulus of elasticity of a standard fibre reinforced gasket material at 200 °C and a surface pressure of 40 MPa is about 3500! This value for KLINGER®Quantum at the same conditions is about 1300! Remember - the lower the modulus of elasticity, the higher the recovery and flexibility of the gasket material.

Tests and approvals

BAM, DIN-DVGW, TA-Luft, Fire-Safe. Other approvals pending. Patent pending.

KLINGER®Quantum - better than any other fibre-reinforced gasket material that is currently available.



KLINGER and BP: together for 25 years

KLINGER B.V., The Netherlands

“What we need are global players with the right technical know-how. KLINGER is just such a player.”

In 2010, it will be 25 years since initial contacts were established between KLINGER and BP. During that time, the relationship has spawned a flexible MRO contract.

BP is one of the largest oil concerns in the world and known to many thanks to its petrol stations. But behind these outlets lies a huge world of oil and gas production, refining, and the retailing of oil and chemical products. Across the globe, BP has around 97,000 employees and a presence in more than 100 countries including the Netherlands.

HSSEQ and A

With over seven hundred employees and a daily processing rate of four hundred thousand barrels of oil, BP's Rotterdam refinery is the largest in Europe. It produces an extensive range of semi-manufactured and end products such as benzenes, LPG, diesel, kerosene, fuel oils and raw materials for the chemical industry.

Arie Boerma and his 13-strong team are responsible for efficient materials and services procurement. “As the largest BP refinery in Europe, our purchasing volumes reach EUR 300 – 360 million a year. So it's essential that we can trust our contractors and suppliers.” This is an integral part of BP's contract strategy, along with all-important HSSEQ (Health, Safety, Security, Environment and Quality). “And then there is A for Availability!” adds Arie Boerma.

“When it comes to quality and supply, we expect reliability from our suppliers. We can't afford to shut down our processes

due to a lack of materials. Which is why we need one-stop shops - global players with the right technical know-how who can supply us with top-class products as fast as possible. This is permanent part of our contract strategy. Along with costs, the service that we get from a supplier is of major importance.”

MRO+

According to Arie Boerma, things have to ‘click’ as well. “It really matters to us not only that our suppliers can be counted on, but that they are also prepared to familiarise themselves with our ‘world’, to join forces with us and come up with new ideas. KLINGER does just that. After almost 25 years of collaboration, the result



Pleun Roobol and Arie Boerma

is our Maintenance, Repair and Operation (MRO) contract. Because the provision of products and services has been continuously expanded and goes further than just seals, steam traps, manifolds, hoses, fittings and other KLINGER products, it has been renamed MRO+. From



1989 to 1991, KLINGER and BP collaborated on the development and implementation of a complete asbestos-free sealing range at the refinery. “KLINGER has also rewritten manuals for certain products and organised training sessions for BP personnel. Arie Boerma: “Around three hundred employees have now been given professional training in ‘steam and condensate’. KLINGER also developed two-day individual training sessions that cover both theoretical and practical applications for technical employees and process employees. Over the last few years, they have also

conducted various optimisation studies, which have resulted in improvements to the installations. All of which clearly goes a lot further than just supplying products. It demonstrates just how successfully KLINGER has immersed itself in our organisation.”



China International Petroleum & Petrochemical Technology and Equipment Exhibition

KLINGER Ltd, Australia

No stress

The same goes for the regular maintenance shutdowns, which Arie Boerma and his colleagues sometimes start planning a whole year in advance. Arie Boerma again: "Our maintenance shut-downs are extraordinarily critical and have to be completed on schedule. So we make decisions about contractors and material ordering well in advance in order to keep stress to a minimum. During a major maintenance shutdown in October and November, everything went perfectly smoothly - despite several emergencies. This is commendable, especially when you consider that KLINGER had to guarantee punctual delivery of as many as 12,000 seals, for example. The shutdown was completed

on schedule in four weeks and we had around forty emergencies. Before the collaboration with KLINGER, the rate of emergencies was much higher. The close collaboration has also allowed us to optimise our logistics and administrative order flow, and also reduce suppliers and stocks. With KLINGER on our side, we're really getting things done!" ■



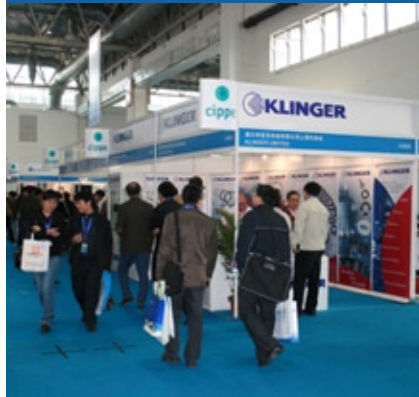
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BP refinery in Rotterdam

CIPPE is considered the premier showcase for China's petroleum and petrochemical industries. Staged every March in Beijing, it is organised in conjunction with the country's biggest petroleum and petro-chemical companies: namely, China National Petroleum Corporation (CNPC), China Petro-chemical Corporation (SINOPEC), China National Offshore Oil Corporation (CNOOC), and China Petroleum and Chemical Industry Association (CPCIA).

This year's event was very well attended, and KLINGER exhibited a full range of products for the petroleum refining, petro-chemical and chemical manufacturing industries. ■





Always on the level

KLINGER S.p.A., Italy

Glass level gauges, invented and patented in 1888 by Richard Klinger, the founder of the Group of independent KLINGER companies, have been consistently updated using KLINGER technology and know-how. Famous and highly-regarded throughout the world, they have become a byword for quality, safety and reliability.

Original KLINGER

Level gauges are the mainstay of the KLINGER Instrumentation range. They are produced and developed by KLINGER Italy in carbon steel, stainless steel and super alloys to suit all types of applications and operating conditions, from vacuums to pressures of 400 bar as well as for steam and industrial processes.

The products satisfy the requirements of the most stringent international regulations, particularly the PED 97/23/EC and ATEX 94/9/EC directives that ensure safe installation in potentially hazardous environments.

All glasses and gaskets are strictly ORIGINAL KLINGER - a guarantee of

reliability and ongoing development.

Aided by KLINGER expertise from all over the world, technical, operational and R&D staff make sure of top-quality production and continuous development at all times. They use first-class equipment, along with state-of-the-art test benches for hydraulic and steam testing at maximum operating pressures. These test rigs incorporate the bicolour level gauge, which is suitable for steam up to 180 bar. Each production batch is inspected and checked using special Control Schedules. All welds are executed by qualified personnel using approved procedures.

All components used in the manufacture of the devices are identified with quality



The KLINGER S.p.A. Instrumentation Team



The new 200 bar boiler

certificates in order to ensure full traceability and safety. Raw materials and machine processes are carefully checked and monitored so that customers are always supplied with products and services that are both safe and reliable.

The test - new 200 bar boiler

Although KLINGER has years of experience, its technology must be backed and confirmed by practical testing. Accordingly, a special electrically powered boiler with a maximum operating steam pressure of 200 bar has been designed and installed at the KLINGER Italy plant. The boiler can be used to simulate extreme operating conditions and evaluate new technical solutions.

The new boiler has recently come into full operation and initial tests on the entire range of KLINGER level gauges have been positive. Furthermore, familiarisation and training courses have been arranged with



Technical Fair Belgrade 2009



KLINGER Fluid Control
GmbH, Austria



At the Belgrade fair between 11 – 15 May 2009, local KLINGER agent Messrs NINACOM displayed the complete range of products from KLINGER Fluid Control/ KLINGER Dichtungstechnik of Austria, KLINGER S.p.A. of Italy, and UK-based TC Fluid Control.

Visitors to the 35 m² stand included representatives from the engineering sector and general industry (for example, tyre manufacturers), and also the district-heating sector. With BELGRADE District Heating Co. placing an order for type KHSV1 ball valves and type KVN piston valves valued at around EUR 100,000, district heating looks set to grow, not only with regard to new installations but also the reconstruction of existing systems. Accordingly, the sector will soon be targeted by a special sales campaign.

Mr Hofstätter from KLINGER Fluid Control and Mr Skero from NINACOM can confirm that participation at such trade shows is a good way to promote KLINGER products. ■



international customers so that they can experience the quality, reliability and safety of KLINGER products at first hand.

KLINGER's global network

KLINGER's service, original spare parts and qualified technical assistance are known and valued throughout the world.

Through its unrivalled network of associated businesses and qualified partners, KLINGER maintains a global presence for the promotion of its instrumentation products. It is a major supplier to projects run by leading international companies in the energy, chemical and petrochemical sectors, along with OEMs and contractors in Europe, Australia, the Far East, Middle East and America.

The Group exhibits at key trade fairs around the world, including the recent AICHEMIA show in Germany, where products covered by the KLINGER INSTRU-

MENTATION brand never fail to attract the interest and approval of operators and users thanks to their continuous technological development and the provision of services tuned to an increasingly demanding market. ■



More information on
www.klinger.it



Achema 2009 review

KLINGER GmbH, Germany

The ‘World Summit of Chemical Engineering Technology’ is how ACHEMA 2009 is described by its organisers. For the Group of independent KLINGER companies, the show was an excellent opportunity for a joint presentation.

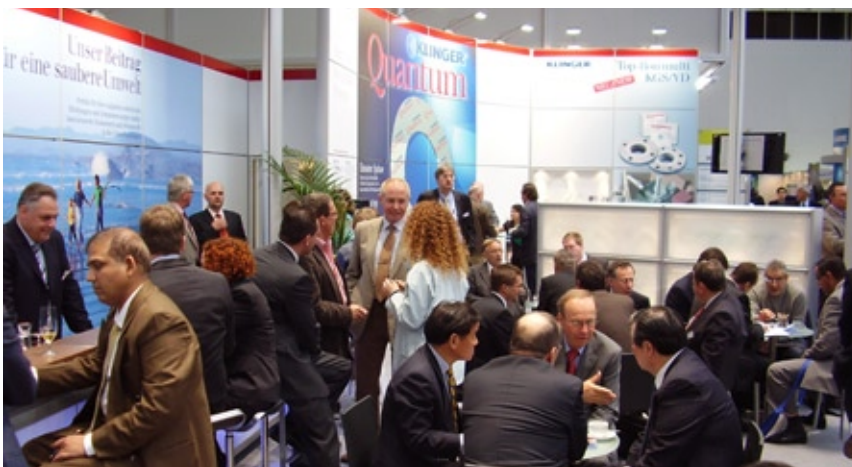
Preparations for this event began approximately two years ago. KLINGER was able to extend its stand area by approx. 35 % compared to ACHEMA 2006, so the conditions were ideal. The areas occupied by the two main divisions, Fluid Control and Sealing Technology, were integrated into the stand layout using a matched presentation style that gave free reign to the exhibits and highlights. Flanked by these two divisions was the central communications zone, which graphically illustrated the joint responsibility of these two technologies for a cleaner environment.

important new development with characteristics that were of special interest to customers and competition alike.

Given the current state of global markets, nobody ventured to comment on the show's prospects and the possible number of visitors. As it turned out, we were in for a very positive surprise: on the Monday, the first day of the show, it was clear that our stand was able to welcome many more visitors than expected. The crew also had their work cut on the main visitor days between Tuesday and Thursday. In fact, it was only on Friday that visitor numbers were down, and this

had been predicted.

All in all, ACHEMA 2009 was a really successful event. New contracts were made, answers were given to a whole raft of technical questions, and many a member of the stand team talked themselves hoarse during the many discussions! Our show hostesses were nevertheless able to keep the worst at bay by providing appetising snacks and drinks. ■



ACHEMA 2009

A new KLINGERtop-chem-2000 ball seal, a new type of metallic seating with metal bellows and a design study for a cavitation-free INTEC ball valve were presented as new products by the Fluid Control side of the business. Sealing Technology, on the other hand, highlighted the KLINGER KGS/VD adjustable seal as well as multi-directional KLINGERtop-flon multi PTFE sealing tape and KLINGER®Quantum sealing material - the latter being the most





KLINGER in Egypt

KLINGER Limited, UK

A joint venture between KLINGER Limited in the UK and MINTA for Trade & Petroleum Services in Egypt will supply KLINGER products to the Egyptian market. With over 40 years experience as a specialist in providing complete pipe networks and accessories to the oil and gas, chemical and other industries, MINTA is the ideal partner for KLINGER Limited to extend its global market presence. Since the link up, MINTA has invested well over GBP 100,000 in machinery and extensive stocks of KLINGER products, which will be housed in their purpose-built factory in Cairo. ■



Pictured from left to right is Mr Alan Bates, Managing Director of KLINGER Limited & Mr Mohammad El Biali, Chairman & CEO of MINTA for Trade & Petroleum Services. The photograph was taken during the visit of MINTA personnel to KLINGER Ltd for the official signing of the joint venture agreement.



CRANE Saunders Award to SAIDI Saidi, Spain

CRANE has made a special award to SAIDI at the recent AICHEM trade show in Germany in recognition of a long and successful partnership between SAIDI and SAUNDERS in the Spanish market that goes back more than 30 years. The award, which also acknowledges the major contribution made by SAIDI during 2008, was presented on CRANE's stand to the President Dr Thomas Klinger-Lohr and the Managing Director Manuel Tabasco as part of SAUNDERS' 75-year anniversary celebrations. Also in attendance at the unique ceremony were

CRANE's European directors and the USA corporate management team.

SAIDI would like to congratulate all those involved and looks forward to a future of continuing success. ■



KLINGER Ballostar KHE is a safe bet

KLINGER Fluid Control GmbH, Austria

At KF Fluid, KLINGER Fluid Control's partner in France, the focus is on district heating and the steam industry, to name just two segments. Steam is widely used in the food-processing industry. For the manufacture of cheese, for example, steam is used at various stages of the process - pasteurization, curdling and concentration of the serum - and also for heating water.

One of the leading French companies is Fromageries BEL, which produces and distributes natural cheese. Fromageries BEL's best known brands include La vage qui rit, Leerdammer, Kiri and Babybel.

SART von Rohr, a close commercial partner of KLINGER located in Alsace, is a producer of control valves, steam

traps and pneumatic actuators, and has received an order for a skid destined for a BEL factory in Turkey. SART von Rohr was looking for a 'safe valve'. Naturally, they needed to look no further than the KLINGER Ballostar KHE valve, which has now been installed on all steam-condensate units. ■





Not all is black

BARTSCH GmbH, Germany

Flexibility, service and high quality are the cornerstones of success at BARTSCH GmbH.

Wallenhorster BARTSCH GmbH can look back on 35 years of success. Since 1973, the company has carved out a firm position in both the domestic and international markets as a manufacturer of industrial graphite and carbon products. BARTSCH GmbH has acquired an excellent reputation in the area of water jet technology, too.

At the Wallenhorst facility, on a 12,000 m² compound, 70 employees make for a smooth and efficient manufacturing process plus high-quality products. For BARTSCH GmbH, flexibility and service have always been top priority.

Since 1998, the company has also achieved great success in the area of water-jet technology, and the Wallenhorster team now operate four water-jet cutting machines. This year saw the

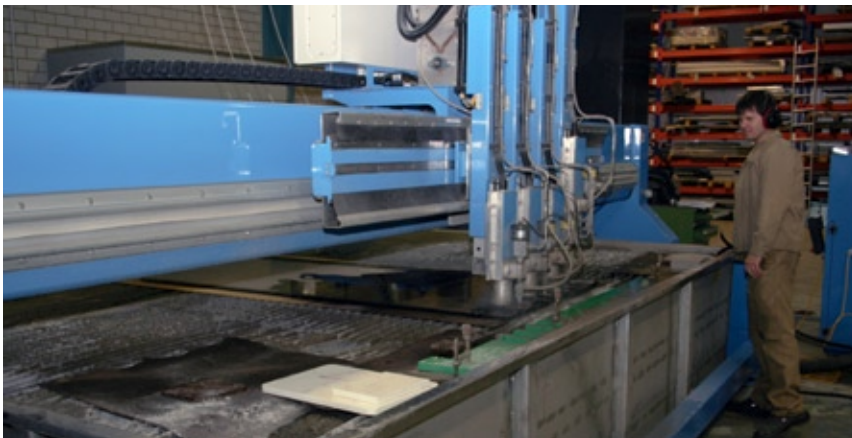
addition of a special machine with a 4 x 4-metre capacity. BARTSCH has constructed a new 400 m² hall with enough space to cope with the new machine's size. "The machine's large work-bed allows us to satisfy the requirement for cutting to shape materials of above-average size," is how MD Martin Einfeldt explains the benefit of the new acquisition - a necessary step in the light of the high level of demand from BARTSCH GmbH

customers. The machine can cut materials such as stone, steel, marble or plastic with high precision, and is also very eco-friendly.

BARTSCH GmbH is also very active on the training front. Currently, the company is able to conduct training in five areas, including office administrators, management assistants, machine tool/lathe operators, line and machine supervisors, and stores/logistics technicians. ■



Covering a total area of 400 m², the new hall at BARTSCH GmbH also houses the new water-jet cutting machine. The facade is adorned with Wallenhorster Wasserstrahlschneidetechnik's new «Hoppi» logo.



The extra large work-bed on the new water-jet cutting machine means BARTSCH can accept and process special orders.



BARTSCH GmbH's administration building in the Wallenhorster industrial district.

The carbon/graphite product segment

Most of the production area at BARTSCH GmbH is given over to the carbon/graphite segment. The main products are pure graphite rings, shaft seals and carbon components. State-of-the-art production options allow the company to manufacture the widest range of ring geometries. In addition to die-cut graphite seals, further materials can

be supplied, and these are produced on BARTSCH's own presses. A comprehensive range is on offer in the area of shaft seals, too. BARTSCH is also a specialist in the repair of all seal types from all manufacturers. In the carbon products segment, the company can supply carbon rings for use in shaft seals and bearings. Compared with other raw materials, graphite has

many advantages: for example, its application is universal; it is also non-inflammable and asbestos-free; and there are no adverse health implications.



A member of the Group of independent KLINGER companies



New anti-stick graphite coating line

KLINGER AG Egliswil, Switzerland

Over recent months, KLINGER AG Egliswil has developed and installed a new processing line for coating graphite foils with its anti-stick (AS) material. The new process replaces roller coating with a spray system, which gives the company greater flexibility in the production of graphite laminates. In an automated one-step process, KLINGER is now able to

- Coat graphite foil (1 and 1.5 metres in width) with its AS material
- Dry the foil
- Print a logo on the AS surface (KLINGER and custom logo)
- Cut the foil into standard sheet sizes

Now, KLINGER AG Egliswil can coat graphite foils off the roll, and also finished sheets in the sizes 1000 x 1000, 2000 x 1000 or even 1500 x 1500 mm - all in-house. Customers have already been supplied with the new material. The surface looks as good as ever, and the weight area distribution of the new coating is excellent and very regular. At the heart of the new process

are the spray nozzles, which are guided over the graphite foil and cleaned automatically at controlled intervals in order to prevent clogging of the injectors.



New anti-stick graphite coating line

The next and final step will be to offer customers an AS graphite foil in roll form, including logo - a challenge that is set to be realized in the months to come. ■



Rich. KLINGER Argentina at EMAQH 2009

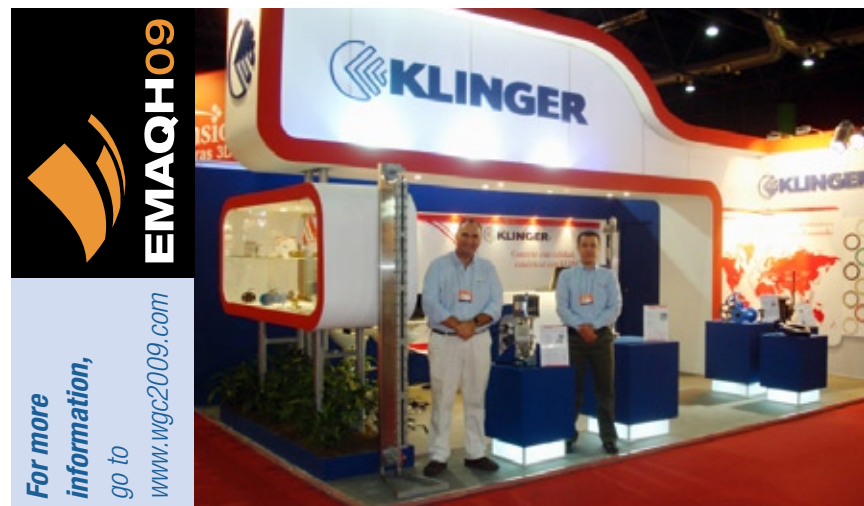
Rich. KLINGER S.A.A.C.I.yF., Argentina

The 23rd EMAQH International Tool and Machinery Exhibition was staged between 3 and 8 April 2009 at the La Rural de Palermo Exhibition and Conference Centre in Buenos Aires and attracted more than 31,000 visitors and 305 participating companies. On a 32 m² stand, Rich. KLINGER Argentina was once again able to showcase its complete range of sealing materials and fluid control products and make contact with almost 100 technical and commercial staff from local companies such as Techint, Cervecería y Maltería Quilmes, Química Montpellier, Petroken and Indunor.

The event also featured two seminars chaired by Dr Teodorico Lythgoe and Cristian Gonzalez on KLINGER gland packings and actuated KLINGER piston valves. Technical seminars are an integral part of

Rich. KLINGER Argentina's marketing and sales strategy, and in 2008 Teodorico Lythgoe presented 15 seminars on the theme: "Flanges connections: the selection and installation of industrial gaskets". The keen interest from more than 250 participants from maintenance and

engineering departments is a clear indication of the demand for information and technical advice on this subject. Rich. KLINGER Argentina has already reserved a place at the 24th World Gas Conference Argentina, which will be staged at the same venue between 5 and 9 October 2009. ■

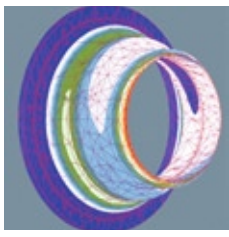


EMAQH09

For more information, go to www.wgc2009.com



Connect with Quality



The Global Partner for Global Players

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