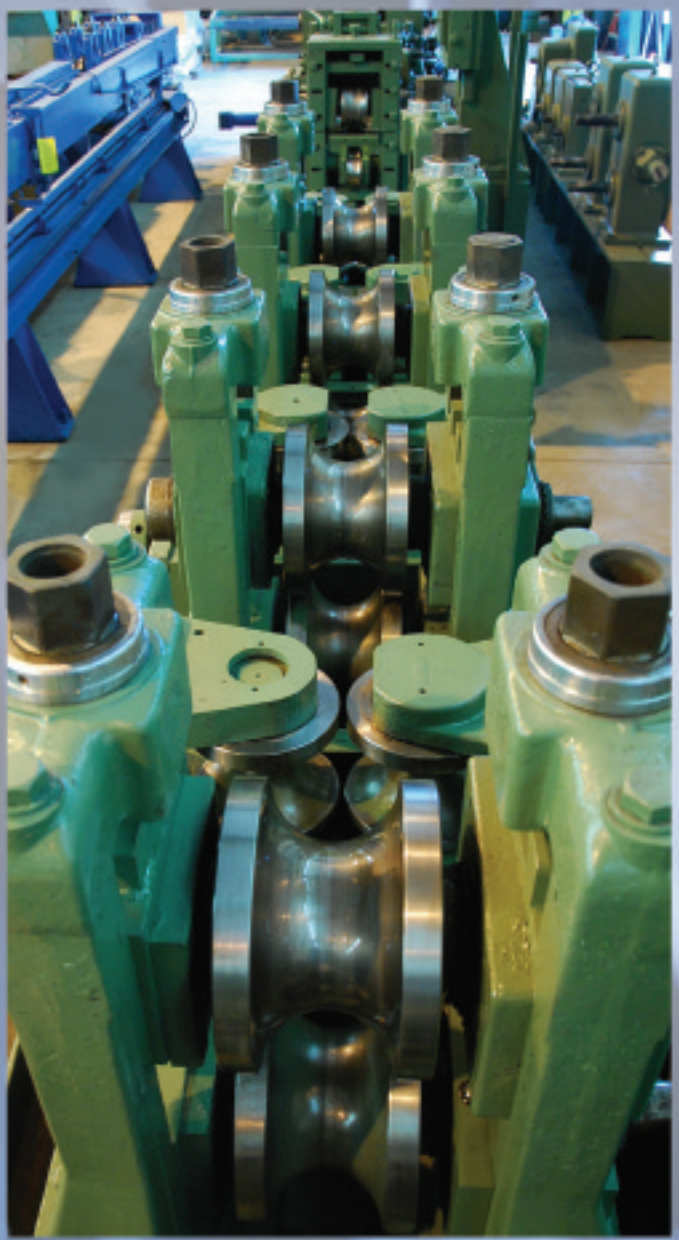
The international magazine for the tube and pipe industries

TUBE & PIPE TECHNOLOGY

November 2009 | Vol 22 No 6 | US$33

TUBE MILLS | ROLLFORMERS | CUT-OFFS | WELDERS | PRESSES | STRAIGHTENERS | & MORE



FABTECH INTERNATIONAL & AWS WELDING SHOW Including METALFORM

Visit us at the FABTECH International & AWS Welding Show, Booth 3061

More uptime. More output.

From the welder with a 5-year warranty.

The Weldac 1800 —for API pipes up to 26" OD.

All Weldac solid-state welders now come with a 5-year warranty for their inverter modules, driver cards included.

Since its launch the Weldac has become a proven solution; a welder that's boosting productivity at companies worldwide.

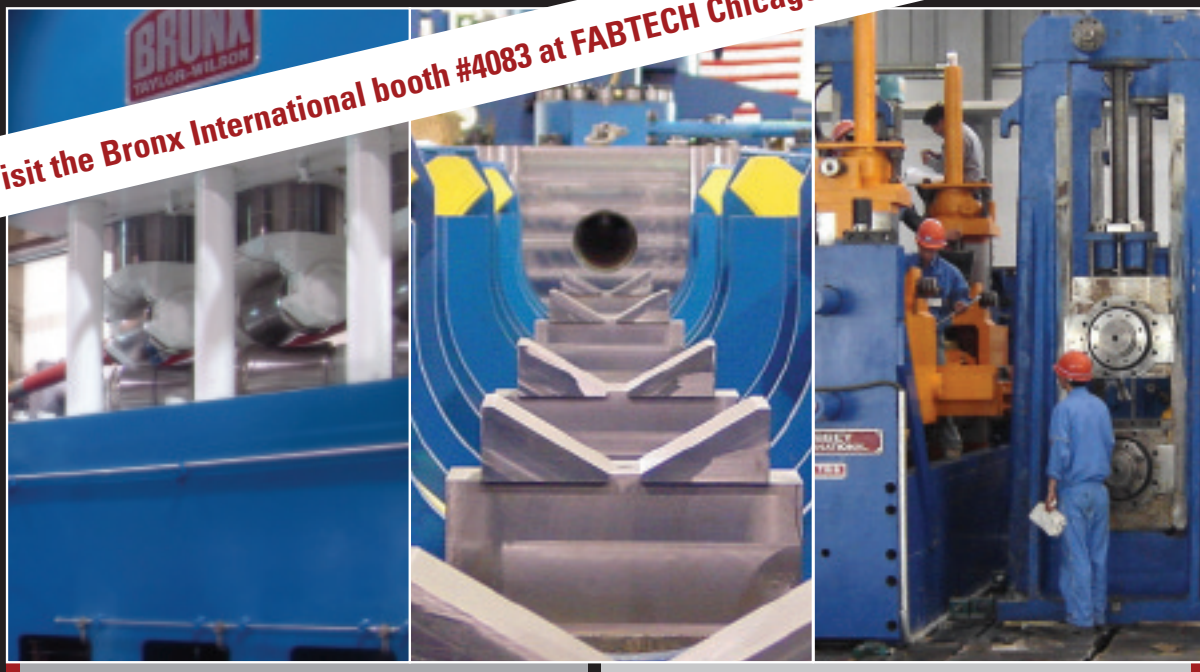
Weldac's unrivalled reliability is based on a robust design and robust components. In fact, our IGBT transistor solution makes the Weldac virtually short-circuit proof.

To learn more about Weldac, its proven reliability, and the warranty, just write to us at: sales@no.efdgroup.net

EFD Induction | www.efd-induction.com | Putting the smarter heat to smarter use.

EFD® INDUCTION

Visit the Bronx International booth #4083 at FABTECH Chicago.



We are the leading manufacturer of Mill & Finishing Solutions to the world's OCTG marketplace.

Visit www.btwcorp.com to learn more about BTW's finishing equipment and Abbey's mill solutions.

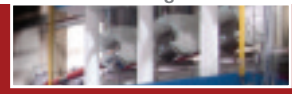
MILL & FINISHING SOLUTIONS

The global tube & pipe mill and finishing installation history of Bronx and Abbey in the OCTG marketplace is unmatched. Small to large mill installations, Hydrostatic Pipe Testers to Straighteners … the Bronx and Abbey team of engineers have a history of innovation on their side, providing solutions to maximizing production up-time, while minimizing down-time. **Bronx has over 100 global installations in the last decade and Abbey's Patented Quick Change Technology is employed in recent mill installations worldwide.** Let us develop a solution to meet your mill & finishing needs.

Hydrostatic Testers

Pipe End Finishing

6-10 Roll Straighteners



Bar Straighteners

World Headquarters: Bronx International, Inc. P: 330.244.1960
Abbey International Ltd. P: 419-874-4301
European Office: Bronx International, Inc. P: +44 (0) 870 442 2686
Asia Office: Bronx International Inc. P: +86 8526-2010/11

www.btwcorp.com
www.abbeyintl.com

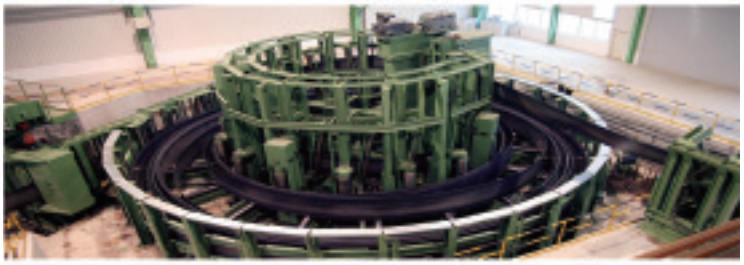
BRONX TAYLOR-WILSON

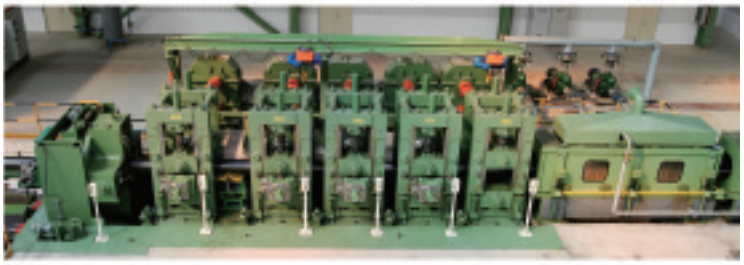
ABBEY INTERNATIONAL

EDITORIAL INDEX

PIPE MILL
ERW/API 8”-26”Ø

DPI, Anshan, China/2008





ENTRY SECTION	
ACCUMULATOR	
CAGE FORMING	
WELDING SECTION	
SIZING SECTION	
END FACING	HYDRO TESTER

CAGE FORMING TECHNOLOGY

OPTIMUM SOLUTION FOR
ERW API PIPE MILL 20”/24”/26”Ø

- PROGRESSIVE FORMING
- UNIFORM WELDING
- QUICK ROLL CHANGE
- LOW TOOLING COST

MILLTECH is in the worldwide partnership with **YODER MFG.** specialized in the mfg. of ERW/API Pipe Mill O.D 6”-20” / 8”-26” with Full Cage Forming System.

We supply the clients with mill and finishing equipment of latest technology in package as well as technical assistance for operation.

MILLTECH
pm@milltechco.com

YODER

CONTENTS

www.read-tpt.com

The greatest shows on earth

In a couple of weeks, and by the time you are reading this latest issue of Tube & Pipe Technology, I will be on a flight to Chicago, USA for the hotly anticipated FABTECH 2009 – and what an exciting few days it promises to be.

It will be both my first trip to a tube and pipe show and my first visit to the US, so make sure you visit our stand and say hello and let me know about any exciting new developments at your company. From everything I have heard, Chicago and FABTECH are a great place to start. I am certainly looking forward to visiting one of the world's most celebrated shows and putting some names to faces.

I hope the last issue of the magazine gave you an insight into the sheer number and quality of exhibitors that are going to be at FABTECH this year. The organisers have high hopes and I am certain the event will help prove that all the whispers of greenshoots of recovery in the world economy are true. There is strong evidence that healthy growth in the Far East, Australia, France and Germany is being reflected around the globe.

Also, do not forget to start sending your editorial for the next major show that, believe it or not, is already on the horizon – Tube Düsseldorf 2010. The organisers have reported an almost unprecedented level of interest for this latest event, so help us to make this the biggest and best Düsseldorf issue of TPT ever.

While the January issue will of course have a comprehensive preview of this major show and its many exhibitors, do not forget that we will also be taking a look at a number of other fascinating areas of the tube and pipe industry: weighing, measuring, handling and packaging technology; heat and surface treatment (including furnaces); and another show in the shape of Tube India. So if you want the leading lights in the tube and pipe industry to read about your company, make sure you do not miss out.

Rory McBride, editor, Tube & Pipe Technology

FRONT COVER STORY

Universal Tube & Rollform is one of the largest used tube mill and rollform equipment suppliers in the world. With Universal Controls Group we are serving the growing needs of our industry. Working together we are able to offer a variety of cost efficient services to save you both time and money.

From concept to reality, we can help you reach your manufacturing goal. Send a drawing of the shape you need to fabricate and our experienced team will get to work assembling a complete machinery line quotation to produce the part you need, utilising quality reconditioned machinery, combined with new expandable mill control systems and components with today's highest standards. You can inspect your line running in our shop, making your part, prior to delivery. Start-up and training at your site is also available. Log onto www.utubeonline.com to browse photos and specifications of our current inventory. Utilising over 125,000 square feet of warehouse, we stock tube mills, rollformers, accumulators, straighteners, cut-offs, welders and much more, always ready for your inspection.

Stop by booth #2048 at FABTECH and ask about the many new ideas we have waiting for you such as a new U-Trak Length Control System or New Haventrak Flying Shear.

Universal Tube & Rollform
26202 Glenwood Rd., Perrysburg
OH 43551, USA
Tel: +1 419 872 2364 / Fax: +1 419 874 2825
Email: sales@utubeonline.com
Website: www.utubeonline.com

Editor	• **Rory McBride**
Features editor (USA)	• **Dorothy Fabian**
Editorial assistant	• **Christian Bradley**
Production	• **Lisa Benjamin**
Sales & marketing	• **Catherine Sayers** *English speaking sales*
	• **Giuliana Benedetto** *Italian sales*
	• **Hendrike Morriss** *German speaking sales*
	• **Linda Li** *Chinese sales*
	• **Jeroo Vandrevala** *Indian sales*
Advertising co-ordinators	• **Liz Hughes** • **Andrea McIntosh**
Subscriptions	• **Liz Hughes**
Accounts manager	• **Richard Babbedge**
Publisher	• **Caroline Sullens**
Founder	• **John C Hogg**

Published by: **Intras Publications**,
46 Holly Walk, Leamington Spa, CV32 4HY, UK
Tel: +44 1926 334137 • **Fax**: +44 1926 314755
Email: tpt@intras.co.uk
Website: www.read-tpt.com

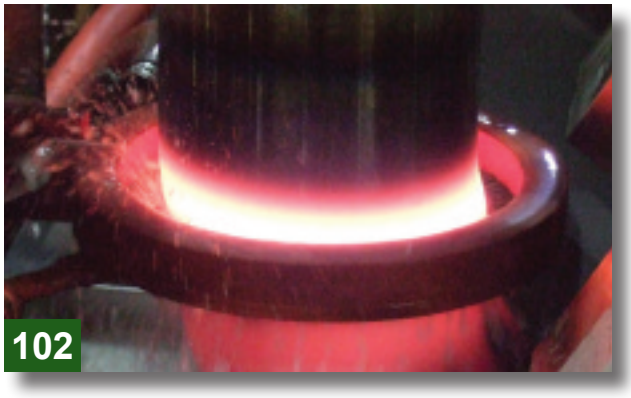
USA Office (Editorial only): Intras Limited,
272 First Ave, Apt 12G, New York, NY 10009, USA
Tel/Fax: +1 212 614 9266
Email: dfabian@rcn.com

Indian Office: Jintras Ltd,
Subarna (Ground Floor) P21/N, Block A
New Alipore, Kolkata 700 053, India
Tel: +91 33 2407 0701 • **Fax**: +91 33 2407 0700
Email: jeroov@vsnl.com

ISSN 0953-2366

US Copies only: *Tube & Pipe Technology* (ISSN No: 0953-2366) is published bi-monthly by INTRAS Ltd and distributed in the US by DSW, 75 Aberdeen Road, Emigsville, PA 17318-0437. Periodicals postage paid at Emigsville, PA. POSTMASTER: send address changes to *Tube & Pipe Technology*, PO Box 437, Emigsville PA 17318-0437.

FEATURES



TECHNICAL ARTICLE

Innovative solutions for all standard connectivity and functional requirements from the process line to the instrument are available in Parker's range

Path to leak-free instrumentation systems unveiled at Offshore show

A COMPREHENSIVE product range for minimising potential leak paths in process instrumentation was unveiled at Offshore Europe by the instrumentation products division of Parker Hannifin, which specialises in motion and control technologies.

Solutions for all standard connectivity and functional requirements from the process line to the instrument are available in Parker's range as a result of an intensive innovation-driven development programme.

A foundation of the range is the elimination of leak-prone taper thread connections, and with it any need for PTFE tape or anaerobic sealant – another common cause of problems in the field. Parker's solutions in this area extends the scope of reliable compression tube fittings throughout the instrumentation chain, by integrating compression tubing ends onto valves and manifolds.

Combined with accessories such as threadless piping interfaces that convert a standard flange to a compression tubing connection, plant engineers have the means of eliminating NPT threads in any standard instrumentation application.

Parker's solutions for minimising potential leak paths is the elimination of leak-prone taper thread connections – a common cause of problems in the field

Parker has now developed a comprehensive range of innovative solutions for instrument interfacing in the form of integrated and close-coupled manifolds.

For standard double-block-and-bleed requirements Parker offers manifolds in monoflange and flange-ended forms, providing 'one-piece' solutions that eliminate any need for system building using discrete valves (and all the additional connections and potential leak paths of that approach).

These manifolds are now optionally available in new, ultra-low-emission, ISO 15848 compliant forms.

Parker's newest integrated manifold solution is the highly innovative CCIMS close-coupled instrument mounting system.

CCIMS provides a novel means of directly attaching a differential pressure flow measurement instrument to a process line. Parker is now releasing CCIMS variants for differential pressure level measurement applications, and for static pressure measurement as well.

"Process instrumentation connections have evolved over a hundred years and, inevitably, tube connections and valve and manifold techniques are steeped in tradition," says Parker Hannifin's Sheldon Banks. "There's enormous scope for rethinking how things are done to provide more reliable leak-free systems, and this innovation-based approach underpins our instrumentation product range."

Parker Instrumentation Products Division Europe – UK
Email: ipd@parker.com
Website: www.parker.com

Tube forming performance for safety parts

TUBE and Pipe bending and forming machinery expert FELSS Burger GmbH, Germany, recently delivered another FU01-50 tube-forming machine to a customer in the USA.

The turnkey solution has 16 NC controlled stations feeding six metre tubes Ø 22x2mm, cuts pieces to 200mm length, chamfers, forms, stamps, punches, checks, measures and sorts.

The system produces a highly safety critical tube element for use in seat belt restrainers.

With a patented process the wall of the tube is first partly thickened. This allows the tube to be widened and the resulting part maintains a wall thickness of 2mm throughout the product.

The tube widening is done in several steps as the tube diameter is increased and then formed to a characteristic asymmetric nose.

Keeping the wall thickness constant is key for this product due to the fact that in case of a car accident an explosive propellant will discharge a pressure of well above 300 bar (4,500 PSI), which activates the seat belt restrainer without destroying the tube.

The installed machine's robust and controlled processes allow more uptime and more output. This highly productive unit achieves output capacity up to 20 parts per minute in a 7/7 mode.

All processes are precisely controlled and run with little operator attention allowing cost effective multi-machine operations.

FELSS Burger has installed its online machinery access, which allows software to be updated, 24 hour/day trouble shooting as well as visual check capabilities via webcam.

In combination with FELSS Burger's tube bending units, such as FB61-21, tubes can also be precisely bent three dimensionally.

Additionally, in case of dynamically changing pressures in a tube, Autofrettage unit FA02-83 can be added and the company says it significantly increases the fatigue strength of a tube.

FELSS Burger GmbH – Germany
Fax: +49 8361 920610
Website: www.felss-burger.com

DIARY OF TUBE EVENTS

2009

NOVEMBER

2-3	**Pipe & Tube Istanbul 09** *Istanbul, Turkey* **Technical Conference**	**Email**: info@itatube.org **Website**: www.itatube.org
13-16	**Tolexpo 2009** *Paris, France* **Exhibition**	**Email**: mbazin@tolexpo.com **Website**: www.tolexpo.com
15-18	**Fabtech / AWS Welding Show** *Chicago, USA* **Exhibition**	**Email**: information@fmafabtech.com **Website**: www.fabtechexpo.com

2010

FEBRUARY

10-12	**Tube India 2010** *Mumbai, India* **Exhibition**	**Email**: dughl@md-india.com **Website**: www.tube-india.com

MARCH

4-7	**Boru 2010** *Istanbul, Turkey* **Exhibition**	**Email**: info@ihlasfuar.com **Website**: www.borufuari.com

APRIL

12-16	**Tube / wire Düsseldorf 2010** *Düsseldorf, Germany* **Exhibition**	**Email**: infoservice@messe-duesseldorf.de **Website**: www.tube.de www.messe-duesseldorf.de

MAY

24-27	**Tube Russia 2010** *Moscow, Russia* **Exhibition**	**Email**: ryfischd@messe-duesseldorf.de **Website**: www.metallurgy-tube-russia.com

SEPTEMBER

21-24	**Tube / wire China 2010** *Shanghai, China* **Exhibition**	**Email**: tube@mdc.com.cn **Website**: www.mdc.com.cn

OCTOBER

26-30	**EuroBlech** *Hannover, Germany* **Exhibition**	**Email**: info@euroblech.com **Website**: www.euroblech.com

NOVEMBER

2-4	**Fabtech / AWS Welding Show** *Atlanta, USA* **Exhibition**	**Email**: information@fmafabtech.com **Website**: www.fabtechexpo.com

2011

JANUARY

8-11	**Tekno / Tube Arabia 2011** *Dubai, UAE* **Exhibition**	**Email**: alfajer@emirates.net.ae **Website**: www.tekno7.info

Paolo Maggi is the new general manager for Acciaitubi SpA

PAOLO Maggi is the new general manager for Acciaitubi SpA, Italy, a leader in welded steel tubes production in Italy and Europe.

Mr Maggi will have responsibility for supporting the sales and marketing department and developing Acciaitubi's presence in new markets, as well as strengthening existing ones and creating new strategies for the company.

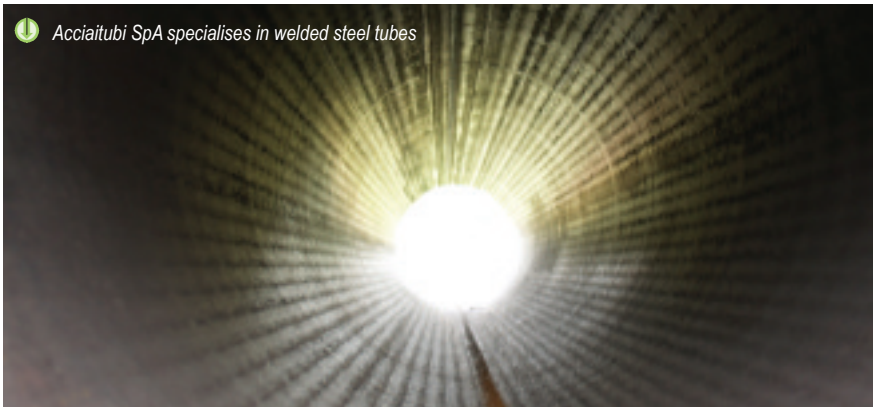
With a degree in aerospace engineering, and a passion and in-depth knowledge of boats, Mr Maggi has an extensive experience in public listed companies, where he had held strategic management positions in production, sales and marketing. He started his career in 1990 as area manager for the ready mixed concrete producer Cemencal, Italcementi Group; from 1996 to 2000 he acted as group marketing vice-president for CIFA, the concrete pump and transit mixer manufacturer, helping to set up the US operations and acting as director of Cifa USA.

After this experience he acted as vice-president of sales and marketing and corporate marketing and communication within Buzzi Unicem SpA, one of the leading cement and concrete producers worldwide.

Before entering Acciaitubi he was vice-president of sales and marketing in Pershing, Itama and Apreamare, the famous shipyards belonging to the Ferretti Group, a worldwide leader in luxury yacht construction.

"Thanks to his knowledge and experience, achieved in different business fields, we believe the appointment of Mr Maggi as general manager will allow the whole team to take advantage of his knowledge, with the aim to further strengthen our market position and consolidate the growth we have achieved over the past six years," said Dr Marco Berera, CEO and shareholder of Acciaitubi SpA.

Acciaitubi SpA – Italy
Fax: +39 03412 84759
Email: soniacereda@acciaitubi.it
Website: www.acciaitubi.it



Acciaitubi SpA specialises in welded steel tubes

SMS Meer's fourth L-SAW pipe mill in China successfully commissioned

A LARGE-DIAMETER pipe mill, supplied by SMS Meer, Germany, has been successfully commissioned at Zhongyou BSS Petropipe Co Ltd in Qinhuangdao, about 300km east of Beijing, China.

The company is a joint venture between the Malaysian UMW group and Baoji Petroleum Steel Pipe Co Ltd, a subsidiary of CNPC, China's largest oil and gas producer and supplier.

The new JCO mill has an annual capacity of up to 150,000 tons and is the most advanced of its kind in China. It will be used to produce longitudinal submerged arc welded (L-SAW) steel pipes with diameters from 508 up to 1,422mm and wall thicknesses up to 40mm in lengths of maximum 12.2m and material grades up to X100. SMS Meer supplied and installed the key machines for the plant including a plate edge milling machine, the technological components of the crimping press, a JCO pipe forming press, a hydraulically adjustable tack welding machine and a mechanical expander.

Brief/0702 The JCO pipe forming press is designed as a short-stroke version and operates with a maximum press force of 65MN. The plate with milled and subsequently crimped edges is stepwise formed over its whole length by a patented forming tool.

This results in an open-seam pipe with parallel longitudinal edges offering optimum preconditions for pipe welding.

In the roller cage of the tack welding machine the gap between the two longitudinal edges of the open-seam pipe is continuously adjusted parallel and tack welded under inert gas. This tack weld serves during the subsequent submerged arc welding process as a weld pool backing.

To ensure that the plate longitudinal edges are brought optimally together the roller beams of the roller cage are individually adjustable servo-hydraulically even under load, if necessary. This hydraulic machine concept is being delivered for the first time to China.

The main tasks of the mechanical expander are sizing and straightening of the pipes. Through gradual cold forming with an expanding head the pipes are straightened over their whole length and given an accurate roundness with an exact inside diameter.

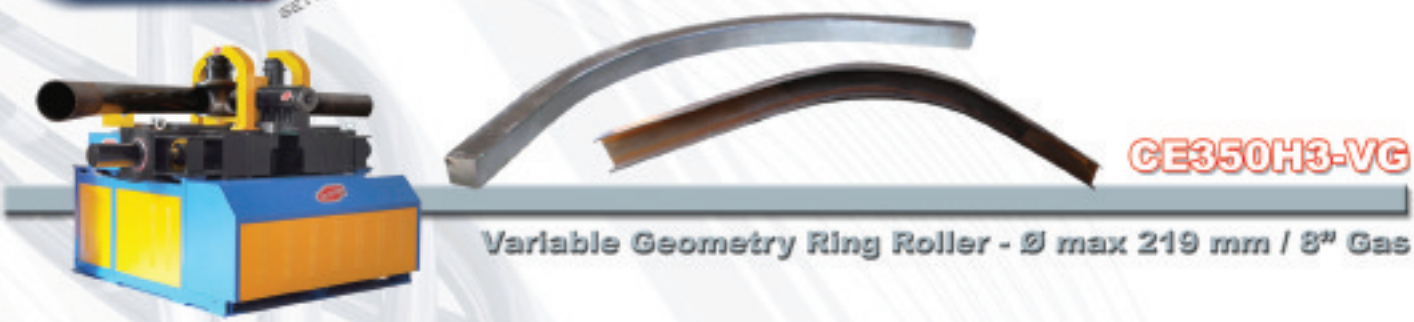
This simplifies the later laying of the pipes in the field as the cross-sections fit perfectly together, even when cut in the field as the pipes are sized uniformly over their full length. During the deformation of the pipe the yield strength of the material is exceeded by plastic deformation between 1% and 1.5%. Thus the mechanical properties are improved by strainhardening and compensation of residual stresses created during the forming process.

Following erection and commissioning of the key machines, the acceptance tests were carried out smoothly and on schedule. All guaranteed contract values could be achieved, thus Zhongyou BSS Petropipe Co Ltd successfully started pipe production at the beginning of June 2009.

SMS Meer Group – Germany
Fax: +49 21188 14386
Email: thilo.sagermann@sms-group.com
Website: www.sms-group.com

ERCOLINA
SETTING THE CURVE

TUBE & PROFILE BENDING MACHINES
NC & CNC FROM 1 TO 13 AXES



CE350H3-VG

Variable Geometry Ring Roller - Ø max 219 mm / 8" Gas

TB130

Non Mandrel Bender - Ø max 130 mm / 5" OD

CE-LC

Laser Control Ring Roller - WORLDWIDE NOVELTY

GB100 CNC6

CNC 6 axes Mandrel Bender - Ø max 120 mm / 4"1/2 OD

... 40 YEARS EXPERIENCE IN BENDING APPLICATIONS

CML International S.p.A.
Loc. Annunziata snc
03030 Piedimonte San Germano (FR) ITALIA
Tel. (+39) 0776 40281 - Fax (+39) 0776 404801
Email info@ercolina.it
Web www.ercolina.com

Overseas

CML USA Inc.
Ph. (+1) 563 391 7700 - Fax (+1) 563 391 7710
Email info@ercolina-usa.com
Web www.ercolina-usa.com

Trexel announces strategic alliance with Kyowa Industrial

OFFICIALS from Trexel and Kyowa Industrial Co Ltd have announced that the two companies have formed a strategic alliance to develop new applications based on Trexel's MuCell® process.

Japanese toolmaker Kyowa claims to have the largest injection moulding press (6,300 tons) and the largest sheet moulding compound (SMC) compression press in Japan, at its headquarters and main factory in Sanjo City, Niigata Prefecture.

The company offers more than one dozen injection moulding and SMC machine presses devoted to prototype programmes, from as small as 50 tons up to 6,300 tons. Kyowa has installed a MuCell microcellular moulding unit system on its JSW 1,000 ton, two-shot press in Sanjo City, which will be used for new application testing, new technology development and to sample MuCell tools prior to entering production.

Kyowa has experience developing moulds for large part applications in a variety of industries, including automotive, building and construction, public utilities, appliances and material handling, and brings expertise in a variety of advanced processes, including multi-material sandwich moulding, rapid heat cycle moulding, two-material moulding, nano moulding technology, plastic-metal composites, multi-material integration processes, water-assist moulding and counter-pressure moulding.

One key facet of the alliance with Trexel will be research conducted by both companies to help develop high gloss Class 'A' automotive parts using the MuCell process.

The MuCell microcellular foam technology is a complete process and equipment technology that enables the production of high quality plastic parts.

MuCell technology involves the use of precisely metered quantities of atmospheric gases (nitrogen or carbon dioxide) in any of the three most common thermoplastic conversion processes (injection moulding, extrusion and blow moulding) to create millions of nearly invisible microcells in the end product. The creation of these microcellular structures brings a wide array of benefits, including reduced weight, reduced material usage and reduced production costs.

The MuCell process is primarily employed in the injection moulding process, to produce lower cost precision parts with a consistent quality and dimensional stability, where foaming has not historically been deployed.

Trexel is the exclusive developer of the MuCell microcellular foam technology. The company's primary business is the supply of MuCell systems for the production of foamed injection moulded and extruded articles. It also provides engineering support, training and other services, and the equipment and components integral to the MuCell process.

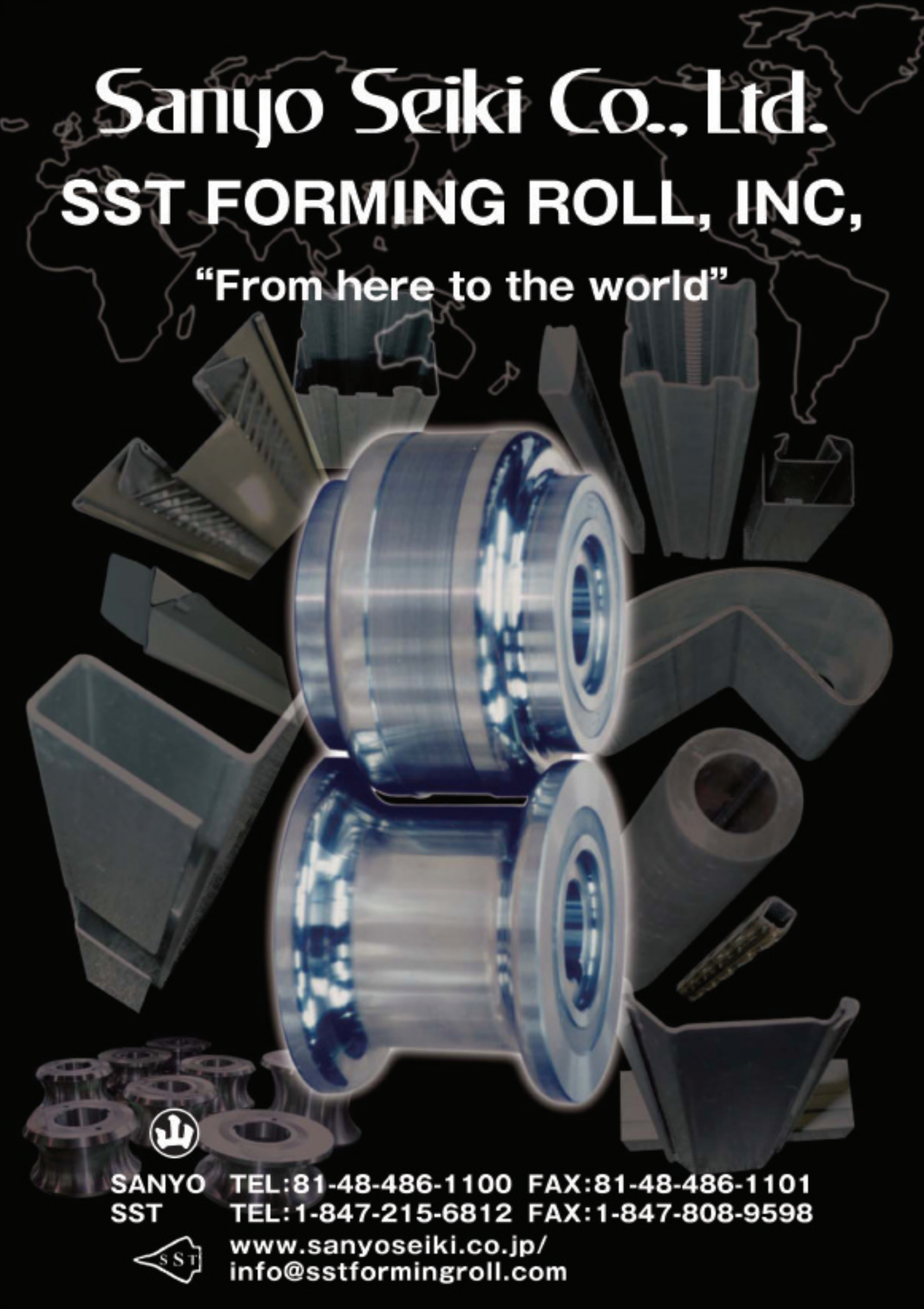
Trexel, Inc – USA
Fax: +1 781 932 3324
Email: extrusion@trexel.com
Website: www.trexel.com

Kyowa Industrial Co Ltd – Japan
Email: yamamoto@kyowa-ind.co.jp
Website: www.kyowa-ind.co.jp

Sanyo Seiki Co., Ltd.

SST FORMING ROLL, INC,

"From here to the world"



SANYO TEL:81-48-486-1100 FAX:81-48-486-1101
SST TEL:1-847-215-6812 FAX:1-847-808-9598
www.sanyoseiki.co.jp/
info@sstformingroll.com

Higher balanced material output for larger wall PE pipes

GROWTH and expansion in the cable and energy markets has fuelled demand for new extrusion technology for manufacturing large wall piping of 4" to 20" in diameter (10.16 to 50.8cm) for a host of industries including marine, cable, electronics, oil, gas and water. Guill Tool & Engineering Co's technology for the 2030 Model is proving successful in serving these markets.

Manufacturers of large wall pipes have long experienced different polymer variations in the end product that, in turn, forces a slowdown in production and a critical loss of time, material and money. Guill states that with its new Model 2030, the extrusion problem of accommodating an inconsistent material flow and distribution has been eliminated.

The Model 2030 tooling system

The Model 2030 tooling system offers material distribution and product consistency that is improved by a specially designed, patent-pending combined die and reservoir system.

With this precise tooling, material flow from the die is delivered with the balance necessary to achieve product accuracy. In addition, a special co-extrusion capability enables the simultaneous extrusion of multi-materials or multi-stripes.

With Guill's advanced flow analysis software, the output of polymer is shaped long before it reaches the tip of the die. With this proprietary extrusion technology, the polymer being distributed cannot return to its original shape. The amount of required material throughput for a pipe design is channelled to meet the proper requirements.

After Guill's design is complete, the flow analysis software ensures that the extrusion die is engineered to perform to specifications.

The self-contained extrusion system for the Model 2030 weighs from 6,000 to 10,000lb (2,721.55 to 4,535.92kg), and has a patent-pending mounted track and cart that enable easy handling and maintenance.

The cart system is engineered to tilt the die on-the-fly, in order to compensate for the catenary (sagging) effect caused by gravity as the extrusion product exits the equipment.

With the self-contained track support system, one person can easily disassemble, clean and re-assemble the system by sliding the modular plates in and out of position without using lifts or rigging equipment.

Pipe manufacturers that require large diameters and multi-layer jacketing also benefit from the advanced material flow of the Model 2030 extrusion head and its support system without rigging or support equipment.

Guill Tool & Engineering Co – USA
Fax: +1 401 823 5310
Email: sales@guill.com
Website: www.guill.com

In Europe:
Padraic Lunn Enterprises Ltd – Ireland
Fax: +353 71 9147604
Email: plunn1@eircom.net

Subsea training first from Hydratight

HYDRATIGHT has launched a new City and Guilds-accredited range of subsea training courses in mechanical joint integrity.

The courses, developed in direct response to feedback from customers, cover the use of hydraulic torque and tensioning equipment for the subsea sector and provide an insight into other Hydratight subsea integrity equipment such as flange pullers, nut splitters and bespoke equipment.

Maintenance and fault finding issues are also addressed, ensuring candidates have a clear practical understanding of the tools and equipment prior to mobilisation.

"Subsea joint integrity is a key issue for the industry: mobilisation and time frames are extremely critical. Downtime for equipment due to lack of training and safety considerations continue to add significant but unnecessary time, and consequently cost, to projects," said Gary Milne, Hydratight's technical training manager. "Subsea has traditionally suffered from a lack of attention when it comes to accredited training. These courses redress the balance."

The courses are part of Hydratight's commitment to improve the skills needed to reduce leakages on all assets within industry sectors, while ensuring a clear focus on the health and safety of all personnel using high pressure hydraulic torque and tensioning equipment.

To reduce risk it is essential for engineers, divers and operators to become totally familiar with all the equipment involved in critical integrity issues. Such courses delivered at the client's premises or Hydratight's training academy offer clients the opportunity to ensure the risk involved is kept to a minimum.

Hydratight also works with The Underwater Centre in Fort William to deliver integrity courses as part of the centre's diver training programme for those who want to use the equipment subsea instead of through topside simulation.

"Legislation requires such skills and City and Guilds accredited courses offer a platform to provide these courses globally, with industry best-practice provided by Hydratight and its team of qualified experienced training instructors. It's a winning combination, for all IMCA members," said Mr Milne.

Hydratight – UK
Fax: +44 12150 50800
Email: training@hydratight.com
Website: www.hydratight.com

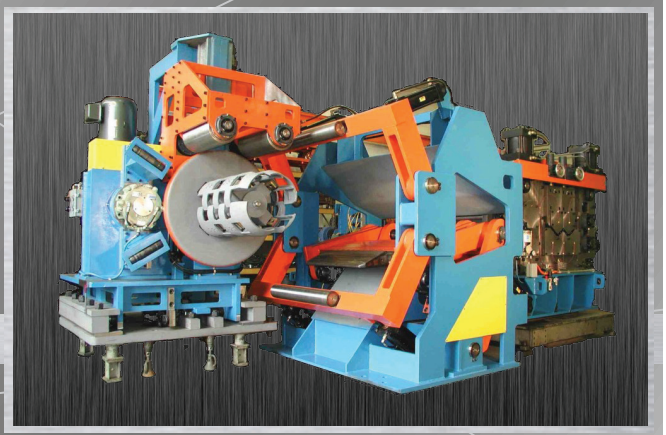
A diver trained by Hydratight on the City and Guilds-accredited training course

Tube and Pipe Mill Entry Systems

World's Leader with Over 2000 Machines in 54 Countries

Large Horizontal Accumulators and Floops™

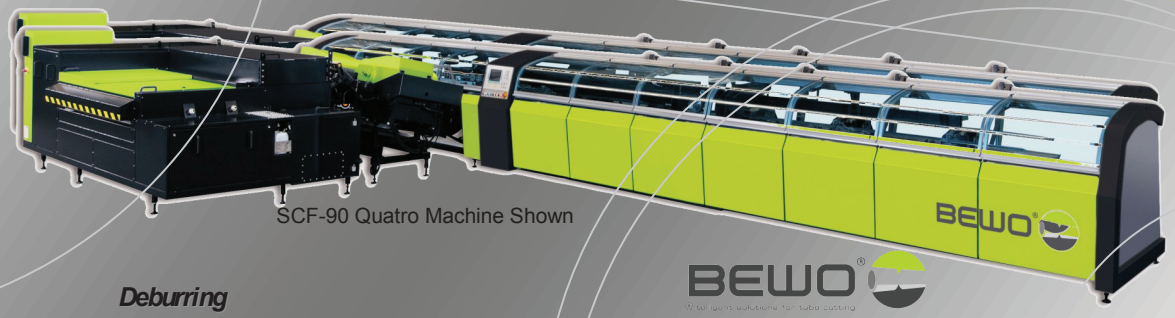
Complete Entry Systems with Coil End Joiners



Cold Saws

Cuts up to 11,000 Parts Per Hour!

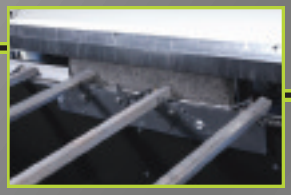
Kent Corporation is now a Distributor for Bewo Cutting Systems in North America



SCF-90 Quatro Machine Shown

BEWO

Deburring



Washing / Drying

Stacking

For More Information, call +1 (440) 582-3400 or visit www.kenttesgo.com
Fax +1 (440) 582-9654 • email: sales@kenttesgo.com

kent Corporation
the source of continuous coil

■ Kent Corporation
■ 9601 York Alpha Drive
■ North Royalton, Ohio 44133 , USA

Improved precision cleaning from ultrasonic tank range

SPECIALIST finishing equipment manufacturer Guyson International has recently upgraded its entire range of Kerry branded ultrasonic KS cleaning tanks.

All models have been improved with an extended feature set and vastly upgraded operational performance that delivers superior cleaning results in faster start up times.

This uprated range of high quality ultrasonic cleaning tanks takes advantage of Guyson's ongoing investment in its in-house engineering capability with new state of the art 3D CAD and Product Data Management (PDM) systems and the complete product range has been fully re-engineered and redrawn incorporating all the latest design best practice.

There are six standard tank sizes in the range with the smallest tank, being the KS300, having a tank capacity of 17.5 litres and extending all the way up to the KS4000 which has a very substantial 247.5 litre capacity. Larger sizes are available to special order. All are robustly constructed using AISI 316L polished stainless steel tanks for durability, whilst Kerry Pulsatron ultrasonic generators ensure powerful parts cleaning and long equipment life.

The newly designed tank range has a varied feature set which aims to deliver very real operational benefits for purchasers with features such as substantially increased number of heater pads to speedily raise the fluid temperature to operational levels, and clearly marked fluid max and min levels on the internal tank wall to enable easy filling guidelines. Optional low water level sensor housing and wiring is included in the tank build so retrospective take up of that function can be easily undertaken for the customer without them having to incur excessive costs and rework to the system.

Service friendly features include a removable rear panel to allow service access to rear tank heater mats and now incorporated into the new overall design the generator and processor boards and all major controlling electronics are housed in a lockable cabinet mounted to the side of the tank which allows for much easier access for tuning and servicing. This also removes them from any proximity to the floor where they may have been vulnerable to damp and water ingress.

Guyson's Kerry KS systems have been designed to achieve optimum cleaning results using aqueous solutions. Ultrasonic transducers bonded to the tank base provide high performance and reliability together with uniform distribution of the ultrasonic energy. The frequency is factory tuned to the individual tank/transducer combination and then optimised under normal usage conditions with frequency sweep and fully automatic tuning.

Guyson International – UK
Fax: +44 1756 790213
Email: info@guyson.co.uk
Website: www.guyson.co.uk

The Kerry branded ultrasonic KS cleaning tanks

Ultrasonic NDT systems for tubes and pipes

ELECTRONIC & Engineering Co Ltd (EECI), India, specialises in providing innovative and cost effective ultrasonic test systems for tubes and pipes.

EECI has more than three decades of experience in delivering UT systems for the inspection of tubes and pipes from a quarter of an inch to 100 inches diameter.

UT Systems designed and manufactured by EECI have: state of the art digital ultrasonic test electronics; automation to achieve higher testing speed, minimise manpower requirement and improve quality of testing; turnkey single point responsibility, unmatched after sales service and application support; and meet the inspection code requirement of third-party inspectors.

EECI recently installed two systems to a leading spiral pipe manufacturer located in North America. The first system was installed for 100% inspection of coils (width 2,100mm) whereas the second system was installed for weld inspection having configurable test configuration of 4I + 2X + HAZ + ON BEAD + TANDEM + PIPE END testing along with advanced laser seam tracking module. This fully automated system has PC-based data logging and test reports generation as per the format required by the customers and international inspection agencies.

The scope of supply includes project engineering, supervision of erection and commissioning and training of operating personnel.

The EECI product range includes portable ultrasonic flaw detectors and thickness gauges along with complete range of probes, reference blocks and related accessories, magnetic particle equipment, eddy current test system incorporating Institute Dr Foerster's test electronics and sub assemblies.

Electronic & Engineering Co Ltd – India
Email: ndtsales@eecindia.com
Website: www.eecindia.com

Good news for global engineers

THE recession may have taken its toll on the engineering and technology sector, but the end is now in sight, according to the Institution of Engineering and Technology (IET).

The IET's annual *Skills and Demand in Industry* report shows that only 31% of employers (compared to 63% last year) are planning to recruit staff over the next 12 months. Of the companies surveyed, 40% said they were concerned about losing their skills base because of the recession.

A third of those companies not recruiting this year named financial constraints as the primary reason. However, only 12% thought that this would be a problem in two to three years, fuelling speculation that the recession is coming to an end.

The survey also reveals a reduction in the recruitment of postgraduates entering engineering roles (down from 24% to 12%). This could be an indication that companies are cutting back on research and development and not diversifying their business. As a result, companies that have not maintained R&D investment may lose out when the economy picks up.

Nigel Fine, chief executive of the IET, commented: "Unlike other surveys, ours is entirely focused on engineering and technology and gives a clear view of what is happening in this sector. The results show that, although financial constraints are preventing many companies from recruiting, it appears the situation will ease over the coming years and that the end of the recession may be in sight.

In two to three years, when companies expect financial constraints to have eased, they once again anticipate a skills shortage in the engineering and technology profession.

"Retraining and professional development will be needed to re-engage the skilled engineers lost during the recession. Without a concerted effort now, it is likely that the UK will quickly experience a greater shortage of engineering skills than before the recession."

The Skills and Demand in Industry report can be viewed online, at: www.theiet.org/publicaffairs/education/skills-survey2009.cfm?type=pdf

The Institution of Engineering and Technology – UK
Fax: +44 1438 765 526
Email: postmaster@theiet.org
Website: www.theiet.org

Training program for pipe mills

MILLTECH has launched a new training program for the operation of ERW/API pipe mill 8" – 26", which it has supplied and installed for Gulf International Pipe Industry in Oman.

MILLTECH has provided GIPI with a full spectrum of operation and production know-how required to manufacture API grade ERW pipes up to 26" in diameter.

The program is the new concept that MILLTECH has developed to ensure MILLTECH system users not only manufacture products that meet stringent technical requirements but also run the pipe mills with full efficiency.

MILLTECH – Korea
Fax: +82 42471 5585
Email: pm@milltechco.com
Website: www.milltechco.com

Used truck showrooms open in UK

BARLOWORLD Handling has announced the opening of eight regional showrooms across the UK displaying a wide range of 'approved used' forklift trucks.

"During the current downturn, businesses are looking to reduce costs and get the best value from their investments. So it's no surprise to see many of them opting for approved used forklifts rather than new," explains Neil Edwards, equipment remarketing manager at Barloworld Handling. The idea behind Barloworld's regional showrooms is to provide a good range of quality prepared machines in each region of the UK for companies to view and purchase.

Being the sole distributor of Hyster equipment in the UK, Barloworld has a wide range of used equipment for sale or lease covering all applications from a simple pallet truck through to huge container handling trucks. All forklifts are ex-rental Hyster trucks having been maintained by Barloworld from new and, therefore, represent good value.

At the end of a long-term contract each unit is returned to Barloworld's national used equipment centre in Warrington for a thorough evaluation, service and repair to bring it up to Barloworld's 'approved used' quality standard.

Barloworld specialists help customers decide what they need based on their operational requirements. Having access to one of the largest fleets in the country means Barloworld can usualy find a solution.

Barloworld's new showrooms are now open at their regional facilities in Cumbernauld, Warrington, West Bromwich, Doncaster, Leeds, Gateshead, Maidenhead and Thurrock. Visitors can inspect the equipment, see the service history and even have a test drive. Approved used forklifts are ready for immediate delivery with only the selection of fork length, fitting of a rating plate and certification the final remaining processes to be completed prior to delivery.

Finally, if customers can't find a specification ready prepared to meet their application needs locally, Barloworld will select one from their extensive national stocks and put an appropriate unit through the 'approved used' refurbishment process at an agreed fixed price.

Barloworld Handling Ltd – UK
Fax: +44 1628 820418
Email: info@handling.barloworld.co.uk
Website: www.barloworld-handling.co.uk

Barloworld's showrooms are now open in Cumbernauld, Warrington, West Bromwich, Doncaster, Leeds, Gateshead, Maidenhead and Thurrock

Large diameter pipe bending solutions

TUBE bending specialist Pines Technology has announced a distribution agreement with Gregson Induction Benders Ltd (UK), a leader in Induction Bending solutions.

"This transaction will bring together the two largest global names in large tube manipulation products and services," states Ian Williamson, chief executive officer of Pines. "This venture will provide our collective North American customer base with the absolute best in technical solutions from two innovative industry leaders, while lowering our product costs for North America."

Mr Williamson further asserts: "This agreement confirms Pines' strategic direction to specialise in large bending applications. The addition of Gregson Products to Pines large draw benders mean Pines covers the complete range of pipe and tube bending requirements for the power generation, energy and petrochemical industries."

"US manufactured machinery is very competitive in world markets. Pines' large, heavy duty CNC and NC benders are exported competitively all over the world including India and China.

"Manufacturing the Gregson Induction Benders in the US is therefore compelling. We believe the future for Pines lies in large, high value equipment either imported to Pines specification or built in the US to partner specifications such as Gregson.

"We are convinced that Pines' commitment to innovation, speed-to-market, exceptional manufacturing capabilities, and US based service will significantly benefit our customers in the US," states Nigel Gregson, managing director, Gregson Induction Benders Ltd.

"Much like Gregson, Pines has an enviable reputation for the quality of its bending and tooling products, and an unquestionable willingness to provide the very finest in such solutions. The combination of Gregson and Pines is extremely valuable as it will create a powerful leader in the tube bending industry, with an enhanced, complete products and services portfolio second to none."

Pines Technology – USA
Fax: +1 440 835 5556
Website: www.pinestech.com

Indonesia's water event in Surabaya

THE sixth Indonesian Water, Wastewater and Recycling Technology Event – INDOWATER 2010 – will be held from 28-30 July 2010 in Surabaya. It is organised by PT Napindo Media Ashatama in association with the Indonesian Water Supply Association. MEREBO Messe Marketing, based in Hamburg/Germany, is in charge of the European & North American Pavilion. From 2010 onwards, the INDOWATER trade show, formerly held in Jakarta, will take place annually alternately in Jakarta and Surabaya. The show in 2010 will be held in the brand new "Grand City Expo" of Surabaya.

MEREBO Messe Marketing – Germany
Fax +49 40 3999905-25
Email: contact@merebo.com
Website: www.merebo.com

London hotel uses tube innovation

A MAJOR refurbishment of a prestigious hotel in London has seen the latest push-fit cast iron gravity drainage system used because of its qualities in terms of fire resistance, acoustics and rapid installation.

The Ensign EEZI-FIT system from Saint-Gobain PAM UK has been installed by contractor Coolex Ltd for the gravity soil drainage pipework for the Kensington Hotel in Queensgate, South Kensington.

Cast iron was specified ahead of alternatives such as HDPE for its superior fire resistance and smokeless reaction – a crucial safety factor considered for the building's residence in the event of a fire – and its proven acoustic qualities, an area where cast iron significantly outperforms the competition in terms of reducing noise from water flow inside the pipe. Indeed, Ensign EEZI-FIT push fit products have been proven in tests at an independent laboratory to standard BS EN 14366 to be even quieter than standard cast iron systems. Furthermore, the ease of installation of Ensign EEZI-FIT – the new push fit cast iron system, featuring a range of socketed fittings and couplings – allowed a more rapid and thus more cost-effective installation of the new system. Cast iron does not require the ancillary products needed by some alternatives – such as fire seals and insulation – meaning it is a quick to fit solution.

Tim East of Coolex Ltd added: "The consultant John Evans specified cast iron because of the product's fire protection and acoustic qualities, particularly on the lower floors.

"There was definitely a time saving in using the EEZI-FIT product. It was very easy to install and it reduced the risk of leakage. There were less bolts to do up during installation and so less chance of human error, which made the end result better."

Saint-Gobain PAM – UK
Fax: +44 115 932 9513
Email: sales.uk.pipelines@saint-gobain.com
Website: www.saint-gobain-pam.co.uk

Exhibition to fill Middle East gap

METAL & Steel 2010 caters for the metal working, metal manufacturing and steel fabrication industries in the Middle East and North Africa Region.

It is an international platform for suppliers of raw materials, semi-finished products, final goods and surface treatment as well as producers of machines, equipment and accessories for the production, subsequent processing and refinement of metal and steel commodity and is being organised in Egypt.

Metal & Steel 2010 will be held together with the AMEX 2010 – International Exhibition for Aluminum technology, products and services related to Metallurgy. The main focus is the expansion of the aluminium and steel downstream industries.

Arabian German for Exhibitions – Egypt
Fax: +20 2240 26479
Email: mohamed@arabiangerman.com
Website: www.arabiangerman.com

Re-using old machines – the sustainable choice

THE re-use of machines can provide substantial savings, and upgrading existing automated welding cells can prove to be a sound investment says AWL-Techniek.

In addition to upgrading its own machines, AWL-Techniek, The Netherlands, can also refurbish other automated welding cells.

Other reasons for upgrading a used machine include efficiency increase (in maintenance), more flexibility in programming, upgrading the welding process, and welding other products with new jigs.

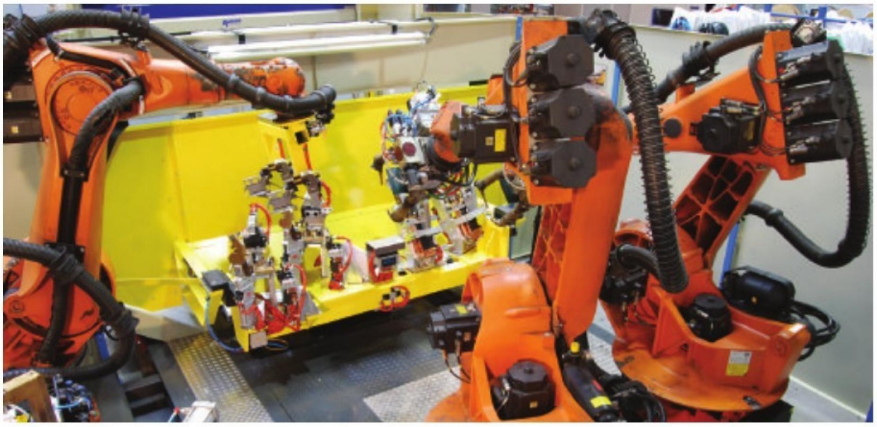
AWL has defined four kinds of upgrade:

- The control package: new industrial controls, partly new cables and connections, and new third generation software with standard building blocks
- New welding equipment package: upgrades from conventional to CMT, upgrades for 50Hz to mid frequency, upgrade CO_2 laser to fibre laser, and optional control package
- Welding new products package: program and integrate the new jigs, optional control package and optional welding equipment
- New robot package: Integration of new robots, optional control package, optional welding equipment package, and optional welding new products package.

Regardless of the choice of upgrade package, standard preparation includes all mechanical components being checked and, if necessary, replaced or reconditioned; all electrical wires and control panels are checked over 120 points; and the cell is thoroughly cleaned and re-painted, if necessary.

AWL can collect the machine and make all the requested modifications, before commissioning the refurbished machine in the production process.

AWL-Techniek BV – The Netherlands
Fax: +31 341 411822
Email: info@awl.nl
Website: www.awl.nl



Bronx/Taylor-Wilson awarded contract for tube straightening machine

BRONX/Taylor-Wilson (BTW) has been awarded a contract for a customised 6CR11 series heavy-duty tube straightening machine for The Interpipe Group in the Ukraine.

Interpipe needed a heavy-duty fully automatic API pipe straightening machine to process large diameter pipes at high throughput speeds to replace an outdated machine from the Soviet Union era.

The contract was awarded to BTW as it was able to customise a solution incorporating specific design features into the equipment. BTW will install a customised 6CR11 heavy duty series fully automatic tube straightening machine to process hot rolled carbon and alloyed steel tubes and pipes with plain ends after hot rolling mill in cold and warm condition in accordance with API 5CT specifications.

These pipes have an outside diameter of 168mm to 377mm, wall thicknesses of 5.5mm to 22.2mm, measure 5,500mm to 15,000mm in length with a maximum yield of 1034 MPa and have temperatures of 0–150°C.

BTW worked with Interpipe NTK and its consultants to ensure that the desired design features were included when developing the new straightener.

Bronx/Taylor-Wilson – USA
Fax: +1 330 244 1961
Email: sales@btwcorp.com
Website: www.btwcorp.com

Gates Corporation acquires Hydrolink Group

GATES Corporation has announced the acquisition of Hydrolink Group of Companies.

Founded and headquartered in Dubai, United Arab Emirates, Hydrolink has expanded to 20 locations in the Middle East and CIS regions. The collective market size for fluid power products in this region is estimated to be worth around $480mn per annum. This acquisition allows Gates to accelerate its market penetration for fluid power products in these high-growth regions.

"Hydrolink is uniquely positioned to serve the oil and gas industry needs, and is a natural addition to Gates Engineering & Services group. The acquisition creates new opportunities for Gates to expand our product and services offering at existing clients as well as extend some of our core competencies to Hydrolink," said Gates group president, David Gau.

Kevin Roberts, Hydrolink group managing director, said: "The alignment with Gates will give us a great opportunity to accelerate growth in the region and other oil and gas hotspots."

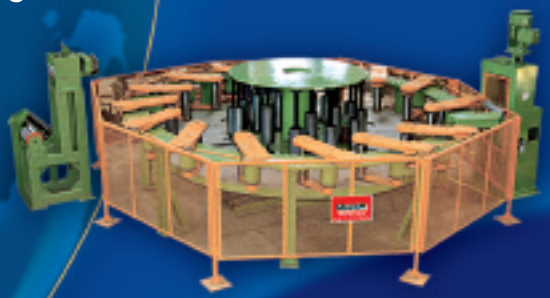
Gates Corporation – USA
Fax: +1 917 50 6444 257
Email: neil.ferguson@gates.com
Website: www.gates.com

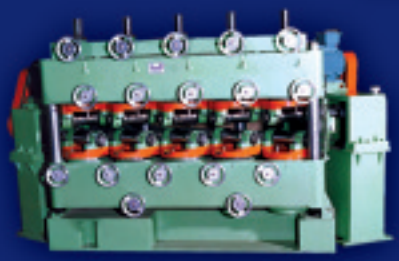
GALLIUM

OVER 500 MACHINES INSTALLED IN 36 COUNTRIES

Complete Solutions for Tube & Pipe Industry

- Automatic Strip Entry Sections with Shear & Welders and Accumulators
- High Speed Modern Tube Mills upto 220 mm OD
- Varieties of Flying Cutoff Machines
- Complete range of Tube Finishing Machines like
  - Tube End Facing Machines
  - Tube Straightening Machines
  - Tube Threading Machines
  - Tube Push Pointing Machines
  - Single/Triple Tube Draw Benches
  - Single/Triple Tube Hydro Testing Machines
  - Tube Bundling Machines
- Rolls for Tube Mills and Roll Forming Lines





GALLIUM INDUSTRIES LTD.

Plot No. 117, Sector-59, Faridabad-121004, INDIA

Ph.: +91-129-2309933, 2309934, 4150117 Fax: +91-129-2309619

Email: mktg@galliumindia.com, galium@sify.com, gallium@del2.vsnl.net.in

http://www.galliumindia.com

Expanded temperature measurement device range

SWAGELOK has launched new bimetal thermometers and thermowells for general industry to expand its temperature measurement devices line, which includes thermometers and thermowells for sanitary applications.

The dampened-movement bimetal thermometers operate in measurement ranges from -70° to 540°C (-100° to 1,000°F) and are available in adjustable-angle, centre-back, and lower-back mount process connections. Each Swagelok thermometer is factory calibrated, and the products feature external reset for field calibration.

"Our customers depend on Swagelok products to provide high integrity measurement and tighter process control of their systems," commented Bill Menz, market manager for process instrumentation. "The addition of thermometers and thermowells for general industry is a natural complement to our existing product line."

The dampened-movement bimetal thermometers are accurate to ±1% of full scale in accordance with ASME B40.200, and are actuated by a sensitive bimetal helix coil. Silicone-free gel in the thermometer stem dampens vibration effects. To prevent fogging and moisture damage to working components, the dials are hermetically sealed.

Swagelok thermowells for general industry are designed to protect the thermometers from contact with viscous, pressurised, corrosive, or abrasive process fluids. They also enable removal of thermometers for replacement or service without affecting the process or system. The thermowells feature standard 304 stainless steel constructions, and 316 stainless steel upon request. The product is available in straight, reduced, and tapered shaft designs. Instrument connections include ½" female NPSM straight and female G1/2B connections. Process connections include flange, sanitary clamp, threaded, and weld socket in ½" to 2" sizes. Thermowells for sanitary applications are 3-A compliant.

Swagelok Company – USA
Website: www.swagelok.com

Swagelok's bimetal thermometers

MYUNG JIN MACHINERY

A WORLDWIDE LEADING MANUFACTURER SPECIALIZED IN TUBE MANUFACTURING PLANTES. SINCE 1988

ERW TUBE MILL 1/2"-24" (API/ASTM)

- TUBE MILL ENTRY TO RUN-OUT TABLE
  - CAGE FORMING TECHNOLOGY
- FINISHING EQUIPMENT
  - END FACING & CHAMFERING MACHINE
  - HYDROSTATIC TESTER
  - PAINTING / VARNISHING LINE
  - AUTOMATIC PACKING MACHINE
- SLITTING LINE
- CUT-TO-LENGTH LINE

MJM

MYUNG JIN MACHINERY CO., LTD.

THE MOST INNOVATIVE SOLUTIONS FOR TUBE MANUFACTURING PLANTS

SIWHA INDUSTRIALL COMPLEX KOREA
TEL +82 31 498 4530~2 WWW.MJMMILL.COM
FAX +82 31 499 4538 MJM@MJMMILL.CO.KR

Four-way forklift for safe handling of long loads

SCHOELLER Bleckmann Darron Ltd (SBDL), Scotland, provides a manufacturing, repair and maintenance facility for drilling products used in the oil and gas sectors. The company is benefitting from the versatile capabilities of an eight-ton Combilift four-way forklift, to ensure safe and space-saving handling of long loads around its site.

Many of the products handled in the offshore sector, such as down hole drilling tools and pipes, are exceptionally long and heavy, and therefore awkward to handle with conventional forklifts such as counterbalance trucks or sideloaders. Even when a combination of the two are used, safe operations are compromised by having to swap loads around, and large areas of potentially valuable space need to be set aside for manoeuvring. By changing from a conventional sideloader to a Combilift, SBDL has been able to exploit the truck's manoeuvrability and four-way capabilities to make the most of restricted yard space, while ensuring efficient handling of its 10m long loads.

Local material handling specialist Groundwater Lift Trucks Ltd advised on the current range of Combilifts and the available customisation and attachments, and SBDL's production manager, Sandy Stephen, chose the C8000 model as the most suitable: "Although most of our loads weigh in at around four tons, this gives us that added flexibility to handle larger products, and it is more than powerful enough to cope very well with the steep gradient in the yard."

The Combilift's robust design incorporates a minimum of sensitive components together with super elastic tyres that enable it to work inside and out, in all weathers. As SBDL's truck spends approximately 70% of its time outside, it is well equipped to withstand the Scottish winter with no risk of operational downtime.

The diesel powered Combilift offloads incoming materials from HGVs, transports them around the facilities, works in racking to a height of 4.6m, and reloads refurbished parts back onto trucks for dispatch to customers.

Four heavy-duty forks ensure the stable handling of even the longest pieces of equipment that SBDL handles, and health and safety procedures have also been enhanced.

For operators, making the switch from the sideloaders was straightforward. Combilift's ergonomic cab design and joystick controls are simple to operate, and its quick changeover to sideways travel speeds up operations. Hydrostatic drive for driving and braking also keeps maintenance to a minimum.

The current Combilift range encompasses fifteen base models with capacities ranging from 2.5 to 14 tons, with LPG, diesel or AC electric power.

Combilift Ltd – Ireland
Fax: +353 47 80501
Email: info@combilift.com
Website: www.combilift.com

Schoeller Bleckmann Darron – Scotland
Fax: +44 1224 770156
Email: sales@sbdl.co.uk
Website: www.sbdl.co.uk

SBDL's Combilift C8000

Scots water leakage contract awarded

FARRER, the environmental asset management company, has won a two-year contract for the Scottish water leakage detection framework.

The contract, which runs from May 2009 is worth around £1mn and could increase to around £7mn over the course of the framework as more funding becomes available. Farrer was awarded the contract due to its "excellent reputation for the successful delivery of leakage services in Scotland".

Utilising the expertise of a 15-strong team from Farrer, the framework will ensure that with Farrer's help, Scottish Water will achieve stringent leakage targets over the coming years.

Robin Pratt, senior project manager for Farrer, said: "We're delighted to have our outstanding record for successful leakage detection in Scotland recognised. The contract with Scottish Water has already begun and we'll be continuing to provide our client with the highest possible standard of service to help it meet its objectives."

Farrer serves the water and waste water, rail, airports, highways and local authority sectors and is part of Biwater Services Ltd.

Farrer – UK
Fax: +44 17066 26294
Email: info@farrerconsulting.com
Website: www.farrerconsulting.com

Why don't you replace your old mill with

FFX Mill & **Milling Cutoff** ?

- Higher productivity
- Higher quality
- Lower initial investment cost

Since 1998, 36 units of FFX Mill (ϕ 2" ~ 25") are working in the world among which 14 units are revamping purposes, and 24 units of Milling Cutoff working among which 10 units are revamping purposes

12" FFX Mill

12" Milling type flying cutoff machine

NAKATA MFG. CO., LTD.

3-7-6 Tagawa, Yodogawa-ku, Osaka 532-0027, Japan

Tel: +81-6-6303-1900/Fax: +81-6-6303-1905/e-mail: sales@nakata-mfg.co.jp

Downhole specialist celebrates its first birthday at new premises

NORWEGIAN cased-hole logging company, TecWel, is the first company to move into the Energy Development Centre at the Aberdeen Science and Energy Park – which was officially opened by John Swinney MSP, cabinet secretary for finance and sustainable growth.

TecWel UK was established exactly a year ago with oil and gas specialist, Chris Nussbaum as its chief executive. It is celebrating a year of success – and its first birthday – by relocating to bigger, customised premises at Aberdeen's state of the art centre, built to boost research and innovation in Scotland's energy sector.

TecWel UK chief executive officer Chris Nussbaum is delighted with the company's first year's progress and was keen to establish his growing business at the new Energy Development Centre.

"The EDC is ideally located at Bridge of Don, Aberdeen," he says, "a perfect location for technology-based companies like TecWel. It provides us with high-quality office, workshop and laboratory space, and our neighbours will be similarly-focused, high tech growth companies in all areas of the energy sector.

"Our new location gives easy access to our oil and gas clients in Aberdeen and beyond, and we can avoid the burden of higher-cost city centre rents while enjoying an excellent and attractive work environment. The transport infrastructure is superb from here and, importantly, we are close to the airport for our international business trips."

TecWel's Aberdeen base serves the UK, Danish and Dutch sectors of the North Sea oil and gas industry. TecWel specialises in well integrity and production optimisation surveys, and currently also has bases in Norway, the UAE, the USA and Malaysia; its expertise is based around advanced ultrasound technologies, and many of its existing clients operate in the UK North Sea sector.

Chris Nussbaum has grown TecWel UK from a standing start a year ago to a staff of nine today.

"Despite the global economic downturn," he says, "we have bucked the trend and developed TecWel UK into an exciting growth company with nine staff – and now we have room at the EDC for further growth. We are actively recruiting at present and expect to appoint another four staff by the end of 2009."

TecWel is an award-winning company with its unique Well Leak Detector (WLD) technology – an ultrasonic downhole leak detection service, and the only one in the world of its kind; one of its current customers, BP, uses it extensively in Alaska. At the end of 2007, BP was reporting savings to date of more than $27mn, thanks to the TecWel ultrasound leak detector.

Chris Nussbaum, CEO of TecWel (UK) Limited (third from left), with the TecWel UK team

The WLD is widely acclaimed and has been deployed in more than 500 well locations around the world – saving millions of dollars in rig workover time for its operators.

"This kind of technological success is the way forward for TecWel," says Chris Nussbaum, "and the EDC is just the right base for us as we develop both in the UKCS offshore and internationally."

TecWel AS – Norway
Fax: +47 5551 8015
Email: mail@tecwel.com
Website: www.tecwel.com

Technip second quarter results show promising outlook

TECHNIP's board of directors have approved the company's unaudited second quarter 2009 consolidated accounts.

Thierry Pilenko, chairman and chief executive officer, said: "Our second quarter performance illustrates our 2009 priorities: good project execution, focus on profitability and selective order intake. We are, accordingly, able to improve our outlook for 2009. We now expect moderate growth in subsea full-year revenues and operating margins towards 18%, at the upper end of our initial outlook."

He said the company's onshore/offshore profitability continues to improve year-on-year and it now expects group revenues of around €6.4bn, also at the upper end of the initial outlook.

In the second quarter Subsea execution was again excellent, leading to revenues above expectations and a good operating margin.

"Onshore/Offshore, we continued to deliver on our major projects – for example in Qatar we have handed over Rasgas 3, Train 6 and Qatargas 2, Train 5 to our clients and in Saudi Arabia we reached final completion on the Yansab ethylene plant. We continued to carefully manage our cost base and our cashflow, and used our strong balance sheet to acquire a replacement for our Apache pipelay vessel.

"Our backlog reflects our policy to maintain a balanced business portfolio. Subsea order intake has averaged over €550mn per quarter for the last three quarters. Onshore, we announced in July (for third quarter) two major awards for the Jubail refinery project. This is a project we know well, having done the FEED and worked closely with the clients for the past three years to align the overall project costs with their objectives. With continued uncertainty in the global economic situation, our clients remain prudent in their final investment decisions and focused on reducing project costs. The combination so far this year of a recovery in oil prices and significant deflation on equipment, bulk, construction and vessel costs are rendering projects more economical and, as a consequence, our tendering activity has been increasing.

"For the remainder of the year we will focus on project execution and target contracts of all sizes that reflect Technip's strengths. In an environment that is still volatile Technip will stick to its strategic priorities, maintain investment in new assets and R&D, focusing on the Group's key differentiating attributes."

Technip – France
Fax: +33 01477 82588
Email: press@technip.com
Website: www.technip.com

Integrated Solutions

PHAMITECH

Phamitech International, since set up in 2003, is committed and dedicated to provide the most cost effective and reliable products to customers worldwide. Courage, imagination and vision were the prime ingredients that were embedded into the formation of the company. The experience, flexibility, and ability to integrate all solutions available and to tailor our solutions to satisfy the diverse customer requirements have sustained the successful development of phamitech to become the most important supplier of Chinese pipe mills on the global market.

Phamitech is a consolidated supplier backed by the best manufacturers of their sectors in China. Choosing phamitech means obtaining immediate access to highly trained technical personnel and high level facilities, reliable information, and unparalleled services, all of which are available at an extremely competitive quality/price ratio throughout the world.

Phamitech has now emerged as one of a few companies in the world who can offer complete Tube Plants and services including all toolings and turnkey solutions by providing plant engineering for all utilities and auxiliary equipment, and as probably the only one in the world that can offer all the tube making technologies such as ERW Tube Mill, JCOE Pipe Mill, UOE Pipe Mill, Spiral Welded Pipe Mill, Seamless Tube Mill, Copper Tube Plant, Aluminum Tube Plant, as well as all the finishing equipment.

Phamitech machines are one of the most cost effective tube manufacturing equipment available in the world. Our products are working in more than 40 other countries besides China, such as USA, Mexico, Brazil, Venezuela, Ecuador, Korea, Turkey, India, UAE, Malaysia, Indonesia, Iran, Uzbekistan, Kazakhstan, Vietnam, Cambodia, Thailand, Syria, Jordan, Pakistan, Kuwait, Iraq, Nigeria, Egypt, Sudan, Ethiopia, Kenya, Tunis, South Africa, Ukraine, Russia, Belarus, Italy, Belgium, Macedonia, Greece, and so on.

Phamitech Int'l Company Ltd.
ADD:B503 New Millennium Plaza, 72 Xisanhuan Beilu, Beijing 100048, China
Tel: +86 10 68730450, Fax: +86 10 68470948
Email: sales@Phamitech.com Website: www.Phamitech.com

International fair for coating

PAINTFAIR, a trade fair that focuses on industrial coating technology, will be held for the third time at the Karlsruhe exhibition centre, Germany from 13-16 April 2010.

More than 200 companies have already booked exhibition space, including market and technological leaders from many sectors.

Companies from the coatings sector include BASF Coatings, Relius Coatings and Tiger Coatings, who have not taken part in previous shows.

The exhibition will present a broad and in-depth offering in every aspect of wet painting, powder coating and coil coating. The trade fair's portfolio for industrial coating technology includes systems and applications technology, coatings, transport systems, automation solutions and paint robots, consumables and services for the organic coating process, ranging from pre-treatment to final inspection.

Whether companies have in-house coating facilities or subcontracted coating operations, the demand is for improved efficiency with higher quality, greater environmental awareness and flexibility. One solution that ensures reduced investment and operating costs, particularly in the automotive sector, leads to material savings and an improved productivity, energy and eco-balance is the so-called 'Integrated Concept II'.

Here, the function of the primer is integrated into a single or dual-component water-based paint system. By substituting the primer it is possible to dispense with the entire filler application or area of equipment, including the materials used, as well as the before and after-treatment. The coating facility and time are accordingly reduced. The system can be integrated into existing coating facilities and reduces VOC emissions.

Using very high solid or ultra-high solid coatings with a very high solid content reduces VOCs. In some cases, only slight adjustment is required to the existing coating facility.

However, application technology with paint guns and atomisers has a role to play, which enables a more effective application and adjusts the spray jet formed to the geometry of the work piece. Exhibitors at PaintExpo will present solutions in this area that permit savings in the consumption of coatings.

A further approach for reducing material consumption lies in intelligent coating logistics with flexible coating supply systems. Pigging system technology enables unused coatings to be recovered from the pipe, or specific quantities of coating to be conveyed to the application system.

In the area of coating powders, developments at manufacturers are moving towards solutions that harden at lower stoving temperatures. Here, there are systems available that harden at between 120 and 130°C. Alongside energy savings, they also enable productivity to be increased. In addition, plastic materials and composites can be powder coated at these low temperatures.

Where the recovery of overspray is an issue, innovative electrostatic separator systems not only achieve higher levels of separation, they also reduce water and energy consumption. Potential savings can further be exploited through increased automation. The use of paint robots results in greater reproducibility of coating results, a reduction in waste and better overall quality.

FairFair GmbH – Germany
Fax: +49 7022 60255 77
Email: info@paintexpo.de
Website: www.paintexpo.de

Show delivers encouraging results in a growth market

THE mood was buoyant after four days of brisk business as MTA VIETNAM 2009, the largest exhibition of precision engineering, machine tools and metalworking technology in Vietnam, drew to a close.

Held at the new Saigon Exhibition & Conference Centre, a total of 7,270 trade visitors attended to see the latest technologies showcased by more than 234 exhibitors. Around 81% of the companies were from overseas, hailing from 20 countries and regions including Germany, Korea, Japan, Singapore, Taiwan, Thailand and the UK.

"MTA VIETNAM 2009 is grateful for the continued support and confidence of our co-organiser – the Vietnam Chamber of Commerce and Industry, the Vietnamese Government, our exhibitors and particularly our visitors," said Mr William Lim, project director of MTA VIETNAM 2009. "Without them, we would not be able to put on such a wide-ranging show of quality machine tools and solutions, and bring to Vietnam a platform that promotes trade, knowledge gathering and technological advancement for the manufacturing industry."

In addition to the many individual visitors, MTA Vietnam also saw the attendance of 75 group delegations from local enterprises across Vietnam's extensive manufacturing sectors. The delegations came from companies such as Duytan Plastics, Furukawa Automotive Parts Vietnam Inc, Hariki Precision Vietnam, High Command of the Engineers, Factory Z756, Juki Vietnam, Mabushi Motor Vietnam Ltd, MTEX Vietnam, Nidec Tosok Vietnam, Nissey Vietnam, Okaya Vietnam, Sanyo, Saigon Precision, Suzuki Vietnam, Tien Tuan Pharmaceutical Machinery and Vietnam KMV.

"I've witnessed a significant improvement in the quality of the trade visitors at our booth since the first show in 2005. MTA VIETNAM continues to be the only manufacturing show in Vietnam that Nikon will continue to support and participate in," said Mr M Tsuji, general manager of Instruments Department, Nikon Singapore.

MTA VIETNAM will return to Ho Chi Minh City in 2010 for its seventh edition on 7–10 July.

MTA VIETNAM
Fax: +84 8393 25789
Email: atodd@oesallworld.com
Website: www.mtavietnam.com/hcmc

»Proven endurance: The LASER 2010 T having almost unlimited lifespan.«

Peter Früchtenicht, Manager of Operations, SIKORA AG

Do you want to know more?
www.sikora.net

LASER 2010 T

Online 3-axis diameter
and ovality measuring device
for hose and tube extrusion lines

Available for product diameters
from 0.05 to 500 mm (2-axis version)
and 0.1 to 100 mm (3-axis version)

Significant cost reduction
Optimized productivity
Continuous quality control

SIKORA
Technology To Perfection

GERMANY • CHINA • FRANCE • INDIA • ITALY • JAPAN • KOREA • RUSSIA • TURKEY • UKRAINE • USA

Tube®

Düsseldorf

join the best

12 – 16 April 2010

Düsseldorf, Germany

International Tube
and Pipe Trade Fair

www.tube.de

Innovative technologies for your success

Enormously versatile: With new materials and characteristic traits, innovative manufacturing methods and astounding applications, tubes are setting the trends for the future.

At the leading international tube trade fair, Tube 2010, you will find new innovative technologies for your success. Especially noteworthy: Plastic tubes. They are appearing in a growing number of areas of application and are thus increasingly replacing tube systems made of traditional materials. Get the complete overview at Tube 2010.

Whether tubes, tube systems or tube machines, whether pipeline construction or infrastructure projects – nowhere else will you find so much innovation and know-how concentrated in one place.

Industry Partner:

ITA
International Tube Association

Messe Düsseldorf GmbH
Postfach 10 10 06
40001 Düsseldorf
Germany
Tel. +49 (0) 2 11/45 60-01
Fax +49 (0) 2 11/45 60-6 68
www.messe-duesseldorf.de

Messe Düsseldorf

Innovation in the flow measurement of pipes

IN October 2009 Rota Yokogawa will be celebrating the first century of being in business. The company, which since 1995 has been part of the Tokyo-based Yokogawa Group, produces high-quality flowmeters for industrial applications including high diameter pipes.

In 1909 the Deutsche Rotawerke was founded in Aachen, focusing on the recently invented Rotameter. The measuring principle of this device is based on a rotating float – hence the name 'Rota'. The brand name Rotameter is now often used as a synonym for the float-based flowmeters of any manufacturer.

In 1940 production was relocated to the town of Wehr in South Baden. In 1993 Rota introduced the first Rotamass, a flowmeter using the Coriolis principle. The existing co-operation with the Yokogawa Group was given a new basis in 1995 when Rota became a subsidiary of Yokogawa Europe BV.

Today, Rota Yokogawa is the 'Flow Centre of Excellence' responsible throughout the global Yokogawa Group for measurement technologies, such as mass flow measurement using the Coriolis principle and the Rotameter.

Just in time for the 100-year anniversary, manufacturing floor space has been increased by 40% thanks to the inauguration of a new production hall. The hall is one of the most modern and innovative of its kind – and was specially designed for its flexibility: the production facilities can be reorganised in a short space of time, without the costly installation of new utility lines, in order to respond rapidly to changing requirements. In the same way, the new crane system can be very quickly adapted to new needs.

This expansion is accompanied by an increased automation of production. The company is investing in production equipment, robots and automated test rigs. Andreas Dobratz, managing director of Rota Yokogawa, said: "The increase in efficiency associated with the expansion of our production area will secure our leading position in the field of flow measurement and pave the way for further profitable growth."

Over the next few years, further investment of tens of millions of Euros is planned in buildings and plant.

Today, Rota Yokogawa develops and manufactures high-quality flowmeters based on five measuring principles: floats, magnetic-inductive, vortex flowmeters, Coriolis and differential head. The best-selling products are the Coriolis flowmeters of the Rotamass 3 series developed in Wehr.

These high-tech measuring devices record the mass flow directly, while simultaneously providing an exact measurement of volume flow and of the density and temperature of the measured medium. In this way, it is possible, at the same time as measuring the flow, to also determine the concentration (eg of sugar in water). Calibrations are carried out in the company's own DKD-certified facility, which also provides a calibration service to other companies.

With new products and an excellent business performance in recent years, Rota Yokogawa says it is in good shape for the future.

The continuous development of new and existing measuring devices will ensure that customers around the world are supplied with top quality products 'Made in Germany'.

Yokogawa Deutschland GmbH – Germany
Fax: +49 2102 498 322
Email: nicole.pinz@de.yokogawa.com
Website: www.yokogawa.com

ROFIN relaunches website

THE ROFIN laser company has gone online with a new website. The web pages, which have been completely revised with regards to content, technical features and graphics, combine a high amount of new content with a new user-friendly navigation system.

Through new, easily understandable navigation, the visitors to www.rofin.com are guided more quickly and in a more targeted manner to the information they require.

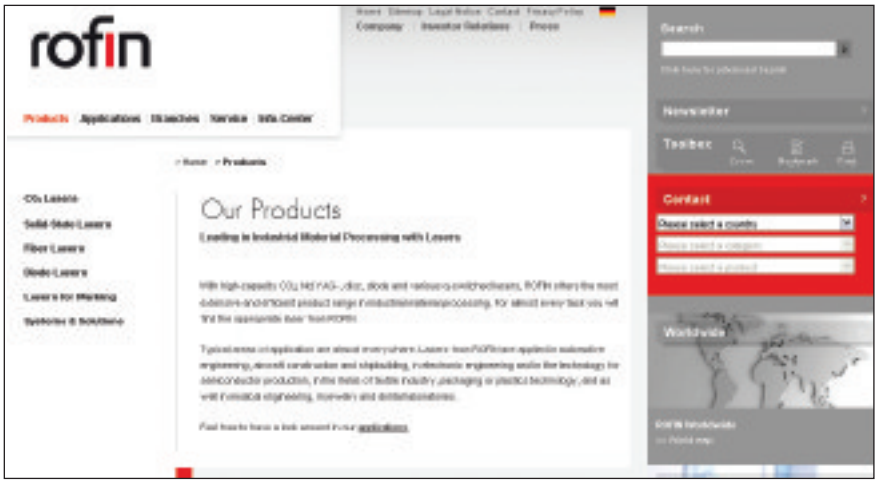
The website's new intuitive navigation offers the users a clear overview of where to find the various informational offerings that the website offers. Through clear menu prompts and numerous teasers, the user obtains the requested information in an uncomplicated and direct manner.

Thanks to this "navigation by the shortest route", the user not only reaches the information about a certain product group more quickly, but can then receive information about an application area that is relevant to him in order to be led directly from there to the suitable products.

Even the layout of the new website is tailored to the user's needs. Thus, the individual pages have been rejuvenated with more images than before while the texts have been made more concise. In addition, the user has the option of directly selecting and being put in contact with the person who can best help them via a contact box on each page.

With over 31,000 systems installed, the ROFIN Group says it is among the global technological and market leaders for lasers and laser-based system solutions in industrial metal processing. Whether it's cutting, welding, marking or surface treatment: more than 1,750 qualified employees at approximately 35 locations around the globe ensure that ROFIN will play a decisive role in the design of innovative laser technology.

ROFIN-SINAR Laser GmbH – Germany
Fax: +49 40733 634138
Email: c.brettschneider@rofin-ham.de
Website: www.rofin.com



HMI system for compact hot rolling mill

SIEMENS VAI Metals Technologies has received an order from Baotou Steel International Economic & Trading to supply a new HMI system for the compact hot rolling mill of Baotou Iron & Steel Co Ltd. The conversion work is scheduled to be carried out in April 2010.

In Inner Mongolia, Baotou Iron & Steel of China has been operating a compact hot rolling mill with an annual capacity of up to 2.8 million metric tons since 2001. The plant includes a two-strand continuous slab caster, a seven-stand finishing mill and two coilers, for which Siemens has already supplied the drive equipment and automation systems.

In the context of the current project, the compact hot rolling mill is to be fitted with HMI equipment based on Simatic WinCC. All the components and systems to be used are part of the Siroll HM solution platform for hot rolling mills. This means that the compact hot rolling mill will be the third installation at Baotou Iron & Steel to be equipped with a Siemens HMI solution after the coupled tandem pickling line and the plate mill.

It was only in 2006 that Siemens expanded the six-stand finishing mill by retrofitting a seventh stand, plus a roll gap lubrication system, an automatic levelling control system (ALC) and a looper flatness control (LFC) system.

Siemens VAI Metals – Austria
Email: rainer.schulze@siemens.com
Website: www.siemens.com/metals

Enhanced trade price guide

PIPE Center, Wolseley's specialist pipe and building services distributor, has published an improved version of its product and trade price guide.

The 360-page publication – a hundred pages larger than the previous version – contains detailed product information and prices for all its key product lines, including pipe systems and supports, valves and materials, plumbing and heating, and tools and safety equipment.

The guide includes information to help customers identify the various pipe systems available for specific jobs.

Among new sections are a guide to the company's added value services, including Valvestock's bespoke valve assembly; Plascut stainless steel plasma cutting; off-site modular pipework solutions; and tailor-made refrigeration systems. An improved chapter on sustainable technologies highlights the work of Wolseley's sustainable building centre.

It identifies the drivers behind the move to more sustainable building products and highlights key legislation impacting those working in the industry.

The guide also explains the principles behind new sustainable technologies and approaches, such as heat pumps, biomass boilers, solar thermal systems, photovoltaic cells, heat recovery and rainwater harvesting.

Pipe Center – UK
Fax: +44 12145 63192
Email: pipetech@wolseley.co.uk
Website: www.pipecenter.co.uk

RaftGibson takes lots of positives from EXPO PACK in Mexico

RATHGIBSON, a manufacturer of welded, welded and drawn, and seamless stainless steel, nickel, and titanium tubing, recently attended EXPO PACK Mexico.

Cristian Rohde, director of business development for central and South America said: "The show allowed us to meet and respond to the needs of high purity tubing end users and channel partners in Latin America."

Hundreds of companies from 22 Latin American countries exhibited at EXPO PACK Mexico, a well-respected and well-attended packaging and processing materials and equipment tradeshow for the pharmaceutical, food, beverage, cosmetics, medical, and personal care industries. Mr Rohde and Jody Hamilton, sales manager for high purity products, were on-hand to fulfil RathGibson's commitment to providing customers with real solutions in real time.

Ms Hamilton said: "RathGibson is proud to have been represented at the show by Stainless Macro Trade SA de CV. The company, based in Queretaro, Mexico, was the only business to exhibit tubing."

With RathGibson by their side, Stainless Macro Trade received 653 visitors, 40% of whom were interested in completing transactions within 60 days.

While together for EXPO PACK Mexico, RathGibson and Stainless Macro Trade created training programmes on RathGibson's high purity tubing for their channel partners in the Latin American region.

The classes, which will be led by Ms Hamilton with support from Mr. Rodhe, will take place in Queretaro on 14 August.

RathGibson product and market-based training sessions are held for distributors and end-users around the world.

RathGibson is a worldwide manufacturer of highly engineered stainless steel, nickel, and titanium tubing for diverse industries such as chemical, petrochemical, power generation, oil and gas, food, beverage, pharmaceutical, biopharmaceutical, medical, biotechnology, and general commercial.

RathGibson's corporate headquarters are located close to Chicago in Lincolnshire, Illinois. Manufacturing locations include: Janesville, Wisconsin, North Branch, New Jersey, Clarksville, Arkansas (Greenville Tube), and Marrero, Louisiana (Mid-South Control Line). In addition to the sales offices in Janesville, North Branch, and Marrero, RathGibson has also strategically placed sales offices in Houston, Texas, USA; Shanghai, China; Manama, Bahrain; Melbourne, Australia; Seoul, Republic of Korea; Mumbai, India; Singapore; Vienna, Austria; and Buenos Aires, Argentina.

RathGibson – USA
Fax: +1 84 727 62471
Website: www.rathgibson.com

International presence for crane brands

WASK and Sperryn, both leading utilities brands of Crane Building Services & Utilities demonstrated their products at this year's World Gas at the La Rural exhibition and conference centre in Buenos Aires, Argentina.

As one of the market leaders in the supply of pipe fittings, pipeline maintenance equipment and controls to the global gas distribution sector, WASK and Sperryn remain dedicated to applying the latest technology in order to attempt to produce world-leading and cost effective products that deliver safe and reliable performance to the gas industry.

As well as manufacturing gas controls including regulators and emergency control valves of the highest quality, Sperryn also supplies component kits for meter installation, working alongside many meter manufacturers to achieve the best solutions.

WASK and Sperryn also exhibited other regulation and jointing technologies, each of which it say is designed with safety and cost effectiveness in mind.

WASK flange adaptors will be shown at World Gas Conference, Buenos Aires

WASK – UK
Website: www.wask-uk.com

Sperryn – UK
Website: www.sperryn.co.uk

Crane – UK
Website: www.cranebsu.com

OCTG

TUBULAR FINISHING

We finish the job.

Your place, or ours.

Houston's only independent OCTG tubular finishing facility with multiple high-speed PMC thread lines.
Private rail spur, PE hydrostatic testing, Ajax upsetting, UTFL /EMI inspection –
all on 150 acres on Sheldon Road in Houston.
Or take advantage of our 25 year history of on-site mill finishing expertise.

API License
No. 5CT-0605

OCTG, L.L.P. 9200 Sheldon Road Houston, Texas 77049 www.octg.org sales@octg.org

Metals UK wins Queen's award

METALS UK, an international specialist metal service centre based in Blackburn, UK have been honoured with the Queen's Award for Enterprise 2009, for outstanding achievement in international trade.

The Queen's award for enterprise is the highest honour that can be bestowed upon a British company and is the UK's top award for business performance.

Over the past three years Metals UK's export earnings have increased by a dramatic 412%, as the company has strengthened its position in international markets, currently supplying over 40 countries in Europe, the Americas, the middle and Far East, India and Australia.

"We are delighted to receive our first Queen's Award," said Robert Whitehouse, Metals UK general manager, "Four years ago our business was purely domestic, while today business from international clients has risen to 50%, the markets we compete in are very aggressive and it is difficult to truly differentiate our offering from that of our competitors.

"We take pride in our vigilance in determining the end use and end destination of all our metal we export. Winning this award in the current economic climate is a testament to the hard work and dedication of our team and makes me extremely proud to be part of the business."

Metals UK supplies a wide range of duplex, super duplex, nickel alloys and stainless steel to the offshore, oil and gas, chemical, nuclear and aerospace industries. The company also offers full cutting and added value processing capabilities in house, including laser, water-jet, plasma and hi-definition plasma.

This achievement follows a winning year for Metals UK. After securing new markets in Eastern Europe, Greece, Slovakia and Poland they were presented with the 'Increased Export Sales' award from the Chamber of Commerce in December 2008.

Metals UK
Fax: +44 12546 92063
Email: efoy@metalsuk.com
Website: www.metalsuk.com

Superior Technologies Europe announces ferrite distribution deal

SUPERIOR Technologies Europe Ltd has signed an exclusive distribution agreement with Mahindra Hinoday Ind Ltd to distribute their new HR4B ferrite cores for HF welding.

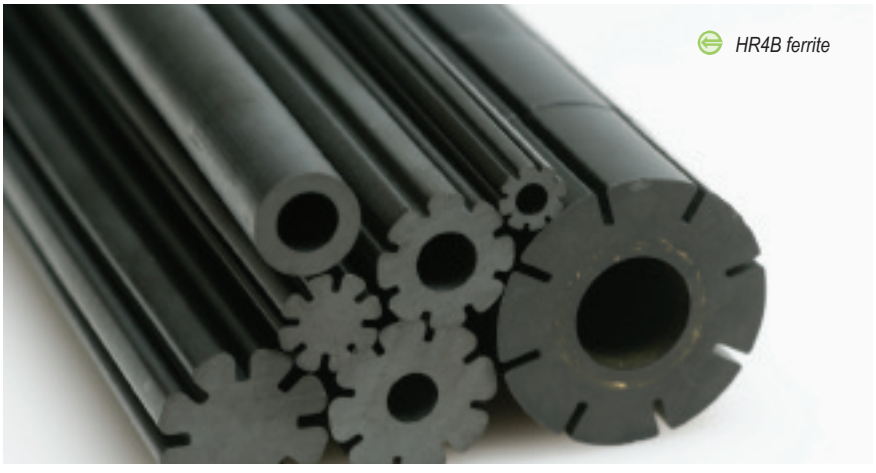
HR4B material has been specially developed to exceed the performance of long-established ferrite cores available in the market today. The careful selection of high quality raw materials, together with precise manufacturing processes, ensures that HR4B ferrites give unparalleled performance in the tube welding application.

Only the highest specification sintering furnaces and analytical inspection equipment is utilised to maintain quality and monitor performance throughout the ferrite manufacturing process. Careful tooling design ensures accurate mechanical dimensions to achieve high efficiency and low losses, save welding energy and concentrate HF power in the weld vee, thereby ensuring a high integrity weld zone.

Mahindra Hinoday offers the widest range of sizes from any ferrite manufacturer and also provides precision ferrites for applications where a specific size is required to fit inside an impedor assembly. These precision ferrites further increase efficiency in difficult welding applications.

Superior Technologies will exclusively distribute HR4B cores in Europe (including Turkey) and also the Russia continent.

Superior Technologies Europe Ltd – UK
Fax: +44 13444 26626
Email: sales@st-europe.co.uk
Website: www.st-europe.co.uk



HR4B ferrite

Six-strand caster is modernised

SN LONGOS Seixal (Megasa Group), Portugal's largest manufacturer of long steel products, has placed an order with SMS Concast, Switzerland, a company of the SMS group, Germany, to modernise its six-strand continuous caster.

SMS Concast will be carrying out extensive revamping work on the six-strand caster, which has a radius of 7m, to bring it up to date with the latest technology. This technology includes new hydraulic oscillators, electromagnetic mould stirrers, strand guide systems, primary and secondary cooling systems, torch cutters and an advanced Level 2 automation system.

Cast sections of 120 x 120mm and 130 x 130mm are currently being produced. After the revamp, the machine will be able to cast two new sections of 140 x 140mm and 160 x 160mm respectively. This revamp will enable the product range of the caster to be greatly enhanced in terms of quality. It will be possible to produce high carbon steels for springs and for pre-stressed concrete rebars as well as for cold-heading grades.

SMS Group – Germany
Fax: +49 21188 14386
Email: thilo.sagermann@sms-group.com
Website: www.sms-group.com

For over 65 years, Steelcraft Tool
has revolutionized cut-off blades
for the tube and pipe industries.
Count on us for being first in quality,
first in service, and first in innovation.

+1.734.522.7130 USA • www.steelcrafttool.com
STCTOOL@aol.com

Indian firm wins engineering awards

SIDDHI ENGINEERS, based in Chhatral, India, manufactures precision drawn aluminium tubes, rods and profiles and was formed in 1988 by mechanical engineers Bhagwat Patel and Prashant Gandhi.

Meticulous planning, qualitative production, research and development and continual development have been the main attributes of the organisation, catering to a high customer segment including the automation and defence industries.

During its history the company has achieved various national level awards at regular intervals but the year 2009 has been a special year for Siddhi. The company has recently received two national awards by the MSME industry, New Delhi, Government of India for Entrepreneurship and Research & Development – 2008 at Vigyan Bhavan, New Delhi from Dinsha Patel, Ministry of MSME. The award ceremony was held by the Prime Minister of India Dr Manmohan Singh.

Siddhi Engineers – India
Fax: +91 79275 45089
Email: siddhiindia@siddhiindia.com
Website: www.siddhiindia.com

Bhagwat Patel from Siddhi Engineers (fourth from left) and his wife Smita Patel are presented with the award

Sandvik to open new strip service centre in China

SANDVIK Materials Technology is investing in a dedicated service centre with its own slitting line in Zhenjiang, Jiangsu province, China, ensuring that delivery times of precision strip to all customers in China can be kept to just one week. The service centre was scheduled to open in October, with a main feature of a new slitting line operational during November.

Initially intended to supply strip to customers throughout the Chinese market, the centre will offer greater supply flexibility and shorter delivery times, with material finished to size from stock held on-site.

It will also open up options to supply other Asia Pacific markets from the first quarter of 2010. The new service centre will introduce a number of benefits, not only for existing customers in China, but also for those businesses considering relocation to the region, with fast response times and firm delivery dates for precision strip supplies.

Sandvik will be able to provide made-to-order material at short notice, supplied locally, and facilitating fast growth of the market sector in the region. The service centre will focus on finishing and delivering precision strip to customers for the manufacture of flapper valves for compressors used in automotive, refrigeration and air conditioning units. It will also supply material to other important market sectors in the region, such as shock absorber manufacturers.

"In a competitive marketplace we see real benefits to both our customers and their customers in our ability to supply material with short lead times directly in the local market," explained Andy McCullock of Sandvik Materials Technology.

"The fully equipped service centre will facilitate greater physical and operational flexibility, with the logistical capability to ship material to multiple sites, thus accommodating customer specific requirements."

Sandvik Materials Technology –
Sweden
Fax: +46 262 51710
Website: www.smt.sandvik.com

TRUMPF profits rise, despite lull in product demand

THE TRUMPF Group estimates its profits will have risen significantly, despite a slump in demand in the 2008/09 fiscal year.

Sales fell by 23% to €1.66bn and president Nicola Leibinger-Kammüller said: "Our flexible tools that allow us to quickly adapt production and working hours to demand have so far proven their value. We reacted quickly to the global economic crisis, were able to reduce our costs and achieved an acceptable income before taxes during the past fiscal year as a result. Given the current situation, I would call that a success."

TRUMPF expects orders received to fall by 35% to €1.35bn. The company recorded a downturn in all regions of the world and in all of its divisions. The TRUMPF medical technology division, which produces equipment for ORs and ICUs, was the only division to record increases in sales.

TRUMPF's workforce remained constant at 8,000 employees. The machine tool and industrial laser manufacturing company did, however, reduce its manpower in the face of lower orders, by cutting back flexi-time accounts and introducing shorter working hours.

The company also increased its liquidity and equity capital in order to prepare for the potential challenges posed if the economic slump continues. The Leibinger family, which owns TRUMPF, injected €75mn into the equity capital, boosting the company's equity ratio over the 50% mark.

The company will present its final figures at its annual press conference on 20 October 2009.

TRUMPF – Germany
Fax: +49 715630 330309
Website: www.trumpf.com

ATOMAT
GROUP

BEYOND**ROLLS**

Rolls & Roll equipment

The quality of rolls starts with the excellence of their raw material
We HIP sinter our Tungsten Carbide from virgin powders only.

ATOMAT, team spirit!

Atomat S.p.A. | 33047 Remanzacco [Udine] | ITALY | Strada di Oselin 16/17 | Phone +39 0432 648511 - Fax +39 0432 667101 | **www.atomat.com** info@atomat.com

Prize for laser technology announced

DEVELOPERS and researchers who work in the field of laser technology can now apply or be proposed for the Berthold Leibinger Innovationspreis 2010. The international prize of the private foundation Berthold Leibinger Stiftung is granted every other year for innovations pertaining to the application or generating of laser light.

At the prize ceremony on 9 July next year – fifty years after the invention of the first laser – the €30,000 for the first, €20,000 for the second and €10,000 or the third prize will be awarded.

Those eligible to apply or be proposed for entry include individuals and project groups worldwide whose main development efforts and market potential lies in the application or generating of laser light. The application deadline is 11 December 2009. Nominees will be invited by the foundation to make a presentation of their work during the jury session in April next spring. "The capacity for innovation is the key to the future. The issues that arise around the world can be solved only by continual progress in science and technology," Professor Berthold Leibinger, the founder of Berthold Leibinger Stiftung noted.


The prestigious BLS award

With the innovation and research prizes the non-profit foundation Berthold Leibinger Stiftung promotes laser technology research and development and showcases the results to the public. Since 2000, the foundation has been awarding the innovation prize and a research prize every other year.

Berthold Leibinger Stiftung – Germany
Fax: +49 715630 335205
Email: sven.ederer@leibinger-stiftung.de
Website: www.leibinger-stiftung.de

Simona targets positive EDITBA for financial year

THE SIMONA Group had to contend with a decline in revenue over the course of the first half of the year. The downturn affecting its principal sales markets – the chemical industry and the mechanical engineering sector – prompted a contraction in revenue by €50.8mn to €106.3mn. This corresponds to a year-on-year decline of 32.3%.

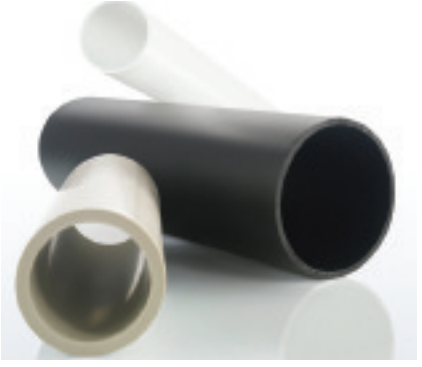
Despite the considerable decline in sales revenue, SIMONA managed to post positive earnings for the period under review. Profit before tax amounted to €3.5mn (previous year: €13.5mn). This was made possible by the timely introduction of a cost-reduction programme that included not only short-time work but also a critical assessment of material- and equipment-related expenses.

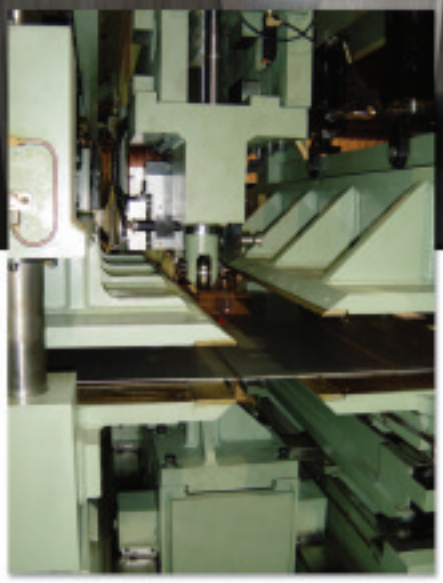
As from the date of production start-up at the end of 2008, the new multifunctional plant in Litvinov, Czech Republic, made a positive contribution to earnings, as well as significantly improving SIMONA's market position in Eastern Europe.

Compared to 31 December 2008, total assets increased by €4.7mn to €249.5mn, while cash resources continued to rise. SIMONA invested €6.3mn (prev. year: €12.0mn). In property, plant and equipment in the first half of 2009.

SIMONA anticipates that the financial year as a whole will remain challenging. "The continued weakness in terms of incoming orders has had an adverse effect on companies' propensity to invest, which is of particular importance to our business. We anticipate that business over the course of the second half of the year will progress sideways, without benefiting from any major impetus," said Wolfgang Moyses, CEO of SIMONA, adding, "our revenue target of €200mn is ambitious, but we remain committed to generating positive EBITDA for 2009."

SIMONA AG – Germany
Fax: +49 6752 14211
Email: mail@simona.de
Website: www.simona.de





When there is no end in sight, Guild will help you make sure there are no ends.

Guild International can design and build the welding machinery you need to keep your lines up and running smoothly and profitably. We are the world leader in supplying coil joining equipment for the steel processing and tube manufacturing industries. Contact us today to keep your lines always working.

www.guildint.com GUILD INTERNATIONAL **+1.440.232.5887 USA**

Website offers sneak preview of exhibitors

TOLEXPO, the international show for sheet metal, coil, tube and section equipment, has announced a revamp of the 'new product operation' section on its website.

This section, accessible via www.tolexpo.com, encourages exhibitors to present a preview of the new products they will be showing at the event. This means that visitors seeking new equipment can obtain information on new products and thus be able to organise their visiting schedules around their areas of interest.

Information about each new product is summarised with a photo of the product, the business sector and the field of application, together with its specific features in the market.

To date nearly 150 exhibitors have confirmed their attendance at the conference that takes place from 17-20 November, the same dates as the Midest world industrial subcontracting exhibition and Maintenance Expo, organised by the Reed Expositions France group. All visitors and exhibitors benefit from joint admission to freely access all three events.

Tolexpo – France
Fax: +33 15562 0791
Email: mbazin@tolexpo.com
Website: www.tolexpo.com

Tolexpo visitors can now view exhibitor information before they arrive

Trade show for advanced manufacturing

THE National Exhibition Centre (NEC), in Birmingham, UK, will host Advanced Manufacturing UK 2010 – seven co-located shows catering to the UK's advanced manufacturing marketplace. Advanced Manufacturing UK, taking place on 27 and 28 April 2010, will incorporate: MEDTEC UK medical device manufacturing; Mtec Sensors, measurement and instrumentation; Machine Building & Automation; VTX Vision Technology Exhibition; 3C Contamination Control & Cleanroom Products; Practical Vacuum & Surfacts UK; and the Green Manufacturing Zone and Conference.

Canon Communications – UK
Fax: +44 1622 661687
Website: www.canontradeshows.com

MTM
TUBE MILLS

MTM Comby A200 series

orbital flying cut off machines

Turnkey Projects

Our expertise at your service.

MTM manufactures turnkey tube mills applying technical solutions tailored on customer's requirements.
COMBY flying cut off unit makes it possible the cold sawing process even on heavy sections tubes.

MTM: the right tools to enhance your success.

Officine MTM SpA
via Palladio, 36 | 30038 Spinea Venezia | Italy
tel +39 041 5089611 | fax +39 041 999611
www.mtmtubemills.com
sales@mtmtubemills.com

The Leading Manufacturer of High-Technology Tube Production Equipment

Good registration figures for Tube 2010

EIGHT months before the start of Messe Düsseldorf's Tube trade show, the fair has already recorded excellent registration figures.

International exhibitors occupy more net exhibition space than was the case during the same period two years ago with the companies attending Tube occupying around 40,000 square metres already.

As a result, exhibition Halls 9 to 12 and 15 to 17 are nearly full with just a handful of individual stands still available. Traditionally the wire, cable and fibre optic machinery sectors, wire and cable production and the trade are presented in Halls 9 to 12, 17 and parts of Hall 16. Spring making is also located in Hall 16, while the fastener technology section (wire) is located adjacent to this in Hall 15.

In Halls 1, 2 and 3 Tube is presenting the following sectors: pipe and tube accessories, production and trade. Hall 4 forms the interface to the machinery park with testing machines, pipe and tube production plant and machinery, the tube trade and several large joint stands.

Tube bending machinery and equipment is presented in Hall 5 and welding, cutting and surface technology (surface finishing) follow in the adjoining Hall 6. Pipe and tube-processing plant and machinery is shown in Hall 7a.

The new sectors section and section technology and the second presentation of the oil field technology section are particularly highlighted in the hall site plan: In almost every hall you will find exhibitors who will be showing their innovations in this field. Both section production plant and machinery along with the corresponding end-products will be shown in various materials and forms.

As a result, the Tube halls are also nearly full – only the machine section still has some vacant slots. You will find the latest information on both trade fairs on the respective trade fair portals on the Internet at: www.tube.de

Messe Düsseldorf GmbH – Germany
Fax: +49 2114 56001
Email: hartmannp@messe-duesseldorf.de
Website: www.messe-duesseldorf.de

Biomass plant uses pipework solutions

A NEW power station that generates electricity from wood waste uses advanced pipework solutions from Pipe Center.

The groundbreaking Western Bioenergy Plant at Port Talbot, UK, developed by Eco2 Ltd in a joint venture with the Western Log Group, cost £33mn to build. Funded by Good Energies Investments Ltd and supported in grant aid by the Welsh Assembly European Funding Office and the DTI, the plant is now up and running following a two-year construction project.

It burns clean wood waste from sustainable forestry sources to generate up to 13.8MW of power, supplied to local homes and businesses.

All pipework services for the project were carried out by Industrial Pipework UK Ltd (IPL) of Maesteg, South Wales. This included water, natural gas and compressed air systems supporting the plant's process and generation technology.

The company chose Pipe Center's Press-Fit pipework connection system due to its exceptional speed and effectiveness.

Mark Waldron, IPL's managing director, said: "It's an excellent system, and saves significant time and manpower. We were also very keen on the quality of the finish. Although it is very quick to install, the end result looks superb. We have not had a single leak on the project, which says a lot about the quality of the product."

The plant takes surplus wood waste from local sawmills and forests that would otherwise be thrown away, and turns it into clean electricity. Pipework and components for the project were supplied by Pipe Center's Cardiff branch.

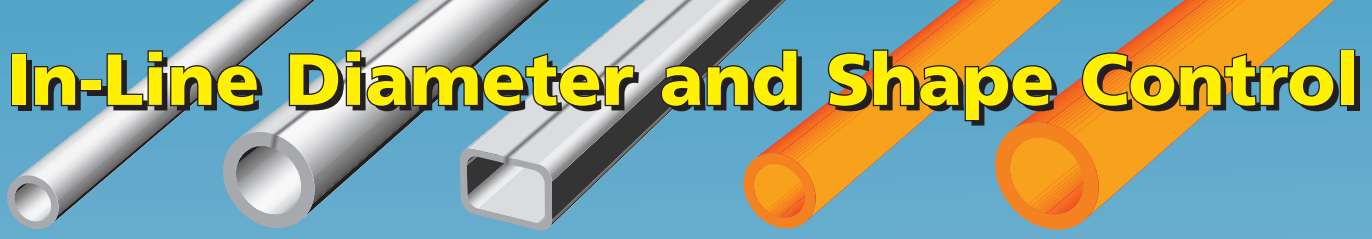
John Walker, national industrial sales manager, said: "The project is an excellent example of sustainable technology that is both good for the environment and good for business. IPL has done a great job on the vital pipework systems that underpin the plant. It not only works beautifully, it looks superb."

Press fittings have been used in Germany for more than 40 years, but their use is relatively new to the UK market.

Pipe Center – UK
Fax: +44 12145 63192
Email: pipetech@wolseley.co.uk
Website: www.pipecenter.co.uk

Internal pipework within the Western bioenergy Plant at Port Talbot, UK

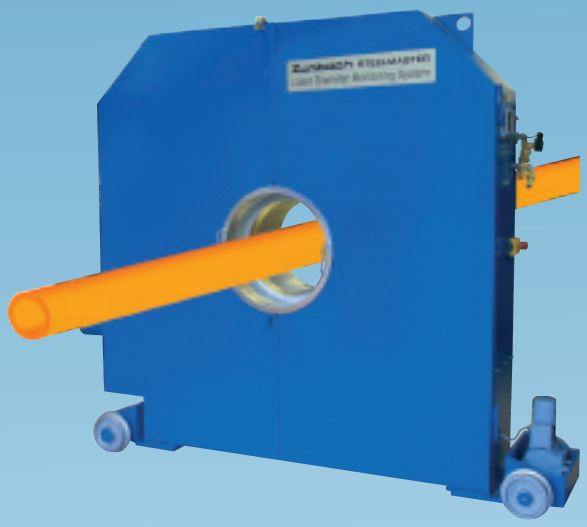
In-Line Diameter and Shape Control



For all Types of Pipe, Tube, Profile – Any Shape

STEELMASTER gauges for hot and cold processes

Hi-speed laser scanning. Measurement of diameter, ovality, height, width and diagonals.



Possible measuring modes

Standard measuring ranges:	**60, 100, 150, 300, 500 mm* (2.4, 4, 6, 12, 20 in.)**
No. of measuring axes:	**1...6**
Measuring frequency:	**1000/s for each axis**
Typical accuracy:	**+/- 0.005 ... +/- 0.1 mm (+/- .0004 ... .002 in.)**

***Largest product depending on centering**

New!
Measuring solutions for round and non-round products. Captures also asymmetrical shape deviations of round, oval and polygonal products.

PROFILEMASTER® gauges for cold processes

Advanced vision technology (light-section). For any tube and profile of any shape and material. Full profile contour measurement. Profile and critical dimensions, radii and angles can be programmed (teach-in) and monitored.

Any shape

Standard measuring range:	**25, 140, 300 mm* (1, 5.5, 12 in.)**
No. of cameras:	**1...6 (standard 4)**
Measurable parameters:	**length, width, height, diameter, radii, angles**
Typical accuracy:	**+/- 0.01 ... 0.05 mm (+/- .0004 ... .002 in.)**

***Largest product depending on centering**

Worldwide Zumbach Customer Service and Sales Offices in:

Switzerland (H.Q.): Tel. +41 (0)32 356 04 00, E-mail: sales@zumbach.ch
Argentina: Tel. +54 (0)11 4701 0774, E-mail: ventas@zumar.com.ar
Belgium: Tel. +32 (0)2 478 16 88, E-mail: zumlux@skynet.be
Brazil: Tel. +55 (0)19 3849 5008, E-mail: vendas@zumbach.com.br
China: Tel. +86 (0)21 542 60 443, E-mail: office@zumbach.com.cn
France: Tel. +33 (0)1 64 24 46 31, E-mail: ventes@zumbach.com.fr
Germany: Tel. +49 (0)2238 8099-0, E-mail: verkauf@zumbach.de
India: Tel. +91 20 3048 4801, E-mail: joseph@zumbachindia.com
Italy: Tel. +39 0332 870 102, E-mail: zumit@zumbach.it
Spain: Tel. +34 93 666 93 61, E-mail: gestion@zumbach.es
Taiwan: Tel. +886 2 2630 5530, E-mail: zumfareast@giga.net.tw
UK: Tel. +44 (0)870 774 3301, E-mail: sales@zumbach.co.uk
USA: Tel. +1 914 241 7080, E-mail: sales@zumbach.com

www.zumbach.com

Zumbach

We Measure Quality

Chamfering module passes the 2,000 units an hour mark

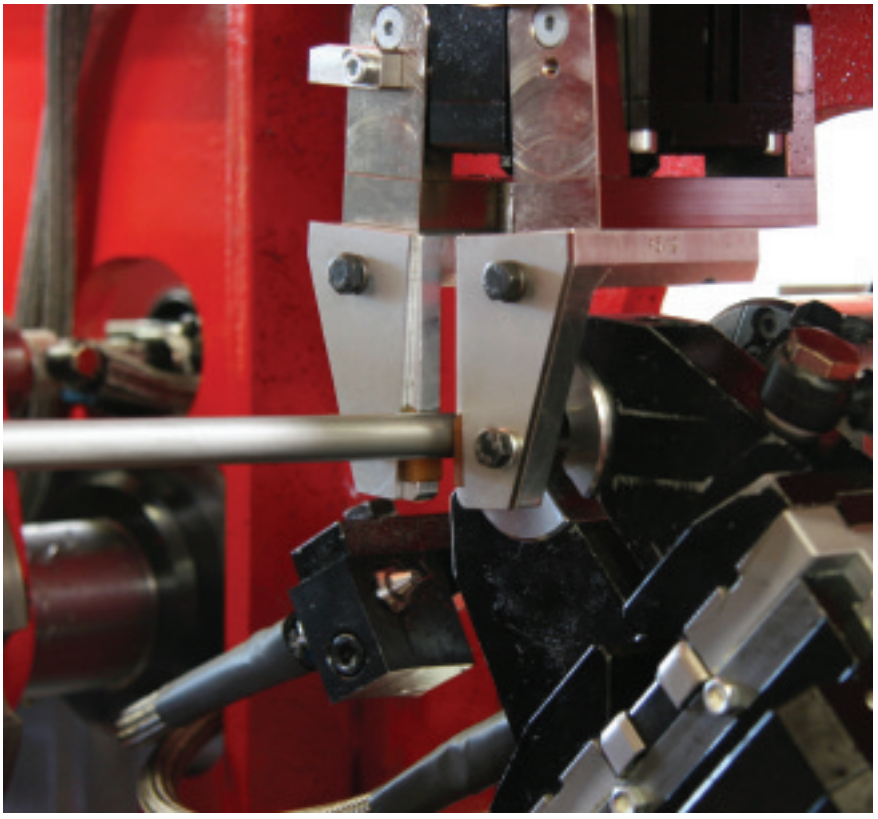
RSA has introduced a new high-performance circular saw called RASACUT XS that is designed for diameters of between 6 and 30mm and achieves high production levels that can only be matched by bundle cutting. The product is used in the automobile industry, especially for engine fuel lines.

In addition to this new saw, RSA has now brought a module for the chamfering and facing of tubes in the same diameter range onto the market. Hourly outputs of up to 2,400 units are possible, depending on the range of parts. The guaranteed precision of fixed lengths is ±0.05mm.

When used in combination with the RASACUT XS saw, the result is a top-performance saw centre with a high output and high level of automation and the company claims it permits the production of precise fixed lengths at an attractive price.

The precise and defined edging condition of the tube ends – for example, when forming the ends, flattening down or bending – enable further processing costs to be reduced.

RSA Entgrat-u Trenn-Systeme GmbH & Co KG – Germany
Fax: +49 2351 995 300
Email: tiemo.krause@rsa.de
Website: www.rsa.de



Defined internal and external chamfering as well as facing of tubes and solid bars are possible

New functions for Scada software brings more plant transparency

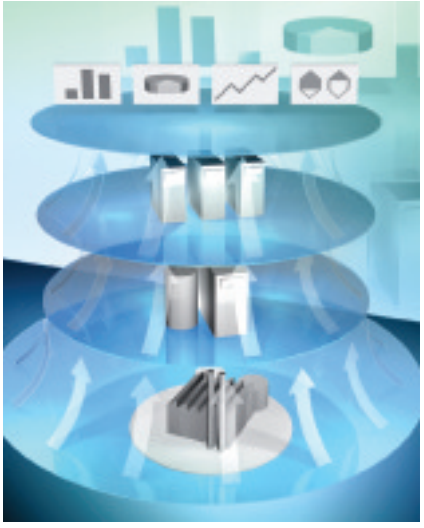
THE Siemens Industry Automation Division has expanded its Simatic WinCC/Downtime Monitor and Simatic WinCC/DataMonitor software options for the Simatic WinCC V7 Scada system.

The DowntimeMonitor can now also be used for equipment with varying speeds. The shift model has also been enhanced to include up to three shift calendars for comparing the use of machines and plants with different shift models. This feature can prove useful for analysing production fluctuations, for example when two machines deliver varying product qualities or quantities when operating under otherwise identical conditions. The DataMonitor tag selection for the Webcenter has also been improved.

The WinCC/DowntimeMonitor and WinCC/DataMonitor software options are used for visualising production processes as well as capturing, analysing and distributing production data.

The software calculates production figures, as well as displaying and evaluating them, which results in increased plant transparency and productivity. In the latest WinCC/DataMonitor version, the user now utilises the server to distribute the reports previously created offline in Excel. Thanks to new tools for the installation-free Webcenter, process values are displayed with more transparency than ever before.

The DowntimeMonitor



This version of the WinCC/DowntimeMonitor and WinCC/DataMonitor also provides the user with Gantt diagrams for the machine status, which can quickly zoom details of any selected period of time, with a single mouse click immediately leading back to the original time space within the overall display.

It is also possible to set the maximally attainable production speed (no of pieces/time unit) for production changeovers.

The system can now automatically adjust to alternately filling smaller and larger containers or cutting shorter and longer workpieces, for example.

This means that the actual values in each case can always be properly assigned to the relevant maximum value and the correct figures calculated, for example performance from the actual and desired throughput.

Siemens AG – Germany
Email: contact@siemens.com
Website: www.siemens.com

New extrusion lines for IBG Pakplastik

IBG PAKPLASTIK, one of Turkey's biggest plastics processors, has been a key customer of KraussMaffei Berstorff for more than 15 years. IBG Pakplastik recently rolled out operation of ten newly developed profile extruders and two new PP pipelines supplied by the Munich engineering company.

IBG Pakplastik, a leading manufacturer of plastic window profiles, pipe and sheet, is headquartered in Istanbul. In the first half of 2009, the company added ten KraussMaffei Berstorff KMD 114-26/P profile extruders to its machine park.

Two KraussMaffei Berstorff PP pipe extrusion lines also went into production at the same time. "This project came to us first and foremost because of the good, long-term co-operation between our two companies," explained Markus Geisenhofer, KraussMaffei Berstorff sales manager for the Near and Middle East.

Initially, IBG Pakplastik was using KraussMaffei Berstorff extrusion lines only for PVC window profiles. In 2005, the company decided to expand into production of plastic pipe at its plant in Konya in Anatolia.

Since then, all IBG Pakplastik pipe extrusion lines have been supplied by KraussMaffei Berstorff. The company produces pipe between 16 and 1,000mm diameter, including polypropylene (PP), polyethylene (PE), corrugated pipe and aluminium composite pipe.

IBG Pakplastik is using one of the new pipelines to produce a multilayer PP-R pipe, where the middle layer is filled with glassfibre. "This is a special, new type of pipe outstandingly suited to hot water applications, because the component properties combine to reduce longitudinal expansion," explains Mr Geisenhofer. The process, developed in Western Europe, is new in Turkey. "In Turkey, KraussMaffei Berstorff is market leader in multilayer pipe extrusion.

"The system in operation at IBG is a good reference project for the whole of Turkey," enthuses Geisenhofer. In the co-extrusion system, two extruders feed melt to the multilayer pipehead, so that the three-layer pipe is extruded in one work process.

IBG Pakplastik – Turkey
Fax: +49 89889 93092
Email: matthias.andreesen@kraussmaffei.com
Website: www.pakpen.com.tr

KraussMaffei Berstorff pipe extrusion lines in the production plant

innovative microtunnelling with jacking pipe systems

ESTABLISHING the main collector of the Lower Bench of Vistula River – Dolnej Terasy Wisly (DTW) – is very important for Krakow, the second largest city in Poland. The city's growth as well as EU requirements spurred on the extension and modernisation of the existing water and sewage system. A large part of the project is funded by the EU, and the DTW collector is a so-called 'ISPA project'.

The DTW consists of a 6.5km pipeline of which six are installed by microtunnelling. Once completed, it will connect two sewage systems, one of them being overloaded and one having reserves. Its function is to even out the flow to the treatment plants Kujawy and Plaszów during heavy rainfall ensuring their optimal operation. In addition to this, areas that currently use septic tanks will be connected to the new collector, preventing the soil from further contamination and improving the groundwater quality.

Construction works for the collector are conducted in three stages and in two parts regarding contractors.

The installation of the first part of the Vistula Lower Route collector in Krakow was initiated in March 2008, the line going into service within the next months. This part of the project is realised by a consortium consisting of Hydrobudowa 9 and PRG Metro. Microtunnelling was chosen for mainly economic reasons. Since the planned pipeline route runs in 6m depth nearby the Vistula River where water collects in layers of sand and gravel, the costs for dewatering and excavation works would have been considerably higher than for tunnelling.

The pipes used for the project are HOBAS CC-GRP Jacking Pipes with outer diameters of 1,099 and 1,229mm. Two independent microtunnelling machines were utilised and a precise amount of lubricant was applied to maximise the progress. The smooth and non-absorbent surface of the pipes doubled the effect of bentonite lubricant so that the installation ran smoothly over the 200m long drives and without the help of intermediate stations. The latter would only have been activated if allowed jacking forces had been exceeded. Since their help was not needed, the installation speed was doubled.

The achieved jacking rate of up to 25m per 24h was the result of the contractors' experience, the pipes' properties and good planning. The thrust and reception pits are made of steel piles – this solution has proved its worth in the past and is now an accepted technique in Poland. Pits of any required shape can be made this way, adapted to local conditions and the optimal pipe length, which in this case is 3m. The piles are extracted once the pipe installation has been completed.

Pipes being installed in 6m depth nearby the Vistula river

Concrete sunk shafts are utilised where intermediate stations are taken out after the pipe has been installed, to make way for a HOBAS CC-GRP Shaft.

Due to the high precision of microtunnelling it is possible to drill through the provided and temporarily sealed sparings in the reinforced concrete walls. Once the pipeline is laid, the intermediate jacking stations are lifted out and CC-GRP Shafts are placed in the 3m diameter sunk shafts. Thanks to their comparatively small dimension and low weight, this is done with ease.

It was important for the contractor that all parts of the new collector, such as manholes and fittings, were prefabricated and from one source, which together with microtunnelling guarantee a complete high-quality leak-free system. It was furthermore of great importance to be able to continue installation works during the winter months. Taking the high durability of the pipeline system into account, a pressure line of the system will also be established with CC-GRP utilising DN 500 Pipes PN 6.

The remaining 3.4km line is realised under the direction of INKOP, another contractor specialised in microtunnelling. Its construction was commenced in September 2008 and is expected to be completed by the end of 2009.

The works were conducted under similar soil and groundwater conditions as for Part I. Outstanding progress was achieved with installation rates up to 24m/ 12h. The intermediate stations once again stood still during all drives, and even lengths up to 208m were easily tackled without help. Optimal technological parameters, the smooth surface of HOBAS Pipes and sufficient lubrication applied every 21m made an efficient and economic realisation of the project possible.

HOBAS Engineering GmbH – Austria
Fax: +43 4634 82121
Email: info@hobas.com
Website: www.hobas.com

Jacking Pipes with outer diameters of 1,099 and 1,229mm were utilised for the project

Not getting enough attention? ...

Exhibiting at wire/Tube Düsseldorf?
Book your catalogue entry now and save 5% (limited offer)!

NEUREUTER FAIR MEDIA

wire® Düsseldorf Tube® Düsseldorf

Neureuter Fair Media
www.neureuter.de

http://wire.media-entries.com
http://tube.media-entries.com

Cure of thermoset filament wound pipe sections with induction heat

A SUPER-THERMAL conductive mandrel technology developed by Acrolab Ltd, Canada, permits curing of filament wound pipe and tube sections by heating the mandrel uniformly, while rotating using an Ambrell induction heating power supply. Induction heating provides clean, precise, even heat. This combination of technologies eliminates the need for cure ovens, saving time and energy.

Trademarked the 'Isomandrel', the new mandrel design consists of a process internal to the mandrel that enhances its thermal conductivity and thermal reactivity. The process permits heat to be applied in a localised concentration that is then rapidly and homogeneously redistributed over the complete mandrel working surface.

Isomandrel technology, when coupled with induction heating, permits the mandrel and filament winding to continue rotating while being heated to an optimum controlled temperature to effect cure. This heating occurs while the assembly is still rotating in the winding machine or on a rotating fixture within the manufacturing cell.

Acrolab Ltd, working with McClean Anderson Inc, USA, and Ameritherm, an Ambrell company of Scottsville New York, as a technology team, constructed the curing cell at McClean Anderson's laboratory. The induction heated Isomandrel curing station was used to cure a number of 48" long pipe sections wound with glass and carbon fiber epoxy pre-pregs, provided by TCR Composites of Ogden Utah. They were wound on a 3" OD Isomandrel.

At the end of the winding cycle, the sections were successfully cured on the Isomandrel using an Ambrell induction heating power supply and coil assembly while the Isomandrel and winding were still mounted and rotating at a reduced 10 RPM on the Super Hornet Winder.

By providing high thermal energy uniformly over the entire mandrel surface outward through the filament winding, the cure is completed in a shorter time, with less energy, while providing a significantly more uniform cure and resin rich ID. Ameritherm and McClean Anderson are currently developing a fully software/hardware integrated station to provide the controlled power and recipe requirements to integrate with Acrolab's Isomandrel technology.

Ambrell – USA
Fax: +31 65486 59044
Email: info@ambrell.com
Website: www.ambrell.com

Solid state high frequency welder technology from China

PHAMITECH Int'l, China, has launched a new solid state HF welder that uses high-power MOSFET IXFN38N100Q2 38A/1000V and fast recovery diode DSEI 2x61-12B 60A/1200V from IXYS Germany to form inverting circuit in series (VFI).

The modularised design enables a more compact structure, easier maintenance and high-power realisation.

The equipment is safety guaranteed by bridge-divided over-current protection technology.

Advanced control technology, such as fixed angle phase-locking control and upper/lower limit frequency lock-lost protection, makes the equipment more stable and efficient, with more accurate and effective protection to the inductor open circuit and short circuit problems during pipe welding.

The solid state HF welder is designed with advanced electronic load matching technology (PS+PWM control), which can ensure the welder works at the highest efficiency, maximum power factor (>0.9) and optimal load matching status, and to allow simple switchover between induction welding and contact welding mode.

An optional speed-power closed-loop control system can improve welding efficiency and reduce the technical adjustment period.

A step-up/step-down rectifier transformer for the HF welder power supply is not required, which has energy-saving benefits compared with electron tube welders or parallel type solid state welders.

Phamitech Int'l Company Ltd – China
Fax: +86 10684 70948
Email: sales@phamitech.com
Website: www.phamitech.com

Weld cleaning power brush

THE weld cleaning power brush by Osborn International, India, is designed especially for the gas and oil pipeline construction industry. It is an aggressive model that runs at high speeds on surfaces for descaling, deburring, removing rust and adhesive residues as well as preparing and cleaning weld seams.

With the most commonly used Osborn brush of diameter 171mm and 76 knots, almost 500,000 sharp wire tips per second are applied to the weld seam. These move over the surface at a speed more than 280km/h and thus remove even the smallest contaminants.

These brushes are particularly designed for: weld seam cleaning on fillet welds, in constricted openings and slots; non-stock removing; removal of the coating material, which has been applied as corrosion protection, from the exterior of the pipeline tubes; and the problem zones and undercut that arise under the influence of heat and are normally difficult to reach during welding.

The removal of cinder and oxidisation is achieved in a complete and efficient manner. It is an excellent cleaning solution for weld seams prior to re-welding. Any welding defects are visible immediately after brushing and can be reworked and an overall improvement of quality is achieved.

Osborn International's weld cleaning power brush is produced from the highest quality materials, thus providing long life and exceptional brushing results. And ultimately, Osborn claims, it can reduce the cost of construction by 30-35%.

Depending upon the surface quality required, brushes with the correct wire size can be specified. These brushes are available in normal and high density variations. They are easy to install and operate with all mobile as well as stationary machines.

Osborn Lippert India Private Limited – India
Fax: +91 240 2552530
Email: sales@osborn-lippert.co.in
Website: www.osborn-lippert.co.in

High performance metal circular saws

ASMAG offers a very wide range of machine concepts in the area of saws and cutters.

The high-performance metal circular saws are used for sawing of pre-material, semi-finished products and finished products. The robust structure guarantees vibration free machine operation, even when sawing large material. This leads to optimum cutting results and long saw blade service life.

One of the latest innovations in this area is a sawing line for brass billets. The sawing machine is arranged in-line with an extrusion press for brass tubes. ASMAG delivered this fully automatic sawing line with handling system for brass billets to a well-known European brass producer. The length of the incoming material is 2.8–3.2m and the diameter of the billets is up to 320mm.

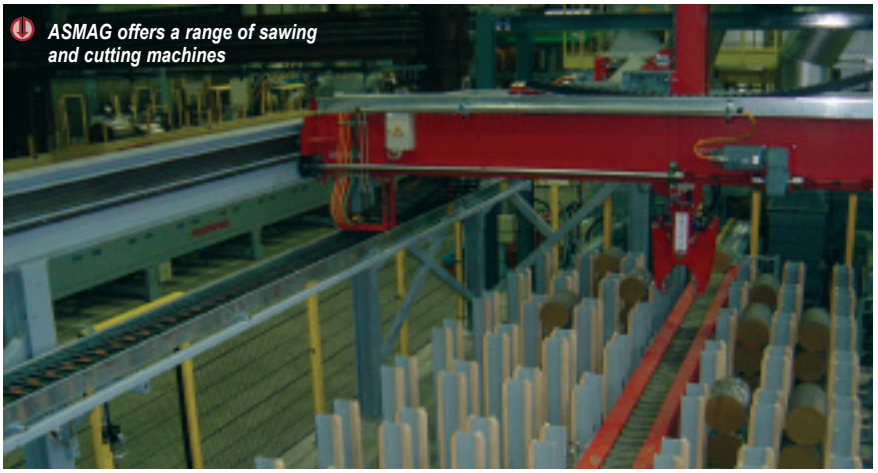
At the end of the charging unit, the billets are automatically separated into the saw entry roller table. Before sawing, the billets are measured and the optimum dividing length is calculated by the control system. High cutting performances and vibration free operation of the machine are guaranteed due to the rigid robust design. The sawn billets with a length of 280–900mm are w.eighed by the weighing system. They are lifted by means of a manipulator into the storage system with a capacity up to 400 billets.

The inclusion of an integrated material tracking system allows billets to be selected by alloy and weight from the billet stock.

The essential benefits of the machine are: fully automatic operation of the entire sawing line; highest cutting performance and vibration-free operation due to robust design; and ergonomic plant design and efficient flow of material.

ASMAG's aim was to establish a pioneering technology in the sawing of billets, which meets with ASMAG's general philosophy in developing its machines.

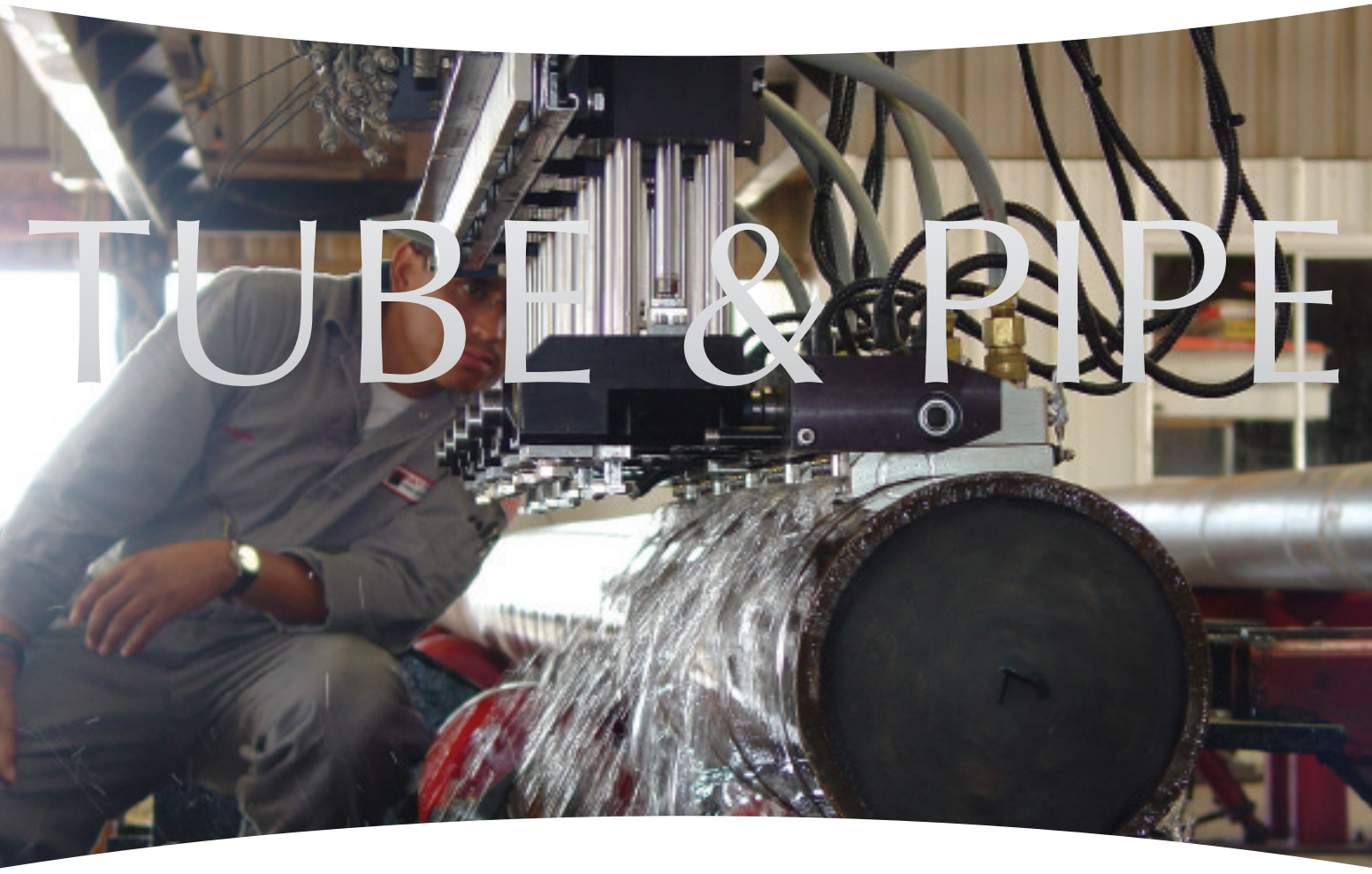
ASMAG – Austria
Email: sales@asmag.at
Website: www.asmag.at



ASMAG offers a range of sawing and cutting machines

OLYMPUS®

Your Vision, Our Future



INTEGRATED NONDESTRUCTIVE TESTING SOLUTIONS

Phased Array Ultrasound

Full-Body Inspection for Rotating Pipes

Phased array ultrasound offers fast and comprehensive inspection of both surface breaking and non-surface breaking defects. Phased array provides flexibility and control of all inspection parameters.

EPOCH™ 1000 Series

Advanced Ultrasonic Flaw Detectors with Phased Array Imaging

Advanced Conventional UT

- Full VGA sunlight readable display
- Improved A-scan interpretation
- EN12668-1 compliant
- High-speed scanning (6 kHz PRF)
- IP66 environmental rating
- Digital High Dynamic Range Receiver

Phased Array Imaging Package

- Increased inspection efficiency
- Intuitive interface and setup
- No compromise to conventional UT
- Higher confidence in conventional inspections
- Fast switching from UT to PA mode
- Single set-up to view A-scans at multiple angles

See us at FABTECH, booth 38043

For worldwide representation **visit www.olympus-ims.com • info@olympusNDT.com**

Hydratight harnesses elbow power

HYDRATIGHT says it has designed a high-tech, cost-effective design to a refacing tool for hard to reach pipe flanges whose integrity must be maintained.

The ultra-light, ultra-portable QuickFace is a new Hand-Powered refacing tool that retains the accuracy and performance of the bigger air and electrically powered cousins in Hydratight's range.

The portable QuickFace turns a two-man operation with heavy equipment, compressors or portable generators into a one-man job that can be undertaken anywhere a technician can physically reach – whether at the top of a refinery installation or miles from the nearest power supply.

The QuickFace tool weighs only 6.8kg (15lb) – and in its storage case with interchangeable collets and lead screws is a mere 15kg (33lb), despite which it can reface flange surfaces on pipes from 1 - 4in with ease, using standard half-inch cutting tools.

"Many flanges have to be refaced in-situ without readily available power, because the flange is difficult or inaccessible. Sometimes such a repair simply isn't cost-effective – and that means taking a gamble on future integrity," said Hydratight global support engineer Alan Jones.

"About 90% of all flanged joint leaks are on pipes in the 1"–4" range – exactly what QuickFace is designed for. Many leaks are caused by poor joint-surface finish. Correcting this usually involves finding a resurfacing machine and competent technicians – and having the time to complete the job.

"QuickFace is small enough to be a permanent addition to any technical equipment store.

The alternative may be transporting teams and equipment by helicopter and running generators or compressors – all at much greater expense, where they are available at all."

Hydratight engineers have pared weight but not features: the system has interchangeable lead screws that make it suitable for resurfacing damaged raised-face and lens-ring joint flanges to the varying standards of finish demanded of standard and compact flange designs.

"Having QuickFace on site removes the need to gamble on the quality of a joint's surface finish," said Mr Jones. "A tradesman on site can do the job in the same time as a team using traditional tools – and produce a finish well within specification. It's a perfect solution to a genuine problem."

Hydratight – UK
Fax: +44 12150 50800
Email: quickface@hydratight.com
Website: www.hydratight.com

High-speed saw and automatic deburring machine

KENT Corporation's new Bewo high-speed cold saw, model SCF-90, cuts one to six tubes simultaneously, providing cut rates of up to 11,000 per hour.

The saw head cuts upward, which leaves most chips below and requires less cutting force.

The fully hydraulic helical saw head is robust with minimal backlash.

The tubes are fed via servo feed to ensure accuracy and enable up to ten different lengths to be cut from a single stock length of tube.

The main control panel automatically selects the most efficient settings based on the entered job. All settings are automatically controlled at the panel.

The Bewo Quatro can be expanded with 100% compatible machines and systems for de-burring, measuring, washing and stacking.

The high speed saw is capable of processing tubes from 0.315" to 3.5" (8 to 90mm) outside diameter. Kent offers full sales, service and parts support for new and used Bewo machines in North America.

Kent Corporation has also developed a new Burrmaster de-burring machine to automatically de-burr the ends of mitre cut tubes, bent tubes, or straight tubes.

The Rotoburr de-burr uses a 12" diameter x 6" wide spinning brush, and the head also rotates. This double action enables an operator to quickly and consistently de-burr the end of the part without having to spin it.

A quick adjust work rest makes changeover quick, and automatically puts the part on centreline of the brush.

The machine has an optional powered table and clamping device that is suitable for processing mitre cut or bent tubes.

The machine can be used for cell type applications and can be loaded via optional robot. It also is available with a variable speed brush for processing either ferrous or non-ferrous material.

It is capable of processing tubes, bars, or extrusions up to 6" (152.4mm) cross-section.

Kent Corporation
– USA
Fax: +1 440 237 5368
Email: info@continuouscoil.com
Website: www.continuouscoil.com

True tube profile measurement system

LIMAB, Sweden, manufactures laser measurement systems for the steel industry and is a pioneer in non-contact laser measurement, with sensor development, engineering, design and manufacturing all done in-house. It has developed several measurement solutions for the steel industry such as diameter, ovality, length, thickness and width measurement.

The company presents two different key systems for diameter and ovality/ shape measurement: HotProfiler and Tubeprofiler. HotProfiler is a non-contact laser measuring system for hot and cold applications in bar and tube rolling mills. The system can be equipped with 18 sensors placed in an oscillating measurement frame. Tubeprofiler is a non-oscillating measurement system, equipped with up to 18 sensors, for hot and cold applications in bar, tube and pipe mills.

The system can easily measure on round, square, hexagonal, flat or any other type of tubes. The unique design of measuring using distance sensors mounted around the tube will detect any type of shape error, which means that there are no blind zones. All measured dimensions are processed and displayed in the operator software. The results are shown as real-time numbers, trend graphs as well as in 2D and 3D graphs for easy viewing. The database provides an excellent source of production data for long-term monitoring and process improvements and will output key dimensions and alarm signals if any of the tolerance or warning limits are exceeded.

The Hotprofiler and the TubeProfiler are very easy to install in the existing line and easy to relocate to other parts of the mill, using the built-in lifting hooks and the quick change electrical connectors. The core part of the system is the laser sensor itself, which has no moving parts for zero maintenance. The sensors are completely sealed with digital processor inside and capable of withstanding hot and dirty industrial environments.

LIMAB – Sweden
Fax: +46 31 583388
Email: lennart.jacobsson@limab.se
Website: www.limab.com

Solution for cleaning inside of tubes and pipes

TUBE Clean GmbH is a Swiss manufacturer and distributor of equipment for hose, tube and pipe cleaning, providing complete and fully integrated solutions.

The company states that the Bison 4000 W/D is the first plant available in the industry that allows a combined wet and dry cleaning of tubes and pipes. The machine can clean inside diameters from 1.8 to 32mm, and the company claims it is fast (intervals of two seconds) and environmentally friendly.

All necessary parameters are fed into the system via a touch-screen. The modular design allows for customer-specific solutions or integration into existing processing lines.

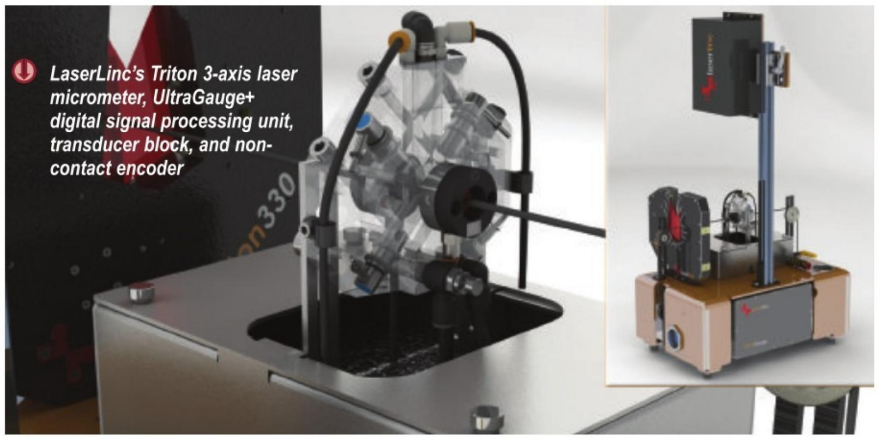
Tube Clean GmbH
– Switzerland
Fax: +41 43 843 1099
Email: info@compritubeclean.com
Website: www.compritubeclean.com

Ultrasonic measuring device

LASERLINC's UltraGauge+ ultrasonic measurement system provides tools for non-contact monitoring and control of OD, ID, and wall thickness. The system includes transducers, a digital signal processing unit (DSP), a laser micrometer, and a non-contact encoder for precise measurement of length and speed.

Of special interest to manufacturers of thin-walled metal tubing, such as Nitinol, LaserLinc has developed a proprietary solution for measuring wall thickness. The company's ultrasonic device measures wall thickness at up to eight positions, with 2,000 measurements per second.

The transducers sit in either the product's cooling or vacuum tank, or a tank manufactured by LaserLinc. A transducer emits an ultrasonic 'ping' toward the product, and the DSP computes the time difference between the ping echoes at each layer interface, using the speed of sound in the product to build a picture of it.



LaserLinc's Triton 3-axis laser micrometer, UltraGauge+ digital signal processing unit, transducer block, and non-contact encoder

The DSP connects via Ethernet to a computer running Total Vu™ software, LaserLinc's measurement/data processing package. The Ethernet connection allows the PC to be located some distance from the production line, eliminating many cabling and distance limitations.

The measurement devices combine with Total Vu software to create real-time charts, graphical cross-section displays, and measurements in configurable, easy-to-read panels. Total Vu software runs on any Windows-based PC, and provides in-process tolerance checking, trending, SPC, control, data logging, and other features. These tools can reduce scrap, increase production efficiency and improve quality.

All LaserLinc micrometers and the UltraGauge+ DSP have a four-year parts and labour warranty (transducers carry a one-year warranty).

LaserLinc Inc – USA
Fax: +1 937 318 2445
Email: info@laserlinc.com
Website: www.laserlinc.com

Extrusion-based process boosts compression tube fittings

A NEW production process based on stainless steel extrusions is raising the quality of industry-standard compression tube fittings – without ratcheting up the costs, claims tube fittings manufacturer Parker Hannifin.

The new technology is aimed at users in processing markets such as oil, gas and chemicals, where the need for integrity and reliability is paramount.

"By complementing our traditional forged fittings range with versions made from extruded materials, we have been able to increase the quality and consistency of finished parts without raising costs," said Sheldon Banks of Parker Hannifin.

"The uniformity of metal grain size and shape inside extrusion-based parts means that all the new fittings possess virtually identical mechanical properties, and are in fact stronger than traditional forged parts."

Parker Hannifin believes it is the first tube fittings manufacturer to launch extrusion-based products into the mainstream twin-ferrule stainless steel compression tube fitting market, and is offering the technology on its A-LOK range.

It has been able to make this move thanks to a patented process that can cope with the tough metals required for tube fittings. Parker also notes that the process is applicable to all the exotic alloy fitting products it supplies for corrosion-resistant applications.

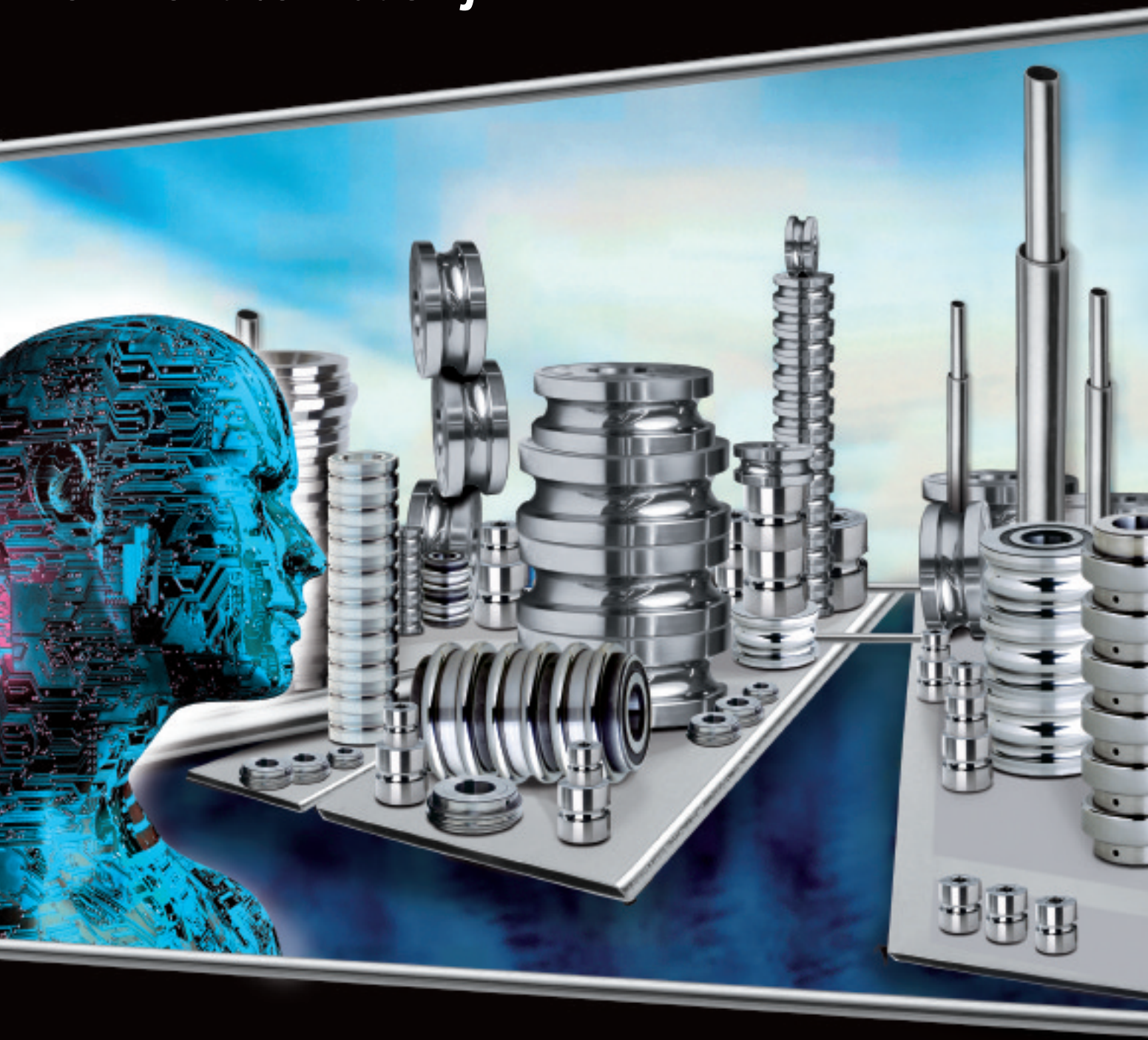
As extrusions allow dimensions to be closely controlled, the fitting interchangeability demanded by large-scale users remains in place. Switching to extrusion-based fittings can bring further benefits for end users, especially those working on projects.

Extruded profiles are faster to produce and are available with shorter lead times, and can typically be produced in smaller batches. This allows Parker to respond more quickly to customer requests.

Another important aspect of Parker's quality chain for this new product range is the company's policy of sourcing raw materials from high-quality European sources. Parker is phasing this new materials technology into production over the coming months, but will make extruded products available now on a project-by-project basis.

Parker Hannifin – USA
Email: ipd@parker.com
Website: www.parker.com

The leading producers of rolls and accessories for the tube industry.



When the world rocks, we keep rolling on.

Relying on total innovation
to keep Number One.

EUROLLS SPA
Via Malignani, 14
33040 Attimis (UD) - ITALY
Ph. +39 0432 796511
Fax +39 0432 796501
www.eurolls.com

EUROLLS

AND THE FUTURE IS ON.

TruTops Mark Navigator improves laser mark

TRUMPF's TruTops Mark Navigator is the result of more than a decade of laser marking expertise and development. This interactive software, used in conjunction with TRUMPF's TruTop laser markers, is a good solution for optimising laser parameters for different laser marking processes and materials, including metal, plastic and ceramic.

No specific laser marking knowledge is required in order to use Navigator, which means that even inexperienced operators are able to program the software to achieve outstanding marking results. An easy-to-use, intuitive menu first directs the user to choose the appropriate materials, and then the desired process – such as deep engraving, annealing or ablation.

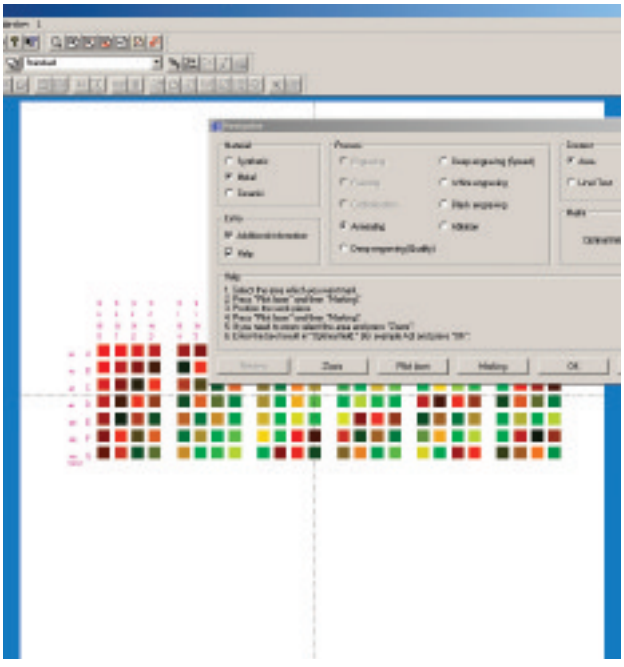
As a final step the operator has to select the marking content and designate whether it is an area to be filled, or lines. The TruTops Mark Navigator software creates a test matrix, which is marked on a test piece.

The operator then evaluates the test matrix, selects the field which he likes the most, clicks on the field in the software and the laser parameters are transferred directly into the laser marking program.

The Navigator's zoom-in function allows for fine tuning of test patterns. All this is done within a few mouse clicks and saves not only time to determine the right laser parameters, but helps optimising the mark time and mark quality.

TRUMPF's TruTops Mark Navigator is unique to the market, which primarily uses test files. By comparison, test files are static, whereas Navigator is dynamic and interactive.

TRUMPF Inc – USA
Fax: +1 860 255 6424
Email: melanie.mcmillan@us.trumpf.com
Website: www.us.trumpf.com

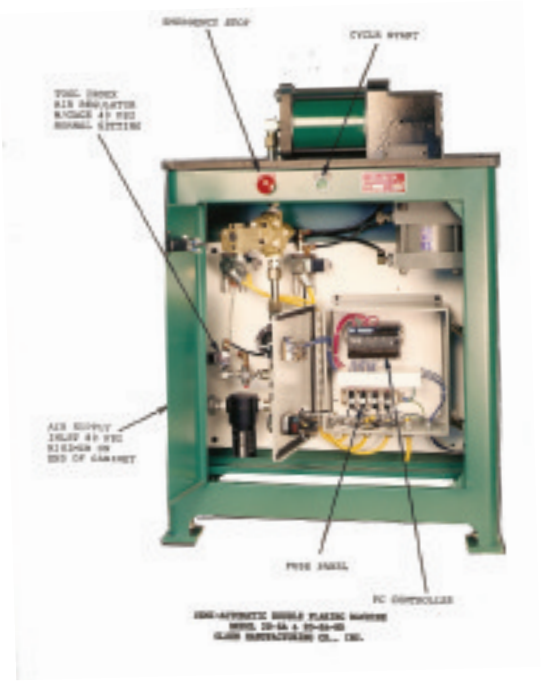


TRUMPF's TruTops Mark Navigator

Semi-automatic double flare machine

OLSEN Manufacturing Company has developed the Olsen Model 20SA semi-automatic double flare machine. The machine can be tooled to perform double flares, single flares, hose beads, and swage operations in light wall steel, stainless steel, aluminium and copper tube materials with consistently accurate and uniform results.

The Olsen Model 20SA double flare is equipped with a programmable controller to monitor and control all functions of the machine cycle. The controller incorporates three distinct programs, each individually addressable through a three-position cycle selector switch.



These programs provide versatility, which allows the machine to not only double flare but also single flare, bead, expand or size. Simply select the cycle desired, install the proper tooling and the machine is ready to go to work.

Machine cycle time for a double flare is three seconds. Increased production capability, versatility, and uniform accurate performance make the Olsen Model 20 SA Double Flare the ideal piece of equipment for a fabricator, whose requirements are not attainable with pure manual type tooling.

Machine capacity for double flare operations is $^{3}/_{8}$" OD by 0.035 wall in dead soft steel tube. A heavy-duty version of the machine with a larger ram cylinder increases its capacity to $^{5}/_{8}$" OD by 0.049 wall in dead soft steel tube.

The Olsen power flare line also includes a manually operated pneumatic powered double flare machine, the Olsen Model 20 Double Flare, a manually operated, electric motor powered single flare machine, the Olsen Model 50 Power Flare and the manually operated Olsen Model 5150 Power Bender.

Olsen Manufacturing Company Inc – USA
Fax +1 248 549 4250
Email: olsenmfg@aol.com
Website: www.olsenmfg.com

Portable brazing system for manufacturing versatility

CHELTENHAM Induction Heating, an Ambrell company, has announced a new accessory for the EKOHEAT line of induction heating systems. This portable workhead is used in both manufacturing and service/repair facilities for brazing or soldering of copper joints.

Working with the EKOHEAT power supply, this system is ideal for brazing the connections in electric motor or generator windings, delivering energy into the copper producing repeatable high quality braze joints.

"Easy manual control and operation for manufacturing versatility is provided," says Jonathan Gorbold, vice-president of global support. "This is ideal for bringing precision brazing to your parts including hard-to-reach joints.

"The unit accepts a tool-balancer or a harness for easy positioning. Coil position may be changed with simple tools and the mounting rotates through 270° to meet various application configurations."

Heating occurs within a 5m radius (optional up to 15m) via a flexible cable that attaches at the power supply. Operation is simplified with a pistol-grip heat-on control that halts heating if released.

The EKOHEAT family of products is manufactured at an ISO 9001:2008 certified Ambrell facility. This portable accessory for the CE-marked EKOHEAT system is shielded and tested for ICNIRP conformance.

Ambrell also provides system solutions with full-scale output power from 1kW up to 500kW across a wide range of output frequencies.

Cheltenham Induction Heating – UK
Fax: +44 12422 24146
Email: sales@cihinduction.com
Website: www.ambrell.com

The new portable workhead called EKOHEAT

Coating increases life of thermowells in hydrocarbon cracking units

A SPRAY coating for thermowell temperature assemblies has been developed that not only increases the life of thermowells in critical fluid catalytic cracking units (FCCU) in oil refineries, but also reduces associated maintenance and repair costs.

The SDC-4 plasma flame sprayed coating from Okazaki Manufacturing Company (OMC) is applied to the tip of the company's thermowells for use in oil refinery FCCU applications, providing excellent corrosion resistance in harsh operating temperatures and pressures.

In a recent application at Fuji Oil Company in Japan, the SDC-4 plasma coating thickness on an FCCU thermowell tip had eroded by just 0.1mm during 51 months of operation.

The thermowell was located in the reactor stripper riser extension of an FCCU, with operating temperatures of around 510 deg C and operating pressures of around 0.27Mpa.

The thermowell was manufactured from Inconel600, had an outside diameter of 16mm, with an SDC-4 coating thickness of 2mm.

During the SDC-4 spray coating process, which is carried out at in-house by OMC, the component being coated (tip of the thermowell) is not distorted in any way.

The part temperature is typically below 121°C during the spraying process and the substrate of the part being coated is not altered at all, as far as its metallurgical properties are concerned.

The coating is applied to the exposed area of the thermowell (for example the tip) and provides excellent corrosion resistance against the arduous process conditions within the FCCU.

FCCUs have been an integral part of oil refineries since 1942, when Exxon Corporation introduced them to the US market in response to a growing wartime need for hydrocarbon-based fuels.

An FCCU accepts chains of hydrocarbons and breaks them down into smaller ones in a chemical process known as 'cracking'. This enables oil refineries to utilise their crude oil resources more efficiently, making more products such as gasoline for which there is a high demand.

Crude oil contains a wide variety of hydrocarbons of varying lengths. Depending on the length of the hydrocarbon, it can be used for a number of different applications. For example, cooking gas typically has four carbons, while gasoline for passenger cars has a longer chain that contains eight carbons. Lubricating oils are even longer, with 36 carbons in the hydrocarbon chain. When oil is refined, these hydrocarbons are separated out for use.

Okazaki Manufacturing Company – UK
Fax: +44 14437 41777
Email: info@okazaki-mfg.co.uk
Website: www.okazaki-mfg.co.uk

The Okazaki thermowells

A flexible handling and processing system

FINNISH material handling company Pesmel and machine tool and circular saw manufacturer Plantool have developed a new autosaw–concept for steel profile handling and machining. Both companies are known from their modern and highly automated solutions for metal industry. The concept is a complete solution based on automating the handling and processing functions of steel profiles and thus enabling users to boost their overall processes and give faster and more accurate service to their customers.

The Pesmel-Plantool autosaw concept is a manufacturing system for steel producers, service centres, distributors and component manufactures to cover all product handling and processing functions from internal transport, sawing, sorting, and packing all the way to the shipping and composing of an efficient, integrated production unit. The system is flexible and easy to modify for component workshops or service centres.

This new concept was developed due to the need of customers to have efficient but flexible product handling with real-time product tracking. The product tracking plays an important role, since there are numerous different product items all ready in storage.

The company's warehouse management system (WMS) means the real-time information on the products is easy to manage and always available. The main task for WMS is to control the material flows between different processes and optimise the warehouse and logistical functions. The WMS system communicates with Mill Information System, from where it receives internal orders for different processes or customers orders for shipment. This storage system, which does not use cassettes, is an ideal solution when the storage space needs to be optimised and the handling functions simplified without bargaining from the overall capacity.

Plantool Oy – Finland
Fax: +358 207 288210
Email: plantool@plantool.fi
Website: www.plantool.fi

Weld purging systems

A NEW range of purging systems has been launched by Huntingdon Fusion Techniques for welding stainless steel pipes up to 12" diameter that allows the introduction of inert gas to reduce the oxygen content of pipes faster and allow welding to begin sooner.

The new system has been designed with multiple exhaust channels to allow the oxygen in the weld space to be exhausted faster. Furthermore, additional inert gas inlet channels have been provided to speed up the purging process for more time savings.

This new Argweld range is for pipes from 50–300mm diameter and replaces the previous MKIV System range.

For pipes of 200mm to 2,000mm HFT has developed the Argweld Quick Purge range.

Huntingdon Fusion Techniques Limited – UK
Fax: +44 15548 36836
Email: hft@huntingdonfusion.com
Website: www.huntingdonfusion.com

Used and refurbished extrusion lines for plastic

PMH GmbH delivers refurbished extrusion lines for many plastic applications. It exports extruders and complete extrusion lines together with all further equipment needed for this area of production. Trial production before shipment, commissioning and start-up at a customer's company are also possible.

The company says it can also supply original spare parts on request and arranges fitting of the right mould for extrusion of the required product from the required raw plastic material.

The range supplied includes extrusion lines for blown films, cast films, sheet films, pelletising, tapes, strapping tapes and monofilaments. Also, single machines as extruder, twin-screw extruder, pipe heads, dosing and feeding equipment, melt pumps and all further machines are available from stock and stored in its warehouses, ready for inspection with the nearest airports located in Cologne, Düsseldorf and Frankfurt. You can also view the equipment by clicking on its homepage and getting a first impression about available used machines and equipment for all kind of plastic extrusion processes.

If the machine is not listed then the company says it can also source the required equipment. Machines that are not listed on its homepage are usually available within a few days.

PMH Plastic-Maschinen-Handelsges MBH – Germany
Fax: +49 2244 83045
Email: pmh.gmbh@t-online.de
Website: www.pmh-extruder.com

Tube cutting with pneumatic

SMS Engineering Srl, Italy, offers tube cutting machines starting from a commercial size bar complete with bundle loader, selector and pneumatic feeders equipped with mechanical stop device, which can be adjusted according to the length of the tube. Cutting operation is performed through shearing with a one or two blade unit.

The two-blade cutting system applies an initial pre-cut of the profile and then carries out the orthogonal final cutting. The machineries have a highly adjustable system, it is simple to change tools even for inexperienced operators and all working areas are easily accessible for maintenance and operation purposes. It is also capable of cutting two different lengths from the same bar.

The cutting machines are fed from a reel and equipped with an unwinding system with straightener that can be used before cutting.

Cutting operation takes place by means of circular saw electrically operated with pneumatic feeding of the unit.

These machines can also rely on highly adjustable systems, simple tool change and working areas that are easy and safe to access.

SMS Engineering Srl – Italy
Fax: +39 0355 81509
Email: commerciale@sms-italy.it
Website: www.sms-italy.it

Ultrasonic scanners for line-pipe

SCANMASTER is a manufacturer of ultrasonic inspection systems for a wide range of applications including pipe, aerospace, rolling-stock and automotive applications.

Pipe scanners for ERW, SAW-H and SAW-L pipe include configurations to test strip, weld, body and ends of the pipe in online or offline condition. ScanMaster systems meet quality standards such as API-5L, ISO-3183, DNV and EN.

ScanMaster's scanners for the ERW pipe include strip, weld, body and ends scanners for line-pipe with diameters from 2" and up. Offline systems allow high scanning speed in the range of 1m/s with excellent durability and uptime. Integrated weld and ends testers can throughput more than 2 pipes/minute.

Scanners for SAW-H pipe include weld, body and ends scanning within a single mechanism saving time and mill space. The scan head for the helically welded pipe includes linear guidance of the probes resulting in fast setup and minimal calibration time, while allowing the maximal number of probes to be placed around the weld. A weld tracker based on laser technology, also developed by ScanMaster, may be integrated with the scanner.

Display and reports of the scanners include all the technical and general information of the scanned product as well as results listing and defect mapping. Displays of the scan A-, B- or C-scan as well as customised mapping methods are included. Reports can be automatically exported into common format files and integrated with other industrial or information systems.

ScanMaster-EVS (IRT) – Israel
Fax: +97 2986 61700
Email: kemelman@evs-sm.com
Website: www.evs-sm.com

HSS-based saw blade

THE Swiss company SW Wil has developed a new kind of HSS-based circular saw blade, the PowerBlade 65.

Using a HSS vapour blade it is possible to cut up to 380 N/mm^2 with a moderate cutting speed.

With a standard HSS blade and a common AlTiN PVD coating users are able to cut up to 450 N/mm^2 with a good lifetime and cutting speed.

TCT saw blades are normally used above 650 N/mm^2. For the gap between 450 to 650 N/mm^2 there was no circular saw blade available offering an optimum solution for cutting tubes and bars in this range.

SW Wil is now putting a complete new HSS saw blade on the market with a special HSS body and a coating system featuring a much higher oxidation resistance than any other one in the market. The PowerBlade 65 is setting a new standard in the line between 450 to 650 N/mm^2.

SW Wil Werkzeuge u Maschinen AG – Switzerland
Email: swwil@sw-wil.com
Website: www.sw-wil.com

Flying cold saws

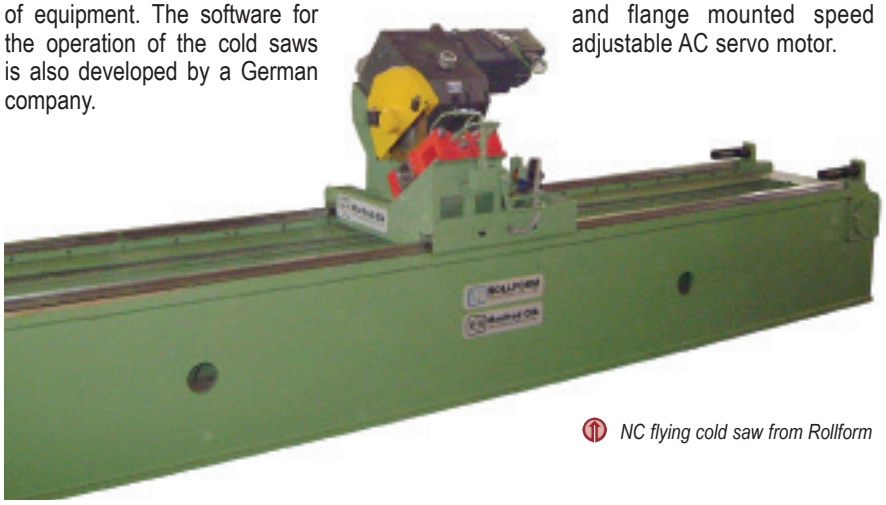
ROLLFORM Equipment Pvt Ltd, India, manufactures equipment for tube and pipe production. The company has been a pioneer in the production of NC flying cold saws, and has supplied more than 25 cold saw systems to various customers across the world, including Europe.

Rollform has a technical tie-up with Manfred Olk Technical Consultants, Germany, for the design and development of equipment. The software for the operation of the cold saws is also developed by a German company.

The metal saw cut-off system can handle all types of products/tubes – circular, square and rectangular sections.

The synchronisation with mill speed is achieved with the use of a brushless AC servo motor control system for fast response time.

The saw blade drive is mounted on the carriage, and is executed as backlash-free gearbox with incorporated saw blade shaft and flange mounted speed adjustable AC servo motor.



NC flying cold saw from Rollform

The saw blade drive is mounted on a slide, guided on linear motion system.

Feeding of the saw blade is performed by an AC servo motor via quick-release safety coupling and ball screw spindle. Feeding speed is NC controlled and related to the progress of the cut.

The AC servo motor installed as saw blade drive due to its very high speed can be fitted with HSS-type or tungsten carbide saw blades, depending on the size and material to be cut.

Different saw blades require different cutting speed, and the AC servo motor provides a wide range of rpm.

The weight of the moving carriage is kept to a minimum by the use of special aluminium alloys.

The cold saw is provided with foolproof protection systems, including adjustable hydraulic shock absorbers and saw blade breakage against power failure.

The new range of cold saws range from 10mm to 114.3mm OD and up to 6mm wall thickness, at speeds up to 120m/min.

Rollform Equipment Pvt Ltd – India
Fax: +91 120 2542073
Email: info@rollformindia.com
Website: www.rollformindia.com

High-speed cutting

REIKA, Germany, has announced an increase in sales of high-speed cutting centres for precise steel and stainless steel tubes. The machines are used to produce automotive parts as well as parts for in-house technology and the furniture industry.

The combination of chipless cutting and chip forming cutting on the same machine is the basis for flexibility and low tool cost. Easy machine operation and short change over times are guaranteed by standard Siemens CNC control and quick changing tool systems, and optimising software for scrap reduction is available as an additional benefit.

The high-accuracy parts produced on the machines are suitable for the bending, forming or swaging processes, which can be directly interlinked to the cutting centres.

Reika GmbH & Co KG – Germany
Fax: +49 2331 969036
Email: info@reika.de
Website: www.reika.de

Reika manufactures high-speed cutting centres

Forming and welding bench for composite pipe

MAILLEFER provides multi-layer composite pipe manufacturing systems for PEX AL PEX pipes. The Swiss company has recently introduced new aluminium forming and welding bench components into its PCL lines. The company claims that, in comparison with what's available in the market, it has shorter setup times, improved weld control and reduced maintenance qualify. All new PCL lines offered include the latest technology and the equipment is also available as an upgrade to existing lines.

The calibration, forming, welding and compression components are mounted on three modular benches. The components are delivered pre-aligned on the modules in order to accelerate tooling set-up and reduce the risk of misalignment over time. All component parts are either in aluminium or specially treated steel to protect them from oxidation. The modules combine the following process steps: edge cutter and excess strip chopper; forming; and welding and compression.

The edge cutter trims the aluminium strip to the exact width required. A special entry guide locks the strip in place, thus eliminating lateral movement. The guidance system has an adjustment point for fine positioning of the strip and the cutting tools are easy to put in place and require little maintenance.

The excess strip chopper is a standalone component mounted on the bench. The trimmed excess of the strip is cut into small pieces with a new style cutter, which was designed to eliminate jams caused by excess trim pieces.

The cutting tools can be swapped out quickly. The excess strip chopper with its individual controls is also available as a retrofit in existing lines.

A capstan is integrated directly into the bench for a more compact line length and no risk of misalignment.

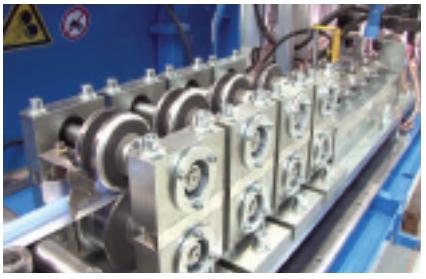
The forming bench accepts the usual aluminum strip found in composite pipe, plus it can also work with copper and stainless steel. Depending on the pipe constructions required, more than one strip thickness can be formed. The switch from one thickness to another is done rapidly, by swapping in spacer blocks for the specified thickness.

A feed guide simplifies inner pipe insertion for the operator during start-up and pipe introduction becomes a smooth and sure operation.

Either TIG or laser welding is offered with the Maillefer bench. In the case of TIG, a quick change system for replacing a used electrode is available. Once the change occurs, a new electrode is then placed in reserve by the operator. Brushless contacts are used to ground the formed pipe to earth during welding. The result is a maintenance free system, with no wear, no arcing and no dust.

The camera is positioned before the welding point, not after. The monitor offers a clear visual control on the joining of the butt edges. Finally, the compression tools make up the last components of the bench and they include an opening and closing mechanism for easy feeding the pipe during start-up.

Maillefer SA – Switzerland
Fax +41 21 691 2143
Email: info@maillefer.net
Website: www.mailleferextrusion.com



The Maillefer multi-layer pipe system

Measuring optical purity precisely

DURING the production of functional laser optics as well as for the development of innovative products in the optics industry it is necessary to precisely determine the purity of optical materials. This need for preciseness and sensitivity has increased dramatically over time, especially for optimised materials of high quality. These materials include various quartz glasses, crystals and numerous other optical glasses, which also serve as carrier materials for quality coatings.

In order to determine the quality of laser optics, the Laser Zentrum Hannover EV (LZH) has developed a laser calorimeter that is able to measure the absorption of light in the material. Specific advantages of the device are its high sensitivity, absolute calibration and a wide spectral range of the test wavelength.

By using a precise temperature measurement of the material, the laser calorimeter is able to detect an absolute absorption of <1ppm (one millionth of the irradiated laser power). This preciseness can detect the smallest absorption data deriving from surfaces, coatings or impurities in the material. Absorption measurements with laser wavelengths between 193nm and 2,000nm are possible. In addition, the range between 670nm and 2,200nm is completely accessible. Measured data can be used to optimise the material, machining and coating processes. Thus, continuous improvement of respective characteristics of laser optics is possible.

The laser calorimeter is industrially available at the LZH in customer-specific versions. Also, the LZH offers services for absorption measurements for a variety of laser beam sources for various industrial applications.

Laser Zentrum Hannover EV – Germany
Fax: +49 51127 88100
Email: m.botts@lzh.de
Website: www.lzh.de

Tube mill electrodes

DIAMOND Ground Products, UK, specialises in electrodes for the welding process.

Welders can spend thousands of dollars on welding equipment, but if they do not select and prepare their electrodes properly, then their welding results can be poor, inconsistent or problematic.

Diamond Ground Products claims that its Tube Mill electrodes can improve weld quality and productivity, by offering CNC-machined, high-quality and long lasting electrodes suitable for tube manufacture.

The company states that it is dedicated to the improvement of weld quality and welder productivity. The company's ongoing management philosophy is to provide quality products and receptive service.

Diamond Ground Products Ltd – UK
Fax: +44 1480 453649
Email: sales@diamondground.co.uk
Website: www.diamondground.co.uk

Measuring transparent products

INFORMATION about diameter eccentricity and wall thickness is important to manufacturers of hoses and tubes during production. With a measuring rate of 12kHz the CENTRIX 8025 XY measures the diameter of hoses and tubes as well as of transparent products with highest precision.

The CENTRIX 8025 XY measures transparent products

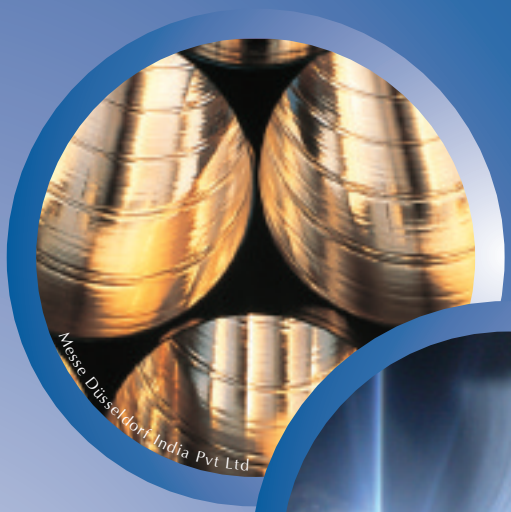
In combination with the processor system ECOCONTROL 600, 1000 or 2000, further product parameters such as wall thickness are calculated and graphically and numerically displayed.

The LED-diodes and high-resolution CMOS-sensor lines provide the basis for a precise measurement performance. As a result of advanced SMD technology the gauge head is very small and can easily be any integrated into any extrusion line. CENTRIX 8025 XY is suitable for product diameters from 0.25 to 25mm with a minimum wall thickness of 0.2mm. The gauge head is equipped with vertically arranged glass windows, which ensure an effective protection against contamination. The CENTRIX 8025 XY is open at the bottom side preventing dirt or water falling into the measuring area. The lack of wearing parts creates a unique freedom from maintenance and calibration procedures are not necessary.

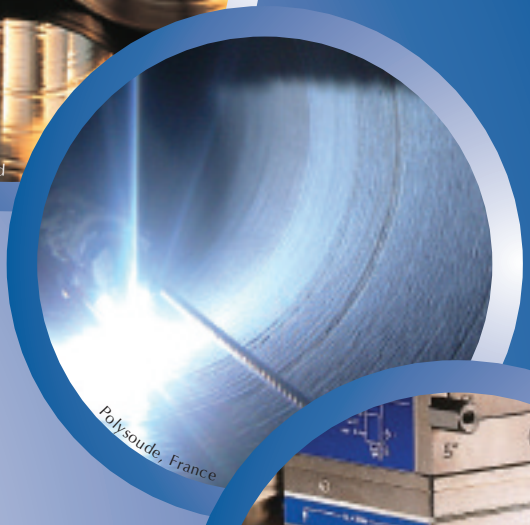
The measuring values are visualised on the processor system ECOCONTROL 600

The CENTRIX 8025 XY is equipped with a RS485 serial interface and RS232 diagnostic interface for the direct connection of a line control system or SIKORA's control devices REMOTE 2000 or ECOCONTROL 600, 1000 and 2000. Optionally, it also offers an EtherNet/IP, Profibus-DP interface or even an analogue output.

SIKORA AG – Germany
Fax: +49 42148 90090
Email: sales@sikora.net
Website: www.sikora.net



The international magazine for the tube and pipe industries



Bringing you the latest technology in tube & pipe production, processing and machinery

Read by over 13,000 tube manufacturers and processors worldwide

Business doesn't stand still

Find it Here.

Circulated to over 100 countries worldwide and on the internet 24/7

Tel: +44 1926 334137 **tpt@intras.co.uk** **www.read-tpt.com**

Spinformed hollow tube shapes and assemblies

THE Formitt Metal Labs division of Hess Industries, Inc offers tube spinforming and flowforming contract services. Formitt was created specifically to support product development for a variety of industries, offering development, prototyping and production runs that utilise patented technologies to create hollow tube symmetrical and asymmetrical shapes, fabrications, and assemblies.

Tube spinforming technology facilitates the insertion of filtration elements, heat exchange components and catalytic elements into the tube before end reduction. Cost savings are recognised by eliminating the need to stamp then weld end-cones to the tube. Spinformed end cones are said to enhance overall component quality, reliability and appearance. Formitt hollow tube fabricated assemblies are currently being used in the automotive, HVAC, filtration, marine and other industries.

Formitt Metal Labs – USA
Fax: +1 269 683 1775
Website: www.formitt.com

Hess Industries, Inc – USA
Fax: +1 269 683 1775
Email: sheffer.rick@hessindustries.com
Website: www.hessindustries.com

Parts from Formitt Metal Labs

Fighting part wear caused by abrasion, impact and heat

RANKIN Industries' Rantube, a premium large diameter tubular hardfacing electrode, combats part wear in heavy industry caused by severe abrasion, erosion, impact, and heat.

Rantube deposition rates are up to 6.5 pounds per hour for the 11mm size. The Pi electrode is designed for all position welding and can be used at low amperage to hardface thin edges on tillage tools and similar parts.

Rantube can be applied to heavy industry parts made from cast iron, manganese steel, and mild steel without preheat. High carbon and alloy steels may require preheat.

Electrodes are available in three large diameters: 6mm, 8mm, and 11mm.

Special tubular design features include: a graphite end seal for quick arc start; flux coating to prevent damage if dropped and allow non-heated storage; high density alloy powder fill; steel case that seals the tubular section containing alloys to prevent contamination, moisture pickup, and alloy loss if the electrode is dropped; 6mm fits all electrode holders; and are color coded for alloy identification.

Rankin Industries is a designer and manufacturer of a full range of build-up and hardfacing products and specialty alloys, and is based in San Diego, California.

Rankin Industries – USA
Fax: +1 858 684 5008
Email: sales@brocoinc.com
Website: www.rankin.com

Swagelok adds languages to orbital welding system

SWAGELOK Company recently announced the expansion of the language capabilities of its Swagelok welding system M200 power supply.

Offering ease of use, portability, and 200 amp capability, all at a weight of less than 50lb (23kg), the M200 features built-in multi-language capability.

Russian and Swedish have been added to the power supply's original languages, English, French, German, Spanish, Japanese, Korean, and Chinese (simplified and traditional).

A high-resolution, 12.1" (307mm) colour industrial touch-screen gives users a simple, intuitive pathway to enter weld programs.

Users can choose from one of three forms to enter weld programs, including automatic weld schedule programming.

The M200's automatic shield gas control (patent pending) simplifies set-up of shielding gas, requiring no use of a separate flowmeter.

Universal voltage input (100 to 230V [ac]) requires only a cord/plug change to accommodate an input voltage.

The M200 works with all currently available Swagelok weld heads. It includes four USB ports, Ethernet port, USB device (output) port, VGA output, and serial port.

All gas and electrical connections, plus the integral, high-speed thermal printer are easily accessed from the unit's side panels.

The M200 power supply

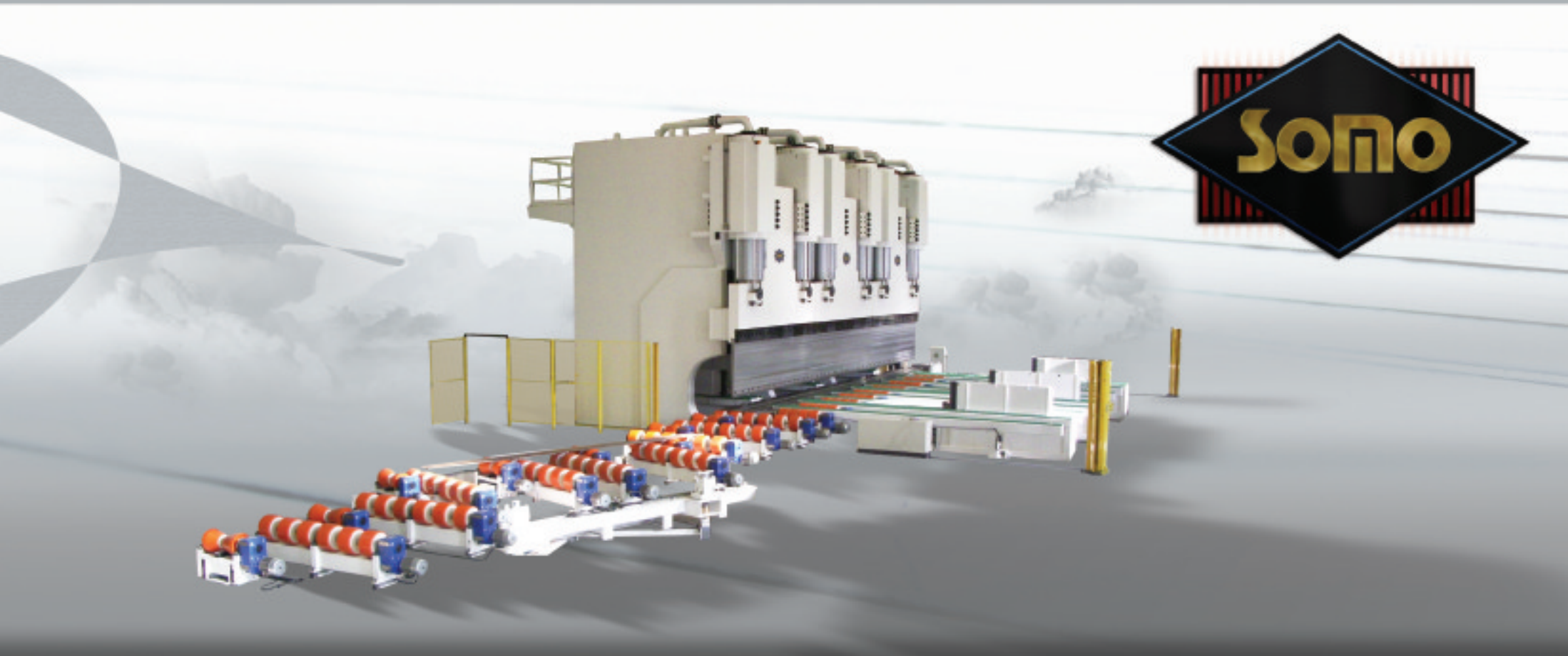
The power supply can ship to meet a variety of certifications, including CE, CSA and CCC.

Headquartered in Ohio, USA, the Swagelok Company is a developer and provider of fluid system solutions, including products, assemblies, and services for the research, instrumentation, pharmaceutical, oil and gas, power, petrochemical, alternative fuels, and semiconductor industries.

Its manufacturing, research, technical support, and distribution facilities support a global network of more than 200 authorised sales and service centers in 57 countries.

Swagelok Company
– USA
Email: info@arbor.swagelok.com
Website: www.swagelok.com

FULL AUTOMATIC BENDING UNITS FOR STAINLESS STEEL PIPES



SOMO PRODUZIONE SPA

ITALIAN TECHNOLOGY

Via San Siro 43/45 - 20010 S. Pietro all' Olmo (Milano) - Italy - tel +39 02 9362524 - fax +39 02 93561457

www.somoproduzione.com

Solid-state HF welder

THE EMMEDI & Annealing Division of SAET GROUP has installed an advanced MOSWELD solid-state HF Welder 200kW output power at ZPT JSC Bulgaria.

ZPT is a factory located in Straldzha, manufacturing carbon steel tubes. The new MOSWELD is installed on a tube mill producing tubes from 60mm to 150mm and WT up to 4mm.

The solid-state welder generation MOSWELD, based on a MOSFET-type inverter is able to work up to 450kHz. As typical working frequencies in tube welding process are in the range 300–45kHz, MOSFETS are one of the most cost-effective choices for this application, the company claims.

A system control board communicates with the inverter through optical fibres that are provided on the unit. The inverter is a current fed type and the output oscillating circuit is directly connected to the inverter.

The company says MOSWELD has the following advantages: high efficiency; modular design; easy maintenance; it is short circuits proof; it has much lower voltages inside the cabinets compared with oscillator tube technology; power components are not subject to obsolescence; it uses the same coils as the classic oscillator tube welder; and it offers long-term reliability.

The modular structure and a complete diagnosis system allow quick and easy maintenance in order to reduce production stops. A special digital control system has been developed for an optimum phase locking (and then for an efficiency increasing) with the possibility to follow the change of frequency due to load variation in any working condition.

EMMEDI Welding & Annealing Division of SAET GROUP – Italy
Fax: +39 011 9974328
Email: info@saetgroup.com
Website: www.saetgroup.com

A solid-state HF welder has been installed at ZPT JSV Bulgaria

New two-axis hydraulic CNC contour turning unit

THE development of the new CNC contour turning unit by Wolf opens up previously unsuspected fields of application as far as the production of small turned parts is concerned. This new CNC contour turning unit is already an integral part of the machine programme of Wolf and it is successfully used as an element of the TSM 280 rotary table transfer machine.

Thanks to the reduction of costs and integration of particular production sequence in the hydraulic two axial CNC contour turning unit expensive and complicated form tools can be dispensed with. The use of simple, economic and standardised tools makes a quick tool change possible, whereby complex set ups are minimised.

The TSM 280 rotary table transfer machines are machines of very high precision owing to their structural and modular construction. Repeated positioning and accuracy of 0.01mm in the axial direction and of 0.005mm in the radial direction are achieved.

The hydraulic two axial CNC contour turning unit is operated by means of a newly-developed CNC control in conformance with the ISO standard. The operation and handling of this CNC control can be learned thanks to special easily and logically arranged programs, so that the machine operators can quickly and simply become acquainted with it and safe operation of the machine is achieved.

Wolf – Germany
Fax: +49 713593 69866
Email: info@wolf-maschinenbau.de
Website: www.wolf-maschinenbau.de

New generation belt sander

SUHNER, Italy, has unveiled a new belt sander for pipes called the UTG 9-R, which it says is compact, strong and easy to handle.

Its drive power is 1,000 watt and it can be perfectly transmitted to the abrasive belt and the boosted drive and the higher overall speed of the belt (6-13 ms^{-1}) means a better performance.

The UTG 9-R can be wrapped around the pipes thanks to the adjustable tilting contact roller. Max 220° contact without the risk of overheating or loss of heat in the case of thin-walled pipes. The UTG 9-R can be used on pipes ranging in diameter from 20 to 70mm.

This new product is designed and built to guarantee safety as access to the open abrasive belt is only possible inside the actual work zone. The rest of the belt is covered to protect against any accidental direct contact.

Often, when they are in use such belts have the unfortunate characteristic that they draw dust with them as they return after sanding and then release this into the surrounding area via the transmission rollers. This problem has been eliminated thanks to the virtually complete protection of the abrasive belt.

Suhner Italia Srl – Italy
Fax +39 03522 5965
Email: info.it@suhner.com
Website: www.suhner.com

Operator-friendly welder

EXEL Orbital Products has announced a new 150amp compact orbital welding power supply. The EPS-1500 software is an evolution of the technology developed for the EPS-2000 with greater portability and with new features resulting in ease of use.

The EPS-1500 has a large 12" touch screen controller with enhanced colour graphics to make programming easy using the intuitive interface screens. Expanded capabilities now allow direct compatibility with all other manufacturers weld heads. The EPS-1500 programming takes only a few minutes of training and an experienced orbital welder can write multi-level, multi-pass, stepped or patented S3 single pass/single slope weld schedules.

The EPS-1500 has two USB ports that make connecting peripherals a simple process. In addition, there is a network connection allowing for access to both local networks and the Internet.

Exel Orbital Products – USA
Email: sue.gilbert@arcmachines.com
Website: www.exelorbitalproducts.com

New sawing machine

FRAMAG has successfully installed and commissioned a KKS 800 billet sawing machine at Stahl Judenburg, Austria. The state-of-the-art sawing machine is designed to cut rectangle billets up to 200 x 150mm and square billets 80-165mm with maximum length of 1,500-4,500mm per work piece.

First the material for perfect cut is positioned on the chain conveyor where a laser length measuring device is installed for measuring and minimising of scrap. The cut frequency of maximum 90 pieces per hour is exactly co-ordinated with the further processing steps within the production line.

The sawing machine KKS 800 is also equipped with a chip conveyor, a scrap removal unit and a run out roller table as well as a lock-out unit.

Good cut quality results from the technical combination of sawing column made of Hydropol®, extreme torsion-stiff and robust sawing gear box as well as stable and vibration-free clamping devices. The combination of these three critical factors reduces vibrations caused by the sawing process. The sawing machine is easy to operate and maintain.

Framag – Austria
Fax: +43 7683 5040 86
Email: w.steiner@framag.com
Website: www.framag.com

High-pressure, high-thrust groover

MANCHESTER Tool & Die, Inc offers the 24014 high pressure/high thrust groover for rolling or cutting operations with quick and easy tool changes and easy access to tooling. The 24014 features five second cycle time (dependent upon application and optional equipment), machine capacity of ¾" diameter by 0.12" wall, jaw opening of 1¼" and a clamp force of three tons.

The 24014 groover operates by advancing and closing a spinning head containing rolling or cutting tools over a clamped tube.

The depth of the rolled or machine cut grooves can be changed with a simple adjustment. The 24014 is equipped with a 7½ HP spindle motor with variable speed control on the motor, panel view operator interface and voltage based upon customer specifications. A 12-month warranty is offered, and a variety of additional features and options are available.

Manchester Tool & Die Inc – USA
Fax: +1 260 982 4575
Email: edegner@manchestertoolanddie.com
Website: www.manchestertoolanddie.com

The 24014 high pressure/high thrust groover

Induction welders

UNITHERM Inductoweld India Pvt Ltd, India, produces welding equipment for tube and pipe manufacturing. The company offers a wide range of solid state induction welders from 60 to 1,200kW power rating, which incorporate state-of-the-art technology.

A unique design without transformer and an integrated heat exchanger makes the welders energy efficient at 85% and above. They can handle wide incoming voltage fluctuations and are 100% protective against coil arcing and short circuiting. Unitherm welders can be installed in a single day and are easy to maintain.

Solid state HF contact welders are offered for up to 400kW. They are energy efficient and suitable for the welding of open hollow sections (HSS). Dual contact/induction welders are available for applications beyond 400kW.

Unitherm also produces a wide range of other tube and pipe manufacturing equipment, such as flying cold saw cut-offs, accumulators, shear and welders, tube mills, hydrotesters and end-facing machines from group company Rollform Equipment Pvt Ltd.

Unitherm Inductoweld India Pvt Ltd – India
Fax: +91 120 2542073
Email: info@unithermindia.com
Website: www.unithermindia.com

Pulley torque sensor

SENSOR Developments' universal pulley torque sensor addresses the need to measure belt or chain torque on pulley systems.

It is capable of accepting various pulley wheels and shaft diameters and features a highly accurate integrated sensing element, capable of resolving low torque levels while being exposed to high radial loads created by belt drive systems.

It can be used to replace a standard pulley system for engines, generators, fluid pumps or other motor-driven equipment and continuously monitors real-time torque while in operation.

The sensor can be adapted to a wide range of belt drive systems and can be installed in a dynamometer test stand or on vehicle. Various torque capacities and pulley gears can also be designed to meet the customer's specific requirements.

Sensor Developments Inc – USA
Fax: +1 248 391 0107
Email: sales@sendev.com
Website: sendev.com

Portable machines for facing and boring

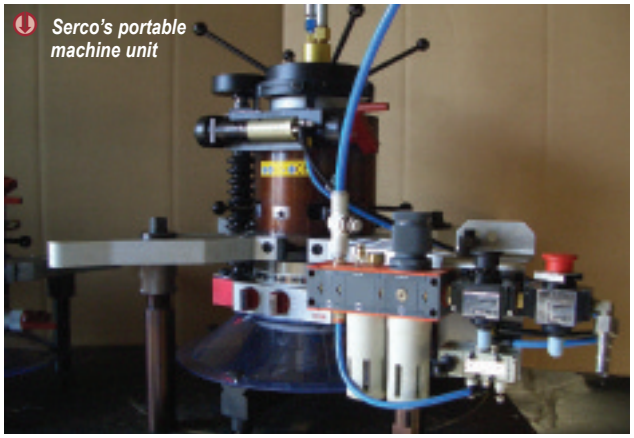
SERCO's on-site machining units are positioned and locked by means of a column/arm system resting on the outside diameter of the part to be machined, allowing internal machining.

Machine installation is quick and easy. After a first visual positioning, using a simple specific device, a parallelism and concentricity within a 0.01mm precision can be achieved. A powerful air motor drives the tool rotation (hydraulic motors on request) and radial automatic feed, with a choice of two speeds.

The Serco range of portable products includes machining equipment, boring and surfacing machines, surfacing machines, grinding machines and lapping machines.

Serco SAS – France
Fax: +33 4 75 01 79 62
Website: www.serco-tools.com

Protem GmbH – Germany
Fax: +49 7247 9393 33
Email: info@protem-gmbh.de
Website: www.protem.fr

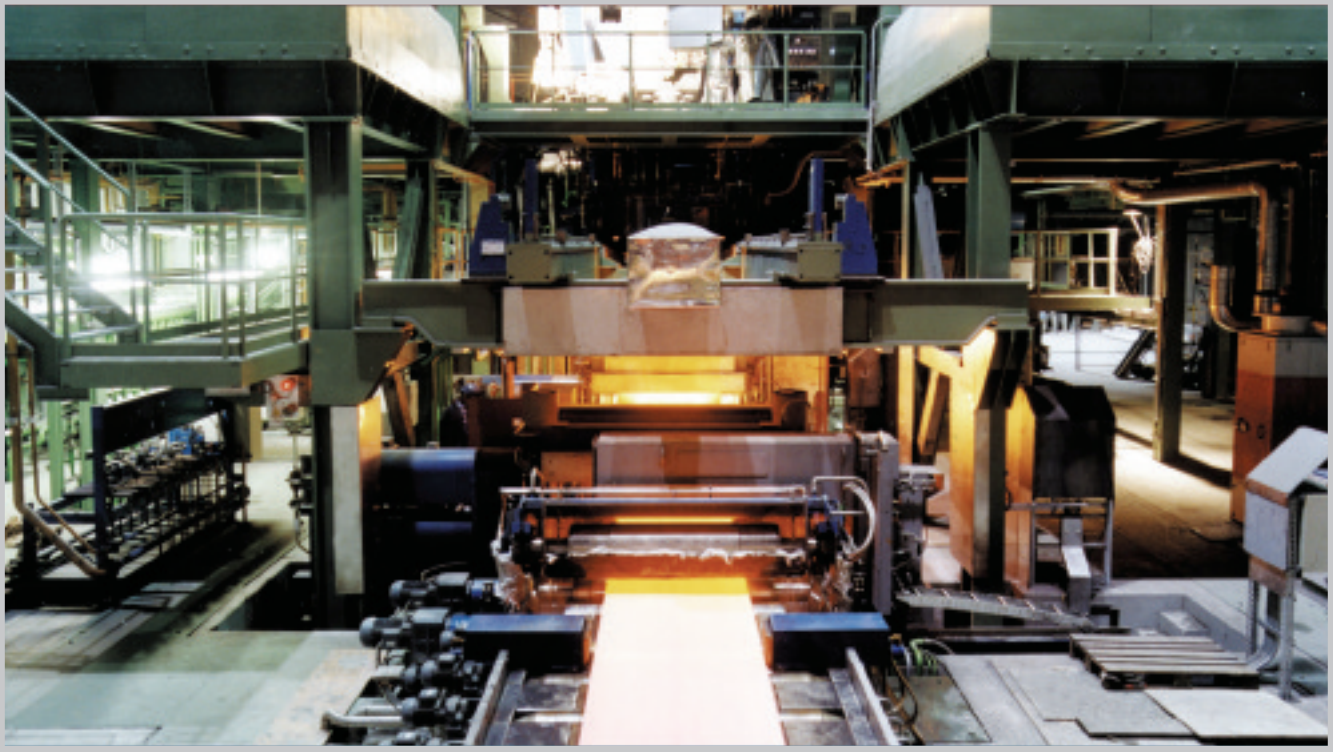


Serco's portable machine unit

METAL & STEEL 2010

International Specialized Exhibition on

Steel & Metal Works Technologies, Products & Services



February 18-20, 2010

Cairo International Convention & Exhibition Centre
Cairo - Egypt

www.metalsteeleg.com

Organized by: Arabian German For Exhibitions Ltd
Tel: (202) 240 318 67 / 240 264 79 - Fax: (202) 226 324 60
Email: info@arabiangerman.com - Website: www.arabiangerman.com

Off-the-shelf orbital thread milling package

TOOLING company Walter GB is offering a complete machining package for thread generation – Prototyp Orbital thread milling cutters for the effective and efficient creation of threads down to M1.6 and up to three times depth to diameter, ratio as standard, as well as UNC 1 5/16 and UNF 2 5/16 sizes, plus a 'ready-to-run' Internet-accessible CNC machining software program.

The solid carbide tooling range can generate threads in all materials – from 'soft' steels up to titanium alloys.

The range of tooling features a short milling-cutting section, positive rake low helix and a low helix angle in addition to TiCN multi-layer coatings. The combined result is a wear-resistant tool that machines with lower cutting forces and a 'soft' cutting action for the production of both through-hole and blind-hole threads.

Walter also provides the optimal cutting data and appropriate CNC program for machining centres with thread tapping capabilities and 3-D CNC system via its website for easy download.

Walter GB Limited – UK
Fax: +44 1527 839499
Email: gerry.ohagan@walter-tools.com
Website: www.walter-tools.com

Large-field diameter scanner with HLF tech

FOR the first time a measuring head is now available that offers highly accurate OD measurements of pipe and other products up to a diameter of approximately 500mm.

Systems in static or oscillating configuration are available for hot or cold processes. The number of measuring axes can be one or up to six.

Based on the experience with more than 60,000 ODAC® laser scanners and with many systems in the area of seamless pipe and other products, ZUMBACH has developed the new ODAC® 550 HLF for large diameters, widths, heights and diagonals.

This technical breakthrough eliminates previous problems with large product systems. At the heart of the development is a new optical system for collimation and scanning. This generates an absolutely parallel (telecentric) measuring field and supplies 1,000 calibrated measurements per second. Accurate measurements will be generated, regardless of product position in the measuring field.

It also makes large emitter-receiver separations of 2m or more possible. Some of its features include: large 550mm measuring field without dead zone; absolute parallel scanning; top accuracy and stability – typically within 0.01mm; no position error; very large emitter-receiver separation possible; 1,000 calibrated measurements/s (CSS) (no averaging necessary); and high scanning speed (more than 1,020 m/s = Mach 3).

ZUMBACH Electronic AG – Switzerland
Fax: +41 3235 60430
Email: sales@zumbach.co.uk
Website: www.zumbach.com

Extruder range expanded

EXTRUDER specialist Cincinnati Extrusion has expanded its Alpha standard extruder range, with the launch of the Alpha 75-25B for technical profiles, mini-diameter and corrugated pipes.

Similar to the Alpha 45 and 60 models, the new single-screw extruder offers the advantages of short lead time and high-grade technology. With an output of up to 120kg/h for polyethylene, 150kg/h for polyvinyl chloride and 180kg/h for PC/ABS blends, the extruder is suitable for a wide variety of applications.

The standard equipment package for the 75mm extruder with smooth feed bushing and a processing length of 25 D includes a screw, a control cabinet based on a relay control system (SecuRe) and a mobile, digital operator terminal.

Customers can choose between a screw geometry suitable for HDPE, PP, ABS, PS and PET, one for modified hard PVC granulate and hard PVC with filler content, and one for soft PVC granulate (compounds with and without filler content) that can also process TPE blends. Available options include melt pressure and melt temperature sensors, a CAN BUS interface and a UPS voltage drop protection unit.

Cincinnati Extrusion also offers a turnkey solution for customers requiring a complete line for technical profiles, which consists of an Alpha extruder, a customised profile die and the Alpha protech downstream unit. This unit includes a 6m calibration table, a belt or caterpillar haul-off for line speeds of up to 20m/min, a cut-off assembly and a tilting device. Control for the downstream unit is provided by a PLC that features six different languages, can be adjusted to user-specific requirements and is operated via a 6" touch-screen display.

Cincinnati Extrusion GmbH – Austria
Email: welcome@cet-austria.com
Website: www.cet-austria.com

The new Alpha 75 from Cincinnati Extrusion

Flowmeter certified for use in potentially explosive areas

THE Yokogawa Rotameter RAMC flowmeter has been certified for use in areas with a risk of gas explosions and dust explosions. The instrument is now provided with Ex certificates that are valid in Europe, America, Australia, China and other countries.

The explosion protection for dust zones is available for instruments with the 'd' type flameproof protection in a robust aluminium housing with the marking II 1D Ex tD A20 IP67 T1...T6 or II 2D Ex tD A21 IP67 T1...T6. For type 'i' intrinsic safety protection with the marking II 2G Ex ia IIC T6 or II 2G Ex ia IIB/IIC T4, the Rotameter RAMC is equipped with a stainless steel housing. The Rotameter range has been in use in many areas of industry for 100 years, and includes designs with glass, plastic and metal measuring tubes. Units are available with mechanical displays and with additional components including transducers and limit switches.

Yokogawa's Rotameter RAMC flowmeter is certified for use in potentially explosive areas

The FMEDA (failure modes, effects and diagnostic analysis) assessment of the design, carried out by test house exida, permits operation of the RAMC even in safety-relevant systems that have to comply with the requirements for Safety Integrity Level SIL1 or SIL2.

The emphasis on safety in these Yokogawa products reflects the fact that, in all areas of industry, the explosion of combustible dusts presents a risk that is often underestimated. According to estimates by Munich Re, there is a dust explosion in Europe every day.

A particular risk potential exists in the fact that even materials that otherwise are considered non-combustible can undergo explosion-like combustion when they are present in the form of a dust-air mixture.

Yokogawa UK Ltd – UK
Email: info@yokogawa.co.uk
Website: www.yokogawa.co.uk

Nondestructive
Nano-Sensing Technology,
RAYNAR www.raynar.co.kr/english

Eddy Current Tester

Model : RAY-3000EX Series

- Optimum tester for tube & pipe manufacturing.
- Applied in all kind of tubes & pipes on-line and off-line.
- Detect defects on surface and below surface up to 0.05 ㎜×0.05 ㎜×1.0 ㎜.
- Directly check the all information by display(data, operation, defects signal, etc.).

Roll Inspection System

Model : RAY-8000AE Series

- Roll Inspection system using array ECT probe.
- ECT and/or UT sensors mode operation.
- 16 channels array ECT probe.
- Minimization of lift-off and dead-zone.

- Specifications.

  - ECT sensors Frequency : 1 ㎑ ~ 5000 ㎑.
    Sensing width : 32 ㎜
    Moving Speed : 20 ~ 10000 ㎜/s
  - UT sensors Frequency : 0.2 ~ 30 ㎒
    PRF : 50 ~ 8000 ㎐
    Sensing range : 2.5 ~ 9999 ㎜
    Sensitivity : 0 ~ 110 dB, 0.5/ 1/ 6 step
    Gate : 3 Gates

- Main customer : POSCO, Hyundai-steel, etc.

Tel. 82-42-931-8410~1 Mob. 82-10-3656-5579 Fax. 82-42-931-8412
Room 201-1, Jangyoungshil-kwan, 1688-5, Sinil-dong, Daeduk-gu, Daejeon-city, Korea 306-230
Web : www.raynar.co.kr/english E-mail : raynar@raynar.co.kr

RAYNAR

Rotating, clamping and tilting in the pipe construction industry

KISTLER pipe rotators are used for clamping, rotating, and tilting pipes in manual and automatic welding, mainly in the field of pipe construction (prefabrication or assembly on site). The 'U' range features three machines: U150 (20 to 200mm diameter pipe), U500 (20 to 400mm diameter) and U1000 (25 to 800mm diameter).

The pipe rotators with clamping roller system (patented) have advantages over traditional devices. They can be used for pipes with elbows, tee pieces, or other offset loads. A wide range of pipes can be clamped.

The infinitely variable rotary speed is not affected by the size of a pipe because of its separate drive unit. Centring is quick and precise, and clamping does not require a chuck or clamping shoe.

Pipe can be clamped at its centre of gravity, and tilting moments and supports are unnecessary in most cases. It is possible to centre two pipes with the same diameter, and various combinations are possible, eg clamping and driving of a main spindle.

Standard pipe rotators are designed to rotate work pieces 360° (forward/stop/reverse with variable speed control) and forward and backward tilt from horizontal. Rotation and tilting may be performed independently or simultaneously.

The tilting section consists of the drive and roller box, holding column, clamping arm, and pressure roller. Manual vertical height adjustment of the clamping roller system is included as standard on all units. Optional extras include directional footpedals and diablo pipe supports.

The Kistler U range pipe manipulators are sold exclusively in the UK by YPH Ltd, and are sold with a 12-month warranty.

YPH Welding Supplies – UK
Email: sales@yphltd.co.uk
Website: www.yphltd.co.uk

The Kistler U150 pipe rotator

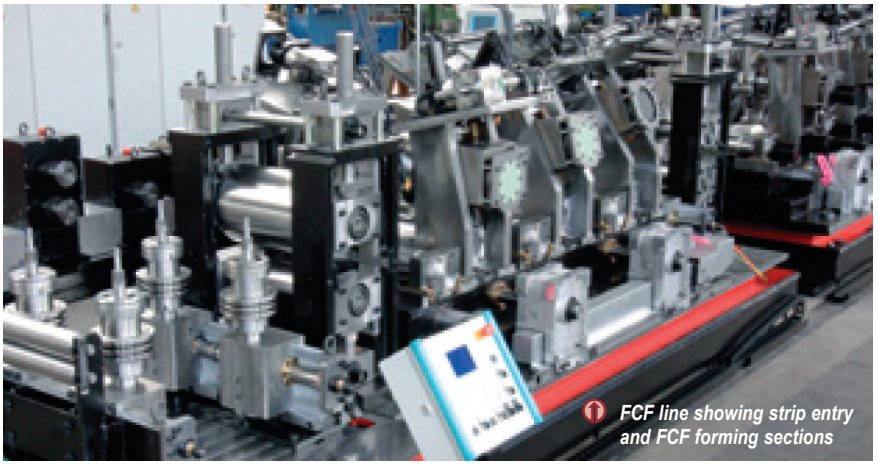
Wide range of product-size changes in profile mills

THE flexible production of a wide range of longitudinally welded square and rectangular profiles is possible using the same set of tool rolls with FCF system. Not only can plant productivity be increased, but less steel strip is required to produce the required products. So far the FCF technology from Siemens VAI has been installed in profile mills in Spain and Austria.

The downtime of tube mills for roll-tool changes and other operational interruptions means lost production time. This inflexibility increases costs and reduces profit. In order to sharpen their competitiveness, producers must be able to supply a wide range of products on a just-in-time basis and reduce their product stock. As an answer to these demands, VAI Seuthe, the specialist company within the Siemens VAI Group for tube, pipe and section mills, has successfully introduced flexible FCF (flexible cold forming technology) to the market. This is a highly flexible forming, welding and sizing system for the production of cold-rolled and longitudinally welded square and rectangular profiles.

This technology is distinguished by the use of the same set of tools for the production of a complete product size range without the need for forming- and sizing-tool changes. FCF fulfils all of the standard requirements of tolerance, corner radii and product surface quality. Because no tool changes are necessary, the standstill times for product-dimensional changes are greatly reduced and overall productivity is substantially increased.

FCF is the most flexible and productive solution on the market for the manufacture of longitudinally welded products with square and rectangular cross sections. During forming and sizing operations, no tool change is required for the entire range of product dimensions. Product-size changes



FCF line showing strip entry and FCF forming sections

are automatically performed by means of central adjustment drives that are activated by computer control. Adjustments in the forming and sizing section are carried out within minutes, and tool settings as well as other key operational parameters are visualised by digital displays.

The essential difference between FCF forming and conventional forming systems with single forming stands is the arrangement of the tool rolls. Contrary to conventional forming stands, which are characterised by the opposite arrangement of the tools on a common shaft, the tool rolls in the FCF system are alternately mounted on the left and right cantilever shafts of the forming blocks. The left and the right strip edges are subsequently bent as they pass the individual tool rolls. Final bending and adjustment of a C profile to a profile ready for longitudinal welding is carried out by the top rolls. Welding operations can be performed using high frequency, tungsten inert gas welding or laser-welding systems.

The strip edges to be welded are squeezed with the use of two side rolls and two inclined top rolls, universally applicable for several product dimensions. Welding in the FCF line is performed centrally along the mill centreline. Following welding of the profiles, final calibration of the square and rectangular sections is carried out in the FCF sizing section. The same set of universal tool rolls is used for the calibration of the final section dimensions and corner radii as well as for product-size changes.

By applying universal tools for the production of the complete range of line products, time-consuming tool changes are effectively eliminated. With the application of hard-metal tools, considerably reduced wear and thus longer tool lifetimes were achieved. This has led to an impressive 80% line availability for actual production work at the line of a producer, compared with a typical 40% production availability in conventional lines.

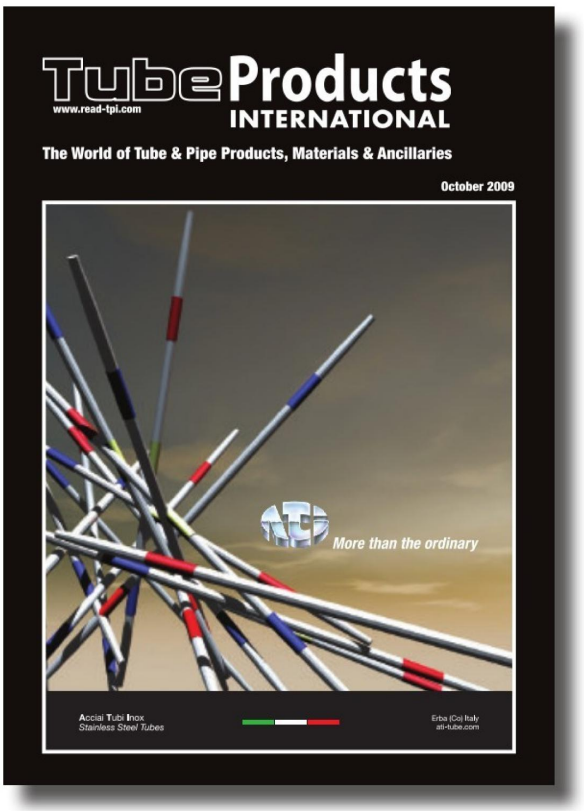
The direct forming concept employed in the FCF system allows the required steel-strip width to be reduced by between 2% and 6%, compared with the conventional production of squares starting with a round mother tube. This is explained by a thickening of the steel at the corners during shaping from round to square.

As a direct consequence of its high availability, the FCF production line is distinguished by its exceptional productivity, especially for the production of small order lots. All quality requirements with respect to tolerances, corner radii and product-surface quality are fully satisfied. This is the key not only for satisfying niche-product markets, but also for penetrating and succeeding in new market segments and regions.

View of a typical roll configuration of an FCF line

VAI Seuthe GmbH – Germany
Fax: +49 2372 3262
Email: info@siemens-seuthe.com
Website: www.siemens-seuthe.com

Whatever Tube Product You Need . . .



Find it Here.

www.read-tpi.com

Contact us on +44 1926 334137

METALS • PLASTICS • COMPOSITES

Circulated to over 70 countries worldwide and on the internet 24/7

The UBS deal

Will Switzerland's culture of discretion in banking matters never again be the same? Or, will it forever be the same?

Nils Merkel

The Swiss banking system will be forced to change

"UBS's mistakes have opened a gaping hole in banking secrecy that can no longer be closed. The US has blown up a dam that was considered unshakeable and without weakness."

This analysis, attributed to the Swiss newspaper *Le Temps* by an English-language website of Swiss Broadcasting Corp, refers to the persistent and ultimately successful effort of the US to wrest from Switzerland's largest bank, UBS, the names of some Americans suspected of dodging taxes through the use of secret accounts. On 11 August, it was reported that negotiators from the two countries had reached a settlement that averted a legal showdown over Washington's request for a federal court ruling compelling UBS compliance.

In brief, UBS, the world's second-biggest manager (after Bank of America) of money for high-net-worth individuals, in February 2009 acknowledged criminal wrongdoing in selling offshore banking services that might have enabled American citizens to evade their tax obligations. The bank consented to pay $780mn in penalties and also to share with the US Internal Revenue Service (IRS) the names of some 250 UBS clients. A day later, the IRS sued the bank for information on as many as 52,000 of its clients.

On 31 July the US and Switzerland said they had reached an agreement in principle on the lawsuit. This was followed quickly by word of the settlement and, on 19 August, by publication of its amended terms: UBS would turn over the names of 4,450 American clients suspected by the IRS of employing Swiss accounts for tax evasion.

Enthusiastic response

This resolution of the landmark challenge to Swiss bank secrecy was widely applauded. IRS Commissioner Doug Shulman was quoted as saying that the agreement "protects the US government's interests." For the Swiss, Eveline Widmer-Schlumpf, who heads the Federal Department of Justice and Police, issued a statement that the "compromise" was "in the interests of both states". Even UBS chairman Kaspar Villiger professed himself pleased, saying the bank was "grateful" for the agreement, which came a scant week before the scheduled opening of a trial in the case, after three postponements.

And the agreement appeared likely to hold. *Washington Post* staff writer David S Hilzenrath cited the assurance of US Justice Department lawyer Stuart D Gibson that it had been initialled by the parties, and that they would ask the federal judge presiding in the case to dismiss the matter when the final documents were signed.

This outcome had not seemed to be in the cards. As noted in the *Post* when the initial breakthrough was announced: "[It] followed a long-running legal battle that had already undermined Switzerland's legendary bank secrecy, exposed what the US alleged was a conspiracy at the heart of Swiss banking giant UBS, and threatened to damage relations between two otherwise friendly countries."

Now some closure had been achieved, to the rejoicing of everyone except, perhaps, the 4,450 American clients of UBS whose names were to be made known to the IRS.

A spoilsport question

But just how much change can be expected in the Swiss banking industry's culture of discretion? While American authorities assert that their pursuit of tax evaders will not stop at UBS, the cautionary impact of the deal reached in August is far from certain. As noted by reporter Lynnley Browning of the *New York Times*, "Smaller Swiss banks say they are confident that they can blunt its effects and continue to profit by finding new, more elaborate ways to protect the privacy" of clients. ("Names Deal Cracks Swiss Bank Secrecy," 20 August)

For that matter, how much peril looms for the 4,450 "names" of interest to the IRS? UBS is obliged to give them up to the Swiss tax authority for forwarding to Washington. But, under the terms of a new tax treaty between the US and Switzerland, full transmittal of the names could take more than a year. In the meantime, UBS will have notified these clients, who may then appeal the disclosures in Swiss courts.

In light of the "new political climate" in the US, another *Times* contributor acknowledged that we may expect to see a few rich Americans "shifting uncomfortably." But, Graham Bowley wrote:

"Although the United States is supposed to learn the identities of a few thousand tax evaders, those names will go first to an intermediate tax administration in Switzerland for review. The actual process of recovering the names may become lost in bureaucracy and foot-dragging." ("A Privileged World Begins to Give Up Its Secrets," 23 August)

Of related interest . . .

› A survey by specialist consultancy Scorpio Partnership of 14,000 private bankers and 7,000 wealthy individuals showed that private wealth managed by banks and investment managers around the world decreased nearly 17% to $14.5tn in 2008 from a year earlier. The fall in managed wealth, the first since 2002, highlights the industry pressures of the global financial crisis and weakening bank secrecy in offshore centres after years of buoyant growth. (ecommerce-journal.com, 6 July)

Pacific Rim

Enjoying the rewards of its prudence, Australia has also become increasingly dependent on China

Because Australia moved quickly and aggressively to switch its monetary and fiscal policy to stimulus, Australian banks were not exposed to the consequences of unwise lending practices

to the same degree as their counterparts in the US and the UK. Canberra was able to extend guarantees to various parts of the financial system, as required, at relatively low cost. As a result, in comparative terms Australia has remained "surprisingly strong" during the global economic crisis.

This analysis, by the strategic-consulting firm Oxford Analytica, is supported by Reserve Bank of Australia (RBA) forecasts for gross domestic product growth. If these prove accurate, Australia will have regained its average real growth rate of 3% to 3.5% by the end of 2010. The RBA now foresees a gradual pick-up in growth, led by government infrastructure spending, housing construction, and a modest rise in exports. Just a quarter-year before, Oxford Analytica noted, the central bank was expecting a contraction over the course of 2009. ("Australia's Economic Forecast," 12 August)

A major factor in Australia's good fortune is, of course, the plenitude of its natural resources, notably iron and aluminium ore and concentrates, and crude petroleum. The sharp fall in Chinese exports has not affected demand for these raw materials as China's fiscal stimulus – focused on infrastructure – is heavily reliant on Australia as supplier. Although Australian export prices are down from the 2008 peaks, merchandise export volumes rose in the nine months through June.

Any retailer knows that reliance on a single free-spending customer can be a risky business. And, over the past two years, China's share of Australia's merchandise exports has risen from 15% to 20%. Oxford Analytica, which draws on a network of scholar-experts worldwide, noted that this increasing dependence on China "exposes [Australian] policy to new pressures, requiring skilful management."

One of these pressures was in fact brand-new. On the day before "Australia's Economic Forecast" was published, the Chinese news agency Xinhua reported that prosecutors in China had approved the formal arrest of four employees of the British-Australian mining giant Rio Tinto Ltd on charges of bribery and infringing trade secrets. Among the four, who were detained since 5 July on indeterminate grounds, is an Australian citizen and Rio Tinto general manager, of Chinese descent, who led the company's multibillion-dollar mineral sales business in China.

Whether the matter will yield to skilful management is yet to be seen. As of this writing it remains unresolved.

Global manufacturers face a scarcity of rare earth elements as China moves to limit their availability

China is not entirely dependent on Australia, or any other supplier, for raw materials. In several of the world's most obscure but valuable minerals she is self-sufficient, and very much more. China currently accounts for 93% of production of so-called rare earth elements; and over 99% of the output of dysprosium and terbium, elements vital for a wide range of green-energy technologies and military applications.

Australia has avoided worst of the recession

Now signs are strong that China is building up its already considerable presence in the market for exotic minerals. Keith Bradsher, chief Hong Kong correspondent of the *International Herald Tribune*, reported that, in

each of the last three years, China has reduced the amount of rare earths available for export. This year's quotas are on track to be the smallest yet, and Western governments and multinationals alike are alert to the alarming possibility of further restriction of these exports. ("China Tightens Grip on Rare Minerals," 31 August)

Mr Bradsher wrote: "Tighter limits on production and exports, part of a plan from the Ministry of Industry and Information Technology, would ensure China has the supply for its own technological and economic needs, and force more manufacturers to make their wares [in China] in order to have access to the minerals."

To the automotive industry alone, uncertain access to rare earth minerals would be disruptive in the extreme. China commands 95% of current production of neodymium. The electric motor in a Toyota Prius requires two to four pounds of neodymium, the *Tribune* was told by Dudley Kingsnorth, who compiles mining and trade statistics for the private consulting firm Industrial Minerals (Perth, Australia).

"The people who are making [automotive] products outside China are at a huge disadvantage," said Mr Kingsnorth. "And that is why more and more of that manufacturing is moving to China."

Only days after Mr Bradsher's article was published, China sought to allay concerns about supplies of dysprosium and terbium, in particular – rare minerals crucial to recent advances in high-technology industries – but did not disavow tight regulation of production. Noting that a review of export policy was still under way, Wang Caifang, deputy director general of the Ministry of Industry and Information Technology, gave assurances that China would not "take arbitrary decisions." After addressing the Minor Metals and Rare Earths 2009 conference, in Beijing, Ms Wang said on 3 September that China would continue to set an annual quota for the export of each mineral. But, she added, "I don't think it will be zero."

Chinese-Australian relations, already disturbed by China's indictment of the Rio Tinto employees [see "Prudent Australia," above], may be further tested as Australian regulators ponder a deal by a Chinese company to acquire a majority stake in Australia's main rare-earth mine.

As reported in the *Tribune*, two Australian mines with potential combined production equal to a quarter of global output – Lynas Corp and smaller rival Arafura Resources – were to have opened within three years, but lost their financing in the global financial crisis. In the spring, mining companies wholly owned by the Chinese government came in with cash and reached agreements to buy 51.7% of Lynas and 25% of Arafura. The Arafura deal has made it through to just short of final approval; a decision on Lynas, twice postponed, faced another deadline in mid-September.

Mr Bradsher recalled that Deng Xiaoping, China's de facto supreme leader from 1977 until his death in 1997, once remarked that the Mideast had oil but China had rare earth elements. Mr Deng's economic reform policies ("Four Modernisations") are widely seen as setting the stage for China's emergence as a world economic power.

Some non-Chinese producers of rare earths are stepping up their efforts in advance of possible shortages. According to the *Tribune*, Avalon Rare Metals (Toronto, Canada) is trying to open a mine in northwest Australia. Molycorp Minerals (Greenwood Village, Colorado) hopes to reopen a mine in

Mountain Pass, California, where production was suspended by then-owner Unocal in 2002 because of weak demand and a delay in an environmental review. Mountain Pass in fact holds interest for the Chinese. The state-owned China National Offshore Oil Corp (CNOOC) would have acquired the mine if its 2005 bid for Unocal had succeeded. The property went instead to Chevron, also of the US, which in 2007 declined an offer from Chinese buyers and sold it instead to Molycorp Minerals.

Summitry

'Los Tres Amigos' came away from their meeting in Mexico still friends – but there are issues

Mexican president Felipe Calderón

At the closing event of the North American Leaders' Summit, hosted in Guadalajara by Mexican President Felipe Calderón, US President Barack Obama struck a defensive note. With regard to the so-called Buy American campaign that has roiled relations with Canada, Mr Obama acknowledged the complaint of Canadian Prime Minister Stephen Harper that it has cost jobs north of the border. He himself, said the president, accepted the Buy American policy only reluctantly.

The problematic item – mandating American-made products and services from American-owned companies – was installed by Congress in his $787bn economic stimulus, Mr Obama told reporters. "It was not something that I thought was necessary," he said. "But it was introduced at a time when we had a very severe economic situation, and it was important for us to act quickly and not get bogged down in debates around this particular provision."

As noted by Les Whittington of the Toronto *Star*'s Ottawa Bureau, the political-expedience explanation probably does not resonate in Canada. He wrote, "The Buy American provisions are being applied at the state and local level in the US on new, federally funded municipal works projects, a trend that Canadian companies say hurts their chances of landing contracts" south of the border.

The American president both acknowledged and soft-pedalled the Canadian concern, calling for "perspective" on US trade policies which, he said, hardly constitute "some sweeping step toward protectionism." He also suggested that there may be "mechanisms" that would enable his administration and Mr Harper's government to work together to help Canadian companies avoid Buy American discrimination. ("Obama Downplays Trade Rift," 11 August)

Canadian government ministers and senior American officials have been discussing such a solution. But now, for the first time, the US president had said a deal is possible, and Mr Harper evidently intends to hold his counterpart to account. In a TV interview following the summit meeting, the Canadian premier said: "We're very anxious to find a way that we can maybe make some progress on this, as the president indicated."

For his part, President Calderón took the occasion of the meeting in Guadalajara to air a grievance, not with the US but with Canada. The Mexican leader did not conceal his resentment of

Ottawa's decision in July to impose visa requirements on Mexican visitors, as part of an overhaul of Canada's immigration policies to reduce the number of bogus claims for refugee status. Mr Calderón said Mexicans feel "very bad" about the new measure; and that "it certainly gets in the way of a good relationship" between Mexico and Canada.

Here again, the emphasis was on amity rather than discord. The Mexican leader asserted that Mexico City and Ottawa will continue to cooperate on bilateral issues. But at the end of the summit Mr Harper, the Canadian head of state, made plain that he will rely on that assurance. Repeating an assertion first made after a private meeting with Mr Calderón, he said that the Mexican government "continues to work with us" to stem the flow of refugee claimants from Mexico.

Even if the leaders of the US, Canada and Mexico had found themselves in perfect accord at their summit, all three are elected officials with markedly opinionated constituents. On his return home Mr Obama, in particular, was quickly reminded that many Americans hold strong views of their own on matters discussed at Guadalajara.

A Rasmussen Reports national telephone survey published on 12 August found that a majority of Americans would deny Canadian Prime Minister Stephen Harper's request for elimination of the Buy American measure. 52% of respondents are against lifting the provision that bars Canadian construction companies from competing for projects under the US economic stimulus plan. Only 15% would accede to Mr Harper's wishes. One in three adults was unsure.

The poll results were even more unfavourable as to a request of Mexican President Felipe Calderón. The survey found just 19% of American adults willing to permit trucks from Mexico to cross the border and carry their loads on American highways. Some 66% of respondents opposed lifting the current congressional ban on Mexican trucks operating in the US. Only 15% expressed no opinion.

Given the rapidly growing numbers of Latin Americans among the population of the US, another poll published by Rasmussen Reports at the same time produced some curious results. The electronic publishing firm – specialising in the collection and distribution of information on public sentiment – found that only 54% of Americans view Mexico as an ally of the United States. Some 86% were found to view Canada as a US ally.

Steel

Uttam Galva Steels Ltd, the Indian steel maker in which ArcelorMittal is seeking a controlling stake, expects great things from its connection with the world's largest producer. As reported by *Bloomberg News* (5 September), Uttam Galva's director Ankit Miglani was ebullient about the prospective deal.

"It will ensure [US] raw material security, the supply of high-grade hot-rolled coils," Mr Miglani told reporters in Mumbai. "It will get us the Midas touch of the Mittals."

As noted by *Bloomberg*'s Thomas Kutty Abraham, ArcelorMittal's first Indian acquisition may also help India-born chief executive officer Lakshmi Mittal to benefit from surging demand for steel in Asia's third-biggest economy.

When results are compiled, Indian demand is expected to show a gain of as much as 10% through March 2009 on increased government spending on infrastructure. According to India's steel ministry, growing demand for steel could enable domestic companies to double their combined capacity to as much as 124 million metric tons by 2012.

Chairman Zhu Jimin of Shougang Iron and Steel Group said on 2 September that the group expects its annual steel output to reach 30 million metric tons by 2012, two years after its Beijing facilities are shut down. As reported by Xinhua, the official Chinese news agency, Shougang is moving all production to a mill in Caofeidian, an islet 137 miles east of Beijing. Speaking at an event to commemorate the group's 90th founding anniversary, Mr Zhu said that the new plant will be producing 9.7 million mt of steel per year by the end of 2010. Shougang Group, the parent of Shougang Iron and Steel, is China's eighth-largest steel maker.

South Korea's POSCO, the biggest stainless steel maker in Asia, announced price rises as of September to reflect improving global prices and rising raw material costs. According to a company statement reported in the Korean daily *JoongAng* (28 August), the world's sixth-largest steel maker said that its prices for hot-rolled stainless would rise by 13% to $2,732 per metric ton, while cold-rolled stainless would go up by 12% to $2,948. These were the third consecutive monthly increases for POSCO, which said it had no plans to raise prices on carbon steel products. POSCO's smaller domestic rival, Hyundai Steel Co, said that it would raise carbon steel prices by up to 6.9%. This was the first increase in a year for South Korea's second-largest steel maker.

The price of steel for use in construction in Saudi Arabia fell 55% in the year through June 30, when it stood at $601.6 per metric ton; but a rise of nearly 9% was recorded since the start of 2009. The data, cited by *ArabianBusiness.com* (23 August), was supplied by the Central Department of Statistics and Information. Its publication, a first by a government body in Saudi Arabia, followed moves earlier in 2009 to end some bans on steel and cement exports. These have lasted almost a year after construction costs surged in 2008. Steel prices in Saudi Arabia hit a record high of $1,345.5 per metric ton in July of that year.

Aviation

Under suspicion in an Air France disaster, sensors are to be replaced on tens of thousands of aircraft worldwide

Emmanuel Wuyts

An Airbus A330 similar to the one that crashed near Brazil

The pitot tube, a fuselage-mounted probe that reads the speed of an airplane, is named for its inventor, a French engineer, and was modified to its current form by a French scientist. But the plunge of an Airbus A330 jet, flown by Air France, into the ocean off Brazil on 1 June has intensified demand for the pitots manufactured by an

Benis Arapovic

The malfunction made it impossible to accurately judge flight speed

American company: privately-held Aero-Instruments, founded in Cleveland, Ohio, in 1925.

Alison Grant of the Cleveland *Plain Dealer* reported that the possible malfunctioning of the plane's French-made pitot tubes has prompted an urgent call for replacement of the sensors on Airbus planes in service worldwide. While the French accident agency BEA is still investigating the disaster, interest has centred on the pitots, fixed externally on the forward fuselage. If they iced over, they could have been sending false speed readings to the jet's computers when Flight 447, on course for Paris from Rio de Janeiro, met with a thunderstorm over the Atlantic. ("Air France Crash Increases Demand for Airspeed Sensor," 27 August)

As it happens, at the time of the crash Aero-Instruments was just concluding an 18-month review of its pitot tube for installation on Airbus aircraft; and deliveries of a device certified by the US Federal Aviation Administration for Airbus use began in July. A company executive said the FAA certification clears Aero-Instruments for installing pitot tubes on more than 4,500 Airbus aircraft globally. Crucially, the company's pitot tube is heated to prevent ice buildup.

"We are ramping up our manufacturing quickly to help meet the increase in demand," Ryan Mifsud, vice-president and general manager at Aero-Instruments, told the *Plain Dealer*.

In appearance, the one-pound L-shaped metal sensor belies its centrality to a replacement effort on such a scale; and in fact it will not have the market to itself. While Aero-Instruments was still vetting its device, European air safety regulators scouted another source of supply, also American, for replacement pitots for the Airbus A330 and A340: a division of Goodrich Corp (Charlotte, North Carolina).

Ms Grant wrote, "An order from the European Aviation Safety Agency, expected to be finalised in September, would mandate swapping out two of the three probes on each plane within four months."

The *Plain Dealer* article, to which reporter Frank Bentayou also contributed, noted that airlines with large Airbus A330 and A340 fleets are Germany's Lufthansa, Cathay Pacific, Emirates, Qatar, Air France, China Eastern, and Northwest (now a unit of Delta), of the US. According to the newspaper, American air safety investigators have determined "that sensors on Northwest A330s may have malfunctioned on at least a dozen recent flights, making it impossible for the pilots to know how fast they were flying."

Dorothy Fabian, Features Editor (USA)

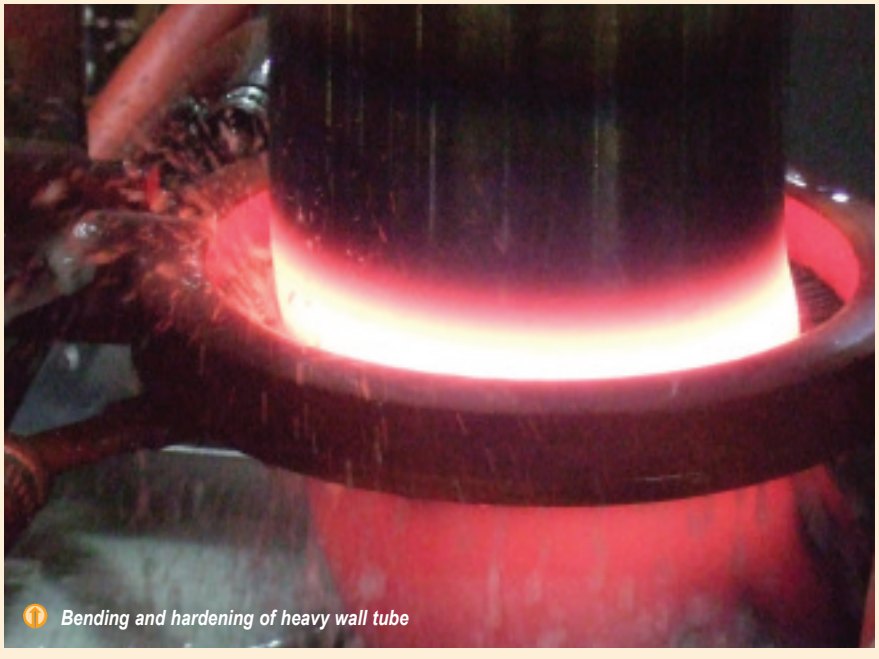
Bending, End forming & Swaging Technology

Ercolina TB130 rotary draw bender

MANY thousands of industrial and commercial objectives are conceivable only with tubing; and these objectives are met only with tubing that has been rendered into forms perfect for the purpose. This is the province of the specialities under review here. They take a workpiece and turn it into a product-in-the-making.

Bending, end forming, and swaging are mature technologies, with well-established protocols and time-tested methods. But the marketplace is never static. Products to meet new demands move continually from the design studio to the sales room, requiring support at every stage from the specialised branches of metal forming. If that support falters, the progression halts.

The professionals whose products and services appear in this section of TPT are keenly aware of their position in this cycle, and from the most valuable perspective of all: that of experts with on-the-job experience in the avoidance of costly mistakes.



Bending and hardening of heavy wall tube

HydroPro's HPX 6000 base system

Fully electric machines with CNC control

AT the EMO Milano 2009 exhibition PEDRAZZOLI IBP, Italy, introduced its cooperation with Fanuc GE, a builder of CNC and robotised systems.

In the bending field, Pedrazzoli IBP has developed a new generation of machines, including the Bend Master 45, available in clockwise/counter-clockwise versions. The machine features fully electric operation and bending capacity up to 45mm tube diameter.

A full steel compact bending head provides greater flexibility and easy tube transit during the working cycle, even under the head. The Bend Master 45's fully electric machine structure and advanced control functions, guaranteed by the latest generation Fanuc GE CNC, require no manual adjustment of tooling, even after working change, allowing increased repeatability. The current trend for increasingly smaller production batches makes frequent machine set up changes necessary, so rapid tooling change and repeatability without manual adjustment is an important advantage.

The adoption of the Fanuc GE package for real time movement control has been carried out alongside integration with the IMS (Intelligent Motion System), the Pedrazzoli software for machine management and 3D graphical programming. This is a historical feature of Pedrazzoli IBP machines, as Pedrazzoli was among the first to introduce a 3D user interface for tube work planning. In the new generation Bend Master machines, users can use the IMS graphical software developed in-house by Pedrazzoli IBP, but also can immediately change to an ISO programming version according to specific needs.

An energy monitoring function, managed by Fanuc GE drive controllers, allows the real-time calculation of the energy cost of each piece made by the machine.

Pedrazzoli IBP SpA – Italy
Fax: +39 0424 509049
Email: ibpexp@pedrazzoli.it
Website: www.pedrazzoli.it

Pedrazzoli's Bend Master 45

Latest technology for controlling bending processes

HAEUSLER AG is a manufacturer of metal forming machines and production lines for different application areas. For the tube and pipe industry Haeusler offers complete pipe mills and roll and tube bending machines.

The company has launched the latest version of Control System, to take advantage of up-to-date forming technologies and the latest generation of computer processors and software.

Featuring flexible software architecture and selectable operation modes, the new Control System ensures higher machine efficiency. With two operation modes as standard, manual and batch-to-batch, the system can also be advanced to CNC. With around 128 machine functions, the CNC allows accurate programming of forming processes by choosing between predefined program modules, increasing production speed and making quality repeatable.

The Control System handles up to 23 axes (seven of them as standard configuration) to meet the most demanding requirements in case of additional equipment such as support units or infeed/outfeed equipment.

The dynamic 3D graphical software visualises the forming process, reduces its complexity and minimises the learning curve of operators. High-speed motion control with cycle times below 50µs (compared to approximately 5-10ms for high end PLCs) ensures optimal control performance, increases wear resistance of parts and extends overall lifetime of the machine. Haeusler uses the fastest currently available bus system, based on Industrial Ethernet, which provides cycle times of around 30µs at 1,000 digital inputs and outputs, and results in lower maintenance effort, tighter tolerances and better forming quality.

The dual processor architecture makes it possible to unite operating interface HMI and data management (one processor) with soft PLC and soft motion control (another processor) on one PC platform. The HMI is Windows-based, enabling an easy integration and interface to production data acquisition systems. For motion control and PLC-programming, a separate real-time system is used. Technical support for the operating system is guaranteed until year 2024.

Designed for rough industrial environments, the Haeusler Control includes two shock resistant redundant discs (each with 8GB storage capacity), integrated UPS and remote maintenance. Further features include diagnostic displays (including online manuals), maintenance scheduler, operating hour counters and automatic axis optimisation.

Haeusler has released an updated version of its Control System

Haeusler AG – Switzerland
Fax: +41 61 755 22 00
Email: info@haeusler.com
Website: www.haeusler.com

Belt grinding-satining machine

THE ART.79 planetary belt grinding-satining machine from Aceti Macchine, Italy, is able to grind-satin pipes, straight and bent bars with round, oval, elliptical and conical sections. The machine can work pipes from diameters Ø10 to 100mm, and is used for quality finishing on several materials, particularly on stainless steel.

The machine uses a planetary system: the pipes are ground without being rotated, by using two abrasive belts that rotate on the axis of the workpieces. ART.79 is equipped with an electrical motor that operates the abrasive belts at two speeds, and a foot control to open the abrasive belts, facilitating the insertion of the workpieces.

Options include a speed variator for the abrasive belts, and automatic advancing for straight pipes.

Aceti Macchine snc – Italy
Fax: +39 035 841 624
Email: aceti@acetimacchine.com
Website: www.acetimacchine.it

Aceti Macchine's ART.79

Touch screen control for programmable repeatable bending

ERCOLINA's Top Bender model TB90 is suitable for producing bends in large diameter pipe, tube, squares, rectangular, solids and other profiles. PLC touch screen control offers easy access to automatic and manual operating modes, programming, system diagnostics and multiple language capability. The machine can bend to a centreline radius as small as 2D, and can bend any angle to 180° with independent spring back compensation for each bend. Unlimited program storage is available via USB, with up to 12 bends per program.

The TB90 features a digital display of counterbend die axis and bend angle, and a patented quick-change tooling system with multiple radii is available. The machine's engineered heavy-duty steel gear case accepts bend profiles with CLR to 18". Other features include a Class 3 safety hand-held remote control for bend, return and emergency stop functions, a patented swing away counterbending die vice, and auto load sensing to improve bend productivity while protecting machine components. The machine contains no hydraulic components, to reduce cost and improve bend accuracy.

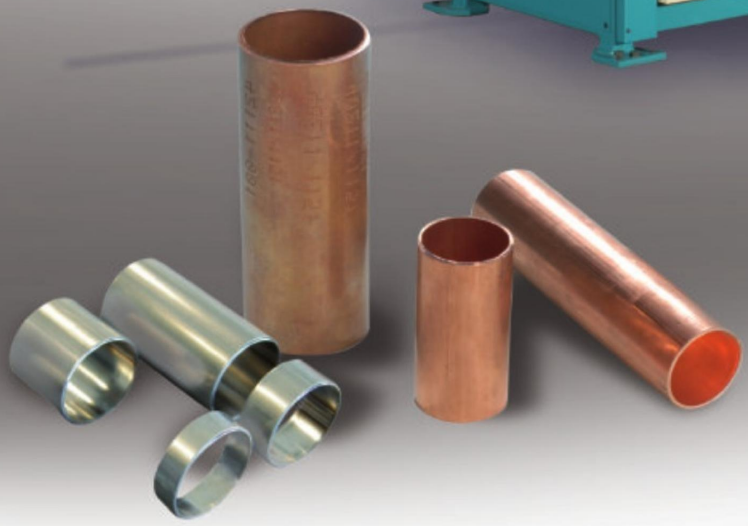
CML USA Ercolina – USA
Fax: +1 563 391 7710
Email: info@ercolina-usa.com
Website: www.ercolina-usa.com

TUBE PROCESS TECHNOLOGY

E-PILOT UDINE

Planning and manufacturing of automatic machines, tube cutting machines, tube bending machines without mandrel, shaping machines, end sealing machines, return bends machines, rings-assembling machines, tube expanding machines, hairpins trimmers, tubes drilling machines.

MTV 40 AP
PIPE CUTTER MACHINE



STRAIGHT LENGTH	∅ MIN. 10 mm
	∅ MAX. 38,6 mm
LWC COIL	∅ MIN. 8 mm
	∅ MAX. 36 mm

SISTEMA QUALITÀ CERTIFICATO UNI EN ISO 9001/2000 SINCERT DNV

SISTEMI MECCANICI INDUSTRIALI S.R.L. 33030 Varmo (UD) Italy via dell'Olmo - tel. +39.0432 778644 - fax 778411 www.smisrl.it - info@smisrl.it

Aluminium bronze alloys

AMPCO METAL provides high-tech alloys for demanding applications, including a comprehensive range of high-performance aluminium bronze alloys for pressings, tube bending, deep drawing, rolling and roll forming applications.

The company guarantees a wide range of materials satisfying the highest requirements, such as the patented alloy Ampco® 25 for tube forming rolls, and Ampco18, 21 and M4 in the tube bending sector.

In addition to alloys, Ampco Metal has extensive machining facilities and can assist customers at times of peak demand by offering a full or part machining service to smooth their production programmes and avoid bottlenecks.

Ampco Metal SA – Switzerland
Fax: + 41 26 439 93 01
Email: info@ampcometal.com
Website: www.ampcometal.com

Ampco Metal can supply a range of materials for applications in tube bending and roll forming applications

Cold bending machines for boiler and power station manufacturing

SCHWARZE-ROBITEC GmbH, Germany, a manufacturer of tube cold bending machines, has recently delivered several machines to boiler and power station manufacturers. These machines are developed to produce tight radii, even less than R=D, in tube serpentines and single bends, with PC CNC control for highly accurate movements of all axes.

The machines can be equipped with magazine and automatic loader, as well as automatic cutting saw, automatic 1D/3D bending and bending facility for bend-in-bend compound systems. A flip-over table for synchronous rotation of flat serpentines in connection with the orientation device is also available.

The latest PC CNC control offers many features for entering the values necessary for the production of high quality products in the shortest possible time. The simple control offers easy access to automatic and manual operating modes and system diagnostics.

The bending results are within the latest EN 12952-5 European standard for water-tube boilers and auxiliary installations approved in 2000. Due to the control feature of using eight different boosting pressure parameters in one program, it is possible to satisfy the requirements of different bending angles with different materials in one product or serpentine.

Together with the production of tight bending radii down to R=D, it enables the manufacture of boilers in smaller dimensions, but with higher capacity, which can be used in the most modern (fossil fuelled and nuclear) power stations. With the use of a mandrel, bending of thin-walled tubes to tight bending radii is possible, since the booster unit relieves the outer wall of the bends.

Schwarze-Robitec GmbH – Germany
Fax: +49 221 890 0829
Email: sales@sch-r.com
Website: www.sch-r.com

The benefits of CNC tube bending

ADDISONMCKEE manufactures a large range of all-electric, hydraulic and combination tube benders from 4mm to 273mm diameter. The company offers four lines of CNC tube bending machines to meet the demands of manufacturers across industries. CNC tube bender models provide accuracy, repeatability, quick tool change and ease of operation.

CNC tube benders add a new level of speed and precision to rotary draw bending. The value of CNC bending increases in direct proportion with the complexity of the tubular part. The more variety there is between radii of the bends, the more important it is to have CNC equipment. CNC equipment manipulates the tube to precisely position the various bends relative to each other. CNC tube bending is usually employed when a part contains more than two bends.

The new PowerBend range of CNC tube bending machines caters to manufacturers requiring standard three axis solutions, while AddisonMckee's flagship DataBend series includes all electric, hydraulic and combination tube bending machines from 4 to 273mm diameter.

AddisonMckee has also designed a range of specialised, electrically powered, hydraulically operated elbow tube benders. Developed to answer the demands of the plumbing industry, the ElbowBend series is capable of delivering six 90° or 45° copper elbow joints every 7.2 seconds.

The company's FormMaster-70 ram extrusion machine, or FM 70 RE, has been designed to produce small bent components at high speeds with minimal scrap.

In March AddisonMckee announced an agreement to merge with Eagle Precision Technologies, a leader in muffler manufacturing and bending solutions. As part of the agreement AddisonMckee acquired defined assets of Eagle Precision Technologies, including designs, drawings, software and trademarks, while excluding its liabilities, facilities, and certain equipment. AddisonMckee's Eagle™ brand of bending machines are designed to meet demanding requirements, and incorporate the latest technology for automatic tube bending. The range of machines can handle tubes from small diameters up to 150mm (6").

AddisonMckee – USA
Fax: +1 513 228 7226
Email: crogiers@addisonmckee.com
Website: www.addisonmckee.com

Carbide coating to prevent slippage in bending operations

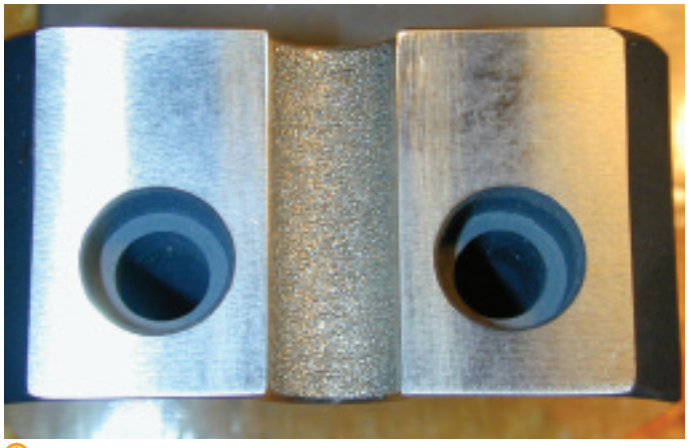
AN application of Carbinite coating can tighten machinery's grip on material during bending operations. When applied to the gripper arm in the holding area of mandrel or rotary draw systems the textured coating is said to prevent material from slipping or rolling during bending.

Bending die with Carbinite coating

Carbinite is a carbide coating that is electrofused to a base metal to add texture. This texture increases the coefficient of friction between the clamping surface and the workpiece allowing for a strong, solid grip in the holding and clamping areas of the tube bending process.

Carbinite is applied by electrofusion, resulting in an incredibly strong bond since the carbide is fused into the base metal, not just applied onto it as in spray welds. Bulk heating is not required, so tool temper and heat treat are not affected. If needed, it can be applied and reapplied without stripping away existing layers.

If a metal tube or pipe requires a sequence of bends, an application in the gripper area of a seeker or plainer will help ensure that when the dye rotates around and the arm comes in contact with the material, slippage does not occur. This prevents the material from being knocked out of plane.



Clamp die with Carbinite coating

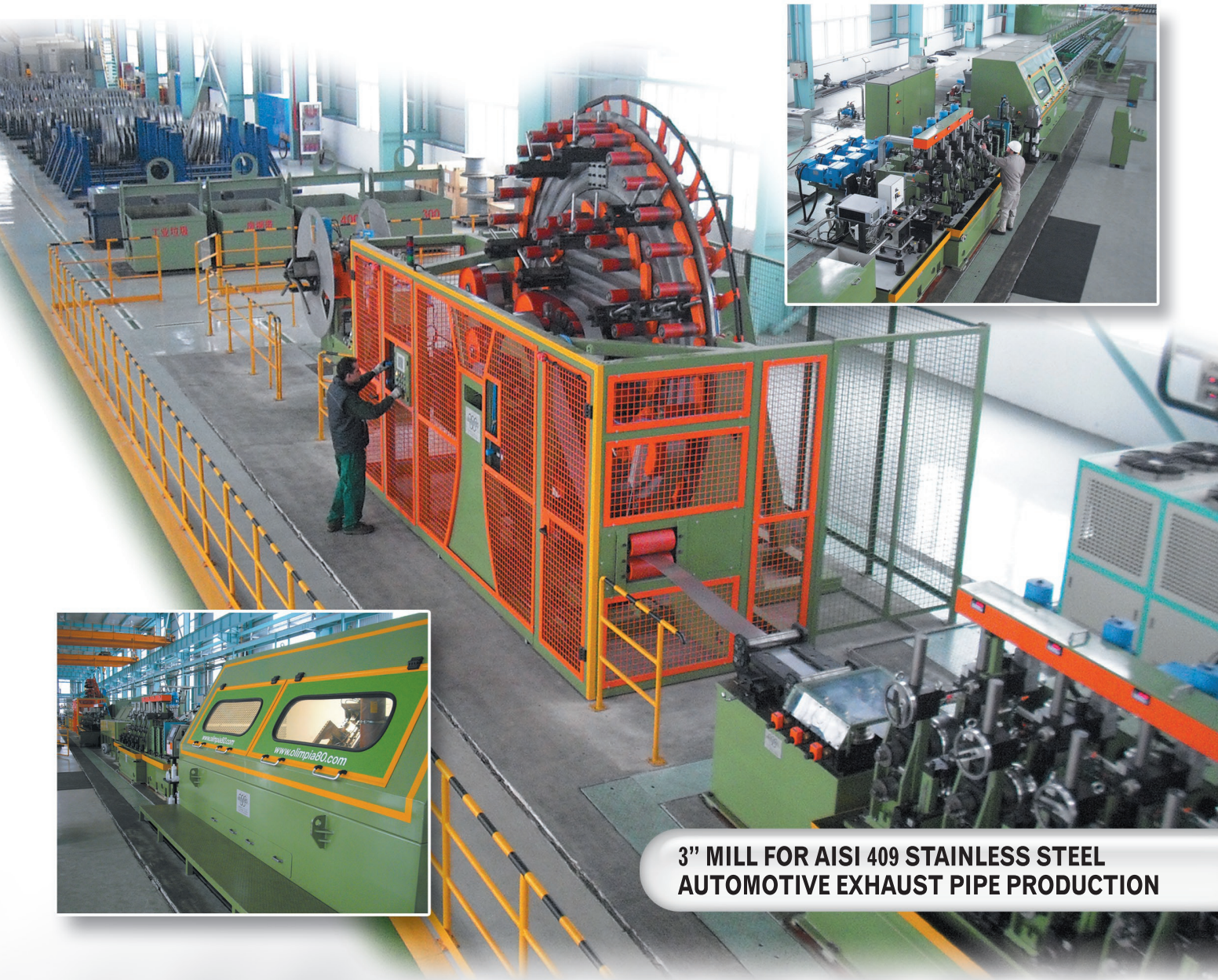
The coating is available in several grades, leaving various textures ranging from 40 to 320 emery grit. It can be applied to all steels, including stainless, as well as to certain aluminium alloys such as 6061 and 7075.

Carbinite Metal Coatings – USA
Fax: +1 724 586 1144
Email: andy@carbinite.com
Website: www.carbinite.com

olimpia80

ENGINEERING

TUBE MILLS



3" MILL FOR AISI 409 STAINLESS STEEL
AUTOMOTIVE EXHAUST PIPE PRODUCTION

OLIMPIA 80 s.r.l. Engineering
ZONA INDUSTRIALE: Cà Verde - 29011 BORGONOVO V.T. (PC) - Italy - Tel. +39 0523 86.26.14 / 86.28.80 - Fax +39 0523 86.45.84
olimpia@olimpia80.com • www.olimpia80.com

New Ercolina tube, pipe and profile bending machines

CML International, Italy, has launched two new Ercolina brand bending machines.

The Top Bender model TB130 is a rotary draw bender for ODs up to 130mm, and is suitable for producing consistent quality bends in large diameter pipe, tube, squares, rectangular, solids and other profiles. Interactive touch screen control offers easy access to auto and manual operating modes, programming, system diagnostics and multiple language capability.

Features include programmable bend angles from 0° to 180°, with up to 12 bends per program; unlimited program storage available with USB; and independent springback compensation for each bend.

The heavy-duty steel gear case accepts bend profiles with CLR to 28", and the class 3 safety hand-held remote controls bend, return and emergency stop functions. Auto load sensing improves bend productivity while protecting machine components. The machine bends to a centreline radius as small as 2D without a mandrel.

The machine is supplied with the following hexagons: 40, 50, 80 and 110mm for the use of formers from Ø 10mm to 130mm ($^3/_8$" to 5"). There are no hydraulic components, reducing cost and improving bend accuracy. Components include Italian Gamar motor 4 poles, 3kW, 5.4" digital Pro-Face touch screen controller, and Industrial Control Techniques inverter.

The second new machine – the Giga Bender 130 T CNC 10 with twin head – is designed for the industrial bending of tube, pipe, square and rectangular profiles to centreline radius as small as 1.5D. The maximum capacity is up to Ø 141.3 x 4.7mm (5½" OD x 0.185) with standard tubes (CE 42kg/mm^2), up to Ø 141.3 x 2.9mm (5½" OD x 0.114) with stainless steel tubes (65kg/mm^2), and up to Ø 141.3 x 6.9mm (5½" OD x 0.272) with copper and aluminium tubes (30kg/mm^2).

The minimum bending radius is 40mm (1½") x OD, and the maximum bending radius is 450mm (18") x OD. Features include programmable control with bend angles from 0° to 180°; adjustable material springback setting for each bend; and USB for unlimited program memory storage and communication.

An interactive touch screen display features ABS or INC modes, and the control offers easy access to auto and manual operating modes and system diagnostics. The machine has programmable mandrel positioning, clamping, pressure die and boost movements, and quick-change tooling for improved productivity, while its heavy steel structure improves rigidity and minimises vibration. The bender features Ercolina's patented (KST) clam shell hydraulic clamping, with ten controlled axes.

Ercolina TB130 rotary draw bender

The Giga Bender 130 T CNC 10 with twin head

CML International SpA – Italy
Fax: +39 0776 404801
Email: info@ercolina.it
Website: www.ercolina.com

Versatile bending simulation software

IN order to fully use the potential of a bending machine it is essential to provide it with valid data. Correct lengths for each segment of the tube have to be calculated to determine the cutting length for the entire tube. Material traits have to be taken into consideration, or the tube will not be fabricated according to specifications due to springback. The machine and tool layout also need to be examined, to make sure the tube does not collide with the machine or its environment during the bending process.

While experienced operators can often spot potential difficulties early on, the time it takes to solve these problems and to calculate the required data manually often negates many advantages of the bending machine. Because of these concerns, RoniKolli7 by 3R software solutions was designed to facilitate the bending process. The software calculates the actual CNC bending data, ie traction (feed), rotation and bending values, calculates the cutting length of the tube, and calculates overbending due to springback, as well as the resulting length adjustments. It also graphically simulates the bending process to test for collisions, and generates customisable worksheets with all relevant information for the tube shop.

Improvements to the latest version of RoniKolli7 include faster graphical display of bending processes. It is now possible to simulate flanged and flared tubes, and to calculate the CNC data accordingly, and users can display welding seams and determine their optimal position. The software is split into the main application, which calculates the CNC data and simulates the process, and three sub modules, which provide machine, tool and material data for the simulation.

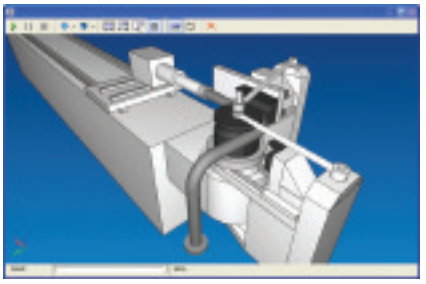
The MachineEditor is used to create 3D models of the bending machines. The machine is measured on-site, so it is possible to integrate special modifications immediately. Because each machine's motion sequence is faithfully implemented, the user can create models of mandrel, roller and induction bending machines, with one or more bending heads and levels. The level of detail is determined by the user: with a high level of detail a high level of accuracy can be achieved, but the measuring process takes longer.

The ToolEditor is used to create 3D models of the available bending tools. Each tool can be assigned to exactly the machines that can mount it, to make sure that the simulation does not use incompatible machine-tool combinations. Tools for mandrel, roller and induction bending can be created, and it is possible to construct multiple tool levels, correctly aligned with each other, by using the convenient Tool Wizard.

The MaterialManager sub module is used to create a database of materials and their traits, allowing the calculation of overbending and reductions, so the CNC data can be adjusted accordingly.

The main RoniKolli7 software allows the user to select the required machine and tool, and to create the geometry of the tube. Tube segments can be defined by entering either Cartesian coordinates, or the raw bending data (traction, rotation and bending angle). This data is automatically adjusted depending on the selected material, and can be tested for collision.

Using the previously created tool and machine models, the software can accurately test even complex geometries, and can independently look for solutions within certain parameters. It is often possible to bend a tube if a particular rotation direction or the bending order is reversed. Correction feeds are another option the software can test.



Screenshot of a bending simulation

More complex bending machines, such as double-head benders, offer more options than single-level unidirectional benders. Once a feasible bending sequence has been determined, the CNC data is adjusted accordingly, and can be transferred to the bending machine.

Besides other 3R applications, output files from a large variety of construction or measuring programs can be imported without loss of data. Tested and adjusted CNC data can be exported in multiple formats, to be used either directly at the machine, or in other programs for further processing.

RoniKolli7 can be used as an addition to an existing IT framework or in combination with other 3R products. It can be used in workshops of any size with any number of machines or tools, or by construction departments, to avoid production problems, delays, and damage to machines and equipment.

3R software solutions – Germany
Fax: +49 2381 688 273
Email: info@3-r.de
Website: www.3-r.de

Free-standing bending machines

GREGSON Induction Benders Ltd, UK, has 30 years' experience in the design and manufacture of induction bending machines. In the late 1970s and early 80s there was a high demand for quality large bore pipe bending for the oil and gas industries. During this period the company developed machines to meet these demands.

Acknowledging the weakness and shortcomings of machines that use the workshop floor as an integral part of the foundation support, Geoff Gregson formed a team of professional engineers to develop a range of advanced, free-standing machines where the bending moment is contained within the machine chassis. The machines were initially developed for internal use only, but the company quickly started to receive enquiries to supply machines.

Modern Gregson bending machines are used throughout the world in all major pipe-bending industries. The latest installation is a 36" machine for a bending company based in Houston, Texas. This machine has been adapted to bend structural steel as well as pipe, giving greater flexibility.

Features of Gregson machines include the capability to perform compound bending, a unique induction coil design, top or end loading, infinite bend radius, user-friendly and easy to operate, composite arrangements, low-cost tooling, and flexible software packages.

Gregson Induction Benders Ltd – UK
Fax: +44 1782 641020
Email: gregson_1@btinternet.com
Website:
www.gregsoninductionbenders.com

TECHNOLOGY, EQUIPMENT & INNOVATION FOR TUBE WELDING

Choose the right engine
to challenge your competitors
in the welding race

New Solid State Formula

We weld, You win

Italian Design
Global Team

SAET GROUP

Via Torino, 213 I-10040 Leini (TORINO) ITALY
Tel. +39.011.9977999 Fax. +39.011.9974328
www.saetgroup.com www.emmedi.it
info@saetgroup.com

Five processes in one pipe bender

THE new Soco ATM-19 five-axis CNC tube and wire manufacturing line can combine different working processes for a complete production cell. The processes include uncoiling, straightening, bending, end-forming and cutting.

The production cell can work with tubes up to OD 19mm in copper and OD 8mm in wire. The minimum OD capacity is 4mm for both tube and wire.

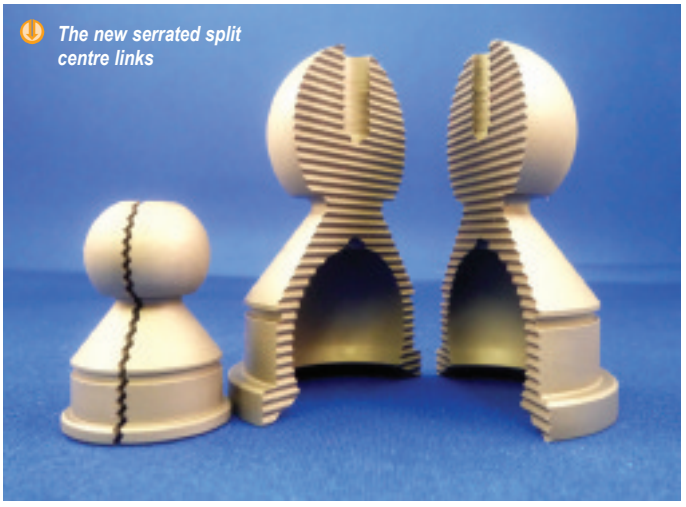
The machines are equipped with Soco's DGT technology (direct gear transmission), offering accuracy and repeatability in bending. Advantages of DGT include chain free transmission, built-in gearbox with direct connection to electric servo, high transmission performance (90%+ efficiency), high bending accuracy (±0.05° ~ ±0.1°), and low noise level. Other features include elongated neck for superior clearance, compact bending head, side carriage and bending head, and built-in Soco proprietary software and operation interface, with an Industrial PC (IPC) and touch screen.

Optional features include bending interference and collision simulator, report system for production management, reading of AUTOCAD files (with Auto LISP), and remote monitoring system. The production cell is designed for the production of small and medium diameter tubing and wire, and is used in industries such as automotive air conditioning, heating, refrigeration systems and home air conditioning.

Soco Machinery Co, Ltd – Taiwan
Fax: +886 4 23592386
Email: sales@soco.com.tw
Website: www.soco.com.tw

Soco's ATM-19 tube and wire manufacturing line

Mandrel link innovations to increase tube bending



The new serrated split centre links

OMNI-X has introduced two new mandrel link innovations designed to increase tube bending production by economising the tube bending process time and optimising link life through a cutting edge split centre link design.

Serrated split centre links feature a design that evenly distributes the load bearing function of the centre link. Previous designs used only a single key-way, which concentrated the load bearing to a small, localised area of the centre link. The new serrated design provides a key-way over the entire mating surface area, resulting in effective load distribution. A stronger split centre link with reduced wear and increased life means less down-time replacing broken links.

Internal load testing showed an average 33% increase of load bearing capability before breaking, compared to common single key-way designs.

Armed with the internal results, Omni-X field-tested the serrated links in some of the highest volume and most difficult mandrel bending applications in production. The company stated that the serrated link was superior in all applications, with increased life ranging from 10 to 60%, across a wide spectrum of tube and pipe bending variables including material and degree of bend. The serrated links are available in sizes 7-12 covering an OD range of 1.125" to 4.625". All Omni-X multi-ball mandrels include the serrated centre link.

The new serrated link configuration is backward compatible with the H-Style link standard.

Omni-X's second new product is the No Drop multi-ball mandrel configuration, which allows rapid tube loading without the problems of the gravity effect of drooping mandrel balls. The No Drop links will soon be available in all sizes.

Omni-X Inc – USA
Fax: +1 303 789 4755
Email: sales@omnibend.com
Website: www.omnibend.com

Omni-X CZ sro – Czech Republic
Fax: +420 548 212 804
Email: sales@omni-x.cz
Website: www.omni-x.cz

Twin head tube bender that allows easy maintenance

SMS Engineering (Special Machines Solutions), Italy, manufactures the CM-40 twin head tube bender. The machine features a simple design that allows easy maintenance. The bending head provides a large bending space reducing overall dimensions, and a quick tooling change device allows flexible production. The machine has an electronic circuit and integrated hydraulic system.

As an option, the two bending heads can work separately or simultaneously, or adopting a different bending radius. The machine weighs around 1,200kg, and measures approximately 2,400 x 1,050 x 1,300mm.

The company also manufactures manual and automatic rigs for end forming, flattening, swaging, calibrating, drawing and flanging steel, copper, aluminium and brass tube. The twin head automatic swaging machine is supplied with loader. Simultaneous swaging is possible at both ends of the tube using one or two tools on each head. The fully automatic swaging machine is equipped with bundle loader, overhead manipulator and complementary operations.

SMS Engineering Srl – Italy
Fax: +39 035 581509
Email: commerciale@sms-italy.it
Website: www.sms-italy.it

The CM-40 twin head tube bender from SMS Engineering

BORU 2010

6th Int'l Tube, Pipe, Fittings and Machinery Fair

04 - 07 March / 2010

Istanbul Expo Center - Visitings Hours: 11.00-19.00

Exhibit Profile

Tubes, Pipes and Accesories - Raw Material - Machinery and Process Technology Tools
Testing, Measuring and Control Technology - Logistics - Pipeline and OCTG Technology

www.borufuari.com

TÜV AUSTRIA HELLAS ISO 9001:2000

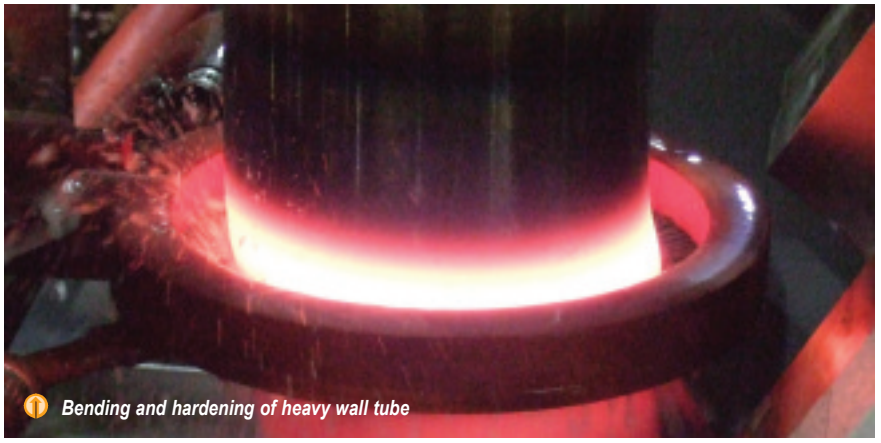
ihlas Fuarcılık

29 Ekim Cad.No:23 34197 Yenibosna/Istanbul/TURKEY - Tel: +90-212-4542503 Fax:+90-212-4542506
e-mail: info@ihlasfuar.com | web: www.ihlasfuar.com

BORU 2010

Simultaneous pipe bending and heat treating of heavy wall tube

AJAX Tocco Magnethermic has combined its knowledge of hardening oil pipe to API standards with its pipe bending technology to both bend and heat treat heavy wall tube simultaneously. The process is for a high specification 3" oil industry part, with typical working pressure of 15,000 psi (test 22,500 psi).



Bending and hardening of heavy wall tube

A typical system is skid mounted and includes the induction heating quenching and bending equipment together with a single operator control panel.

Ajax Tocco Magnethermic specialises in the design and manufacture of 'engineered' induction systems to meet individual customers' requirements. Investments include extensive in-house heat treat facilities complete with metallurgical laboratories, enabling process development to meet specific requirements. FEA analysis is routinely used to minimise development times.

Ajax Tocco Magnethermic Corp – USA
Fax: +1 330 372 8608
Email: info@ajaxtocco.com
Website: www.ajaxtocco.com

Swaging systems and tooling

HYDROPRO Inc, USA, manufactures systems and tooling for hydro-forming or swaging. The company's equipment can full depth expand a 400mm (15.75") expansion zone in just a few more seconds than it takes to expand a 40mm (1.57") zone.

The expansion pressure and dwell times can be precisely set and controlled to accommodate different tube material characteristics, which is of particular use when using tubes with high spring-back properties such as titanium and super duplex stainless steel.

HydroPro's SleevePro system uses hydroexpanding technology to expand sleeves or liners inside damaged parent tubes, to repair cracks or strengthen eroded or corroded tubes. The BoilerPro system mechanically sets and flares the ends of boiler tubes prior to hydroexpanding or mechanically rolling the joints.

The TubePro WeldLock system locks the tube in the tubesheet, precisely sets the tube protrusion and centres the tube in the hole, while leaving small air gaps that allow weld gases to escape during the welding procedure. The TubePro WeldLock tooling's automatic centring process sets the weld gap between the tube and the tubesheet hole constant throughout 360° of arc at the tubesheet face, in around six seconds. This system eliminates the need for tack welding, or lightly rolling tubes in place to prevent movement prior to welding or tube-to-tubesheet expansion. This is said to enhance the quality and consistency of the finished weld, whether performed with automatic orbital welding equipment or by manual welding methods.

HydroPro's HPX 6000 base system

HydroPro Inc – USA
Fax: +1 573 732 3318
Email: engineering@hpro.com
Website: www.hpro.com

Tube cutting and bevelling machine

THE TT-NG series of portable and self-centring tube cutting and bevelling machines from Protem are designed to perform accurate cutting and bevelling works on tubes and pipes of all schedules in one simultaneous operation, particularly on tubes with large wall thicknesses.

The robust Protem TT clamshells can be used in various positions and are suitable for all types of materials. Their split frame configuration allows the clamshells to be opened in two half-shells. For manual clamping, four independent adjustable jaws are used.

The nine models in the series range from the 45kg TT-NG 168 with a machining capacity of 60.3-168.3mm (2"-6"), to the 205kg TT-NG 900 with a capacity of 660.4-914.4mm (26"-36").

Protem SAS – France
Fax: +33 4 75 57 41 49
Email: contact@protem.fr
Website: www.protem.fr

Protem GmbH – Germany
Fax: +49 7247 9393 33
Email: info@protem-gmbh.de

Protem's portable TT machine in action

New numerical control system for hydraulic bending machines

Tre C's CNW333 numerical control system, alongside one of the company's bending machines

TRE C Srl is a manufacturer of bending machines for metal profiles. Planning and production, completely developed in-house, relates to a range of sixty models of bending machine with various powers and technological solutions, up to CNC models. Rollers and equipment are also an integral part of Tre C's production.

The company believes that the target of improving the performance of machinery and flexibility of application in various fields should not prejudice the simplicity of use. In response to these needs and thanks to customer feedback, Tre C developed the new numerical control CNW333, applicable to all of its hydraulic bending machines.

The CNW333, developed on the Windows XP operating system, can operate in single- and multi-run, and is applied to hydraulic machines both with two-speed rotation motor as standard and with speed regulator, which allows operation of four processing axes with automatic speed calculation.

In addition to the functions already present in the other versions, it provides a user-friendly programming system, programming of up to 36 radii and automatic positioning calculation for new bending radii, facilitating processing performance and programming. Files can be managed directly in DXF format in order to obtain the geometry to be performed and to create network connections for interfacing with other PCs for data exchange.

Tre C Srl – Italy
Fax: +39 0558 877919
Email: info@trecsrl.com
Website: www.trecsrl.com

Manufacturer launches powerful all-electric tube bending machine

UNISON, UK, has launched an all-electric tube bending machine that has the power to bend tubing with outside diameters up to 170mm (6.7in).

The new Breeze 170 can generate a bending torque as high as 135,000Nm – which is nearly 50% more than the company's previous most powerful 150mm machine. It brings the enormous process flexibility and business advantages of software-controlled set-up and bending to a new class of heavy-duty applications.

The Breeze 170 is likely to open up entirely new application areas in aerospace and shipbuilding. The machine's ability to accommodate such large diameter tubing, combined with its power and precision bending capabilities, make it particularly suitable for handling lightweight high-strength ducting manufactured from specialist materials such as commercially pure CP titanium, titanium alloys and stainless steel. Fast, software-controlled setup enables the Breeze 170 to handle batch sizes as small as one in a very efficient manner.

The Breeze 170 offers highly accurate, fully programmable control of the rotary draw bending process. The machine can accommodate tubing with a wall thickness of up to 3mm and can produce bends of up to 180 degrees, with a bending speed of up to 10 degrees/second.

It can also perform bending operations extremely slowly, which is a critical attribute for the precision forming of titanium. The Breeze 170 is designed specifically for absolute rigidity, and uses fast-acting closed-loop servo control to ensure very high process accuracy – the machine provides a repeatability of ±0.1 degree on both the bend angle and the bend plane. Bending accuracy is further supported by a unique wiper die system, which features precision set-up facilities.

The Unibend machine control software supplied with the Breeze 170 runs under Windows XP or Vista on any industry-standard PC. This software has evolved steadily ever since Unison produced the world's first all-electric tube bending machine in 1994, and is now widely acknowledged to be one of the most versatile tube-bending packages on the market. Unlike traditional hydraulically-powered tube benders, Unison's all-electric machines provide users with complete control over the bend operation; they can modify the bend speed, clamping pressure, pressure die position and force, and mandrel positioning parameters, to achieve the optimum bend. Advanced features include fully automated tube sensing and clamping, which reduce setup times significantly.

The software also includes powerful remote diagnostic aids, which enable Unison's engineering team to quickly resolve any bending problems or machine performance issues at customers' sites.

A software 'black box' – which automatically stores the last 500 instructions entered by the operator, together with details of machinery positions from the servo motor sensors – allows Unison to help its various users optimise their processes, and to provide remote maintenance services.

Tube bending operations can be programmed in three ways. Programs can be generated automatically, by transferring data from CAD software files –Unison has interfaces for all popular CAD packages, and will develop interfaces for any others that are required, including a manufacturer's proprietary design software.

A simple programming template is also available, enabling users to create a program by entering the distance between bends, the angle of bend required, and rotation of the tube. A further option is copying or reverse engineering, by using a tube measuring system to recreate the coordinates directly from a sample or prototype.

In place of hydraulic force, the Breeze 170 employs servo motors to control the entire tube bending process, including clamp, pressure die, mandrel and follower. This all-electric actuation provides significant performance benefits in terms of energy consumption, repeatability, and noise reduction.

The actuation elements of the machine only draw appreciable current when a bend is being made, reducing energy consumption significantly; at all other times, the Breeze 170 consumes less than 1.5 kW/hour. Noise is also measurably reduced – the Breeze 170 only generates around 50-60 dB, which is equivalent to normal voice level.

Unison Ltd – UK
Fax: +44 17235 82379
Email: enquiries@unisonltd.com
Website: www.unisonltd.com

US specialist signs distribution agreement to supply large diameter bending solutions

TUBE bending specialist Pines Technology has announced a distribution agreement with Gregson Induction Benders Ltd (UK), which specialises in induction bending solutions.

The companies said the transaction will bring together two of the largest global names in large tube manipulation products and services.

Mr Ian Williamson, chief executive officer of Pines said: "It will provide our collective North American customer base with technical solutions from us both, while lowering our product costs for North America." He added: "This agreement confirms Pines strategic direction to specialise in large bending applications. The addition of Gregson Products to Pines large draw benders means Pines covers the complete range of pipe and tube bending requirements for the power generation, energy and petrochemical industries".

"Pines' heavy duty CNC and NC benders are exported competitively all over the world including India and China. Manufacturing the Gregson Induction Benders in the US is therefore compelling. We believe the future for Pines lies in large, high value equipment either imported to Pines specification or built in the US to partner specifications such as Gregson.

Nigel Gregson, managing director of Gregson Induction Benders Ltd said: "Much like Gregson, Pines has an enviable reputation for the quality of its bending and tooling products, and a willingness to provide the finest solutions. The combination of Gregson and Pines is extremely valuable as it will create a powerful potential leader in the tube bending industry with an enhanced, complete products and services portfolio second to none."

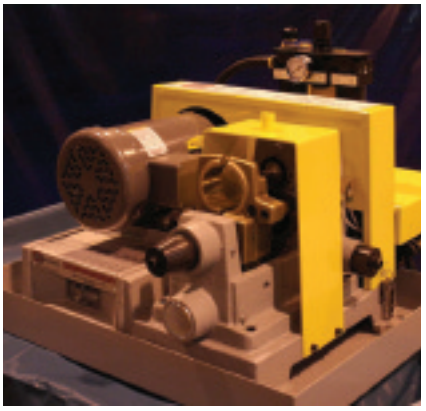
Pines Technology – USA
Fax: +1 440 835 5556
Email: iwilliamson@pinestech.com
Website: www.pinestech.com

Tube and rod end-finishing machine

MANCHESTER TOOL & DIE, Inc, USA, offers Pines Technology Model 660 tube and rod end-finishing machines for fast and simultaneous de-burring, ID/OD chamfering, and facing. There are two Model 660 variants, one manually operated and one air-operated, for finishing up to 1,500 ends per hour and 1,875 ends per hour, respectively. The end-finishing machines can provide cost savings by freeing lathes and other machines on a wide range of work.

Model 660 can also increase production and improve accuracy compared to abrasive belts and de-burring wheels. Changeovers are easy and can be completed in minutes with four sets of tools covering a 5/16" to 2" diameter range. Eight spindle speeds are available from 760 to 3,920 RPM, and the maximum stroke is 1¼". The end-finishing machines are easy to operate and offer a variety of accessory equipment and tooling options.

Manchester Tool & Die, Inc – USA
Fax: +1 260 982 4575
Email: edegner@manchestertoolanddie.com
Website: www.manchestertoolanddie.com



The air-operated Model 660 end-finishing machine

Tri-dimensional system with three CNC controls

THE FL 600 3D from Tube Tech Machinery Srl, Italy, was designed for machining tubes and structural profiles with a maximum external diameter of 610mm and a maximum length of 24,000mm.

The tri-dimensional system allows operation on any point in a sphere space, while movement along five interpolated axes, with precision ball screws and linear motors, ensures high dynamics and performance.

FL 600 3D is equipped with a double tube loading system: one from bundle, which allows the automatic loading of tubes with round, square and rectangular section and a loading capacity of 10,000kg, and one from chain, which also enables the loading of open section profiles. It is composed of V-shaped supports: the chains move at variable speed, according to the tube diameter and weight, and are made to slide on bearings to prevent noise and wear. The movements of the piece along the working axis are ensured by four self-centring mandrels, activated by synchronised hydraulic cylinders.

A tempered and rectified precision helical toothed rack activates the advance, operated by brushless motor and precision reducer with slack recovery system. The mandrels are designed to allow the machining of different diameters and sections, with no change of tools. An integrated floating system allows the compensation for a piece's uneven straightness during machining, enabling precision machining even on particularly irregular tubes, and preventing dangerous mechanical stress on the mandrels.

The plant is automatically controlled by two CNC controls: one for the handling area and the other for the laser working area (Sphera). A third CNC control manages and supervises the laser source. The three computers are set to interact with one another, with no need for human operation: they automatically handle profile loading, dimensional control, 3D laser machining and discharge of the machined parts.

The software is simple and user-friendly, and can be upgraded to include the handling of lists of materials and stock.

Tube Tech Machinery Srl – Italy
Fax: +39 030 7256333
Email: info@tubetechmachinery.com
Website: www.tubetechmachinery.com

Custom-made bending machines

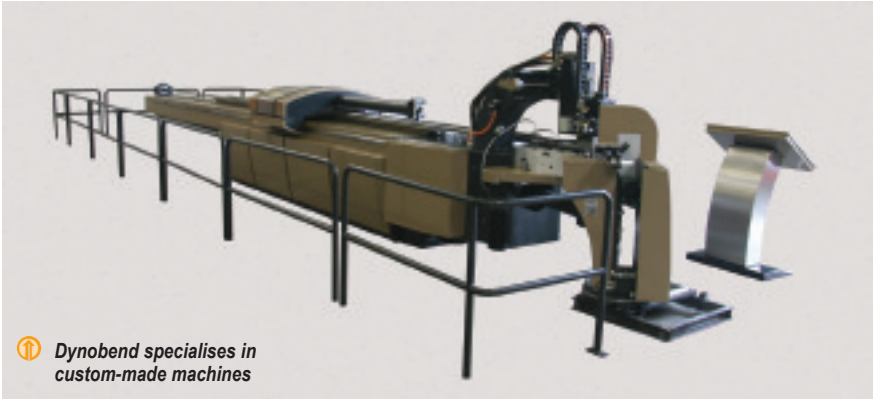
DYNOBEND BV, The Netherlands, manufactures a wide range of bending machines, specialising in custom-made machines to meet customers' requirements. The company's latest developments focus on the possibilities for automation in the bending process, for customers in industries such as heating/cooling, furniture and automotive.

Automation can range from automatic loading to complete functioning production cells.

In these production cells it is possible to work with loading systems, weld seam detection units, transfer units, robots, cutting systems, drilling/punching and even end-forming machines. Camera systems are used for checking bend quality, and can assist in creating a work cell with higher output.

The company states that, providing bending is the main process, it is able to complete any working cell. When suitable machines are available, the company buys them and integrates them into the process. If the right machine cannot be found, the company develops one to fit the requirements. The bending machine in the process is the master, meaning that the computer of the bending machine regulates all the other processes.

Dynobend BV – The Netherlands
Fax: +31 53 850 7731
Email: info@dynobend.com
Website: www.dynobend.com



Dynobend specialises in custom-made machines

INDUSTRY NEWS

2009 FABTECH International & AWS Welding Show

The FABTECH International and AWS Welding Show, including METALFORM, will be held at McCormick Place, Chicago, 15-18 November.

35,000 visitors are expected to converge in both the North and South Halls of McCormick Place, and this year's combined event brings over 900 exhibits, industry innovators, and hundreds of live equipment demonstrations among pavilions dedicated to forming and fabricating, stamping, welding, tube and pipe, lasers, and thermal spray.

Attendees can also take advantage of a unified educational curriculum during the 2009 event, featuring a variety of technical seminars, conferences and professional programmes.

From metal forming, fabricating, tube and pipe and welding technology to economic, operation and management issues, the programming at the event has been coordinated to provide the latest and most up-to-date information needed to successfully operate in every aspect of the industry.

Three days of free special event programming will feature keynote presentations and drill down sessions covering topics ranging from workforce development, diversifying operations, financing/credit and tax incentives to opportunities in the wind, solar and oil and gas supply chain.

Additional show information, including a list of exhibitors, education programme schedule, special events and more can be found at the event's website, where visitors can also save $50 by registering in advance.

Fabricators & Manufacturers Association, International – USA
Fax: +1 815 484 7701
Email: information@fmafabtech.com
Website: www.fabtechexpo.com

British business at the previous Fabtech event

Seamless tube technology in China

Pharnitech International, China, is a supplier of pipe mills to the global market. The company has experience and flexibility, and can tailor solutions to customer requirements.

The company states that after dozens of installations of piercing mills, rotary expanders, accu mills, assel mills, sizing mills/stretch reducing mills, pipe straightening machines, and other finishing equipment, China has emerged as an important supplier of 2-roll and 3-roll retained mandrel pipe mills (MPM).

Pharnitech has delivered two MPMs in China, one of which, a 250MPM, has been in operation for almost three years. The other is a 114MPM, which is a repeating order from WISP Holding Limited, and has been delivered recently. The company has also received orders for another two lines from the same customer: a 366 TRCM (3-roll retained mandrel pipe mill) that is under manufacture, and a 140MPM that is in the design stage.

250mm piercing mill

10" stretch reducing mill

Pharnitech's next order, from Neimeng Mengfang, is for a 140MPM seamless tube plant, which is also in the design stage.

In February, the company obtained one 180MPM order from India, which is the first MPM order Pharnitech has received from the international market, indicating a successful step into global competition. The project is in progress as per contract.

Pharnitech Int'l Company Ltd – China
Fax: +86 10 6847 0948
Email: sales@pharnitech.com
Website: www.pharnitech.com

GLOBAL MARKETPLACE

Automotive

Connoisseurship not consolidation: BMW bucks an industry trend

The German luxury auto maker BMW is taking a contrarian approach to the challenges of the market. While Fiat and Chrysler join forces, BMW is going it alone, confident that premium cars from an independent producer hold perennial appeal for individualists with deep pockets.

"Do people want to differentiate themselves from each other?" The question was posed by Friedrich Eichiner, BMW's chief financial officer, during an interview with the *International Herald Tribune* at the Munich headquarters of the company. Mr Eichiner answered himself: *"I think so. That wish is there and it is enduring."*

The *Tribune*'s Carter Dougherty pointed out that Mr Eichiner's "instinct" is up against some bracing realities in a period of austerity and greater personal savings — especially in the United States. ("BMW Puts a Premium on Independence," 7 May)

The *Tribune* noted that Fiat's chief executive Sergio Marchionne believes the successful car maker of the future will need to sell at least 5.5 million vehicles a year — far more than the 1.4 million BMW sold in 2008. In the view of the auto industry's "man of the moment," only that volume of sales will support development of the technology required to meet increasingly rigorous standards for fuel efficiency and emissions control.

Accordingly, the Fiat chief pursued a merger with bankrupt Chrysler, and may also pick up the European operations of General Motors. Mr Dougherty noted that, to many industry executives, "It is time for the premium manufacturers to consider similar moves, combining high-margin cars with economies of scale."

- But, to Mr Eichiner and other BMW executives, that business model ignores a major problem of large-scale operations: the punishing fixed costs of factories and workers that become a burden at less than full-bore production. The company chooses instead to rest its hopes in a smaller operation geared to discerning and affluent car buyers in Europe and the United States. Said Mr Eichiner, *'Size does not protect you from anything.'*

Pipelines

The European Union moves closer to a start date for Nabucco, but Russia intends to fight its corner

An energy agreement signed 9 May by the European Union and Turkey aims to speed up the start date on construction of the 2,000-mile Nabucco pipeline, which would bring natural gas from the Caspian Sea to Europe while bypassing Russian territory. A prime consideration is the reduction of dependency on Russia, currently the supplier of some 25% of Europe's fuel needs. The EU hopes to be pumping first gas through Nabucco by 2014.

The agreement, signed by the leaders of Azerbaijan, Georgia, Egypt, and Turkey at a summit meeting in Prague, had hinged on Turkey, whose cooperation is essential for the pipeline but which was brought only slowly to acquiesce in the transit rules hammered out by the participants. Turkey now allows that it is prepared to go ahead on the project. But President Abdullah Gul has made it clear that he expects to see some parallel progress on Turkey's stalled bid for membership of the European Union.

Kazakhstan, Turkmenistan, and Uzbekistan declined to sign the agreement, presumably out of deference to Russia, which views Nabucco as a potential geopolitical challenge. The recent decline in energy prices has weakened the Russian position somewhat, creating an opportunity that the Western partnership was poised to seize. If it materialises, the Nabucco pipeline could move some 31 billion cubic metres of natural gas annually, or up to 5% of consumption in the countries of the European Union. The cost of infrastructure has been estimated at $12.2 billion, but that is not the sole challenge. Other steady and reliable sources of natural gas must be secured, beyond Azerbaijan, and the likeliest of these — Iran and Iraq — are problematic, to say the least.

- As reported by the Moscow-based daily *Kommersant* on 27 May, work is to begin this September on an Iran-Pakistan pipeline, with completion also projected for 2014. According to the newspaper, the Russian gas monopoly Gazprom is promoting the project on grounds that the diversion of Iranian gas to markets in South Asia would eliminate a source of competition with Russia as a supplier of gas to Europe.

Steel

Profile in preparedness: BlueScope Steel Ltd (Australian)

Steel demand will stabilise in the latter part of 2009, leading to a mild recovery in 2010, the World Steel Association predicted in April. As befits the world's biggest steel consumer, China has committed $586 million to spurring domestic demand. Worldwide, individual producers are employing various interim strategies of their own. Both sets of initiatives — national and corporate — presume a recovering market. The companies recognise something else: the imperative to be in the best possible state of health when that market opens up.

Rebecca Keenan, writing from Melbourne on *bloomberg.net* (5 May), noted that steel makers from Europe's ArcelorMittal to Australia's OneSteel Ltd have taken advantage of a global stocks rally to sell shares this year, strengthening finances as they cut output and conserve cash. One such is Melbourne-based BlueScope Steel Ltd (formerly BHP Steel), an integrated producer with operations in Australia, New Zealand, Asia-Pacific, and North America.

Although global market conditions remain "challenging," BlueScope said in May that the decline in domestic sales volumes that was seen toward the end of 2008 had levelled out. The producer planned to raise as much as A$1.4 billion (US$1 billion) from its second share sale in three months. Its offer to existing stockholders was at a 40% discount to the last traded price. *"There is plenty of money around and they are taking advantage of that,"* the head of Australian equities at a brokerage house in Sydney told Bloomberg.

BlueScope also said it might delay restarting the Number 5 blast furnace at Port Kembla after a major reline was completed in June.

TECHNOLOGY UPDATE

Innovative GB90/GB100 mandrel tube and pipe bender

Ercolina, USA, has launched the GB90/GB100 semi-automatic Giga Bender mandrel machine for large radii tooling up to 16" CLR. The bender is ideal for bending tube, pipe, square and rectangular profiles to centreline radius as tight as 1.5D.

The interactive PLC touchscreen offers easy access to auto and manual operating modes, system diagnostics and multiple language capability. The heavy steel structure of the GB90/GB100 provides a rigid platform and minimises vibration. The machine is complete with a high capacity hydraulic reservoir with automatic cooling system.

The Ercolina GB90/GB100 semi-automatic Giga Bender mandrel machine

The GB90/GB100 offers programmable bend angles with an independent material springback setting for each bend. Programmable auto mandrel positioning allows the operator to optimize extraction for improved quality. Clamping, pressure die and boost movements are programmable with a touch screen. Ethernet/USB connectivity is available for unlimited program memory storage and communication.

The machines are available with full CNC (6) axis control, with precision encoders on each axis ensuring highly accurate bending. This accuracy is highlighted by the interactive touchscreen that displays absolute (ABS) or incremental (INC) positioning with inch or metric readout. In addition, a programmable ABS or INC shortest travel function optimizes position and eliminates workpiece collision. The bender accepts YBC and XYZ input values.

Standard hydraulic ports accept Ercolina's patented (KST) clam shell or (FST) finger clamp systems. The hand-held remote bending control is certified class 3 safety and all electrical components are UL, CSA and CE approved.

CML USA Ercolina – USA
Fax: +1 563 391 7710
Email: info@ercolina-usa.com
Website: www.ercolina-usa.com

New machine for the production of bimetallic tubes and pipes

Be Ca Engineering Soc Coop, Italy, a provider of machines for manufacturing and testing tubes and pipes, has launched a new, patented technology for the production of bimetallic tubes and pipes. Bimetallic tubes and pipes are an effective, economic and reliable solution for manufacturing heat exchangers, for power plants (nuclear and thermoelectric plants), and for systems that work with corrosive fluids.

Be Ca Engineering bar created new technology for producing bimetallic tubes

Application fields include chemical and petrochemical industries, ammonia and urea systems, fertilising and refinery plants.

The new technology creates a unique bimetallic tube from two distinct tubes of different materials. The main advantage of this kind of tube is the possibility to join together two materials with different mechanical properties and with opposite aims. For example, the first material (inner or outer) could be a high corrosion resistant alloy (eg copper, aluminium-brass, zirconium) and the second one a high-stress resistant alloy (such as steel, stainless steel, iron, duplex, titanium).

The new manufacturing technology is designed to be cheap and fast, and the production method is easy to carry out.

Be Ca Engineering Soc Coop – Italy
Email: salesoffice@beca-engineering.com
Website: www.beca-engineering.com

A publication of

INTRAS
INTRAS LIMITED

SUBSCRIBE TODAY!

TUBE & PIPE TECHNOLOGY

The international magazine for the tube and pipe industries providing worldwide news and information on tube and pipe production, processing and machinery.

- Reviews on the newest technology available
- Up-to-date business and market news
- Reports of all major trade shows
- Indepth technical articles in every issue
- Discounts for 2 and 3 years subscription*

*from only $175 / Euro 126 per year

Subscribe at **www.read-tpt.com**

email: Liz@intras.co.uk Tel: +44 1926 334137

Mandrel tube bending machine technology

LANGBOW Limited, exclusive supplier of Soco machinery to the UK fabrication and manufacturing industry, offers the latest development from Soco: DGT technology (direct gear transmission).

Soco has secured the patent across all major continents for the new DGT technology for bending tubes and pipes. Using an innovative system of power transmission between the electric servomotor through the bending shaft it is able to offer an efficient power transfer method.

Soco has been developing tube cutting systems since 1979, and its experience with gear systems has provided it with the background to research and develop a suitable system for its CNC tube bending range. By minimising the distance between the electric servo and the bending shaft (resulting in minimal loss in power) and coupled with extreme low tolerance between gears, Soco says that it has succeeded in creating a durable and rigid system that allows silent and precise tube bending.

Another advantage is found during the tube push roll tube bending process. As the tube must swiftly move through a set of rollers, the smallest change and movement on the bending arm may dramatically affect the end product. The direct gear system minimises such tolerances, bringing a stable bend through the entire process.

The low noise level of the system brings greater comfort to the operator when using the tube bender, and meets the requirements of various countries and working environments.

The direct gear system is available over a wide line of Soco CNC pipe benders, including 3 to 12 axis models, with multi-stack, variable radius and centreline boosting options, together with Industrial PC (IPC) interface and controls.

Langbow provides the full package in support of Soco for the UK. This includes purchasing advice, installation, training, tooling support and unique five-year warranty on all new Soco machines.

Soco Machinery Co, Ltd – Taiwan
Fax: +886 4 23592386
Email: info@soco.com.tw
Website: www.socomachinery.com

Langbow Limited – UK
Fax: +44 1889 578872
Email: sales@langbow.com
Website: www.langbow.com

Optimisation of material properties

FABRICOM, Belgium, a manufacturer of induction bends, has the advanced technological and machine operating capabilities required to produce pipe spools with bends in multiple planes from a single length of straight pipe.

This advanced bending technique is the result of experience gained throughout more than 30 years of manufacturing and development work, and is of particular value in onshore and offshore oil and gas pipeline systems as well as specific applications in the chemical, petrochemical and energy sectors.

Some of the key benefits of producing weldless pipe spools from straight pipes are that it reduces the amount of welding required, and as such the associated costs and risks; and by reducing the number of welds in the system, increases plant integrity and safety while reducing the required amount of in-service inspection.

Fabricom operates six induction bending machines with diameters of up to 64", all of which offer a high degree of flexibility in terms of bend radius, bend angle and bend plane, and being computer controlled, are able to achieve close tolerances.

The company is able to work with all types of material, including seamless or welded pipes in carbon steel and stainless steel, as well as the most sophisticated alloy steels.

After bending, especially of heavy wall materials or special alloy steels, it may be necessary to restore the mechanical properties using heat treatment. Such treatments include stress relieving heat treatment, normalising heat treatment, normalising and tempering heat treatment, quenching heat treatment, and quenching and tempering heat treatment.

In order to be able to perform these types of heat treatment, Fabricom has five furnaces, all of which can be heated to 1,200°C. In order to meet the strict requirements set by the oil and gas industry with regards to corrosion resistance and superior material hardness, Fabricom also has a quench tank at its facilities in Belgium. Following heat treatment, bends can be cooled down immediately in order to obtain the right resistance and hardness.

Fabricom – Belgium
Fax: +32 2 251 17 90
Email: bending.be@fabricom-gdfsuez.com
Website: www.fabricom-gdfsuez.com

Tube end former with side loading

AVA-MATIC UK has launched a machine that features side loading of tools, which eliminates the need for lifting equipment. The AV65S is suited to small batch or prototype production to high volume applications.

Conventional end-forming machines have tool changes carried out by lifting and dropping tooling in from a top access. This requires the use of lifting equipment, which can be awkward and time consuming. The operator may need to lift anything up to 27kg, which can be hazardous and can contravene health and safety regulations.

Other features of the AV65S include a PLC that can run the machine in a semi-automatic mode and store up to 300 machine settings. Typical production times to expand a tube are 2 seconds, and a claimed accuracy of ±0.02 can be maintained.

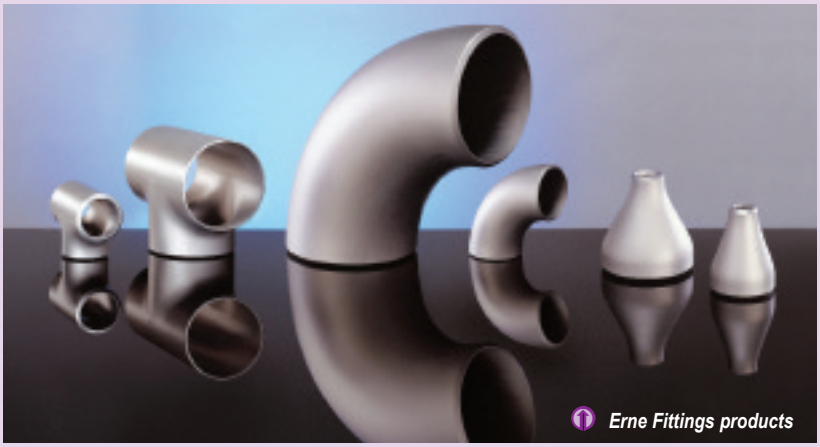
Tooling for expansion and reduction are all compatible with the existing Ava-Matic range, and in most cases will also accept other manufacturers' tooling. The practical, user-friendly design makes use of work/storage platforms, and enables tool changeovers to be performed quickly and efficiently. The small footprint allows the machine to be included as part of a manufacturing cell or to be positioned in areas of limited space.

The segmented tooling enables end-forms to be produced on or near bends without requiring any tube clamping. The expansion or reduction of the tube is infinitely adjustable with only a small range of tooling to encompass tube sizes up to 153mm/6" diameter.

A wide range of expansion and reducing tools is available off-the-shelf, and special/bespoke tool designs can be supplied with a short lead time.

Ava-Matic – UK
Fax: +44 1527 518526
Email: info@avamatic.co.uk
Website: www.avamatic.co.uk

Advances in Manufacturing Profiles and Shaped Tubes


Erne Fittings products

SURFBOARDERS are people on the move, impatient with words. When a term was needed for the perfect wave, they didn't reach for rhapsodic descriptions. They called it a tube: immediately understood and universally adopted.

But if a tube is a classic shape, suggestive of the ideal, it is also, in the inventive forms under review in this section of TPT, a workhorse mechanism of extraordinary versatility. Consider this précis of a tandem-design racing bicycle, the "Softride Beam" from Victor Chang, of Concept Technology (Roseville, California): "I designed stiffness into it by using 1 3/4" top and bottom tubes. The beam is attached to the trapezoidal tube that extends from the rear through the top tube. The trapezoidal design stiffens the centre geometry. Oval seatstays and chainstays are used to strengthen the rear rhombus.

"Yes, it lacks many tubes that you might be used to seeing, but with this design those tubes were unnecessary. Between the top and bottom tubes, plus the 1 3/8" downtube and 1 1/2" headtube, the handling is precise and confident.

"For teams requiring a stiffer rear triangle, I use a traditional rear triangle design, extending the front derailleur tube up to the top tube. I also will use 2" top and bottom tubes for riders who need the extra metal."


Thermatool solid-state, high frequency contact welding technology

Novelty in the service of stability. This is an impetus very congenial to anyone who appreciates the creative – but within the framework of the traditional. It is second nature to the tube industry professionals whose products and services are showcased here.

High power circular sawing technology power plants

MFL manufactures high power cold circular sawing plants, with worldwide supply of equipment based on a standard design.

The sawing plants are designed for cutting of construction and stainless steel, ferrous and non-ferrous material in form of billets, tubes, profiles and plates. These custom-made solutions are used for specific applications such as tube or profile layers, billets or plate sawing plants. Currently billets and tubes up to 800mm in diameter can be cut by the company's billet and single tube sawing machines. Each of these machines is intended to utilise carbide tipped saw blades, which guarantee an accurate and high capacity by less costs and long tool life time.

MFL has developed a layer sawing machine with a layer width of 1.5m that can be used for cutting of tubes, I- and U-beams, sheet pilings, angles and profiles.

This special sawing machine type HKA 2200 L160 has been installed at a Chinese company that produces construction steel profiles. The MFL sawing machine is used for the cutting of several profiles in one layer to the required exact length. This sawing machine is equipped with an installed driving power of 160kW and a saw blade diameter of 2,200mm. The sawing machine has been supplied and installed in 2007 and works fully automatically.

The company is the only manufacturer that produces layer sawing machines up to this large layer width of 1.5m. Thereby MFL offers a completely new technology for rolling mills that cut big profiles with carbide tipped saw blades.

MFL delivers sawing machines according to various customer requirements: complete sawing machine, including auxiliary equipment in the inlet and outlet and a standalone sawing machine. Its specialists are available to discuss specific requirements around the clock.

MFL machines can cut tubes up to 800mm in diameter

Maschinenfabrik Liezen und Gießerei GmbH – Austria
Fax: +43 761388 8330
Email: saegen.fraesen@mfl.at
Website: www.mfl.at

New enhanced in-line measurement gauge solutions for dimension and shape

MAKERS of pipe, tube, profiles and bars now have access to enhanced Zumbach gauges.

The Steelmaster hot and cold gauges, based on high-speed laser scanning, now offer up to six x 1,000 measurements per second (in up to six axes), with new calibrated single scan technology. This results in an accurate and fast non-contact measurement of diameter, ovality and width/height at production speeds of 100m/s (19,685ft/min) and beyond.

Steelmaster gauge for hot applications

The new full-profile synthesis method and algorithm allows for precise measurement and accurate display of most shape deviations of asymmetrical and polygonal products, such as those from three-roll stands.

Steelmaster gauges are available in fixed or in oscillating configurations and for diameters of up to 500mm (20").

The Profilemaster line of cold in-process gauges is now available for diameters or diagonals of up to 250mm (10") for round and non-round shapes. Profilemaster gauges are based on the principle of laser contouring and machine vision (known as the light-cut method), and can handle virtually any shape or profile.

Relevant dimensions can be entered into the program and are then monitored during the production run at all times. Typical applications are cold rolled/welded tubes and pipes and inspection stations for tube, pipe, profiles and bar.

Zumbach Electronic AG – Switzerland
Fax: +41 3235 60430
Email: sales@zumbach.com
Website: www.zumbach.com

Profilemaster® gauge

Turnkey solutions for structural tube sections

MTM, together with Atomat, offers specific turnkey solutions for the production of structural tubes, either round or hollow structural sections.

The range of complete tube mills and roll set includes round tubes from ½" up to 8" NB and square sections up to 160x160mm.

For shaping thick material, MTM recommends the use of a profiling section featuring motorised roughing stands. Thanks to this technology it is possible to attain square and rectangular sections with flat surfaces and sharp corners, complying with all applicable international standards for hollow structural sections.

Roll set characteristics are also very important for an efficient production of these sections. Both roll design and roll mechanical properties largely affect not only the quality of the final product, but also the wear life of the rolls themselves and subsequently the overall production costs.

With more than 40 years of experience in this field, Atomat is able to provide the design and manufacturing of the most suitable rolls for this application. The COMBY flying cut off machine represents the cutting edge solution for shearing by means of a quick and effective cold sawing process of heavy section tubes. Two cutting heads are moved around the shape by two combined electrical axes, like in milling-machines.

The ingenious orbital cutting process of MTM Comby guarantees a reliable and cost effective cutting method. No gap occurs between the two blades, thanks to the rugged structure of the equipment and the reduced blade dimensions.

The cold saw can operate using either HSS or TCT blades, which is the case in the whole range of MTM flying cold saws.

MTM cold saws allow high productivity and lower running costs, whenever a burr-free cut is essential.

The partnership Atomat – MTM, combining its engineering expertise with an outstanding roll set manufacturing know-how – says it guarantees an effective solution to help businesses.

MTM SpA – Italy
Fax: +39 0419 99611
Email: sales@mtmtubemills.com
Website: www.mtmtubemills.com

Offline and inline solutions for grinding problems

BOSSI Srl, Italy, offers a wide production range that includes machines that can solve most problems with grinding, satin-finishing, polishing and deburring of ferrous and non-ferrous materials – both offline and inline.

The RSP machines are employed in the operations of grinding, snagging and polishing of flat and shaped surfaces made of steel, stainless steel, aluminium, brass and all kinds of ferrous and non-ferrous material. The great flexibility and versatility of the machine allow the user to obtain different types of finishing by using many types of abrasive belts, brushes or mops.

This model is available with different working capacities (150/200/300/400mm or 500 wide x 150/200/300h).

The finishing lines can be provided with loading, finishing on one side or two sides simultaneously, turnover, return conveyor belt and, at cycle end, unloading and drainage, which all happens automatically and needs only a single operator.

Grinding, snagging and polishing from Bossi Srl

The Multipla UV is a longitudinal brushing and polishing machine with opposite units. This type of machine has been designed for products requiring perfect finishing that cannot be obtained by traditional centreless machines. The pieces to be worked are locked on their ends by tailstocks, and tools, working longitudinally to the piece axis, cross the cut of the previous belt working.

Another characteristic of these machines is that it is possible to work pieces both with circular and an elliptical, oval or rectangular section.

The machine is available in different versions, with two or four brushes, for pieces with a length of between 300mm – maximum 3,000 or 6,000mm, diameters from 14 up to 80mm.

The SF is a new model, recently introduced by the company that replaces and changes the concept of classical centreless machines for working cylindrical surfaces. It is provided with: easier adjustments; complete cleaning; working speed up to 20mt/min; reduced overall dimensions; and longer life time of abrasive belts (20%). The machine can be supplied with different driving systems for the pieces to be worked and automatic systems for piece loading/unloading.

Bossi Srl – Italy
Fax: +39 0294 66265
Email: info@bossi-srl.com
Website: www.bossi-srl.com

Butt-welding fittings from steel

ERNE FITTINGS is a leading manufacturer and supplier of butt-welding fittings such as elbows, tees and reducers from ½" (21.3mm) up to 40" (1016mm) external diameter and wall-thicknesses up to 50mm made of alloyed, unalloyed, stainless steels and exotic materials.

Production takes place in the company's four plants in Austria, Germany and Saudi Arabia, where special demands for short production times are accommodated. Erne Fittings offers its customers the highest degree of product availability and ability to deliver on urgent demands. The processes revolving around its modern, fully automated Logistics Centre set the industry standard for efficiency and are designed and controlled to meet the specific needs of customers. In addition to products, information such as stock levels, scheduled production dates and prices can be called up at any time.

A selection of the Erne Fittings products

Erne Fittings says it is a flexible and competent partner for both stockists and project specialists and offers winning services on the basis of individual, customised system solutions. The company also thoroughly understands the applications and technical challenges of project partners and offers expertise and experience – also with regard to standards, certifications and quality – in the language of your country. Its business processes and core skills guarantee maximum value generation for business associates, ensured by the highest flexibility in design, material and availability.

Erne products are used worldwide in power stations, oil and gas fields, pipelines, refineries, chemical plants, ships and many other areas of industry.

Erne Fittings GmbH – Austria
Fax: +43 55245 01930
Email: office@ernefittings.com
Website: www.ernefittings.com

New cutting technologies for irregular shaped tubes and pipes

SISTEMI Meccanici Industriali Srl (The SMI Group), Italy, specialises in tube processing, designing and the manufacture of a range of machines capable of creating tubes made from copper, aluminium, stainless steel, titanium, cupronickel, bundy and many more.

SMI has registered two international patents for a complex cutting process that involves innovative software and the use of hi-tech metals with specific thermal treatment. SMI's cutters and its advanced technology are capable of cutting tubes with diameters varying from a minimum of 1mm to a maximum of 40mm.

The cutting process starts with a deep groove made all around the circumference of the tube with a 38 or 25mm knife that rotates orbitally around the tube; two pneumatic clamps firmly catch the tube on either side of the groove and then separate it by a pull-apart system or a break-off system.

This allows SMI to guarantee to achieve a burr-free and chipless cut, maintaining the tube's inside and outside diameter. This is possible thanks to a number of easily adjustable parameters such as the knife's penetrating speed, the depth of the groove, the cutting advancement speed, the clamping and pull-apart or break-off system, the speed and pneumatic power that is applied.

SMI's latest research is based on innovative orbital cutting of irregular shapes, that it claims has produced some extraordinary results. This technology has been developed and now introduced into the market with the supply of a completely automatic working cell starting from coiled copper tubes of up to 26.5mm diameter. It is transformed into cold-roll-formed T-shaped tubes that are orbitally cut to the desired length, again without burrs, chips and dust.

SMI Group – Italy
Fax: +39 04327 78411
Email: info@smisrl.it
Website: www.smisrl.it

The SMI cutting machine can achieve a burr-free and chipless cut

Surface finishing of shaped products

SURFACE Engineering is a company that specialises in manufacturing machines and automation for the surface finishing of long products such as tubes, hollows and bars.

Among a wide range of existing in-line solutions and stand-alone automatic plants is the evolution of the model STL, which is a high quality mirror polishing machine.

This model, with its special lengthwise working concept, offers a higher finishing step then the standard centreless polishing systems, and is able to work on round, square as well as special shaped profiles.

STL machines are suitable for up to 60 metres of products. Working simultaneously with two tools on two opposing faces, the machine holds the products from the inside and carries out an automatic programmable cycle according to the profile section and desired finishing with good productivity.

The machine is completely programmable by PLC and the working cycle is carried out automatically, taking care of all working issue such as controlled pressure and automatic tools wear management.

Final configuration and layout of this STL model is studied according to specific production needs, taking into consideration dimensions and capacity of the products, and can be completed with two working areas, one for loading/unloading and one for processing and different level of handling.

This machine is suitable for the high quality mirror polishing of stainless steel and non-ferrous metal products and can also achieve special finishes on decorative tubes.

Surface Engineering – Italy
Fax +39 02972 96473
Email: info@surfaceengineering.it
Website: www.surfaceengineering.it

RIX Formula SPF helps to boost cutting performance

SAGEN-MEHRING GmbH, an international saw blade manufacturer, says its new RIX Formula SPF line achieves higher cutting speeds and feed performance as well as offering more consistent sawing and higher wear resistance.

The performance of the RIX Formula SPF saw blade was recently documented in a number of cutting tests with one of Germany's leading sawing machine manufacturers. The tested blade offered combi-toothing from 0.75 to 1.25 teeth per inch, was 1.6mm thick and 80mm wide. An alloyed case-hardened steel of quality 1.6587 – 18CrNiMo 7-6 according to the DIN EN ISO standard 683-17 with a diameter of 655mm was cut as part of the test series.

The RIX Formula SPF saw blade accomplished this in a cutting time of 9.6 minutes with a cutting speed of 84m and a feed rate of 68mm per minute. By comparison, a conventional bi-metal saw blade took 82 minutes with a cutting speed of 31 metres and a feed rate of only 8mm per minute.

Markus Döring, chief executive officer of Sägen-Mehring GmbH in Hockenheim, Germany said: "We achieve the high performance of our saw blades by paying careful attention to the surface finish of the edge material. This also requires sophisticated process technology for the finishing of our cutting edges. Of course, the backing material, and even the toothing of the edge material, also play a role, although they are of lesser importance."

The company says that the coatings applied to the edge material can only come into full effect after the finishing of the cutting edges. The functional surface of the bi-metal saw blade attained in this way provides optimal guidance in the cutting channel, which results in a high red hardness, which in turn allows a higher cutting pressure to be exerted on the material. The result is particularly high wear resistance, top feed performance and high cutting speed.

A time-consuming slitting process can also be eliminated due to the finished surface of the edge material. Manufacturing companies can thus increase the tool life and efficiency of their entire machine train and therefore permanently lower operating costs. Despite the higher acquisition prices for the new generation of saw blades, the use of RIX Formula SPF bi-metal saw blades provides considerable savings potential for cutting.

Sägen-Mehring GmbH develops and manufactures bandsaw blades and saw blades and the corresponding circular saws, machine saws, hand saws and saber saws, as well as metal core drilling machines and cutting tools for the metal processing industry and machine tool trade. The products are sold under the RIX, Optibohr and Optipress names. In addition, Sägen-Mehring runs one of the largest CNC tool grinding shops in Germany for repairing cutting tools.

Sägen-Mehring GmbH Sägenfabrik – Germany
Fax: +49 6205/20 98 – 410
Email: straub@rix-mehring.de
Website: www.rix-mehring.de

HF welded engineered structural sections

IN recent years Thermatool has continued to play an active part in the metal building and construction sectors worldwide, gaining a strong reputation as a leading supplier of hollow structural section (HSS) HF welding technology.

The latest range of Thermatool solid-state, high frequency contact welders have become central to the manufacture of high quality engineered structural sections. Engineered structural sections such as 'I', 'H', 'T' and other asymmetrical shapes can be welded continuously on a specially designed HF welding mill.

Recent advances in steel chemistry with the advent of advanced high strength steels (AHSS) and excellent HF weld quality has increased the demand for engineered structural sections. Thermatool has advanced a proven range of HAZControl Technology welders that offer custom 'I'-beam producers excellent weld quality in materials not previously available.

Thermatool solid-state, high frequency contact welding technology will precision heat and forge weld engineered structural sections at high line speeds with maximum precision, requiring no secondary re-straightening prior to shipment. To satisfy a growing market, Thermatool welding technology has brought about the opportunity to produce a virtually unlimited selection of custom beam sections that offer improved load bearing performance with a lighter weight product. Today, the results can be seen in the structure of the Birds Nest Stadium in Beijing, on board the latest generation of ocean super-tankers and at many sports stadiums around the world.

Thermatool IHWT – UK
Fax: +44 1256 467224
Email: info@ihwtech.co.uk

Thermatool Corporation – USA
Fax: +1 203 468 4281
Email: info@ttool.com

Tube Mills and Roll Forming Lines

Attl a spol has installed a new tube mill in Yekaterinburg, Russia

SOME time ago, a brief article entitled "Designing Tube Mill Rolls: Turning Art Into Science" appeared in ITA Member News on the International Tube Association website. The piece, contributed by data M Software GmbH, of Germany, was concerned principally to validate roll tooling for tube welding lines. But the discernment of the two streams in the tube making enterprise was – and is – pertinent to the industry overall.

In a contemporary tube mill, roll forming commences when a tailored drafting program analyses a "flower" custom-crafted on a tube cross-section, then feeds the CAD data to an analytical program that decides the forming stations. Within seconds, this software computes the theoretical (elastic and plastic) strain values on the material to be formed as a function of the influencing variables (ie tube geometry, material gauge, roll configuration, diameter). The entry equipment comes into play; and, not very much later, the exit and collection equipment.

Another production run – of simple tubes and uncomplicated shapes; or low thickness-to diameter ratio tubes and complex shapes; or a combination of both – has been completed. That is the applied science of roll forming: and very good science, to judge from the excellence of the product.

But it is also the tube maker's responsibility:

- to ensure that every bit of the capability of the roll forming operation is at the service of the application;
- to ensure attention to the myriad details of workplace safety and environmental impact, timely delivery, and cost-effectiveness;
- to conduct the producer-client relationship at all times on the principle that an educated consumer makes the best customer.

Taken together, all this entails many more imponderables than the scientific component.

It is, in fact, an art.

The T&H Lemont dual capacity tube mill

Viable alternatives to using rotary shears

LINSINGER Austria produces milling machines for pipe mills.

For plate edge processing, the company uses the principle of circumferential milling.

Pipe manufacturers continuously check their plants for productivity and operating costs.

In the field of weld seam preparation, pipe mills cannot avoid milling technology. Previously used processes such as trimming the edges with rotary shears demonstrate serious disadvantages.

Flaws and structural deformation of welding edges produce seam defects, and high material costs are caused by process-related oversizes.

A well-known Asian pipe mill, which already has over 15 Linsinger machines in use, focuses on the approved strip edge milling of Linsinger. After one year of production, management observed that productivity had increased and operating costs had decreased, while pipe errors were reduced to almost nil.

Advantages of Linsinger strip edge milling machines include a flawless and clean metal surface, no structural deformation through cutting processing because the surface does not warm up, and interference-free chip flow on account of short chips, which are disposed of by chain conveyor belts.

Height copying milling units ensure precise welding edges, including corrugated plates, and perfect exploitation of carbide plates. Accurate welding slit is caused by higher precision of produced welding edges, and a 45m/min welding speed is possible.

Linsinger Maschinenbau GmbH – Austria
Fax: +43 7613 8840 38
Email: maschinenbau@linsinger.com
Website: www.linsinger.com

Linsinger's BFMK 90/800D double strip edge milling machine

Complete tube and rollform needs catered for

UNIVERSAL Tube & Rollform says it is a one-stop equipment source for tube machinery and coil processing.

Its 125,000 square foot warehouse is fully stocked and ready for a hands-on inspection of equipment. Universal Tube & Rollform, part of the Universal Controls group, says it aims to serve the growing needs of the tube, pipe and rollform industry and offers a variety of cost efficient services.

An example of Univeral Tube & Rollform's stock, housed in its 125,000 square foot warehouse

From concept to production, it claims it can help customers reach their manufacturing goal. Fax or email a drawing of the shape you need to fabricate, and its experienced team will get to work assembling a complete line quotation to produce the part that is required.

The company also claims it will save time and money by using quality reconditioned machinery, combined with new expandable mill control systems and components at today's highest standards.

Customers can inspect the line running in the shop itself, while it making the part, prior to delivery.

Universal Tube & Rollform can also help with start-up and training at the customer's own site.

Universal Tube & Rollform – USA
Fax: +1 419 874 2825
Email: sales@utubeonline.com
Website: www.utubeonline.com

Siempelkamp
Maschinen- und Anlagenbau

Reliable, robust and precise

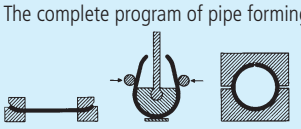
Pipe forming presses from Siempelkamp

Crimping Press Europipe

The merits of Siempelkamp pipe forming presses at a glance:

- Crimping – U-forming – O-forming up to 720 MN
- Automatic parallelism control independent of the pipe length
- Integrated transport systems
- Very high precision forming
- Forming of advanced materials
- Service-proven technology

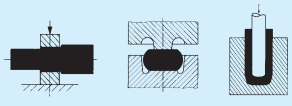
The complete program of pipe forming presses:



www.siempelkamp.com

Siempelkamp Maschinen- und Anlagenbau
Siempelkampstrasse 75
47803 Krefeld / Germany
Tel.: +49 (0) 21 51/92-30
Fax: +49 (0) 21 51/92-56 04
E-mail: ulrich.luecke@siempelkamp.com

Siempelkamp's metal forming program


Forging

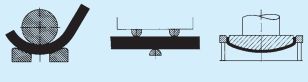
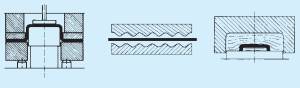
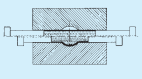


Plate forming


Sheet metal forming


Hydroforming

Tube mills from Taiyuan Heavy Industry

TAIYUAN Heavy Industry Co Ltd (TYHI) claims to be one of the largest suppliers of seamless tube plant in China.

Since its establishment in 1950, it has consecutively supplied more than 1,000 sets of steel rolling equipment for metallurgical enterprises and other industrial sectors to users from home and abroad.

Seamless tube equipment manufactured by THYI mainly includes piercing mill, hot rolling mills (three roll and two roll), centralised differential reducing mills and reducing mills with separate drive, sizing mills, straightening machines.

In the past decade, TYHI has designed and manufactured Ø140mm, Ø159mm, Ø219mm, Ø273mm, Ø325mm, Ø630mm, Ø720mm and Ø1,200mm seamless steel tube production lines.

In addition, TYHI has produced a high amount of seamless tube equipment such as Ø140mm, Ø170mm, Ø180mm, Ø340mm and Ø460mm in co-operation with SMS Meer and Danieli. It has exported two sets of Ø177 PQF seamless tube production line equipment and one set of Ø340mm FQM seamless tube production line equipment to India.

TYHI has also recently developed and supplied Ø180mm three-roll seamless tube continuous rolling mill completely by itself. It says this will help it to become the third biggest supplier in the world for the complete set of hot continuous rolling mills, behind SMS and Danieli.

TYHI is capable of the design and manufacture of extrusion forming equipment of seamless tube as well. So far it has designed 16MN, 35MN and 63MN steel tube extrusion presses.

TYHI says it is the largest manufacturer for spirally welded pipe equipment as well as seamless tube plant and so far has supplied more than 10 sets of spirally welded pipe production lines, among which one set has been exported to India.

Taiyuan Heavy Industry Co Ltd – China
Fax: +86 351 6360994
Email: janiceemail@163.com
Website: www.tyhi.com

Seam orientation units for all types of tubes

RAFTER Equipment Corporation, USA, manufactures welded-seam tube and pipe mills, roll forming machines, cut-off machines, auxiliary and other related tube and pipe mill machinery. Additional services include rebuilding and upgrading mill equipment.

With the current economic downturn, Rafter's efforts have been mainly focused on mill retrofits and upgrades. Over the last few years, the company has developed a simple yet effective accessory for controlling the location of the weld seam during production on a tube or pipe mill: a seam orientation unit.

One example was installed at a prominent North American facility for the production of up to 5.563" (140mm) OD x 0.375" (9.5mm) API line pipe. The seam orientation unit is used to maintain the proper seam location for subsequent online non-destructive testing.

The customer reports that "[the machine operators] are very happy with the performance of the [unit]. According to the cut-off operator, who also operates the turkshead [straightener], once they got it adjusted correctly and it was holding the seam between 11 o'clock and 12 o'clock, they have not produced a single piece of crooked pipe. This is extremely out of the ordinary for [us]. They are usually making frequent adjustments to the turkshead to correct [for] crooked pipe."

The seam orientation unit features remote powered adjustment that allows the operator to control the seam location from a downstream station.

This is beneficial, since the effects of the adjustment are not immediately apparent – it takes a few moments for the seam to relocate itself.

The seam orientation unit is also useful to producers of hollow structural sections (HSS) for locating the weld seam prior to reshaping the tube into various square and rectangular shapes. Some HSS producers require that the weld seam be located on a corner while others may require it to be located on a flat.

Rafter seam orientation units have been successfully installed on smaller laser-weld mills producing austenitic stainless steel tube, as well as larger 10" (250mm) square mills making HSS.

Rafter Equipment Corporation – USA
Fax: +1 440 572 3703
Email: sales@rafterequipment.com
Website: www.rafterequipment.com


RT-5500S seam orientation unit

www.otomills.com

more than
30 years
of reliability

check your efficiency.
contact us!

OTO MILLS

TUBE MILLS

marketing@otomills.com
+39 0522 481211

Enhancements in latest roll forming software

THE latest version of Copra® RF roll forming software from data M focuses on four major features: a 3D punch hole editor for use with pre-punched material; the automatic meshing of pre-punched material; the cloning of rolls; and re-using/recycling existing roll tools.

Copra RF 3D punch-hole editor: Before the meshing of pre-punched material can be performed automatically, it is necessary to define the punched hole shape and punched hole position in the Copra RF design software. With the previous versions this was not possible. The Copra RF software has now been combined with Copra MetalBender 3D, which enables the easy definition of 3D sheet metal parts with any punched hole shape. The punched holes can be defined either in the flat strip, or in the final section. Beneath the integrated library of standard holes, the user can also define punch tool shapes and add them, creating a personal punch tool library. The program also allows the individual stations to be made visible including the punch-holes.

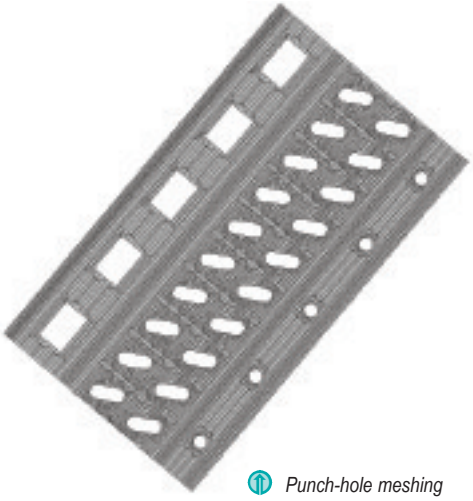
Copra FEA RF punch-hole meshing: With all the information about shape and position of punched holes created with the punch hole editor, the mesh can now be created automatically. Therefore, it is no longer necessary to transfer the information about the punch holes into the MSC.Mentat program, delete the elements in the position of the holes, and drag the nodes into the correct position. A mesh preview is now available, illustrating the automatically calculated mesh with or without holes, and any change in the meshing parameters will update the mesh preview automatically. The preview also shows the number of elements, making it easier to find the optimum constellation.

Copra RF roll design – cloning rolls: To be able and make a fast and reliable FEA calculation, it is necessary to have the roll tools designed in Copra RF. The previous version of Copra RF introduced the possibility to design rolls only with AutoCAD functions to make the design process easier for those who are not working with Copra RF on a daily basis. In Copra RF 2009 all roll design functions work for 'free designed' rolls. This allows an effective combination of using Copra RF and AutoCAD based features.

Copra RF 2009 provides a powerful new tool to make design easier: the ability to clone rolls. Rolls that are identical can be cloned automatically. This can be done for individual rolls, for a station or for the complete project. If one roll is modified, all respective cloned rolls are updated automatically. This makes changes in projects with more identical rolls faster, especially for the rolls used in corrugated or trapezoidal sections. As an added bonus, cloned rolls only need to be dimensioned once: identical rolls will not show up again during automatic dimensioning. In the cutting or material list, the quantity of individual cloned rolls is also shown, so there is no need for this to be updated manually.

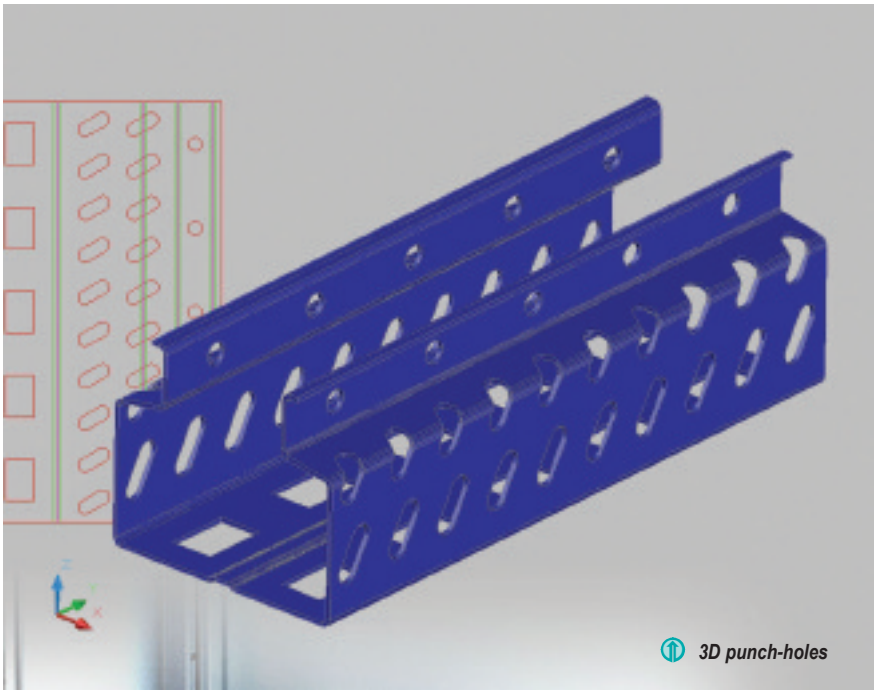
Copra RF Roll Recycling Database: Many Copra RF customers have a few thousand or even ten thousand rolls that cannot be used any more because the respective section is now obsolete or the roll was removed because of signs of wear. If the mean value of a roll is assumed to be €150 and the number of rolls that cannot be used any more is 10,000 pieces, then the customer has a value of €1.5m in stock that can no longer be used. For this reason, data M designed a Roll Recycling Database. In combination with the Copra RollScanner, the customer can now make use of these rolls.

The roll is first scanned, and the scanned contour is directly transferred to the Roll Recycling Database. A rough sketch of the required roll contour needs to be made during roll design. The designer can automatically search for a fitting recycling roll, and the search criteria can be user defined. For the roll retrieval, an oversize in width and diameter can be defined. If a fitting recycling roll is found, it is placed on a layer of its own that can be switched on and off. The respective rolls can be marked with a different line width and/or line colour. The identified recycling roll is linked to the designed roll, and this information is attached to the engineering data, ensuring that the roll already exists and only needs to be reworked.



Punch-hole meshing

data M Sheet Metal Solutions GmbH – Germany
Fax: +49 8024 640 300
Email: datam@datam.de
Website: www.datam.de



3D punch-holes

Vladimir Putin visits Russian iron and steel works after €400m steel mill is commissioned

IN THE presence of Russian Prime Minister Vladimir Putin a heavyplate mill made by SMS Siemag was recently put into operation at the Magnitogorsk Iron and Steel Works (MMK) in Russia at a cost of €400m.

Within 32 months of the contract being signed, more than 100 SMS Siemag staff, headed by Wolfram Schael, helped set up the most advanced mill of this type in the Urals.

The core elements are the mill housings, which weigh more than 500 tons and make the roll stand with a rolling force of 120MN one of the world's most powerful heavy-plate mills.

Vladmir Putin (second from left) visits the factory

Heinrich Weiss, chairman and CEO of SMS group, who is also the chairman of the board of the Russian-German chamber of commerce, said he was pleased that the project, one of the largest of recent years, could be successfully completed in such a short amount of time, especially as, when Magnitogorsk Iron & Steel Works was founded in 1932, Siemag already supplied several rolling mills.

Designed for an annual capacity of some 1.5 million tons, the new heavyplate mill will produce plates up to 4,800mm wide. Production will focus on pipe grades (up to X120) as starting material for large diameter pipes for use in the gas and oil sector.

Other areas of application are, for example, bridge construction and shipbuilding as well as heavy mechanical engineering.

The order covered the complete process line for plate production with two walking beam furnaces, the mill stand, plate cooling system, hot leveller, cooling and inspection bed, shear line, finishing area with cold leveller and heat treatment facilities. The package also included the complete electrical equipment, drive systems and all automation systems.

SMS Siemag – Germany
Fax: +49 211 8817 74127
Email: thomas.isajiw@sms-group.com
Website: www.sms-siemag.com

Dual capacity high-frequency quick-change welded tube mill system is lauched to market

T&H LEMONT has commissioned a new dual capacity, quick change tube mill system. This dual capacity mill is capable of producing standard mechanical rounds and hollow structural shapes for both small and large sizes.

The dual capacity tube mill system was developed by T&H Lemont in conjunction with Searing Industries, USA. Searing Industries approached T&H Lemont with the need to increase production of a wide range of structural products on a single production platform. The dual capacity mill allows for a greater range of production sizes in a minimal amount of floor space. In effect, the dual capacity mill gives a pipe and tube producer the ability to produce a range of pipe and tubing normally produced from two different sized mills.

With a dual capacity mill, the entire entry and exit equipment are designed to be universal; as are the mill bases and drive systems.

The "dual capacity" of this mill is realised by two different (size) sets of quick change subplates designed to mount on a single mill base system while utilising a universal drive system. One set of subplate mounted driven stands (T&H Model WU35M-12) was designed for producing "mother" tubes from 1.250" to 5" with wall thickness from 0.083 to 0.25". The second set of subplates (T&H Model WU60M-12) was designed to produce "mother" tubes from 3.75" to 8" diameter with wall thickness from 0.125" to 0.5".

The distance between the stands was optimised on each set of subplates for the products produced. Each set of subplates included three driven squaring clusters to form the shapes. Production was furthermore increased and change-over times minimised by employing the new T&H autoset automatic stand adjusting system. This motorised, programmable system allows the operator to electronically dial in the roll stands for proven recipes of individual product and gauge changes.

Additionally, this mill was designed to be serviced by an overhead crane system assisting in the change out of the subplates. The subplates are held to the base by a quick release hydraulic clamping system, which allows the subplates to be connected rigidly and precisely to the mill base and, when necessary, disconnected from the base quickly and efficiently. "The increased capacity of this new mill enhances our ability to meet the needs of our customers and at the same time keeps our plant overhead to a minimum, keeping us extremely competitive in these changing markets," stated Lee Searing, president of Searing Industries.

T&H Lemont – USA
Fax: +1 708 482 1802
Email: bcharvat@thlemont.com
Website: www.thlemont.com

The T&H Lemont dual capacity tube mill

Chinese manufacturer with US partnership unveils new pipe mills and cold-rolled machines

DALIAN Sage Group, China, has four subsidiaries and one institution, specialising in designing, developing and producing new tech products, and engaged in designing and manufacturing large metallurgy machinery.

With a design team of almost one hundred middle and senior engineers, the company manufactures pipe mills, cold-rolled forming lines and stainless steel welded pipe lines.

In 1995, Dalian Sage formed a joint venture with a US company with more than 90 years' history in manufacturing HF welded equipment and cold-rolled forming steel equipment. The equipment manufactured by Dalian Sage is sold to most areas of China, USA, Russia, Indonesia, Thailand and other areas of Southeast Asia.

The company's main production line equipment includes ERW mill lines, cold-forming mills, direct changing into square and rectangular pipe mills, stainless steel pipe mills, cross shear mills, pipe processing finishing line equipment and large diameter straight seam TIG welding pipe mills. Individual machines include uncoilers, levellers, shear and butt welders, vertical/horizontal spiral accumulators, computerised length and cutting machines, pipe flatteners, end-facing and bevellers, tension reducing machines, 4-roll hot sizing machines, edge planers, and hydro testers using backlash radial sealing technique, satisfying API standards.

Dalian Sage Group – China
Fax: +86 411 39318111
Email: sage@mail.dlptt.ln.cn
Website: www.csage.com

OCTG completes threading capacity expansion

OCTG has commissioned additional mill-speed (PMC) API thread lines, which expand its OD range from 2$^{3}/_{8}$" tubing to 13$^{3}/_{8}$" casing.

The new double-ended tubing line accommodates OD sizes of 2$^{3}/_{8}$" to 5½" with a cycle time of approximately 15 seconds/jt. A pair of 4" Ajax upsetters are also being installed to complement the line.

OCTG provides tubular finishing services to world-class oil country tube mills. Its high-speed threading and inspection systems – managed and operated by OCTG personnel – are available either at the mill location or at the 150-acre OCTG LLP Houston facility. OCTG claims to operate the only mill-speed (PMC) third-party threading lines in the oil country tubular industry. Its patented ultrasonic (UTFL) and electromagnetic (EMI) test systems are engineered to exceed the throughput and sensitivity levels that are required by API specifications and demanded by API tubular manufacturers.

OCTG, LLP – USA
Fax: +1 281 456 8877
Website: www.octg.org

Roll-Kraft sponsors roll forming workshop

ROLL-KRAFT recently participated as the industry sponsor of the Fabricators and Manufacturers Association (FMA) world-class roll forming workshop. Attendees were urged to bring along their questions, drawings, and roll formed parts to the workshop to get answers to problems they were experiencing. Topics included presentations of basic and complex roll form systems, metallurgy as it applies to roll forming, tooling installation, use of high strength steels, basic machine applications, lubricants, troubleshooting, and many other subjects.

Gary Summerhill, engineering manager of Roll-Kraft, conducted a class entitled Roll Forming High Strength Steels – A Design Perspective. This class covered the many options of using high-strength steels, including when they are preferred, and a comparison to other commercial grade steels. There was an overview of tooling materials, tooling life, lubrication, equipment, and general information on the advantages and disadvantages of using the various steels.

Roll-Kraft provides tooling, and equipment to the tube and pipe and roll forming industry. Participation and reliance on the well-earned ISO 9001:2000 quality management certification programme has helped customers in more than 50 countries identify Roll-Kraft as a reliable source of high quality products and programs.

Roll-Kraft also provides a full spectrum of services to roll forming and tube and pipe manufacturers including the design of tooling using FEA Copra software to identify problem areas before manufacturing begins.

Rollkraft – USA
Fax: +1 440 205 3110
Website: www.roll-kraft.com

Innovative ink jet printing for pipe or roll forming

INK jet printing is a well established process and even with competing technologies introduced into the marketplace, ink jet technology continues to evolve into the powerhouse of reliability that any tube pipe or roll forming and slitting company can still depend on.

One example of this evolution is Roll Machining Technologies and Solutions' (RMTS) ability to mark each foot of the tube, pipe, roll forming and slitting material at various speeds using variable data to multiple locations within a single input source.

This application can be used for continuous production where speeds are 1000ft/minute or when paired with the product sensors it can also sense no product and the nozzles will not fire until the product has reached a desired location. RMTS, USA, is the exclusive distributor of this REA-Jet technology in the USA.

Because REA-Jet ink jet printing is non-contact printing, it has the ability to print on any surface, in any direction, with any application. Models offered range in dot quality from drop on demand, continuous ink jet, and high resolution.

The newest development is the marking of the weld area with a steady line so the weld is visible for bending or punching. RMTS says it will work with customers to determine the best and most cost effective system for any customised needs.

The company also claims it is the recognised leader in roll machine tooling innovation and is excited to offer the world's fisrt and only Tube Mill Operator Training System on DVD. On the film it is possible to learn from renowned expert Joe Olson as he guides watchers through every stage of the mill with his nine part series and demonstrates techniques that will actually add life to roll tooling. Contact RMTS for more information.

The TMTS ink jet printing in action

RMTS – USA
Fax: +1 815 372 9105
Website: www.rollsolutions.com


Attl a spol has installed a new tube mill in Yekaterinburg, Russia

New tube mill installed in Yekaterinburg

ATTL A SPOL SRO, Czech Republic, has installed and commissioned a new tube mill in Yekaterinburg, Russia, to produce longitudinally welded tubes and profiles from steel and galvanised material, 102x5mm.

The mill features new semi-automatic coil end welder and shear NPA, fast change of forming and calibration sections RVS system, and an ALDA Combi flying cut-off which can cut by flying shear for speed or flying cold saw when quality of the cut-off face is of prime importance. The ALDA Combi enables both operations on one machine, with changeover time of around 15 minutes.

The mill includes an Attl AUT 8000 fully automatic bundling machine, and is also equipped with a Thermatool HF welding generator.

Attl a spol sro – Czech Republic
Fax: +420 271 960 414
Email: attl@attl.cz
Website: www.attl.cz

FEA simulation: the roll forming of small diameter thick-wall ERW tube

By Jiying Liu, Guoxian Niu and Zhengqing Ai, North China University of Technology, Beijing, China

Abstract

Using the method of elastic-plastic finite element analysis, nonlinear finite element software Msc.Marc is used for simulating the small-diameter thick-walled tube in the roll-forming process. During the analysis the roundness error is analysed and the polynomial equation is summed up according to the same diameter and the same wall thickness.

The tube wall thickness change is stated after roll-forming, and the peak point of the changing error is given a new concept for modifying the roller gap contour because the wall thickness change is disclosed. To obtain uniform thickness of tube, the modified and fitted spline contour should be used for roll gap design. The conclusions can be used in the high-precision welded tube roll forming process.

Foreword

Small diameter thick-wall electric resistance welded (ERW) tubes have been widely used in the automobile industry. This is because the thick-wall tube can be prevented from suffering leakage and penetration, in addition to resisting various impacts and fluctuations in temperature.

This research looks at the roll-forming technological process of the small diameter thick-wall welded tube with OD≤20mm, and thickness/diameter ratio of more than 5%. Its small diameter and thick walls cause various difficulties during roll forming.

Roll forming in engineering often depends on experience and trial-and-error, which results in a long development cycle and high cost. The nonlinear finite element software called Msc.Marc is used for simulation of the roll-forming technological process of the small diameter thick-wall welded tube.

It helps by summarising the changing rule of welded tube wall thickness from results of numerical simulation. It also carries out roundness error analysis to the inside diameter of the welded tube in results of simulation with Matlab, which provides the basis for designing a method of efficiently forming small diameter thick-wall ERW tubes.

1 Object researched and process planning

1.1 Determining object researched

According to the dimensions of ERW steel tube, specifications of small diameter thick-wall tubes defined in the topic are chosen for researching. So various thickness/diameter ratios are chosen for simulation as Table 1 shows.

Thickness/diameter ratio (t/D) x 100%	Outside diameter x thickness / (mm x mm)
15%	8 x 1.2, 10 x 1.5, 12 x 1.8, 20 x 3
20%	8 x 1.6, 10 x 2, 14 x 2.8, 15 x 3, 16 x 3.2
25%	8 x 2, 10 x 2.5, 12 x 3, 14 x 3.5
30%	10 x 3

Table 1: *Specifications of ERW tube*

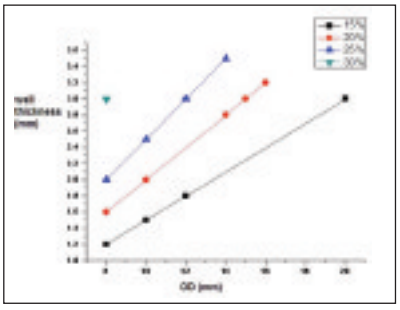


Figure 1: *The specifications of ERW tube used for simulation*

1.2 Roll tooling design

All roll tooling is designed using the double radius forming method by the software COPRA.

Refer to Table 2 for the forming angle before final pass, and refer to Fig. 2 for Arc 1 and Arc 2 of double radius.

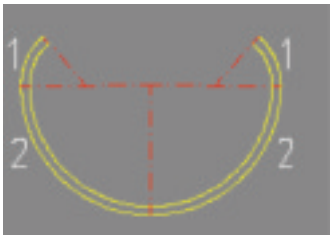


Figure 2: *The forming Arc 1 & Arc 2*

Station No.	Arc 1	Arc 2
1	65°	-15°
2	65°	0°
3	65°	15°
4	65°	30°
5	65°	45°
6	65°	60°
7	65°	75°
8	65°	90°

Table 2: *Setting angle of forming arc*

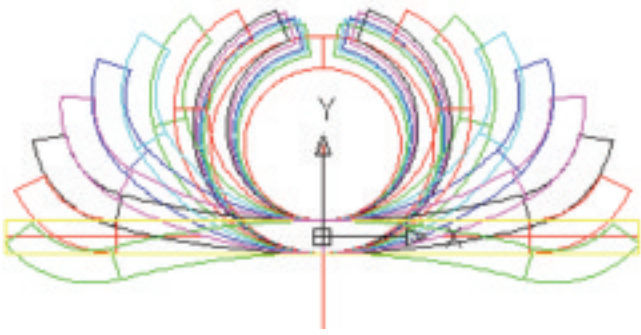


Figure 3: *An example forming roll flower of 12mm x 1.8mm*

The example for 12mm x 1.8mm (outside diameter x thickness) tube flower pattern is shown in Fig.3

2 Pre-processing of finite element modelling (FEM)

2.1 Geometric modelling

The 3D finite element modelling used for ERW tube forming in this example includes rolls and strip coil. The roll drawing is generated in COPRA in AutoCAD format with extensions of DWG or DXF. Before being imported into Marc, the roll drawings are simplified, leaving only the outer contour line and axis, and deleting the other information.

For the symmetric rolls drawing, in order to reduce the time of computing, only half of it is for simulation. The rolls DWG files are converted into DXF (AutoCAD2000) format, then rolls outline drawings are imported into Marc, and the rolls contour lines are rotated around the shaft axis in Marc to form roll surface.

2.1.1 Idealising rollforming machine

In order to simplify the process of roll forming, assume that the roll forming machine is ideal for the purpose intended: during numerical simulation, assume rigidity of the roll forming machine is just enough and do not consider deflection caused by the force applied on the shaft. Also assume positioning of rolls to be correct, ignore errors from installation and assume sheet material for forming is also ideal. Finally, ignore thickness errors of coil.

2.1.2 Rolls are rigid bodies

Since rolls material is die tolling steel with little distortion during forming, the rolls should be regarded as rigid bodies.

2.1.3 Relative motion equivalent

During actual production, the rolls rotate to drive sheet material passing the roll-forming machine. According to the principle of relative motion, it is equivalent to the rolls slide static sheet material. Static sheet material is convenient for applying boundary conditions and simplifies distortion analysis.

2.1.4 Ignore friction

The reasons: during forming, force of friction drives sheet material forward, so there is little effect for forming. If friction is ignored, computational complexity is obviously reduced, and the result is easy convergence. In situations of small diameter thick-wall tube, no obvious simulation analysis precision error is found by comparing results considered friction and ignored friction.

2.1.5 Use a piece of sheet material to replace a whole coil of sheet material

A whole coil of sheet material is used in actual production. In order to reduce computational complexity, use a piece of sheet material to simulate forming with a whole coil of sheet material. In order to guarantee stable forming between passes, length of sheet material for simulation should not be less than 1.5 times the distance between passes. In order to avoid influence caused by errors at start of work piece and end of sheet, the middle $^1/_3$ part of simulation sheet material is selected during analysis.

2.1.6 Partition of sheet material units

Since round tube is symmetric, only half of it is simulated. The centre distance between adjacent two passes is 100mm, length of sheet material is 150mm, and sheet width is calculated according to various diameters and sheet thickness. Divide the forming body into 20 equal parts horizontally (direction X), and three layers along direction of thickness (direction Y), and 150 parts along the direction of feeding (direction Z), total 9,000 units.

Figure 4: *The co-ordinate used for modelling*

The element type seven (an eight-node, isoparametric, arbitrary hexahedral) is chosen. The equivalence simplifies and reduces computational complexity of contacting search during the computational process.

2.2 Definition of geometrical features

Since stress, strain and displacement changing of sheet material in X, Y and Z directions during roll forming are considered normally, it can be defined as a 3D problem. Here 3D solid units are adopted. Because there is lack of shearing behaviour description, in order to remedy it, the method of assumed strain is used. By using selected interpolation to improve describing capacity of shearing (bending) behaviour. Since volume of material before and after distortion is constant, choose the item of constant dilatation.

2.3 Definition of material characteristics

During this simulation, sheet material is Q235 with Young's Modulus of 210Gpa, Poisson's Ratio is 0.3.

2.4 Set boundary conditions

An important content during simulation modelling is definition of boundary conditions. Fix longitudinal displacement of the sheet first, apply direction Z fixed displacement at both the front and rear of the sheet and try to avoid applying any constraint at the node of distorting area. Since only half of symmetrical simulation is analysed, apply lateral constraints on the symmetry axis. Direction X displacement constraints. In addition, a single sheet with a certain length is used during simulation, while it is coil continuous forming during actual production, so apply proper constraints vertically to prevent the swinging of work piece and sheet end. Apply certain direction Y displacement constraints to avoid too large displacement in vertical direction. During direction Y constraints applying, pay attention to the positions, which must be nodes without vertical displacement changing before and after forming.

Refer to Fig. 5 for setting boundary conditions.

Figure 5: *The setting of boundary conditions*

3 Simulation results analysis

3.1 Analysis of equivalent strain

The distribution of strain and stress is different in the forming process. The analysis of equivalent strain is used for the formed tube section.

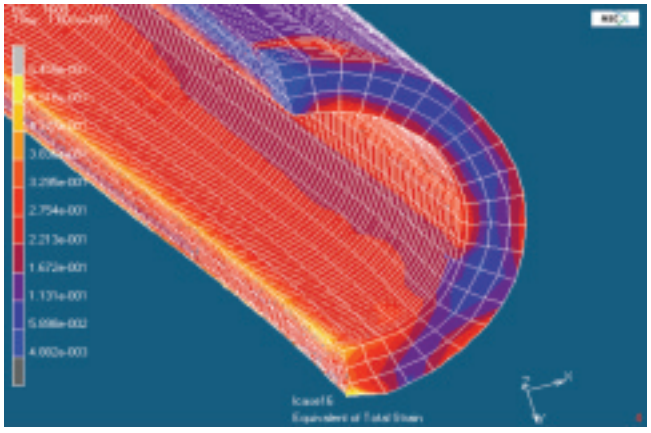
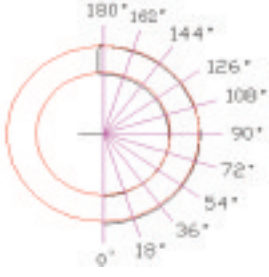


Figure 6: *The simulation of equivalent strain for 12mm x 1.8mm*

Fig. 6 is an example for equivalent strain contour bands of simulation results (12mm x 1.8mm).

3.2 Comparing between simulation results and ideal diagram



The red line is taken as the ideal circle and the black line is the section contour revieved from results of simulation. Fig. 7 is a comparison example for 12mm x 1.8mm tube.

Figure 7: *A comparison example for 12mm x 1.8mm tube*

3.3 Roundness error analysis

3.3.1 Roundness error

Compare with an ideal circle to decide if the formed tube section is perfectly round or not. The evaluation of roundness error is the procedure of comparing the actual contour of the measured tube cross section with an ideal circle.

3.3.2 Evaluation method of roundness error

The currently used methods include the least square circle method, minimum circumscribed circle method, maximum inscribing circle method and minimal territory roundness method. The least square circle method has statistics meaning that, although it cannot eliminate influence caused by maximum error, it is a safer method with limited actual measuring points; since the minimum circumscribed circle method and maximum inscribing circle method can describe positioning characteristics in the mating member as close as possible, they have obvious using value; and the minimal territory roundness method is a new good evaluating method. It can not only obtain the minimum error evaluating result but also has stable constraints to characteristics of the part. So it is an evaluating method researched by modern measuring technology. Here the minimal territory roundness method is adopted.

3.3.3 Evaluation roundness error

Using Matlab programming M-file is established and each point value of radius is input. The distance between measured points and circle centre is calculated so that the maximum error of roundness can be given as seen in Table 3.

OD x t (t/D=15%)	Error (mm)	OD x t (t/D=20%)	Error (mm)	OD x t (t/D=25%)	Error (mm)	OD x t (t/D=30%)	Error (mm)
8 x 1.2	0.040	8 x 1.6	0.093	8 x 2	0.273	10 x 3	0.455
10 x 1.5	0.050	10 x 2	0.075	10 x 2.5	0.238		
12 x 1.8	0.051	14 x 2.8	0.156	12 x 3	0.323		
20 x 3	0.136	15 x 3	0.210	14 x 3.5	0.209		
		16 x 3.2	0.220				

Table 3: *Roundness errors of welded tubes with various dimensions*

Outside diameters and roundness error distribution of welded tubes with various specifications is shown in Fig. 8.

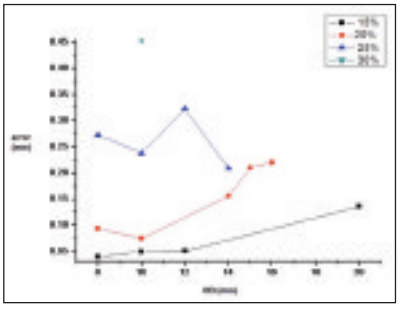


Figure 8: *Outside diameters and roundness error distribution of welded tubes with various specifications*

Roundness errors under the same OD (10mm) and different wall thickness is shown in Fig. 9.

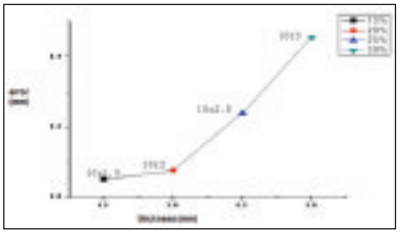


Figure 9: *Errors of various thickness/diameter ratio with OD of 10mm*

The fitted equation of the curve is δ_t=0.493-0.585 t +0.191 t^2, where δ_t is the dependent variable roundness error, and is the independent variable wall thickness, the curve of δ_t changing along with t is the right half of a second-degree parabola.

Roundness errors with various OD when the wall thickness is fixed (3mm) are shown in Fig. 10.

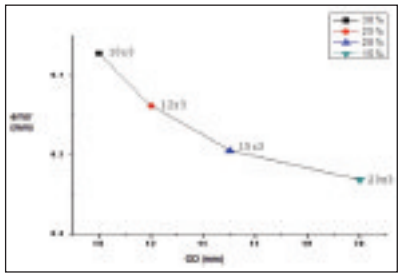


Figure 10: *Errors of welded tubes with various ODs and same wall thickness*

The fitted equation of the curve is δ_D=1.484-0.139 D +0.004 D^2, where δ_D is the dependent variable roundness error, and D is the independent variable outside diameter, the curve of δ_D changing along with D is the left half of a second-degree parabola.

3.4 Analysis of wall thickness changing

To investigate the symmetry of welded tubes, divide a half circle of the welded tube into ten equal parts (Fig. 7), analyse thickness changes, Fig. 11 is the changing curve.

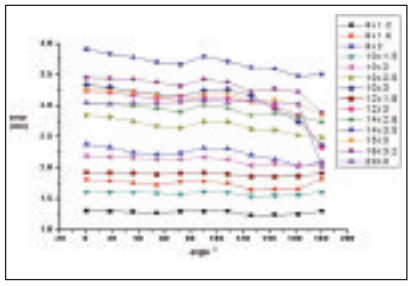


Figure 11: *Wall thickness changes on a half circle of welded tubes in all specifications*

3.5 Comparing with other research

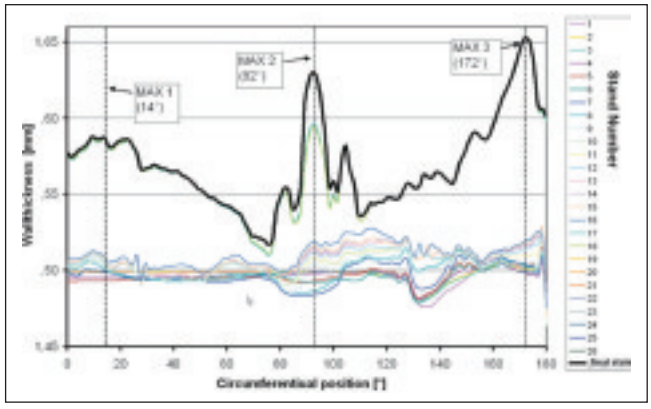


Figure 12: *Relation between strip material thickness and perimeter position*

German dataM company and Darmstadt University performed simulation and experiments for 60mmx1.5mm ERW tube, and obtained results as Fig. 12. The extreme values appear near the axis of symmetry (0°), positions of sheet edge (180°) and close to 90°. The trend of the curve is similar with the result of simulation here, which proves that the result of this simulation is authentic.

3.6 Methods for reducing wall thickness error

According to the wall thickness changing after forming (Fig. 11), it is hard to meet the requirement of accurate forming if you only depend on the roll flower to design the outer contour line of the rolls. In order to reduce wall thickness error, it is necessary to modify roll gap based on the former roll flower design, and decide the corrected value according to wall thickness error in the diagram.

During forming, edge of sheet will form at the first bend, so remedy the error of 115°-180° wall thickness at the first pass; and distribute the error of 0°-115° wall thickness to all main roll passes before fin pass. In this way, after the roll shape contour with error compensation is formed, error of wall thickness may be easily reduced to meet the requirement of high accuracy welded tubes with uniform wall thickness.

4 Conclusions

1) With the same outside diameter, the roundness error clearly increases along with wall thickness. By analysing the fitting results of the curve, the polynomial equation for wall thickness and roundness error is δ_t=0.493-0.585 t +0.191 t^2,.

2) When wall thickness is constant, roundness error reduces and outside diameter increases. By analysing fitting results of the curve, the polynomial equation for outside diameter and roundness error is δ_D=1.484-0.139 D+0.004 D^2.

3) When the curve of wall thickness changes, total trend is degressive. There are three larger values of sheet thickness at the half circle, which have appeared near the axis of symmetry (0°), positions of sheet edge (180°) and close to 90°. From the result, the three larger values are all produced at the final pass, which shows that very large compressive stress occurs on sheet edge. The various simulations result in a larger changing range at the end of sheet, which are caused by distortion at the end elements.

4) By conducting the above mentioned roundness error analysis and the changing rule of wall thickness, it is necessary to modify roll gap according to wall thickness errors distribution during design in order to reach uniform wall thickness and realise high accuracy thick-wall tube forming. The rolls contour is not only a simple arc, but a spline curve fitted according to wall thickness changing, thereby determining the actual rolls contour curve.

Acknowledgements

Thanks to Mr Zhao, Yun, GM of Huzhou Weiyun Moulds Co Ltd and Mr Zhou, Shijia, GM of Ningbo Huaguan Machine Manufacturing Co Ltd for support and help during the investigation of the topic.

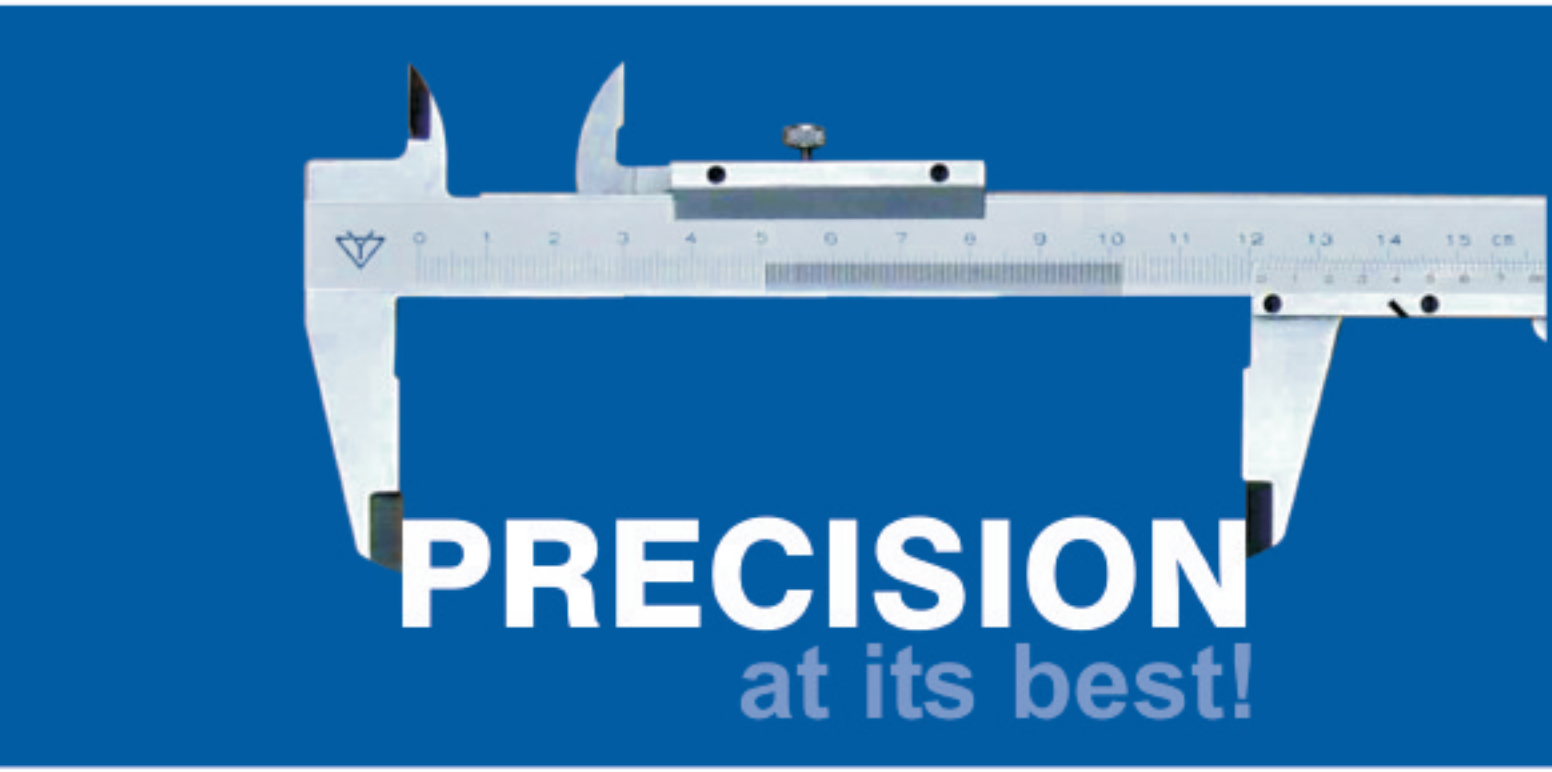
References

Albert Sedlmaier. Predicting The Properties of Welded Roll Formed Tubes for Subsequent Processes Using the Finite Element Method[C]. Valley. Germany.
George T Halmos, Roll Forming Handbook, Taylor & Francis, 2005.
H Ona, Jiying Liu, Roll Forming Technology, Chemical Industry Press, Beijing 2007.

North China University of Technology – China
Fax: +86 10888 03581
Email: fao@ncut.edu.cn
Website: www.ncut.edu.cn

Advertisers Index

KLT Automotive & Tubular Products Limited



PRECISION at its best!

We are KLT Automotive and Tubular Products Limited, India's pioneer precision engineering company. And for us precision is all about meeting the highest standards of quality and innovation. Be it in the way we manufacture or the way we service. Which is why, all our products are technology driven - from Precision Tubes for automotives to Energy Applications and Hydroforming Components. Because when it comes to technology, we ensure you are never left far behind.

Current usages of our tubes:

- Chassis Frames
- Suspension Systems
- Shock Absorbers
- Propeller Shafts
- Front Forks at Two Wheelers
- Hydroforming Applications
- Steering Columns
- Boiler and Heat Exchangers
- Body Structures

and more...

What can we do for you...

Corporate Office: B / 601, Elegant Business Park, M.I.D.C. Road No. 2,
Andheri (East), Mumbai - 400 059. India.
Tel: +91 - 22 - 4095 7000 / 7070 Fax: +91 - 22 - 4095 7100
E-mail: enquiry@kltgroup.net Web: www.kltauto.com

HAZControl Technology™

re-defining the HF Welding Process

THERMATOOL
An Inductotherm Group Company

Thermatool Solid State HF Welders are unique, able to provide precise independent control of weld power and frequency. This proven technology is enhanced by the new HAZControl Technology™, a control platform designed to benefit operators by:

- Making it easier to achieve the best weld using different combinations of weld power and weld frequency, on each and every mill run.
- Storing product process parameters for quick, easy, automatic operation on future mill runs.
- Consistently delivering the highest weld quality.
- Enhancing operator skills and reducing process variability and costly scrap.
- Simple control of your process parameters.

For the most reliable return on your investment, turn to Thermatool.

Thermatool Corp.
East Haven, CT 06512, USA
Tel: +1 (203) 468-4100
E-mail: info@ttool.com
www.thermatool.com

Thermatool IHWT
Basingstoke, Hants RG24 8NA,
England
Tel: +44 (0) 1256 335533
E-mail: info@ihwtech.co.uk
www.inductotherm-hwt.co.uk

INDUCTOTHERM GROUP

Leading Manufacturers of Melting, Thermal Processing and Production Systems for the Metals and Materials Industry Worldwide.