MTM®
Machine Tool Market
SOUTHERN AFRICA
September/October 2022
Volume 31 No.5

WD Hearn presents...

MITSUBISHI ELECTRIC | MV2400S WIRE EDM MACHINE

WORLD-CLASS EDM TECHNOLOGY

HIGH MACHINING ACCURACY AND PRODUCTIVITY | EASY OPERATION | ENERGY SAVING

NEW
M800 D-CUBES
EDM CONTROLLER

Tubular Motor System | 12 year position warranty | Auto Wire Threading as Standard
Crash Protection system | Round Diamond Guide | 600/400/310mm Travels

WD Hearn MACHINE TOOLS
ESTABLISHED 1937

www.wdhearn.co.za

MAGNUM MACHINE TOOLS –

NEW SOUTH AFRICAN AGENTS FOR GEKA (SPAIN)

PUNCH & SHEARS, ANGLE PUNCHING LINES, BEAM DRILLING LINES

GEKA MICROCROP 36

Ex Stock

- Electrically driven hydraulic unit with submerged pump
- Double acting cylinder
- Monoblock blade with antifriction bushes

Capacity	
Flat bar shearing	350 x 6
	200 x 13
L at 90°	80 x 80 x 8
L at 40°	50 x 50 x 5
Punching	27Ø thru 13mm

GEKA MINICROP 45

Ex Stock

Capacity	
Flat bar shearing	300 x 10
	200 x 13
L at 90°	80 x 80 x 8
Round bar	30mm
Punching	27Ø thru 12mm

GEKA BENDICROP 50

Ex Stock

- Permanent bending station
- Anti-torsion system for flat bar shearing
- Gooseneck die holder for punching U & I sections on legs and webs

Capacity	
Flat bar shearing	350 x 10
	350 x 15
L at 90°	80 x 80 x 8
Round bar	35mm
Square bar	30m
Punching	31Ø thru 12mm
Bending	100mm x 10mm

GEKA 80 HYDRACROP

Ex Stock

- Monoblock frame notching and punching tables with scaled end stops

Bigger models available on request: 110 ton, 165 ton

Capacity	
Flat bar shearing	450 x 15
	300 x 20
L at 90°	130 x 130 x 13
L at 45°	70 x 70 x 7
Bars – round & square	45
Punching	40Ø thru 14mm
Bending	100mm x 6mm

MAGNUM PRECISION MACHINE TOOLS

CELL: +27 83 384 9326
sean@magnumtools.co.za

CELL: +27 83 411 6620
cyril@magnumtools.co.za

TEL: +27 31 700 6621
FAX: +27 31 700 5341
JHB: Manie +27 82 879 3068

59 GOODWOOD ROAD • MAHOGANY RIDGE • PINETOWN • RSA • 3610

www.magnumtools.co.za

MTM®
Machine Tool Market
SOUTHERN AFRICA

SEPTEMBER/OCTOBER 2022 Vol. 31 – No. 5

CONTENTS

Proprietors and Publishers:
MTM Publications (Pty) Ltd
Reg No. 2005/030589/07

Address
1st Floor Fairland House, 193 Smit Street
Fairland 2195
PO Box 2434, Northcliff, 2115, South Africa
Tel: (011) 476-3211/3 or 476-3240
Fax: (011) 476-3216

E-mail: indpub@icon.co.za

www.machinetoolmarket.co.za

Publishing Editor – Gerd Müller
Production Director – Monica Müller
Production- and General Manager – Andries van Huyssteen
Advertising – Jason Rohrs
Accounts – Monica De Koker

Advertisements / Editorials
The publisher reserves the right to refuse and/or omit any advertisement and gives no guarantees that advertisements or editorial contributions will be inserted on the date ordered.

Whilst every care is taken to ensure that information in Machine Tool Market Southern Africa is accurate and up to date the publishers cannot accept responsibility for mistakes or omissions.

The views and opinions expressed in Machine Tool Market Southern Africa are not necessarily those of MTM Machine Tool Market.

Copyright
All rights reserved to MTM Publications (Pty) Ltd. No part of this publication may be reproduced, or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, storage in a retrieval system, or otherwise, without the written permission of the publisher.

MITSUBISHI ELECTRIC
MV2400S
WIRE EDM MACHINE

WORLD-CLASS EDM TECHNOLOGY

HIGH MACHINING ACCURACY AND PRODUCTIVITY

EASY OPERATION

ENERGY SAVING

WD Hearn MACHINE TOOLS
ESTABLISHED 1937

www.wdhearn.co.za
Tel: (021) 534-5351

THE SAWING

"BAND SAW CUTTING" ... A fundamental concept in material processing, and one in which AMADA can apply the world's most advanced techniques with it's many years of experience. It is well known that the cutting process has a great deal of influence in both product dimensional accuracy and manufacturing economy. At the same time, this fundamental process of cutting becomes the cornerstone of profit in manufacturing.

AMADA

CNC TURRET PUNCH PRESSES, CNC LASER CUTTERS, CNC PRESS
NC HYDRAULIC/MECHANICAL SHEARS, SOFTWARE, BANDSA
BANDSAW BLADES, SALES & SERVICE.

G SOLUTION

Amada's bandsawing technology allows you to play an active role in material processing with its extensive range of bandsawing machinery which enables you to turn the impossible into the possible. To get a cut above the rest call us at ...

(011) 453-5459 and join the circle of satisfaction.

GAUTENG

Tel: (011) 453-5459 • Fax: (011) 453-5442 Cell: 082 465 5924 (Rick)

• E-mail: barry@amadajhb.co.za

CAPE TOWN

Tel: (021) 706-0502 • Fax: (021) 706-0503

DURBAN

Tel: (031) 700-5070 • Fax: (031) 700-5077

SBRAKES,
WS,

MTM®

AMADA – THE FOREFRONT OF BANDSAWING TECHNOLOGY

Amada's continued commitment to reliability and dependable service is evident through the continued research and development carried out by the company.

With over 75 years of experience and expertise to rely on, Amada is at the forefront of bandsawing technology. The ever-growing need for – faster, cheaper and simpler –is a driving force behind the development of state-of-the art equipment.

Everyone knows that time is money, but very few take heed to the practice of investing in reliable, dependable equipment in order to eliminate down time, to speed up production, increase quality and reduce scrap.

Amada has, through their many years of experience, managed to produce both machines and blades to cater for all cutting needs in the different world markets. Every feature, function and configuration offered by Amada has been carefully considered and applied to specific machine models in order to obtain the ultimate in productivity for specific cutting requirements. Amada's aim is to take productivity to the next level, and offer products that exceed expectations. Features such as "skew cut detection" allow for unmanned production as the machine is constantly monitoring its own cutting accuracy. Multi vices allow for bundle cutting which in turn increases through put and cut-off-counters ensure the correct number of cuts which prevents over or under production. Simple things like the positively driven wire brush add to the longevity of the blade by removing swarf from the root of the blade tooth and the variable blade speed adjustment ensures optimum operation.

Operator friendly controls ensure simplicity and ease of use, thus allowing skilled and semi-skilled operators to become professionals in their jobs. Simple hands-on training supplied by Amada will ensure proper, extended blade life as well as machine reliability.

Amada's range of sawing equipment is able to cater for all types of cutting demands. From a simple – accurate single piece cutting, to high volume – high demand accurate cutting, there is a machine model to suit every cutting need.

The Amada range of bandsaw machinery includes both horizontal and vertical models. The most popular of which has to be the ever-faithful "HA" – horizontal series. This tried and trusted HA series has proven that they are built to outlast any other. Some of these machines in the market are still running after 50 plus- years. Although technology has been updated over the years, the basics remain the same and accuracy and reliability are still guaranteed. The vertical range of bandsaws – the VM series is also a reliable range offered that has now been complimented with the "VT" Series which allows for the tilting of the cutting head for angular cutting. These machines are available as manual machines or automatic programmable options.

HA Series

High production requirements are catered for with the CM Series, the PC Saw and the HP Saw series of machines. These machines are capable of high speed and high volume cutting. Pre-set cutting conditions ensure accurate and optimal operation and drastically reduce scrap as well as material handing thanks to the programmable cutting data. Standard and optional accessories available will also assist in streamlining the cutting process in production.

CM Series

HPSAW 310

VM1200

Amada offers a full variety of bandsaw blades to compliment the reliability of the machinery. With careful attention given to detail, Amada blades have proven themselves to give outstanding blade life and accurate cutting results. The most common of the range is the SGLB blade. This is a M42 Bi-Metal blade that is ultimately the best "all-rounder". The most important consideration when selecting a blade, is the blade pitch. This is what determines the ultimate blade life together with feed speeds. Coarse blades used on smaller products will cause blade chipping and premature blade failure. Similarly, fine blades on large products will result in teeth clogging and excessive heat build-up , then premature failure again. Feeds and speeds play just as an important role and it is imperative that settings are correct according to the blade being used and product being cut.

SGLB Blade

Axcela Blade

Amada offers a full range of blades to cater for all cutting needs. This range includes the SGLB, Axcela H, Axcela G, CTB, Magnum HI-LO, Magnum 71, Super HI-LO, Protector, Cobalt8 and DUOS blades. The TCB series of circular saw blades is also supplied by Amada for Cold Saws.

All blades manufactured by Amada are tested by stringent methods to ensure quality and reliability. This together with quality material grades used ensures reliability and longevity.

For more information, please contact Amada – Tel: 011 453-5459.

MAGNUM
MACHINE TOOLS

TOS LATHES *ARE BACK!!!!*

SN50C X 2000MM LATHE

WITH STANDARD ACCESSORIES
PLUS A 2 AXIS DIGITAL READOUT
AND A QUICK CHANGE TOOLPOST

MAGNUM KZN
SEAN WALKER
sean@magnumtools.co.za

MAGNUM GAUTENG
MANIE LOMBARD
manie@mech-tech.co.za

Call us now!
+27 31 700 6621
+27 83 384 9326

MAGNUM
MACHINE TOOLS

www.magnumtools.co.za
59 Goodwood Road
Mahogany Ridge Pinetown

EVERISING FULLY AUTOMATIC BANDSAWS

Everising has four pivot-type bandsaws in its S-250HB – S 460HB range. The bandsaws feature full PLC control of all electrical and hydraulic functions. The raising and lowering of the cutting head is controlled by a single lifting cylinder which makes for quick, efficient operation. Work-pieces are secured during cutting by a hydraulically controlled dual-vice clamping system.

Blade tension, a factor that can extend the life of a blade, on Everising's S machines is controlled hydraulically for optimal blade life. Blade speed is controlled by an inverter giving infinitely variable speeds of between 20 to 100 m/min. The machines also feature automatic shuttle-type feeding systems.

A pre-set counter shuts off the S Series bandsaws after a given number of items have been cut, while an idler-wheel motion-detector shuts down the machine should the blade stall or break. In addition, the saws detect when stock has run out and automatically shut down.

In its column type H Series bandsaw range, Everising offers 11 different models. These range from the H-250HA with a 250mm cutting capacity to the large H-1100HANC capable of cutting workpieces of 1000mm x 1100mm dimension. The machines at the larger end of the range have progressively more features, such as the ability to use tungsten-carbide tipped blades. However, all of the H series bandsaws are well-suited for heavy duty cutting applications as their column type design allows for maximum cutting stability.

Everising's S-250HB – S 460HB range of bandsaws features full PLC control of all electrical and hydraulic functions.

Everising's H series bandsaws are well-suited for heavy duty cutting applications as their column-type design allows for maximum cutting stability.

Should the blade on an H series machine break, the machine will automatically shut down to protect both the operator and the machine. The bandsaws are fitted with automatic chip conveyors which keep the inside of the machine clean and save on operator time. In terms of the operator's time, the H series are fitted with user-friendly NC touchscreen controls with a self-diagnostic control system. As with the S series, the H series' hydraulic system and electrical devices are controlled by PLC.

When there is need to cut bundles of steel rod, on the H series S-250B to the H-460 HB models, a hold-down device ensures that the material being cut stays secure in the machine thereby offering consistent quality. For larger work-pieces, the bandsaws in the H series are equipped with a hydraulic full-stroke, dual-vice clamping system.

For machines capable of cutting diameters greater than 700mm, the guide arm travels on linear guide-ways for greater stability during cutting. On the larger H Series models, an anti-vibration roller not only eliminates vibration but extends blade life as well. The anti-vibration roller and the saw blade clamp are automatically adjusted.

Optional H-Series devices feature an out-of-square detection system which automatically shuts the machine down while adjusting dual wire blade cleaning brushes which also serve to extend blade life. Everising's automated functions allow for a minimum of skilled supervision allowing workers to be deployed to more productive activities.

ECLIPSE HACKSAWS FROM FIRST CUT

Represented in South Africa by First Cut and with a proud history of hacksaw frame and blade manufacture stretching back nearly 100 years, Eclipse hacksaw blades and frames have become synonymous with engineering excellence and continuous product development.

For example, in terms of development, the distinctive ground tooth profile of the Eclipse Bimetal blade produces a faster and more aggressive cutting action, that requires less effort and is more efficient. Their ergonomic design also makes them a pleasure to use. Whatever the application or the metal that needs to be cut, Eclipse will have exactly the right blade in its range.

For more information, please contact First Cut – Tel: 011 614-1112.

FIRST CUT (PTY) LTD

CUTTING WELDING GRINDING

MACHINES

General Cutting
Solid/ Tube & Pipe Processing
Long & Structural Steel Fabrication
Flat & Sheet Metal processing

CONSUMABLES

Bandsaw & Circular Saw Blading
Engineer Tools
Small Saws & Frames
Saw Maintenance

SERVICE & BACKUP

Trained Technicians
Full Spares Backup
National Coverage
Call Centre

BLECHER · BLM GROUP · BOWERS METROLOGY GROUP · C.M.M. · EMERSING · ECLIPSE PROFESSIONAL ENGINEERING TOOLS · JAUFASA · JUDIN · KANEFUSA · MOORE & WRIGHT · Starrett · STEINBACH · Sonnenflex Abrasives Germany · TIMESAVERS SANDINGMASTER GRINDINGMASTER · USM · voortman STEEL GROUP · WIKUS Precision at the cutting point

ISO9001

CE

IMTMA

FIRST CUT (PTY) LTD
CUTTING WELDING GRINDING

JHB: +27 11 614 1112, DBN: +27 31 700 8128
C.T.: +27 21 531 3126, P.E. +27 41 453 3826
WEBSITE: www.firstcut.co.za | EMAIL: reggiec@firstcut.co.za

MADE-TO-MEASURE PERFORATED METAL

Perforated metal is encountered in many areas. It can be found in industry and sound insulation as well as in air conditioning technology and food production, although perforated sheet can also be used to clad the façades of buildings. In all these areas, the products from Schäfer meet the toughest requirements in terms of quality and availability. For its punching tools, Schäfer relies on EDM technology from Mitsubishi Electric for its perforated sheet. The toolmakers at Schäfer are particularly proud of their FA30, which has been put to more than 100 000 hours of use since 2001 and is still producing top-quality punching tools.

Its mechanical, chemical and optical properties make perforated sheet the ideal material for furniture makers.

Today, the Schäfer Werke Group can look back on over 80 years of experience of steel processing. More than 1 000 employees contribute to the company's success at its state-of-the-art production sites in Germany and the Czech Republic. From its base in Neunkirchen in the Siegerland region, the family-owned company now operates worldwide through its numerous divisions. One of its focuses is on perforated sheet metal, and Schäfer satisfies its customers with a wide range of products. Its standard range comprises over 400 different perforation patterns in a variety of sizes and grades in a wide range of materials and in thicknesses from 0.5 to 3.0 millimetres. Other specialities include perforated sheets to customer specification and its machining service. Schäfer responds to customer's wishes flexibly and efficiently at its modern production facilities.

For Daniel Sauer, Assistant Technical Manager, on-time delivery and quality are the decisive unique selling points of Schäfer Perforated Metal. "We are very quick to respond to and satisfy customer requests," Sauer explains. "Quality management plays a central role here. For 25 years, all the critical stages in production have been integrated into the system." The company produces around two million running metres of perforated sheet metal per year from all materials and with a variety of finishes.

Operator M. Knautz at the machine with 100 000 hours of service behind it.

Optimising the air flow of radiator grilles

One of the tasks of a radiator grill is to supply vehicle engines with the air they need and to protect them from mechanical impact. Together with its customers, Schäfer perforated sheet has developed among other things new approaches in the improvement of engine cooling. Originally, a diamond-shaped perforation was envisaged for a customer to protect the engine. In the designing process, the developers discovered the advantages of hexagonal perforations for this application and thus increased the air throughput significantly. This improvement in cooling performance has a measurable effect on engine cooling. The company has achieved similar improvements on agricultural vehicles.

Standardised and customised network solutions from racks to accessories.

Hexagonal perforations were a challenge for the toolmaking department, because with this hole pattern only 12 per cent of the sheet metal is retained. So that these sheets are highly air-permeable, up to 80 per cent of the material is punched out. The remaining percentage must then deliver the necessary rigidity.

State-of-the-art machinery in the toolmaking department

Since the company's founding, the in-house toolshop has been responsible for making and maintaining all the tools. "In addition," Sauer explains, "we also produce the spare parts for our machinery as far as possible. We have a variety of machining techniques here and expertise that has accumulated over the years. On top of all this, we work quickly and inexpensively." For their activities the toolmakers have a state-of-the-art machine park at their disposal. In addition to the three EDM units from Mitsubishi Electric, there are a variety of lathes, milling machines and grinding benches.

The first Mitsubishi Electric FX20 was introduced back in 1997, to be replaced in 2001 by a larger FA30. "For 20 years it has been running on a daily basis to our complete satisfaction. The FA30 is the oldest machine in the toolshop," Sauer reports. "Nevertheless, the machine still does its job one hundred per cent. This is due both to the FA30's top quality and our skilled staff, which receives comprehensive training to handle the machines with the necessary care."

Quality control of a die by N. Neuser and his colleague M. Brock.

Over 100 000 hours in operation

The performance of the Mitsubishi Electric FA30 is outstanding. In the past 20 years it has clocked up well over 100 000 operating hours. "We did a rough calculation of the number of threadings during this period," Sauer explains, "and arrived at a figure of over a million – which absolutely stunned us. Since we are totally satisfied with the machine's quality and reliability, we see no reason at the moment for us to replace it with a new one."

To boost its EDM capacity, the company installed a Mitsubishi Electric MV4800R Connect in August 2021. The tool guides mainly run on the large machines, the FA30 and the MV4800R Connect. To machine workpieces with a length of 1 650 millimetres and a width of 200 millimetres, the standard machines had to be slightly modified. Dies with a maximum length of 330 millimetres are usually cut by the toolmakers on a FA10s Advance. "Although the machining programs dictate to some extent which machines are used for which jobs," Neuser adds, "it can still be safely said that the MV4800R Connect and the FA30 are used for the same tasks."

IT racks with doors of perforated sheet ensure efficient ventilation.

All-important dependability

"For a direct comparison of the two machine generations," says Sauer, "the new MV4800R Connect simply hasn't been running long enough. After tests at Mitsubishi, we are assuming that the cutting speed of the new machine is not significantly faster. One point that immediately catches the eye, however, is its remarkable speed during wire threading. The process runs much faster as a result, and this makes itself felt in the machine's overall productivity. It is hugely important for us that the wire threader operates trouble-free, because our EDM machines all run during an unmanned third shift.

While process reliability, therefore, is crucial for Schäfer Werke, the company can always depend on the machines from Mitsubishi Electric. "When we start the process in the evening, the jobs are either finished or still running in the morning," Sauer concludes.

Generations apart – the new MV4800R (left) and the FA30 (right) being operated by employees M. Brock and M. Knautz.

For more information, contact WD Hearn – Tel: 021 534 5351.

FANUC ROBOCUT A-CIC SERIES WIRE EDM

The FANUC ROBOCUT a-CiC Series was released to the South African market last year and received high praise from both existing ROBOCUT and new wire-EDM users alike. The following features and options make it a versatile wire EDM which is easy to operate while retaining the highest quality for manufacturing accurate parts.

Cutting-edge CNC Operator's Panel

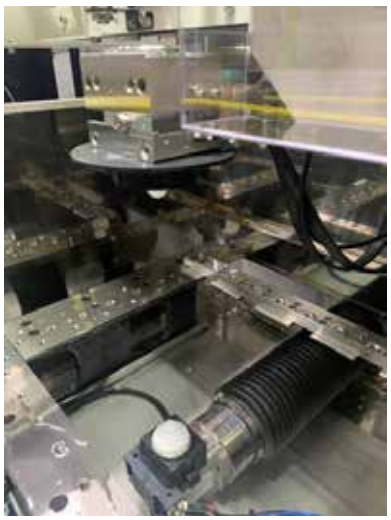
The main attraction of the ROBOCUT is the latest in FANUC 31i-WB CNC control technology. The interface includes new ease-of-use help screens and undo/redo functions to further assist the operator. The screen layout also mirrors the previous generation of ROBOCUT making it simple to operate the new machine without having to retrain existing operators, while offering significant speed enhancements.

All improvements are aimed at increasing output while maintaining exacting quality standards.

Improved Pendant Control Functionality

The new generation pendant control now includes an LED which indicates if there is a short between the wire and part, an E-stop button, and programmable function keys to enable easy operation of the ROBOCUT without having to use the operator's panel. The pendant shape has also been redesigned to make it more ergonomic and user-friendly.

Automatic Wire Threading in just 10 seconds



The ROBOCUT Automatic Wire Feed Level 3 technology makes short work of the threading process, from submerged threading where air vibration is used to assist the threading process, to normal threading where a jet of water is used to complete threading in just 10 seconds.

This strengthens the unmanned capability of the machine, to enable even longer periods of unattended cutting.

Early Detection – Simple Maintenance

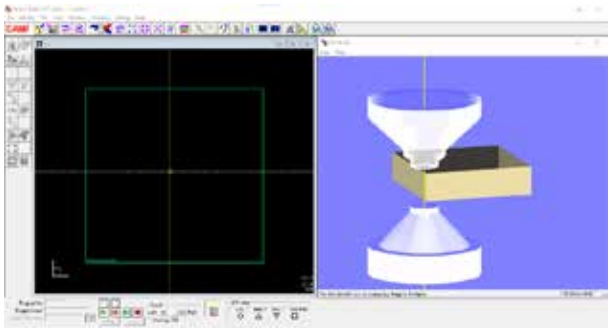
The FANUC ROBOCUT also has an intuitive maintenance interface screen which allows the operator to pre-emptively check all maintenance related requirements to prevent any potential unplanned downtime. Simple diagnostic features, counters, and visual outlines also assist the operator to determine if there is or will be any impending issues.

For further information, please contact Fanuc – Tel: 011 392 3610.

ROBOCUT CCR Rotary Table

The ROBOCUT CCR is a fully submersible rotary axis which can handle a workpiece of up to 40 kg in mass. The CCR offers maximum accuracy across a wide range of applications with a FANUC Servo motor and rotary encoder. This option can be fitted to the ROBOCUT to enable gear cutting, PCD toolmaking as well as host of other applications which would otherwise require manual rotation of the part.

ROBOCUT-CAMi



FANUC ROBOCUT-CAMi offers multiple 2D and 3D import data options such as DXF, IGES and STEP files. CAMi houses all the necessary cutting conditions and does not require any further EDM technology settings on the ROBOCUT.

ROBOCUT CAMi also offers flexible programming for the core stitch function and now also supports ROBOCUT CCR programming.

MICROFINISH 2 FUNCTION

FANUC's MICROFINISH 2 (MF 2) power generator enables ultra-fine surfaces whilst ensuring maximum accuracy. MF 2 uses up to 5 skim cuts to realise high quality and high accuracy surfaces.

FANUC

RELIABLE | PREDICTABLE | EASY TO REPAIR

High Precision Wire EDM

NEW α-D*i*B Plus Series
High Speed Machining Centre

CNC Controls

High Precision Plastic Injection Molding

Industrial Robots

011 392 3610 www.fanuc.co.za sales@fanuc.co.za
Johannesburg | Durban | Port Elizabeth | Cape Town

THE RIGHT TOOL FOR CNC TECHNOLOGY

The history of computer numerical control (CNC) machines dates back seven decades. During the 1950s, CNC technology was difficult to introduce due to manufacturers' scepticism. Today, it is hard to imagine the world of manufacturing without CNC machines. In material-removal processes, a CNC machine has become the central link that determines the functional capabilities of a manufacturer. CNC machining centres are complex machines that continue to evolve and improve. The advancement of CNC technology is based on the progress in various fields such as main spindle and its bearing units, machining slideways, high-velocity drives, computer engineering, hydraulics, electric motors, robotics, sensors, etc. When compared to a conventional machine with mechanical parts, the share of modern digital CNC machines is significantly higher.

CNC technology will continue to be the backbone of machining methods in the near and far future. The development of CNC machines is intended to increase versatility, productivity, stability, reliability, and accuracy of a given machine. These targets are ongoing milestones that assure contemporary machining results. The leap forward relates to machining centres that combine subtractive and additive technologies being CNC machining and 3D printing. At the same time, a complete rethink of CNC advancement has been brought about by INDUSTRY 4.0 and the concepts of smart manufacturing. In a smart metalworking factory, there is information exchange between the real world of CNC machines and a virtual world that functions according to features of the machined parts and their respective theoretical characteristics. Smart balancing on the boundaries of these worlds and analyzing the real-time information contributes to decisions and corrections that are made by computer-controlled units.

The element, which is much smaller, substantially cheaper, and considerably less complicated when compared to a CNC machine, is a cutting tool which is the link that directly removes material from a workpiece and closes the process of "machine-workpiece". Due to objective reasons, this element is subjected to less fundamental changes and frequently identifies the cutting tool to be the weakest link in the processes, which also limits system capabilities. Therefore, appropriate upgrading of cutting tools should be considered as an integral part in the progress of CNC technology.

The complex shape of replaceable cutting inserts is evidence of today's technological capabilities.

A conventional approach to making cutting tools relates to designing innovative cutting geometries, using advanced cutting materials, and applying leading production technologies intended to improve tool life, ensure greater material removal rate (MRR), provide higher accuracy, and increase reliability. Nevertheless, INDUSTRY 4.0 trends in the development of CNC technology place priority on the digital component of a cutting tool.

Information has constantly accompanied cutting tools even before INDUSTRY 4.0. Catalogue data, tool drawings, and recommendations regarding applications were provided in printed formats and later as electronic formats and continue to be essential for metalworking. Computerization has affected customer support by providing expanded capabilities in the form of data. Various software applications have enabled selecting optimal tools and estimating tool life under specific machining conditions. The combination of ISCAR's NEO-ITA and Power Consumption applications enable quick calculation of cutting forces, bending load, power consumption, finding suitable cutting material grade, the right tool for a specific application, and analyzing competitors' products alongside other useful functions. Customers can easily access data and related information by use of computers and mobile devices. Notwithstanding, advancements in network communications have introduced the world of metal cutting to the virtual electronic world.

Adjusting accurately is a typical feature of various modern tools.

Digital twin technologies complement manufacturing processes. Machining modelling, collision checking, process optimizing to find best cutting strategies are only some examples. In a smart factory, the digital twin is the most significant brick of the foundation. Understandably, only a tool having its digital twin is acceptable for the smart factory's toolroom.

The progress of CNC technology leads to new demands for cutting tools. A tool producer is expected to be a provider of a product that ideally combines a tool as a material object, its real-time digital twin, and an appropriate software environment. This allows the seamless incorporation of the tool data in CAD/CAM and virtual manufacturing, direct transmitting by Internet of Things (IoT) networks – tool packages and virtual assemblies.

To make tool representation clear for various computer systems, the ISO 13399 standard was developed and assures the platform's independence. This standardization is necessary for other digital components of the tool package to unify data related to tool life, calculated loads, machining conditions, etc.

ISCAR's digital tool component, which is based on the ISO 13399 standard, includes the following characteristics.

Cont. on page 14 ☞

.p21 files, 3d and 2D tool representations, and other virtual products for advanced CNC technology, form ISCAR's digital tool package.

High Feed Milling

LOGIQ4FEED
HIGH FEED MILLING

Unique Twisted High Positive **4 Cutting Edged** Insert. A Range of Tools from 12 mm Endmills up to 125 mm Facemills. This New Line of Tools Enables Machining at Very High Feeds for **High Productivity.**

NEW

Size 08 mm
Dia. Range: 50 - 125 mm
for Facemills

Size 04 mm
Dia. Range: 12 - 32 mm
for Endmills

NEOLOGIQ
MACHINING INTELLIGENTLY

Member IMC Group
ISCAR
www.iscar.co.za

ISCAR SOUTH AFRICA (PTY) LTD | TEL: (011) 997-2700 | FAX: (011) 388-6820

MULTI-MASTER CONCAVE RADIUS DISC-TYPE MILLING HEADS

ISCAR expands the MULTI-MASTER interchangeable milling heads line with concave radius disc-type milling heads.

Featuring a ground, positively inclined rake face and 6 teeth with T10 threaded connection, the milling heads have a radius profile on both sides and are available in 1.0, 2.0, 3.0 and 4.0 mm corner radii.

The milling heads feature corner rounding (straight or profiles) and chamfering (less burrs than 45° straight chamfering) on either upper or bottom corners and are made from IC528, a versatile PVD coated carbide grade.

Due to the 6 flute design, the new milling heads can run at very high table feeds and consequently facilitate higher productivity.

☞ *Cont. from page 12*

- E-catalogue with various search functions, updated promotion information and reference data.
- The .p21 file (a STEP file) includes a product identification class for a comprehensive tool data representation and exchange.
- 3D tool representation for computer modelling and CNC programming in accordance with the ISO 10303 standard (STEP).
- A 2D tool representation in DXF format for a planned process documentation, drawings, tool layouts and setup sheets.
- Virtual tool assembly options for turning, milling and hole making tools intended for generated digital assembly twins in both 3D and 2D representations.
- NEOITA – ISCAR Tool Adviser, an expert system that recommends optimal tooling solutions for a specific application.
- The machining calculator and the cutting material grade optimizer software applications.

A rapid pace of industrial digitizing takes CNC technologies to new heights. This gives a boost to appropriate changes in the product range of a tool manufacturer and demands strong links between a cutting tool and its virtual digital component.

For more information, please contact ISCAR South Africa (PTY) LTD – Tel: 011 997 2700.

ROSSLYN MACHINE TOOLS

456 Jan Van Riebeeck Street, Pretoria North e-mail: info@rmts.co.za Web: www.rmts.co.za

Tel: (012) 546-5616 – (012) 546-8645 – (012) 546-9498 Fax: (012) 546-5590 – Pierre 082 552 8187 / Peter 082 572 5773

Meyerton Branch: Tel: (016) 365-6773 / (016) 365-6778 For all your Electrical Motors & Gearboxes, Bearings, Water Pumps and Mining Equipment

USED MACHINES

CNC MACHINES
MONFORTS CNC LATHE, MODEL: KNC 5, B/C 1000MM, SWING 245MM ..... P.O.A.
KIA SUPERTURN 15 CNC LATHE, FANUC OI-TB CONTROL ..... P.O.A.
ABA CNC SURFACE GRINDER, TABLE SIZE: 800MM X 400MM ..... P.O.A.

COMPRESSORS
INDUSTRIAL PISTON TYPE COMPRESSOR, 3 HEAD, 22KW ..... P.O.A.
PISTON TYPE COMPRESSOR, TANK: 500LT, MOTOR: 11KW ..... P.O.A.
ATLAS PISTON COMPRESSOR, MOTOR: 5.5KW, TANK: 400LT ..... P.O.A.
ABC COMPRESSOR, MODEL: 4HA-6-TRIS-LT, BAR:42 ..... P.O.A.
ABC COMPRESSOR, MODEL: 4HA-6-LT, BAR:42 ..... P.O.A.
TEVA COOLING TOWER, MODEL: RMA-130 D ABC ..... P.O.A.
SULZER COOLING TOWER, TYPE: EWK144/09/30/6 ..... P.O.A.

DRILLING MACHINES
MEDDINGS BENCH DRILL, 13MM R2 500.00
TAI PIIN RADIAL ARM DRILL, 1100MM TRAVEL, 50MM CAPACITY ..... P.O.A.
MAS RADIAL ARM DRILL, 800MM X 32MM ..... P.O.A.
RADIAL ARM DRILL, 1600MM X 50M ..... P.O.A.

GRINDING MACHINES
BRIERLEY DRILL SHARPENER, CAPACITY IUP TO 25MM ..... P.O.A.
USED FAVRETTO ROTARY GRINDER, MODEL: TR 60 ..... P.O.A.
USED OKUMA CYLINDRICAL GRINDER, MODEL: GU 33 900 ..... P.O.A.
LODI SURFACE GRINDER, TABLE SIZE: 1000MM X 600MM ..... P.O.A.
MICROSTATIC RATATING GRINDER, TABLE SIZE: 800MM ..... P.O.A.
SPRINGFIELD VERTICAL INTERNAL GRINDER, TABLE SIZE: 630MM ..... P.O.A.
ABA SURFACE GRINDER, TABLE SIZE: 800MM X 400MM ..... P.O.A.
PEAR AUP LIP FINDER, MODEL SE1-8728 ..... P.O.A.
TOS IN/EX GRINDER, MODEL BU28, 700MM X 280MM SWING ..... P.O.A.

IRON WORKERS
GEKA 55 TON HYDRAULIC IRON WORKER, PUNCH, SHEAR, NOTCHING ..... P.O.A.
EDWARDS HYDRAULIC PUNCH ..... P.O.A.
FICEP HYDRAULIC IRON WORKER, MODEL: 604N ..... P.O.A.

LATHES
URPE LATHE, MODEL,4M72 1000, B/C 1000MM X 400MM X 55MM ..... P.O.A.
CONTOUR LATHE, 1000MM B/C, 460MM SWING OVER BED ..... P.O.A.
CMZ LATHE, 1000MM B/C, 360MM SWING OVER BED ..... P.O.A.
USED WING CENTRE LATHE – MODEL: L1660 ..... P.O.A.

LOCKFORMERS
FORMTEK LOCKFORMER, MODEL: TDC-V, 12 STATIONS, 0.5MM ~ 1.25MM ..... P.O.A.

MILLING MACHINES
HURON TOOL ROOM MILLING MACHINE, 2000MM X 470MM BED, DRO ..... P.O.A.
BEMATO MILLING MACHINE,1400MM X 370MM, 3 AXIS DRO ..... P.O.A.
KONDAI TURRET MILL WITH POWER FEEDS AND DRO ..... P.O.A.

PLATE ROLLERS
MECHANICAL PYRAMID ROLLER, 6MM X 1250MM ..... P.O.A.
ALPA PYRAMID ROLLER, 6MM X 3200MM, AS NEW ..... P.O.A.

PIPE THREADING MACHINES
MAC-AFRIC, 4" THREADING MACHINE ..... P.O.A.

PRESSES – ECCENTRIC/FLY MACHINES
HMW ECCENTRIC PRESS, 70 TON ..... P.O.A.
TOS ECCENTRIC PRESS, 120 TON ..... P.O.A.

SAW MACHINES
METKON METALLOGRAPHIC ABRASIVE SAW R28 000.00
SAMUR VERTICAL BAND SAW WITH BUTT WELDER ..... P.O.A.
SAMUR VERTICAL BAND SAW, MODEL: S-400V ..... P.O.A.
MOSSNER VERTICAL BAND SAW, MODEL: SM-300 ..... P.O.A.
FUHO VERTICAL BAND SAW WITH BUTT WELDER, F.400 ..... P.O.A.
MECHTEC HORIZONTAL HYDRAULIC BAND SAW, FULLY AUTOMATIC, MODEL: DBS280NC ..... P.O.A.
RONG FU METAL BAND SAW, MODEL: RF-712DR ..... P.O.A.
KNUTH DOUBLE COLUMN SEMI AUTOMATIC BAND SAW, MODEL: HB810L ..... P.O.A.

SHEET METAL MACHINES
AMADA CORNER SHEAR, MODEL: CSB220 ..... P.O.A.
MVD CNC HYDRAULIC GUILLOTINE, 4000MM X 4MM ..... P.O.A.
CROWN HYDRAULIC PRESS BRAKE, 160 TON X 3200MM ..... P.O.A.
MVD CNC HYDRAULIC GUILLOTINE, 6MM X 4000MM ..... P.O.A.
USED HACO NC HYDRAULIC PRESS BRAKE, MODEL: ERMS 30-135 ..... P.O.A.
USED HACO NC HYDRAULIC GUILLOTINE, MODEL: TSX 3006 ..... P.O.A.
EDWARDS MECHANICAL GUILLOTINE, 6MM X 2500MM ..... P.O.A.
SMAC HYDRAULIC GUILLOTINE, 6MM X 3200MM ..... P.O.A.

WELDING MACHINES
LARGE RANGE OF MIG, TIG AND ARC WELDERS AVAILABLE ..... P.O.A.

WOOD WORKING MACHINES
USED BINI RIB SANDER ..... P.O.A.
FRAGRAN 14" WOOD CUTTING BANDSAW, MODEL: WA-14 ..... P.O.A.
SCHEPPACH SPINDLE WITH FEEDER, MODEL: HF3000 ..... P.O.A.
AUSTRO PANEL SAW, K3 WINNER ..... P.O.A.
WADKIN HEAVY DUTY THICKNESS/PLANER COMBINATIONS, 600MM ..... P.O.A.

Lathes, Cam Autos, CNC Machines, Milling Machines, Presses, Grinders, Punching Machines, Welders, Drilling Machines, Saws, Spark Eroders, Guillotines, Press Brakes, Wood Working, Compressors and many more.

••AS NEW•• EasyRoute Lite PVC Clampable, Vacuum CNC Router with 3kW water-cooled spindle and stepper motors, with vacuum pump and dust collecor – full package. Bed size: 1300mm x 2500mm.

ALL PRICES EXCLUDING VAT

NEW M.A.C. MACHINES AVAILABLE

To view photos and more details: www.rmts.co.za WE ALSO SEEK PLANT & MACHINERY FOR PURCHASE

HEIDENHAIN TNC Controls
Reliably master 5-axis machining

Consider five-axis machining as a way to enhance your manufacturing throughput, reliability and part portfolio. TNC controls from HEIDENHAIN make this powerful technology accessible to users on the shop floor. You can program complex parts directly at the machine, simulate your programs with dependable machine modelling and ensure perfect results with renowned HEIDENHAIN motion control. Normally complex tasks become easy thanks to user-friendly canned cycles for machine calibration and automated workpiece probing. And importantly, the Dynamic Collision Monitoring (DCM) function protect your machine from damage and downtime.

Discover powerful functions

www.heidenhain.com/5axes

MAFEMA SALES SERVICES CC
Tel: +27 11 314 4415 Fax: +27 11 314 2289
Address: 28 Monte Carlo Crescent, Ground floor, Suite B,
Kyalami Business Park, Main Road, Kyalami 1684
E-mail: mailbox@mafema.co.za
www.Heidenhain.co.za

TAEGUTEC'S NEW SFEED-TEC FAMILY PROPELS MACHINING INTO NEXT GENERATION

TaeguTec is introducing an exciting advanced line of performance-driven cutting tools specifically formulated for the Industry 4.0 revolution that not only guarantees incredible machining productivity by attaining quicker speeds and higher feed rates, but achieves longer tool life and unsurpassed consistency.

SFEED-TEC's revolutionary tools are a premium high-speed and feed machining line that assures new winning results. In this new era of Industry 4.0, where time is of the essence, fast, accurate machining gives customers the competitive edge.

The powerful, new SFEED-TEC advanced technology – which stands for Sharp, Fast, Easy, Exact and Durable – has been applied to every family of tools within the TaeguTec umbrella, while at the same time TaeguTec has refreshed and upgraded its existing lines to exceed today's challenges.

TAEGUTEC SFEEDTEC HIGH SPEED & FEED LINES

The global metalworking giant continuously works in close cooperation with its customers to push the boundaries of product design and innovation in order to develop highly effective and ingenious tool solutions that surpass today's machining needs and propel customers' manufacturing processes into the next level of production like never before.

Of the manufacturers already benefiting from the enriched SFEED-TEC family of cutting tools, the result has not only matched customers' anticipation but has exceeded expectations by advancing their production output into unmatched exciting areas.

Furthermore, the new line of technologically advanced SFEED-TEC tools – with its new cutting geometries and clamping mechanisms for stable, vibration free machining with higher repeatability – easily machines all alloys used in every industry. However, the true merit of this thrilling new line is its superb handling of difficult to cut materials quickly and efficiently.

The optimized new tools have sensational and creative cutting geometries and clamping mechanisms that firmly clench the tools in place; simply put, the result is stable, vibration free, rapid machining with an unmatched industrywide overall performance. SFEED-TEC's powerful indexable inserts are equipped with sophisticated chip formers and leading-edge geometries that predicts and facilitates soft cuts at high feed rates with ease.

Of the innovative and inspired product ranges that include strong holders, resilient inserts and sturdy cutters, five outstanding brands have been chosen as TaeguTec's golden performers for their unmatched and exhilarating, Speed and Feed advance qualities that maximize equipment utilization and optimize performance.

TURNSFEED TURN-SFEED takes the turn for higher speed and feed turning. This SFEED-TEC golden performer for multi-directional turning, features a trigonal insert with 6 cutting edges for high speed and feed. The unique pocket structure and insert clamping mechanism withstands multidirectional forces to ensure continuous and consistent high feed turning. Coolant is efficiently blasted to the cutting edge from the top as well as the bottom of the tool.

CUTSFEED For parting and grooving, TaeguTec's CUT-SFEED original design goes beyond the metalworking world's imagination and expectations for single-ended inserts that perform parting and deep grooving applications. The new line resolves the challenges where others have failed by rectifying the issue of vibration, unstable tool life and frequent breakage stemming from bad chip evacuation.

The innovative and superlative golden CUT-SFEED line, and its new robust insert, is shaped to provide high stability. The unique clamping system enables machining at high-speeds and feeds for greater productivity. The tools are designed with pinpointed coolant accuracy for better edge life and efficient chip evacuation.

DRILLSFEED SFEED-TEC's phenomenal DRILL-SFEED, with its innovative head changeable solid carbide heads, features 3 effective cutting edges and is the right solution to increase production by an industry leading 50 percent. The unique self-centering head geometry creates high balancing forces at the workpiece penetration point and promises reliable performance in high cutting conditions. This golden drilling line offers accurate hole sizes and premium surface finishing on steel and cast iron materials.

The intelligent design of the DRILL-SFEED's head runout remains accurate in its position after replacement, assuring no setup time because of the fast head replacement operation and minimum machining downtime. Moreover, the line's advanced blue coating technology combined with its 3 effective cutting edges, as well as the highly efficient internal coolant system that enables for excellent chip evacuation, empowers this SFEED-TEC flagship to drill at high-speeds and feed rates.

Milling solutions have been answered with two incredible golden offerings, MILL-SFEED and TANG-SFEED.

MILLSFEED MILL-SFEED is a golden indexable line for 90-degree shoulder milling that is now smaller than ever. The unique, advanced V-shaped insert has a strong and durable structure, for small diameter tools down to a 6 mm diameter. The V-shaped pocket possesses a durable structure that allows for highly stable insert positioning, which is vitally important in small diameter cutters.

Also, MILL-SFEED enables for the mounting of an increased number of inserts so that they could be used for various applications due to high ramp down and plunging capabilities. Additional inserts for high feed rates can be mounted on the same tool, which allows for 0.7 mm feed per tooth in shallow depths of cut. Overall, this milling genius combines high speeds and feeds for higher productivity.

TANGSFEED Last but not least is the golden TANG-SFEED brand, a new revolutionary line for high-speed and feed milling. Moving tangentially with its new golden rigid inserts for 90 degrees shoulder milling, TANG-SFEED's thick robust inserts are mounted on a strong tool body with a large core and can absorb very high cutting forces. The tool design produces exact 90-degrees shoulder operations, which avoids mismatch when machining next to walls. The insert design provides an exclusive option for ramp down. On the whole, TANG-SFEED enables machining under tough conditions with unsurpassed consistency for extraordinary speeds and feeds.

Being at the forefront of innovation, technology, design and creativity, TaeguTec's technologically advanced, unique and premium Speed and Feed inspired tools help to accentuate the fourth industrial revolution into one that increases productivity while reducing cost – two factors that increase profitability and directly responds to the diverse needs of the metalworking world.

For more information please contact TaeguTec – Tel: 011 362 1500.

Total Industry Solutions

Get Inspired!

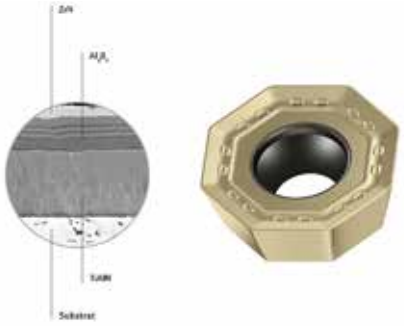
TaeguTec cutting tools remove the stress of manufacturing in order to create reliable products.

TaeguTec South Africa (Pty) Ltd.
PO Box 3121 Springs 1560 | Block F, Clearwater Office Park South, Cnr Atlas & Park Rd, Parkhaven, Boksburg
+2711-362-1500 info@taegutec.co.za www.taegutec.com

INDUSTRY 4.0 TaeguTec Member IMC Group

TIGER·TEC® GOLD FOR UNIVERSAL USE IN ALL WALTER MILLING TOOLS

With the Tiger·tec® Gold grade WSP45G, Walter developed a generation of indexable inserts capable of approximately 30 percent more performance, which represents a technological leap in ISO P, M and S; in steel they even achieve up to 75 percent higher performance. After Walter had initially introduced the indexable inserts for the latest milling tools, Xtra·tec® XT, Walter BLAXX and M4000, the second phase of the launch added indexable inserts for further Walter milling cutters, such as the Xtra·tec® shoulder, helical and slotting milling cutters, as well as for high-feed and copy milling cutters. With the third phase of the launch, the PVD grade WSP45G, now complete, Tiger·tec® Gold can now be used universally: The user can now use the latest Tiger·tec® Gold grade WSP45G in all manufacturer milling cutters.



Vital to the grade's performance, which is unrivalled on the market, is the coating technology and its special layer structure: The gold-coloured ZrN top layer facilitates exceptional friction characteristics as well as excellent wear detection. The multi-layered aluminium oxide coating (Al_2O_3) makes the inserts temperature-resistant. The TiAlN layer and the carbide substrate as a foundation increase the wear resistance. These properties make the inserts ideal for challenging conditions, such as interrupted cuts, long overhangs with a tendency to vibrate or for wet machining. With the new grade, users can now harness the full benefits of Tiger·tec® Gold in all Walter milling cutters, be it the much longer tool life, higher cutting values or more process reliability.

INTERNAL MACHINING WITH WALTER TURN W1211 AND W1210 BORING BARS

With the W1211/W1210 copy turning system, Walter is transferring to internal machining the positive features of its W1011/W1010 turning system for external machining that is already established on the market. The boring bars and indexable inserts with WL positive engagement solve a common problem. High forces occur when copy turning with V-style inserts, which cause micro movements of the insert in the toolholder and therefore widen the insert seat. This results in increased wear, less precision and a lack of indexing accuracy with indexable plate types such as VBMT or DCMT. Due to their positive-locking insert seat design with three-point support, the W1211/W1210 boring bars and WL25 inserts achieve outstanding stability. This increases the tool life while enabling users to use the tools in both directions of travel, which increases the indexing accuracy by 50 percent.

Walter offers two versions of the boring bars with diameters of 25, 32 and 40 mm: W1210 for profiling angles of up to 72.5' and W1211 for profiling angles of up to 50°. The positive WL25 indexable inserts with three cutting edges are available in four insert types, depending on the requirements of the application. Neutral, left-hand right-hand and full-radius versions fit into the same tool. In addition to the wear-resistant Walter Tiger·tec® Silver grades that are currently used, Tiger·tec® Gold inserts will be available soon. The dual rake face cooling and the optional axial cooling for flushing out the chips during blind-hole machining also result in longer tool life and therefore greater cost-efficiency. These special features and the versatility of the system make it the current benchmark for the market.

WALTER MD177 AND MD173 SUPREME SOLID CARBIDE MILLING CUTTERS FOR ISO S, P AND M

With the MD177 Supreme and the MD173 Supreme, Walter is for the first time launching solid carbide milling cutters with seven cutting edges. Developed for the aerospace industry, their performance is excellent not only in titanium, but in steel and stainless steel, too. The two Supreme tools are set apart from standard solid carbide milling cutters by their geometry, among other features. The version with seven teeth achieves excellent productivity, while its uneven pitch reduces vibration, ensuring excellent operational smoothness. The entire length of the cutting edge can be used, meaning that wear is relatively uniform – in turn extending the tool life of the milling cutters.

This statement applies particularly to the MD173 Supreme. This is because the roughing cutter was designed specifically for dynamic milling and for reducing machining time. Its cutting edges equipped with chip breakers enable excellent chip breaking, and therefore outstanding process reliability with high metal removal rates, as you will be familiar with from dynamic rough milling. This is advantageous, for example, for users with unmanned production processes. The MD177 Supreme finishing face milling cutter creates very smooth surfaces without "waterlines" because the entire length of the cutting edge is used during chamfering. As a package, the milling cutters therefore promise outstanding productivity and process reliability, with excellent surfaces in ISO S, ISO P and ISO M.

WALTER PRESENTS DC118 SUPREME FOR DIFFICULT HOLEMAKING APPLICATIONS

With the DC118 Supreme solid carbide drill, Walter is signalling the start of a new performance class for challenging applications. The "180° drills" differ from standard solid carbide drills in particular due to the high rigidity they provide against deflection, the good centring accuracy and four chamfers, which enable excellent guidance after plunging. The reason for this is the 180° point angle, among other features. This means that the DC118 Supreme is ideal for plunging into angled or round surfaces because the drill is guided quickly on the external faces and centred accurately. At the same time, burr formation remains extremely low. A protective corner chamfer on the cutting edges protects them against rapid wear, which significantly increases tool life compared to drills without a protective chamfer. The excellent rigidity of the drill is a third feature which sets it apart from other products on the market. It is the result of the flat 15° helix angle, which minimises deflection forces and ensures a high level of stability and precision during ramping.

Initially designed for pilot drilling of deep bores on crankshafts, the current DC118 Supreme drill versions are now suitable for universal application with all materials and components. Practical applications, in addition to bores in angled or round surfaces, also include operations involving a flat hole face (such as for threads), components with an uneven surface (due to forged skin, for example) or chain drilling. In these applications, the DC118 Supreme impresses with long tool life and a high degree of precision and process reliability. The precision tool manufacturer offers the Supreme drill in the highest performance class with a diameter of 3–20 mm up to 2 × D as standard or as a special tool up to 5 × D via Walter Xpress with a delivery time of two weeks.

For further information, please contact Spectra Carbide – Tel: 0860 23 23 23.

SPECTRA
CARBIDE TOOLING TECHNOLOGY (PTY) Ltd

SHOP NOW OPEN ONLINE

www.spectra-sa.co.za

WALTER

With Walter's wide range of precision tools your solution is just a click away.

QUICK & EASY REGISTRATION

7-10 DAYS DELIVERY
(FREE FOR ORDERS OVER R1000 | SA ONLY)

SAFE AND SECURE 3D AUTHENTICATION

0860 23 23 23 | spectra@spectra-sa.co.za | www.spectra-sa.co.za

REIME NORIS – PRODUCT RANGE FOR UNIVERSAL THREAD MILLING CUTTERS EXPANDED

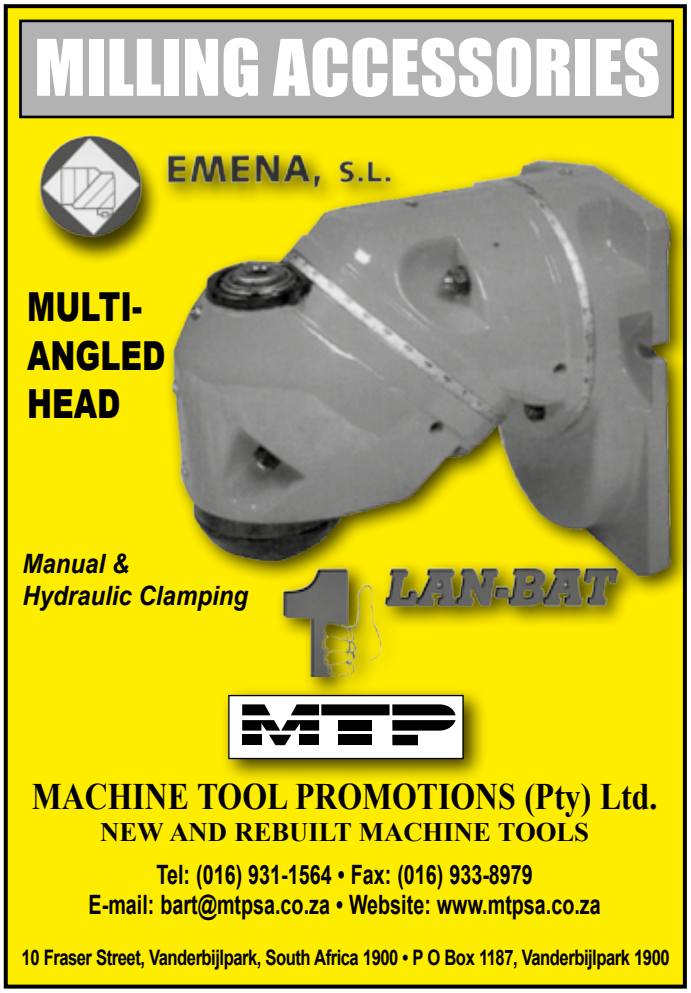
As an innovative manufacturer of threading tools, REIME NORIS offers an extensive range of products for the economic production of threads in a wide variety of materials. The company is now expanding its successful thread mill series NORIS SF R15. In addition to the thread types M, MF and G, this tool is now offered for the production of UNC and UNF threads.

The NORIS SF R15 is a multi-row thread mill for processing a wide range of materials. It guarantees short machining times and high tool life. It should be particularly highlighted that the thread is efficiently produced over the entire depth of the core hole with only one turn, for the type SF SE even with countersinking. With a helix angle of 15° right, these thread mills can withstand high mechanical stress. Optimum results are achieved by the specially adapted interaction of the TiAlN coating with its high hardness and temperature resistance and the profile-corrected geometry.

From now on, the NORIS SF R15 is available from stock in all common standard sizes. For special applications the REIME NORIS team of experts with excellent know-how in thread machining is available.

NORIS SF R15 K20-TiAlN mKB

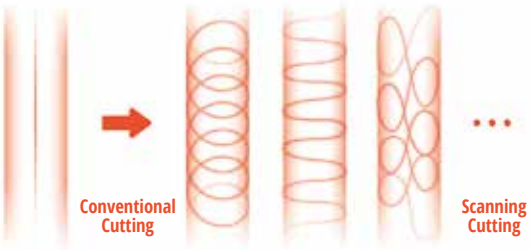
For more information, contact Duncan McDonald – Tel: 011 865 4090.



CATEGORY CREATOR
LASER SCANNING CUTTING MACHINE

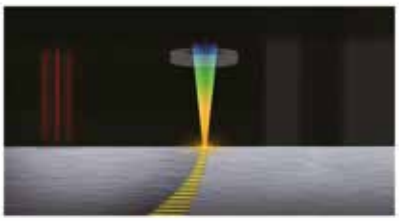
SCANNING-TYPE BEAM MOTION

With a **1000+** patented algorithms
Various cutting needs are met



With the high frequency scan at **200 times** per second, beam locus covers **30 metre**s at the fastest when cutting one metre.

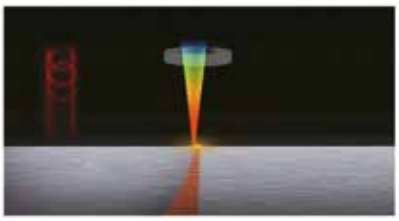
Conventional Cutting



Low energry absorption rate in the cutting zone

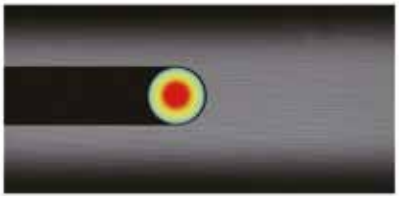
VS

Scanning Cutting



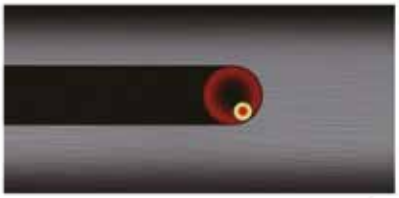
High energry absorption rate in the cutting zone

Conventional Cutting



VS

Scanning Cutting



Maximum **30 times** effective beam route

Integral Machine Tools

Integral Sales : (072) 397 9956
Benjamin : (074) 373 7503

sales@integralmachines.co.za

THE ULTIMATE SOLUTION FOR TUBE PROCESSING

Sheet metal processors accelerate their tube laser business with Bystronic's new ByTube Star 130, the high-end tube laser with the most features. Accuracy, ease of use, and a fully automatic setup with open profiles and ellipses lead to more flexibility and higher quality in production.

Bystronic supports its customers with solutions that make them even more competitive. Thanks to high-performance machines and optimized processes, they can look to the future with confidence. With the ByTube Star 130 laser cutting system, sheet metal production companies can easily and quickly enter the tube processing business and thus access new customer groups.

Fully automatic setup

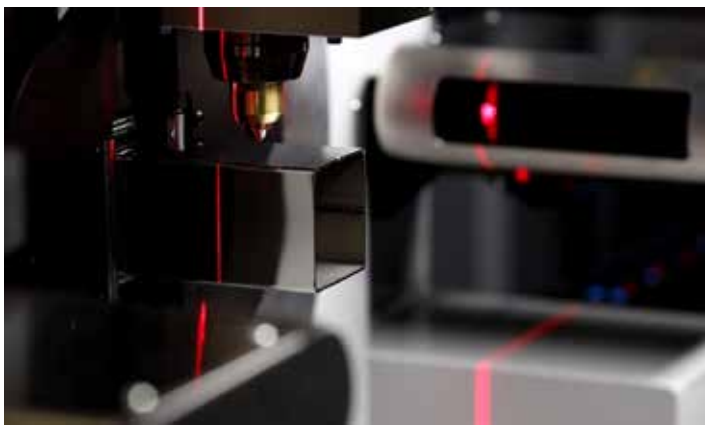
With the ByTube Star 130, sheet metal processors who want to expand their portfolio have the perfect solution for tube processing at their fingertips: fast, simple, efficient, and with the most functions. The wide range of applications for all metallic materials in sizes from 10 to 130 millimetres and raw material lengths of up to 8.5 meters opens up new possibilities.

The automated system reduces manual intervention to a minimum, making it particularly easy to get started in tube processing. At the same time, the machine covers an extremely wide range of requirements: Since 85 percent of the market potential lies in the small tube segment, the ByTube Star 130 is geared toward processing tubes with diameters from 10 to 130 millimetres. The machine has a loading capacity of up to 17 kilograms per meter. With the 2D cutting head, 90 percent of all customer requirements can be met, as vertical cuts account for the largest market share.

Fast and precise machining of workpieces from 10 to 130 mm throughout the entire range, including open profiles.

Available in two power levels, 2 or 3 kilowatts, the fiber laser unit of the ByTube Star 130 impresses with excellent energy efficiency as well as consistently uniform cutting quality.

Additional options increase precision



The "Quick Cut" and "Laserscan" functions ensure an optimized process for tube processing.

Additional options can be configured individually and enable further operating convenience as well as increased production quality:

- "Laserscan": real-time compensation of pipe bending to improve cutting precision, meaning high accuracy is guaranteed in all cutting conditions, even with low-quality material.
- "Quick Cut": greater speed for better performance thanks to an additional linear axis.

Automatic weld seam detection enables the weld seam to be automatically oriented to the desired position. Via Laserscan, the function independently detects and compensates for geometric deviations of tubes, thus ensuring the accuracy of cutting operations regardless of raw material quality.

Easy and convenient to use

Modern and efficient sheet metal production is no longer conceivable in this day and age without powerful software. With the proven ByVision Tube user interface, Bystronic puts the control of all functions related to the laser cutting of tubes on a touchscreen. Beginners do not need extensive experience to start production on the ByTube Star 130. Cutting jobs are set up quickly, and the interface is intuitive and easy to understand.

ByVision Tube builds on the proven Bystronic software ByVision, which Bystronic uses for all other cutting and bending systems. The intuitive software supports users in importing and creating cutting plans, which makes the operation of cutting sequences on the ByTube Star 130 particularly convenient. Visualizing parts and models, creating cutting plans, monitoring production processes, be they small batches or large orders — thanks to ByVision Tube, users progress productively and quickly from entering orders to delivering finished parts.

Left or right is irrelevant

As the only supplier worldwide to do so, Bystronic also offers the ByTube Star 130 laser cutting system in a version with a "mirrored" configuration upon request. This enables customers to select the optimal layout for their individual production flow. Though simple at first glance, this "mirroring" presents advantages: Loading and unloading areas no longer get in each other's way. This not only reduces logistical effort, but also saves space and labour. And thanks to faster throughput times, productivity can be significantly increased.

Flexibility and high productivity with fast loading and unloading.

The ByTube Star 130 combines intelligent machine design and leading cutting technology. Its simple operation, wide range of applications, and sophisticated options ensure that Bystronic customers are always one step ahead of others in ever-tougher competition.

For further information, please contact Bystronic – Tel: 010 410 0200.

Bystronic

Best choice.

Fast
Reliable
Support

Best
machines

Best
choice

ByStar Fiber 20kW

Laser cutting in the fast lane

A 40% higher average in productivity for mild steel and stainless steel 4 mm to 20 mm sheets compared to 15 kW. Advanced applications in steel and aluminum up to 50 mm. The 20kW is a new benchmark in terms of productivity.

MTMA
MACHINE TOOL MERCHANTS ASSOCIATION

Cutting | Bending | Automation

bystronic.co.za
info.za@bystronic.com
+27 10 410 0200

BYCUT SMART 6225 – HIGH PRODUCTIVITY AND PERFORMANCE AT A FAVOURABLE PRICE

The ByCut Smart 6225 can be equipped with the Fiber 3000, 4000, 6000, 8000, or 10000 laser sources, depending on the user's requirements.

More sheet metal, more parts, more variety, and a new design. The latest generation of Bystronic's ByCut Smart 6225 takes the optimization of sheet metal utilization to a new level thanks to the 6225 cutting format. A laser output of up to 10 kilowatts and the optional BeamShaper are the real highlights of the new system; all this at a favourable price.

More sheet metal, more parts, more variety. Large-format laser cutting systems enable users to stand out against competitors without huge financial expenditures. This is why Bystronic is expanding the ByCut Smart product line with the 6225 format in a new design. The machine can be equipped with the Fiber 3000, 4000, 6000, 8000, or 10000 laser sources, depending on the user's requirements.

Thanks to the new large format, users can process metal sheets on the ByCut Smart with a length of up to 6.2 meters and a width of 2.5 meters. On the one hand, this increases the machine's productivity, because large metal sheets allow the cut parts to be nested more efficiently. On the other hand, this also significantly reduces undesirable raw material offcuts thanks to a high degree of material utilization. Apropos, the BySoft CAM process software supports the user in this process with intelligent nesting procedures.

Now in the large format of 6.2 x 2.5 meters: Bystronic launches the ByCut Smart laser cutting system in the 6225 large format.

Wide range of cutting applications

In addition, the new format increases the variety of cutting applications on the ByCut Smart. If required, large-format metal sheets allow large parts to be cut in addition to diverse small parts, without requiring the machine to interrupt the laser cutting process. This provides an additional competitive advantage that laser cutting systems in the common standard formats cannot offer.

In addition to cutting applications with extra-large metal sheets, it is also possible to process smaller sheets by lining them up on the ByCut Smart's long cutting table. Users can simply prepare sufficient raw material, in order to subsequently allow the fiber laser cutting system to cut without interruptions for a longer period of time.

In addition to the ByCut Smart 6225, Bystronic also offers the fiber laser in the 12020, 8020, 6520, 4020, and 3015 formats.

More sheet metal, more parts: The 6225 format increases productivity thanks to a high degree of material utilization.

For further information, please contact Bystronic – Tel: 010 410 0200.

SOLUBLE CUTTING OIL

Standard Cutting Oil "S2S"

210 Litre Drum
R14 007,00 ea

20 Litre Container
R1 334,00 ea

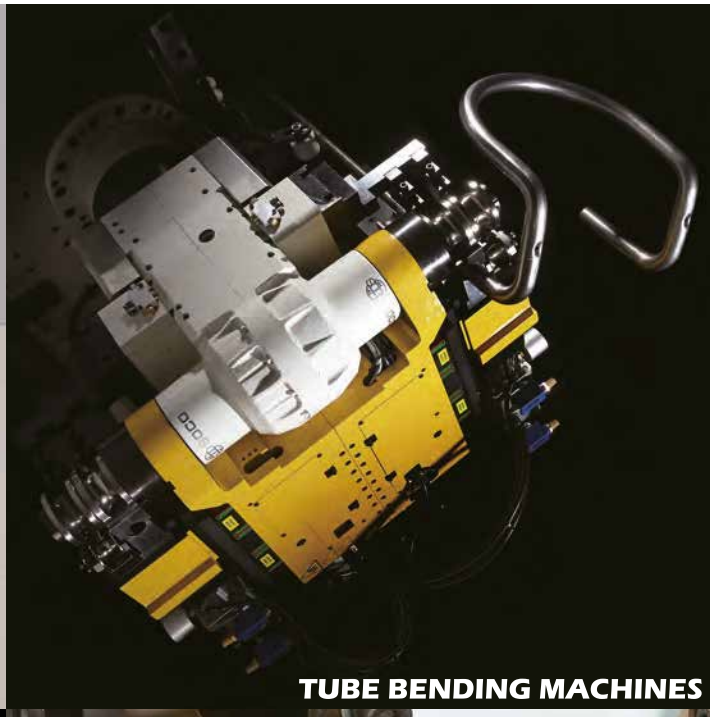
VAT excluded

Dilute with water 20:1
Does not go "OFF" when standing for long periods in machine

A2 Distributors cc

138 Butler Road
Nuffield, Springs 1559
Tel: (011) 363-1766
Fax: (011) 363-2404
E-mail: marie@a2c.co.za or Shinice@a2c.co.za

LASER TUBE CUTTING MACHINES

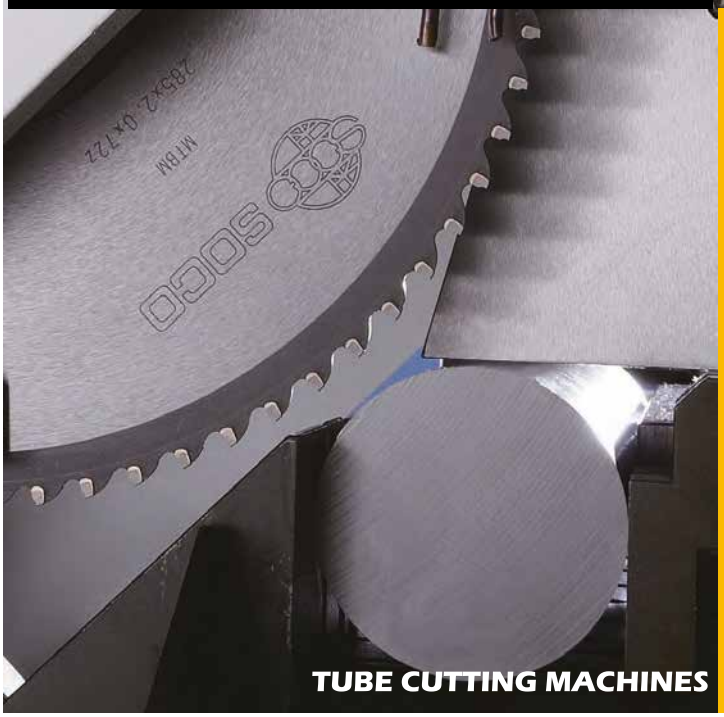


TUBE BENDING MACHINES

SOCO

You will be amazed at how many things around you consists of elements and components produced by SOCO solutions.
From playgrounds to airports and aircraft parts, electric cars, garage tools and windmills, SOCO is proud to contribute to the enhancement of everyday living.

TUBE END FINISHING



TUBE CUTTING MACHINES

SOCO.

SOCO Machinery Co., Ltd.
No.3, Jingke E. Rd., Nantun Dist., Taichung City 40852, Taiwan
T : 886-4-23591888 E : sales@soco.com.tw
W : www.soco.com.tw

PIM Partner In S.Africa

PIM Machine Tools
26 Main Road Eastleigh, Edenvale Johannesburg, South Africa
T : 011 022 4648 E : info@pim-machinetools.co.za
W : pim-machinetools.co.za

NEW R235-MILLION WAX FLOODING FACILITY BEGINS OPERATING AT VWSA PLANT IN KARIEGA

Throughout two and a half years of a worldwide pandemic and varying levels of lockdowns and travel restrictions, a project team across four countries collaborated to establish a new production facility at the Volkswagen Group South Africa (VWSA) plant in Kariega.

This R235-million project came to fruition recently when the ultra-modern wax flooding facility began operating here – simultaneously improving the efficiency and environmental impact of the wax flooding process for locally-built Volkswagen Polos and Polo Vivos.

The wax flooding process, which serves to protect Volkswagen vehicles from corrosion in the cavities of the vehicle body, is now performed in a building covering 5 350m^2 across four levels, in the plant's former electro-coating facility. This same process is what enables Volkswagen to sell vehicles with a 12-year anti-corrosion warranty.

To establish this facility, colleagues across the Volkswagen Group in South Africa, Germany, Croatia and Czech Republic worked remotely from January 2020 to conceptualise the project, often using 3D laser scans, models and virtual navigation in the design phase. The international suppliers working on the project first visited the Kariega plant in July 2021, when the manufacturing of components for the facility had already begun.

A year later, the facility is operating across three shifts and the plant's daily production volume of 680 vehicles per day – though it is capable of meeting the demands of the plant's full installed capacity of 710 vehicles per day. In fact, at its full capacity the wax flooding facility will be able to process 747 vehicles per day.

New R235-million wax flooding facility.

Click to watch video

The process of wax flooding follows after the body of a vehicle has been painted, as certain cavities in the body are inaccessible during the painting process. First the vehicle body is put on a hanger and heated to 60 degrees Celsius in a pre-heating oven, to prevent the wax from solidifying too quickly when it is injected. Next, the body is lowered onto a wax flooding frame where wax (heated to 110 degrees) is injected and flooded into the cavities. Finally, the vehicle is tipped at a 15-degree angle to allow excess wax to run off for re-use. The wax used for the process is shipped from Germany in the form of tablets weighing 4,26 kilograms, which are melted down on site.

Using this new facility has not only allowed the VWSA plant to increase the volume of vehicles moving through the wax facility, but also the environmental impact of the process. The new facility uses 25% less energy for heating, and – as it uses liquefied petroleum gas (LPG) – has reduced CO_2 emissions for the process by 55%.

"This investment from the Volkswagen Group is a massive vote of confidence in VWSA as a production plant," said Ulrich Schwabe, Production Director at VWSA. "The modern facility will allow us to keep building and delivering high-quality Polos and Polo Vivos for local and export customers, while prioritising our commitment to continuously finding more environmentally responsible ways to do so."

MARTINA BIENE TO SUCCEED ROBERT CISEK AS MANAGING DIRECTOR OF VWSA

Robert Cisek will leave Volkswagen Group South Africa (VWSA) on 31 October 2022 to take up the position of Head of Volkswagen Small and Compact Product Line in Wolfsburg, Germany, reporting to Thomas Schaefer, CEO of the Volkswagen Passenger Cars Brand.

Martina Biene, who is currently the Head of Volkswagen Small and Compact Product Line, will succeed Cisek as the Chairperson and Managing Director of VWSA once all the necessary regulatory approvals have been attended to.

Cisek took over the reins at VWSA in November 2020 at the height of the Covid-19 pandemic. He successfully led VWSA through a turbulent period of semiconductor shortages, which impacted Kariega plant production and vehicle sales. Cisek also ensured that no jobs were lost at VWSA during this period.

Biene is returning to VWSA for her second spell, following her tenure as the Head of Volkswagen Passenger Brand from October 2018 until August 2020.Biene has 20 years of experience in the Volkswagen Group, having worked in Sales, Marketing, Product Planning and Product Marketing for Luxury Vehicles and the Volkswagen Brand in Germany, Belgium, Luxembourg and South Africa.

"I would like to thank Robert for steering VWSA to a stable position

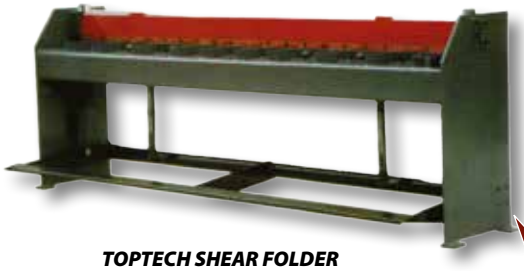
Cont. on page 28 ☞

HARP
Service & Spares

HARP
Service & Spares

BAOJI CENTRE LATHE
CS6266C x 2m lathe

TOPTECH MANUAL H-FRAME PRESS
HWP M20/15
HWP M10/15



TOPTECH SHEAR FOLDER
Model: 1.6 x 2060 E-type

TOPTECH DRILL PRESS
E 17 & E 23

TOPTECH PEDESTAL DRILL
Model: Drilling 16 & 25

We stock a
WIDE variety
of machine spares for
lathes, mills, drills,
saws & borers

HARP WAYTRAIN HORIZONTAL BANDSAW
UE-712A1 / UE-916A / UE-918S /
UE-250 / UE-330

HARP SMTCL TURRET MILL
Model: TM300/TM250
CW, 3 axis DRO, clamping kit,
collet set & machine vice

TOPTECH LATHE TURNER
240 x 500mm
Variable speed mini lathe
D140 x 250

HARP SMTCL RADIAL DRILL
Z3032x10/1 / Z3050x16/1 /
Z3063x20/1 / Z3080x25

TOPTECH CIRCULAR SAW
CS 315 SA – Automatic

We're moving!
41 Turf Road
Anderbolt
Boksburg

Harp quality never lets you down

Monday-Thursday 08h00-16h00 • Friday 08h00-13h00 | Saturday by appointment

e-mail: heather@harp.co.za / spares @harp.co.za
Tel: (011) 918 5138 / 082 804 9241

MTM®

☞ Cont. from page 26

during a highly challenging period for the local and global automotive industry. I am looking forward to having him back in Wolfsburg to head our small and compact product line, which will play an important part in the future of our product portfolio in emerging markets like South Africa," said Schaefer.

"Martina is returning to the market which she knows very well after her successful time as the Head of the Volkswagen Brand Sales and Marketing. Her mandate is to sustain VWSA's strong position in South Africa, and to continue to pursue Volkswagen's plans to grow the Brand in the Sub-Saharan Africa markets," added Schaefer.

"I wish both Robert and Martina success in their new roles. I am confident that their experience and commitment to Volkswagen will benefit their teams positively," concluded Schaefer.

Martina Biene will succeed Robert Cisek as Managing Director of VWSA.

Robert Cisek to take up the position of Head of Volkswagen Small and Compact Product Line in Wolfsburg, Germany.

AAAM FULLY SUPPORTS THE GOVERNMENT OF GHANA'S AUTOMOTIVE DEVELOPMENT POLICY

The African Association of Automotive Manufacturers (AAAM) fully supports the Government of Ghana, as it moves ahead in implementing the balance of the provisions of its progressive Automotive Development Policy, which since its initial inception has seen three new assembly plants commence production of OEM models from VW, Toyota, Nissan and Peugeot. This is in addition to Ghana's own assembler, Kantanka. Before the end of 2022 three more OEMs will commence the assembling of Hyundai, Kia and Isuzu vehicles.

Working in partnership with the Ghana Ministry of Trade and Industry, AAAM in close collaboration with the leadership of the Automotive Assemblers Association of Ghana (AAAG), have arranged a number of component study tours to Ghana. This has resulted in AAAM being able to interest several component manufacturers to consider partnerships with local companies to invest in manufacturing capacity for initially the aftermarket and then OEM components. Hence Ghana is also drafting an automotive component manufacturing policy. This will attract new investors as volumes of both OEM and aftermarket components increase for the broader region.

The Automotive Industry is globally recognized as a key strategic sector for stimulating multiplier effects in terms of industrial transformation, and as a powerful driver of employment, foreign investment, innovation, and economic growth, contributing directly and indirectly to a country's GDP and positive balance of payments.

Dave Coffey, CEO of AAAM

These assembly investments supported by global vehicle brands are key considering the current automotive technology revolution and globally competitive landscape and will provide partnering opportunities for domestic investors through the automotive value chain.

As demonstrated by South Africa and Morocco, progressive automotive policies that are passed into law continue to attract significant investments which result in many skilled jobs through the automotive value chain. As time progresses Ghana will be able to transition from importing used cars to used cars that were assembled locally and that attract affordable vehicle finance. The used car industry is a fundamental part of an automotive eco system – it's merely the source that changes over time.

"The government of Ghana is to be applauded for implementing the next phase of the Automotive Development Policy. The government has also committed to developing vehicle financing schemes to support the purchase of locally assembled vehicles", said the CEO of AAAM, Dave Coffey, during its recent virtual AGM attended by its members from throughout Africa and member organisations of other countries.

"A progressive automotive policy is essential for any country wishing to attract significant investment from international companies for either component or vehicle manufacturing, and Ghana was the first to do so, after the established vehicle manufacturing countries of Morocco and South Africa. Egypt has recently announced their new automotive policy and we are working with a number of other African countries to do the same. The automotive industry is gaining traction in Africa where we will see trading of vehicles between assembly hubs across the continent with Ghana being a hub in West Africa. Ghana is on a very exciting path that will have profound economic benefits in the medium and long term", concluded Coffey.

QUALITY USED SECOND-HAND MACHINERY FROM CRAFT

TOS SUS80 LATHE – 840mm SWING x 5000mm

ADIRA HYDRAULIC GUILLOTINE – 3000mm x 16mm

HACO TS HYDRAULIC GUILLOTINE – 3100mm x 12mm

SAFAN 430-8 GUILLOTINE – 4300 x 8mm

PROMECAM RG75 – 3000 HYDRAULIC PRESSBRAKE

W&B VERTICAL BORER – M TYPE 36
900 TABLE 1200mm SWING

CRAFT CNC BED MILL SYNTEC 10 MA CONTROL

EMANUEL ECCENTRIC PRESS 125 TON

MACHINE TOOLS (PTY) LTD
CRAFT

Tel: (011) 845-2030/1/2/3 | info@craftmt.co.za | www.craftmt.co.za

For enquiries contact: Thomas 083 298 9163 | Gavin 083 397 8537
Fred 082-903-2509 | Philip 082-493-1981
Trading hours: Monday to Thursday 07:30 – 16:00 | Fridays 07:30 – 11:45
1 Hamburg Road, Apex Industrial Sites, Benoni

ADVANCED NEW BODY SHOP PRIMED FOR PRODUCTION OF FORD'S NEXT-GEN RANGER

As part of Ford's R15.8-billion investment in its Silverton Assembly Plant operations, a completely new high-tech Body Shop has been constructed featuring the highest-ever levels of automation and quality control for the facility, which will be producing the next-generation Ford Ranger for domestic sales and export to more than 100 markets globally.

The new 44 000m² Body Shop and its supporting warehouse are located adjacent to the recently completed Stamping Plant, providing a seamless flow of stamped panels to the line where the body and load compartment of the Ranger pick-up are assembled and welded.

"Building a new Body Shop was essential for the Silverton Assembly Plant to achieve our highest installed capacity to date of 200 000 vehicles per year," says Ockert Berry, VP Operations for Ford South Africa. "This necessitated a much higher level of automation to reach our production targets, while also introducing the latest quality control systems and technologies that are essential for delivering consistent, world-class quality vehicles for our local and export customers."

The new highly automated production line is designed around 493 robots that transform the numerous stamped body panels – including the underbody, floor, roof, body sides, cab framing and load box – into a complete Ranger body, ready for transfer to the Paint Shop. The robotic welding guarantees the highest level of consistency, employing the latest 100-percent adaptive controllers with servo guns to deliver spatter-free

body welds. The plant manufactures a wide variety of configurations including Single Cab, SuperCab and Double Cab, as well as left-hand drive and right-hand drive derivatives.

"Designing and building our new Body Shop from the ground up has allowed us to integrate IIOT (Industrial Internet of Things) into the manufacturing areas. This gives our production teams access to in-depth and always up-to-date analysed data trends, which allows them to make concise decisions to consistently improve productivity and quality," says Adheer Thakurpersad, Area Manager for the Body Shop.

Significant investment has been made in quality control technologies, including two inline Perceptron measuring systems that measure and record every vehicle manufactured in Body Shop along with their respective Geometric pallets that they are assembled on. Vision systems attached to sealer application robots provides further error-proofing, supporting Ford's commitment to setting an even higher standard for quality, reliability and durability with the next-gen Ranger. Even the handling of the vehicle body during construction has been automated on the line, totally eliminating the need to move parts manually which could result in damage.

As with the new Stamping Plant, Body Shop is equipped with the sophisticated GOM ATOS ScanBox blue light scanner system that provides a full 3D body scan for comparison with a stored design specification to highlight any potential issues. Furthermore, a twin-column fixed bed CMM (coordinate measurement machine) performs a range of probe measurements that are accurate down to microns, or thousandths of a millimetre, to ensure that production remains within specification. The team also has access to a portable FaroArm CMM, and a portable GOM unit.

"To assess our weld quality, we conduct non-destructive testing and ultrasonic verifications, and we have a fully equipped destructive teardown facility to test the integrity of the weld spots," Thakurpersad explains.

It's not just the high-tech equipment and systems that contribute to quality and efficiency, as the production team continues to play a critical role, with the Body Shop team comprising 38 salaried and 500 hourly employees. "Being in a highly automated environment, ongoing skills development is a priority," Thakurpersad adds. "Therefore we have plans to install an advanced skills development facility in the body construction area, which will enable employees to continue developing their skills in automation and problem-solving."

PIM Machine Tools
26 Main Road Estleigh, Edenvale, Johannesburg
T. 011 022 4648
www.pim-machinetools.co.za

L5

High dynamic adaptive fiber laser

AUTOMATION BRINGING EFFICIENCY AND FLEXIBILITY

- RAPID AND EFFICIENT AUTOMATION
- ADAPTABLE CUTTING FUNCTIONS
- UNMANNED OPERATION
- CONNECT TO ERP/MRP SYSTEMS

L5 can be configured with compact and highly dynamic automation devices equipped with specific solutions to meet all kinds of production needs, from manual loading/unloading to an automatic lights-out factory managed remotely.

salvagninigroup.com

salvagnini

FORD LAUNCHES NEW HIGH-TECH 10 320M² STAMPING PLANT FOR NEXT-GEN RANGER

Ford Motor Company's R15.8-billion investment in its Silverton Assembly Plant operations in Pretoria is coming to fruition, with the completion of one of its largest and most ambitious projects to date – the high-tech new Stamping Plant, which is now in operation. The vast facility measures a staggering 10 320m², equivalent to almost 1.5-times the size of a standard soccer field (7 140 m²).

"Our new Stamping Plant is a first for Ford in South Africa," says Rhys Davies, Site Transformation Manager at the Ford Silverton Assembly Plant. "Previously we used external suppliers to stamp our metal body parts, but we decided to set up our own Stamping Plant for the Next-Gen Ranger, which will go into production later this year.

"With our focus on delivering the highest levels of quality and efficiency for the Next-Gen Ranger, it was essential that we brought the stamping operations in-house. This ensures that we are able to control the production quality throughout the stamping process, validate that all parts are within specification, and then seamlessly deliver them directly to our new Body Shop located adjacent to the Stamping Plant.

The Stamping facility boasts an advanced GOM ATOS ScanBox blue light scanner system

"The new Stamping facility also dramatically improves our plant capacity and efficiency with a higher level of automation, while eliminating the time, cost and potential damage incurred when transporting these parts by road," Davies says. "Most importantly, it allows us to deliver vehicles of the highest quality to our customers in South Africa and more than 100 markets around the world."

The Stamping Plant comprises five tandem presses, including a 2 500-ton draw press, a 1 600-ton press and three 1 000-ton presses that stamp the flat sheet metal into the various inner and outer body panels required for all three body styles of the Ranger: Single Cab, SuperCab and Double Cab. The presses are housed in a complete sound abatement enclosure to significantly reduce the noise generated by the stamping operations, with an automated inter-press feeder system transferring the stamped panels along the process to the end of line. The entire line is fully automated, with an installed capacity of 16 strokes per minute.

"We have 47 die sets with a total of 208 dies producing 67 different parts, including the floorpan, body sides, roof, bonnet, doors and loadbox," says Jan Groenewald, Area Manager for the Stamping Plant. To facilitate the movement of the heavy dies, the facility is equipped with a 50-ton automated sling crane, two 60/20 sling cranes, and a 50-ton semi gantry crane.

"The Silverton Assembly Plant now has an installed capacity for 200 000 vehicles per year. When running at full capacity, the Stamping Plant will be processing 272 tons of steel per day over a three-shift system," says Groenewald, who heads up the team of 22 salaried employees and around 270 hourly employees in the facility.

With an unwavering focus on achieving the highest production quality yet from the Silverton Assembly Plant, the Stamping facility boasts an advanced GOM ATOS ScanBox blue light scanner system. "This is one of our important new technologies that enable us to measure the perimeter and surface dimensions of each part, and generate an accurate 3D model that is compared to the stored 3D model on our computer system," Groenewald adds.

"The ScanBox has reduced the scanning and measurement of parts from more than an hour with the previous CMM machines to less than three minutes," Groenewald explains. "We have three-hour production runs scheduled at a time, and the ScanBox measures 30 consecutive parts during each production run.

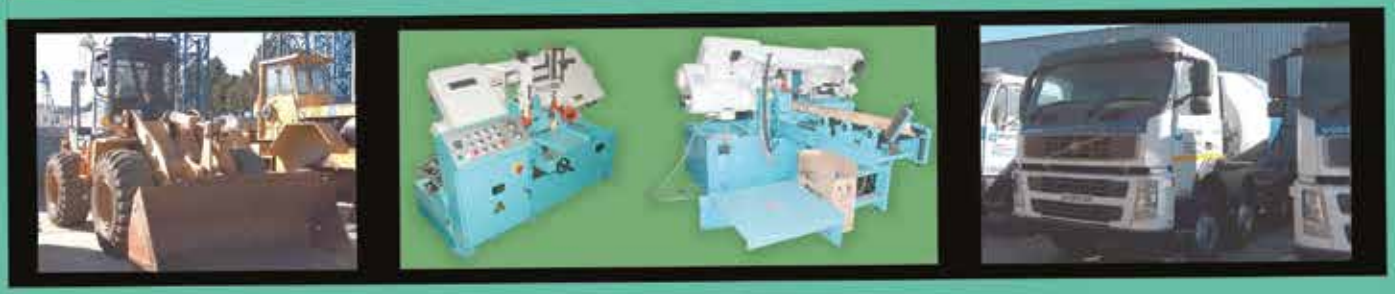
"This gives us the analysed data for the parts before they are moved across to the warehouse, or fitted to a vehicle in the Body Shop, which simply wasn't possible with the previous system," Groenewald says. "Following the Six Sigma process, it ensures that we have a 99.997-percent probability that all parts produced are within specification, which means that all of the body parts that go into a Ranger will be of the highest production quality."

For advertising in this magazine, call Jason Rohrs (011) 476-3211/3

RYNCOR Auctioneers

456 JAN VAN RIEBEECK STREET,
PRETORIA NORTH, 0182
P.O. BOX 911-2461, ROSSLYN, 0200

SPECIALIST ON TENDER SALES



RYNCOR AUCTIONEERS - LEADER ON TENDER SALES.

ADVANTAGES OF A TENDER SALE:

1. Owner has overall control over the prices of the plant and equipment to be sold.
2. No item will be sold if the owner does not accept the highest bid.
3. Tender Sales eradicate the opportunity of forming a consortium (ring) out of the scenario—mostly the case at Auctions.
4. Viewing time from one to two weeks to accommodate all major buyers to participate in the Tender Sale.
5. Money in the owners bank before any plant and equipment is removed from the premises.
6. The Tender Sale is advertised by means of e-mail correspondence and our website—ideally for national and international buyers.

CONTACT US TODAY FOR A PROPOSAL FOR SELLING YOUR REDUNDANT PLANT AND EQUIPMENT.

TEL: 012 546 8409 OR 012 546 8411 FAX: 012 546 8410
Werner Rynners 082 578 5324 Pierre Rynners 082 552 8187
E-MAIL: info@ryncor.com
WEBSITE: www.ryncor.com

FORD COMMENCES PRODUCTION OF NEW 3.0L V6 AND UPDATED 2.0L DIESEL ENGINES

In preparation for the upcoming launch of the Next-Generation Ford Ranger later this year, the Ford Struandale Engine Plant in Gqeberha has commenced production of the latest addition to its engine family – the 3.0L V6 Diesel, which will power the range-topping Ranger pick-up models to be produced at the Silverton Assembly Plant in Pretoria.

3L V6 Diesel Engine

This forms part of Ford's R600-million investment in the Struandale Engine Plant operations, which has also facilitated upgrades to the existing assembly line for the 2.0L Single Turbo and Bi-Turbo diesel engines. Design changes and additional derivatives of the engines have been added for the Next-Gen Ranger, which will be sold locally and exported to more than 100 global markets.

"The modernisation and upgrades to the Struandale Engine Plant began in July 2021, and the construction was completed on time in December, ready to begin our tooling trials and pre-production runs this year in preparation for Job 1 for both engine programs commencing in August," says Shawn Govender, Plant Manager of the Ford Struandale Engine Plant.

"In its updated and extended format, the assembly line that is now producing the new 3.0L V6 turbodiesel continues with production of the existing 2.2 and 3.2 Duratorq TDCi engines, making it the only facility of its kind in the Ford world that produces both V-configuration and in-line engines on the same line," Govender says. "Although this was a major challenge for our team and required a lot of creative and innovative thinking, it was essential to make optimal use of our facilities to contain the total investment required, and ensure that we are competitive from a cost-per-unit perspective."

Relying on a flexible production format, with scheduled batches of the two different engine programs being assembled, the line incorporates 40 stations that are common to both units and a further 25 stations that are unique to the 3.0L V6 Diesel. The total installed capacity for this line is 130 000 engines per year.

"The investment in extending and re-tooling this assembly line allowed us to modernise the facility by introducing the latest advancements in traceability and quality management technologies, including highly accurate GPS tool positioning systems, torque-to-turn monitoring for every bolt on the engine, and multiple camera stations that validate and record the accurate fitment of parts throughout the production process," Govender explains. "This guarantees that every engine we produce is of the highest quality, and will complement the significant improvements in performance, efficiency and refinement that will be hallmarks of the Next-Gen Ranger.

"Our employees have undergone extensive training with our in-house team and global Powertrain Manufacturing Engineering specialists to ensure that they are fully equipped to manage the complexity and maximise the efficiencies of the flexible production format for the two engine programs."

The Struandale Engine Plant is also responsible for machining of the cylinder heads for the 3.0L V6 Diesel, which is performed in a completely revamped facility using new and redeployed machines that have been updated with the latest tooling, operating and quality control systems.

2.0L Single Turbo and Bi-Turbo

The R600-million Struandale Engine Plant investment introduced numerous changes for the latest versions of the highly rated 2.0L Single Turbo and 2.0L Bi-Turbo diesel engines that will be the core line-up for the Next-Gen Ranger. Around 23 design changes were implemented for the new application, while the number of derivatives produced on the dedicated assembly line for this engine program has increased from nine to 13.

"Most of the updates introduced were to accommodate the design of the Next-Gen Ranger, while further improvements have been made to the noise, vibration and harshness (NVH) characteristics of the engines for even greater comfort and refinement," Govender says. "The quality, reliability and durability of this engine program is exceptional matched to superb fuel economy, and these are traits that will shine through in the Next-Gen Ranger."

To support the increased demand for the 2.0-litre diesel engines, the plant has gone from the previous two shifts to 2.5 shifts, with a total installed capacity for producing up to 120 000 engines per year.

Tested to the limit

As with any new or updated engine program, the new 3.0L V6 Diesel and latest specification 2.0L Single Turbo and Bi-Turbo engines are subjected to exhaustive in-process and off-line testing. Additionally, the existing Duratorq TDCi engines have also undergone extensive tests to ensure that the advanced production systems, tooling and technologies used on the modernised flexible assembly line are within specification.

Using the most advanced engine dynamometer to be installed at the Struandale Engine Plant to date, the 3.0L V6 Diesel endured a rigorous testing regime, including a series of 10 conformity of production (COP) tests spanning 20 hours each. This is a standardised control test used to qualify vehicles or components throughout the world.

Three 275-hour engine fatigue tests (EFTs) were conducted, with the accelerated test evaluating the engine's robustness against structural fatigue caused by repetitive mechanical loading at high speeds and cylinder pressures. A further 100-hour engine fatigue test was also completed as part of the validation process.

Thereafter a 115-hour GloTherm accelerated dynamometer test was done to validate the engine sealing system (including the cylinder head gasket) and certain structural engine components through exposure to extreme thermal cycling. And, finally, a 150-hour GloSys test was performed to evaluate the durability and reliability of the engine under simulated customer driving conditions.

On the updated 2.0L SiT/BiT engines a total of four 20-hour COP tests were done, along with three 275-hour engine fatigue tests, and two 100-hour GloSys tests. Similarly, the Duratorq TDCi engines underwent three 20-hour COP tests and a 154-hour durability test.

"The extensive and rigorous dynamometer tests are essential in validating the training of our employees, the application of the production processes and systems, as well as the performance and durability of the engines as part of our commitment to delivering world-class quality for our customers," Govender says.

ERIN MACHINE TOOLS

YOUR FAVOURITE MACHINES FROM STOCK

EX STOCK

SN50B LATHE x 2000mm bed

R8 & 40ISO
Heavy duty and light duty mills

www.erintools.co.za

Tel: 011 839 2653 • Cell: 082 804 6108 (Richard) • Email: info@erintools.co.za
Unit G1, Sanlam Industrial Park, Cnr Masjien and Fabriek St, Strydompark, Johannesburg 2194

NEWAY

Machine on order
for short delivery

TRUE
5-SIDED MILLING
WITH A PORTAL MILL

CONTACT US

@MachineToolPromotions
MODERN MACHINING

MTP MACHINE TOOL PROMOTIONS

CALL TO FIND OUT MORE
+27 16 931 1564

THMT OPEN DAY

QUALITY BRANDS IN STOCK

BEKAMAK sewing machines

BANDSAWS

HG HUGONG

CNC PLASMAS

HURCO

CNC TURNING & MACHINING CENTRES

THMT

ENGINEERING

sahinler

SHEETMETAL

MAC

FABRICATION

THMT | TH MACHINE TOOLS
For New, Used and Reconditioned Machines

T: +27 12 259 1375
T: +27 12 259 0122
C: +27 82 577 7087
C: +27 83 946 1349

sales@thmachinetools.co.za
www.thmachinetools.co.za

102 Chopin St, Melodie A/H
Hartbeespoort, 0216

FIRST CUT AND GSI WOMEN IN GAS SAFETY TRAINING, CUTTING AND WELDING SECTORS

While many may still think that the cutting, welding and grinding industry is an exclusively male domain, five women in pivotal roles at First Cut – a leading South African provider of cutting, welding and grinding consumables and equipment – and its sister company Gas Safety International (GSI) show unequivocally that this is a commonly-held misperception.

So says Ian McCrystal, First Cut CEO, who explains: "We are very proud that our company culture fosters the growth and progression of women within the industry sectors that we service – which includes a strong focus on engineering and mining.

There are no barriers to entry for women at First Cut or at our sister company GSI. This is proven when we look at the example of five key women in our companies, who work across various divisions in different roles."

Melanie Kearns, National Product/Sales Manager – Equipment and Seminars, manages the sales for the compressed gas training provided by GSI, as well as oxyfuel product sales. GSI provides certified compressed gas safety training and quality gas equipment to a wide range of sectors, including welding, to ensure a safe and efficient working environment.

Kearns says, "Our compressed gas safety training courses are of critical importance, because of the high risk attached to working with compressed gases.

"The training we offer enables attendees to identify risk factors, and empowers their employees to manage these risks accordingly. GSI training is also accredited by the ECSA (Engineering Council of South Africa).

"Typically, our seminar attendees include management, artisans and operators; as well as laboratory employees and other support staff. Although many are from the mining industry, the training is applicable to all users of compressed gas.

L - R Jacolene Fourie and Zelda Vorster.

"I am so excited to see a lot more female delegates attending our training too. The number of women in technical roles today – in comparison with a decade ago – is extremely heartening! Gender diversity in industries such as mining is definitely gaining traction, and I trust will continue to do so."

Kearns's longstanding colleague, Executive Assistant Anneke Hofmeyr, is another key member in the GSI team. She supports GSI's Managing Director Peter Rohlssen, demonstrating that administration and organisational excellence contribute enormously to GSI's compressed gas safety training success. Hofmeyr and Kearns are both dedicated to promoting compressed gas safety in industry, and are testimony to the success of women in this sector.

L - R Thabelo Rabedzwana, Anneke Hofmeyr and Melanie Kearns.

Demonstrating her expertise in the gas safety training and risk assessment arena is GSI's Training and Risk Assessment Officer Thabelo ('Thabs') Rabedzwana. With over 20 years of experience, Rabedzwana is passionate about gas safety training.

"Stringent safety is imperative when it comes to welding as well as gas cutting, heating and brazing," she says, "and this applies across all industries."

Rabedzwana endorses colleague Melanie Kearns's input when she adds: "I am seeing an increasing number of women interested in welding. I have also seen female welders being promoted to the role of boilermakers, which is relatively new in recent years and a very encouraging sign."

First Cut's Regional Sales Manager for Mpumalanga, Zelda Vorster, also believes that women are now able to take their rightful place within the industrial arena.

With regards to the issue of being 'a woman in a man's world', Vorster notes: "In my opinion, this has definitely been changing over the past five to ten years. I am certainly seeing more women throughout industry. I think the playing fields are being levelled, and I welcome this.

Jacolene Fourie, Sales Representative at First Cut, is also of the opinion that the industry is opening up to women. "I think it is fair to say that more and more women have been able to enter the industrial sector over the past few years," she says.

"I have seen the situation changing throughout all areas of engineering and manufacturing: from the warehouse to the shopfloor and in procurement. Women are easily able to play a key role in our industry, especially considering their strong attention to detail. I have observed our GSI colleague Thabi Rabedzwane's training courses, and in addition to commending her for her skill, I am also very impressed by her patience, which I believe is a strength that many women bring to the work situation – including in training roles."

"At First Cut and GSI, we value the dynamic diversity which the women in our companies contribute," adds McCrystal. "Our five 'leading ladies' also offer a wide variety of skills and attributes which – along with their fellow team members' – all contribute to provision of cutting-edge cutting and welding training, products and service – to the ultimate advantage of our customers and industry as a whole," he concludes.

OBITUARY – PAOLO TRINCHERO, SAISC CEO

Farewell to a man with a heart of steel – and gold.

The Board and team at the Southern African Institute of Steel Construction (SAISC), together with local and international members and colleagues, mourn the loss of the SAISC's CEO, Paolo Trinchero, who passed away on Sunday the 21st of August, at the age of 53, after a brave battle with cancer. Paolo was the CEO for the past 9 years, since 2013.

Paolo was involved in the steel industry for some 30 years, having graduated with a BSc in Civil Engineering at the University of the Witwatersrand ('Wits') in 1990. Following this, Paolo completed his master's degree in 1993, where he was introduced to the workings of the SAISC through the Steel Design Code Committee. After spending some additional time as a lecturer at Wits, Paolo joined the SAISC in 1998 as a Consulting Development Engineer and Technology Director.

To gain some commercial experience, he then joined Macsteel Trading as an Engineering Manager in 2003 to start its cellular beam division, and ultimately became Group Business Development and Technical Director at Macsteel Corporate Services. Throughout his 11 years at Macsteel, Paolo never lost touch with the SAISC and in 2013, he returned to the Institute as its CEO.

Passionate about steel

Paolo was passionate about anything related to steel: from its many practical applications in projects to the annual celebration of its many uses in the annual Steel Awards – which Paolo presided over with great pride as many will fondly remember – and in the technical knowledge-sharing SAISC breakfasts, sessions and other forums he led over the years. He was equally passionate about communicating steel's myriad uses and applications throughout industry and in daily life – and the importance and relevance of the SAISC as a representative industry body.

Paolo was also a tireless, selfless and dedicated champion of the steel sector at public and private sector levels doing everything he could for the good of the sector, in the face of the last few very challenging years which it has faced. In this regard, all facets of innovation – including 'green' or renewable steel – really fascinated him, and he was a strong proponent of innovation and sustainability throughout the sector.

Paolo was an enthusiastic driver of the steel sector's participation in the development of pan-African infrastructure from mining projects to commercial high-rise buildings and other steel structures.

As if all the above did not keep him busy enough, Paolo was also involved in several projects – from conception through to fabrication – in Southern Africa and the Indian Ocean islands.

"I knew Paolo since 2011 when I joined the Institute, and he was a member of the board. Paolo was absolutely dedicated to the interests of the steel industry and his colleagues – there was nothing that he wouldn't do to promote structural steel. He was unique in mixing both technical and business acumen to promote the industry's agenda, which allowed him to be on Industry Policy committees while also serving on Technical committees.

"Given all the industry turmoil during his tenure, I think it is fair to say that Paolo's greatest contribution to the local steel construction industry is that today, the Steel Institute in South Africa is still in existence – and which, incidentally, is one of only 6 such institutes around the world" – Amanuel Gebremeskel, SAISC Acting CEO.

"Having worked with Paolo for just under 7 years, I can say that he employed a calm and measured, considerate, and diplomatic approach to his work. Paolo was methodical and disciplined and understood the intricacies of the industry. He was able to engage with role players from all parts of the value chain, with respect – motivated by a deep desire to see people and business succeed.

An academic at heart, Paolo's 'happy place' was sharing his passion and knowledge to equip the next generation of engineers. Heartfelt messages of condolence have been pouring in from former Wits students, sharing what an ongoing impact he had on their career development. Sadly, because of the decrease in education funding, the SAISC's ability to engage extensively with universities diminished over the years. Paolo poured a tremendous amount of effort into trying to win back that financial support. Industry turmoil took a heavy toll on him. As a way of honouring his legacy, the SAISC is setting up a 'New Generation' education fund aimed at reinvigorating university engagement programmes which support sustainability, growth and innovation in the steel sector.

I concur with Amanuel in saying the fact that we still have an Institute is a credit to Paolo's character, and his ability to steer the ship through troubled waters to explore new horizons. He understood that the strength of the industry – and the Institute – lay in technical competence and a sense of community. I hope that his legacy of care, concern and technical strength will live on in the people and the Institute which he leaves behind," – Denise Sherman, SAISC Marketing Director.

Paolo leaves behind his beloved wife Lora and their three children, Giulio, Angelo and Sabrina. He was a dedicated family man, and our thoughts and prayers are with them during this sad and difficult time.

A heart of steel – and gold

It has been an honour and privilege working with him - Paolo was our highly respected leader, our colleague, and our friend. We will remember him for generously and enthusiastically sharing his immense skill, wisdom, and knowledge for the good of the steel industry. We celebrate Paolo for the lasting positive impact he has had on the industry and on the lives of many in our sector. He truly was a 'man with a heart of steel – and gold'.

We will miss you deeply Paolo, but are inspired by your example to continue your wonderful work in the steel sector.

Rest in peace.

The Board and team of the SAISC

Global Leadership with high-tech Solutions

LCG 3015 AJ

Fiber Laser

The perfect balance of low energy usage and high speed productivity

VPSS
Virtual Prototype Simulation System

EN 3015 AJ

Fiber Laser

The ENSIS range provides high speed processing of thin to thick materials in 3, 6 & 9kW derivatives

AMADA®

Gauteng:	Tel: (011) 453-5459	Fax: (011) 453-5442
	Cell: 082 465 5924 (Rick)	e-mail: barry@amadajhb.co.za
Cape Town:	Tel: (021) 706-0502	Fax: (021) 706-0503
Durban:	(031) 700-5070	Fax: (031) 700-5077

VPSS
Virtual Prototype Simulation System

VPSS
Virtual Prototype Simulation System

Further evolution of a best seller punching machine with drastic set-up time reduction and process integration

Amada's totally integrated approach to sheetmetal fabrication allows you to take part concept and design all the way through to finished production in a single seamless manufacturing environment.

Hybrid Drive System

HG Series Press Brake

High speed and Accuracy for all production environments

The new AE-NT servo drive turret punch press offers high performance and reduced operating cost in one package

HS Series Press Brake

For a wide range of products from small to large work pieces

The Amada Product Portfolio includes:
CNC TURRET PUNCH PRESSES, CNC LASER CUTTERS, CNC PRESSBRAKES, NC HYDRAULIC/MECHANICAL SHEARS, SOFTWARE, BANDSAWS, BANDSAW BLADES, SALES & SERVICE.

MTM®

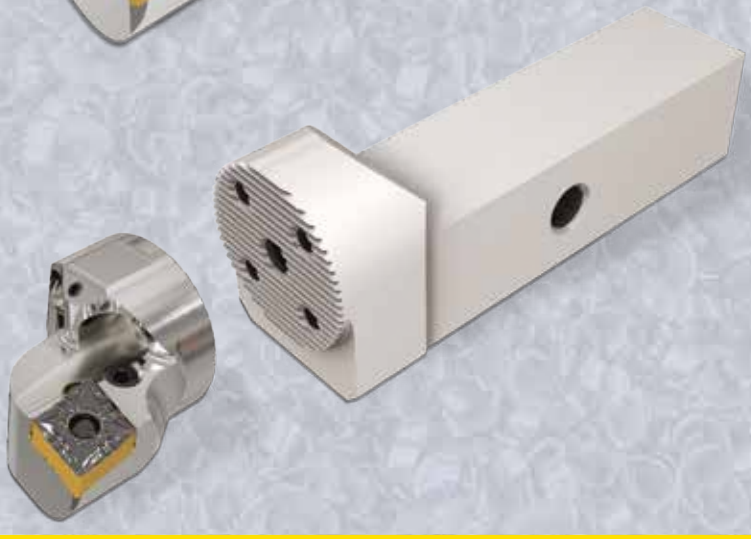
Interchangeable Turning Heads

NEOMODU
INDEXABLE TURNING HEADS

A New Line for External Turning
with **Interchangeable Heads**
For General Turning Applications.

External Square Shanks
25, 32 & 40 mm

Steel Eco Shank and Dedicated
External Interchangeable Heads



NEOLOGIQ
MACHINING INTELLIGENTLY

Member IMC Group
ISCAR
www.iscar.co.za

ISCAR SOUTH AFRICA (PTY) LTD | TEL: (011) 997-2700 | FAX: (011) 388-6820