MTM®

Machine Tool Market

SOUTHERN AFRICA

March / April 2021

Volume 30 No.2

CNC Horizontal Machine
Sizes: 300 x 300 to 800 x 800 mm

CNC Vertical Machine
Sizes: 500 x 300 to
2 000 x 900 mm

CNC Bridge
Type Machine
Sizes: 2 000 up to
12 000 mm

Maple TECHNOLOGY CO., LTD
Endless Innovation

600SA
Machine Tools (PTY) LTD

www.mt600sa.co.za

Sales:
Johnny Pierdica 072 157 6003 • johnny@mt600sa.co.za
Richard Poalses 061-525-3060 • richard@mt600sa.co.za
Spares & Service:
Carlos Hlanganiso 064-505-9906 • carlos@mt600sa.co.za
General enquiries:
info@mt600sa.co.za • 5 Evans St, Alrode South, Alberton

HWACHEON

CUTEX 180C Y(S)MC

6" CHUCK HORIZONTAL TURNING CENTER

PRODUCT GUIDE 2021
Click to download

MAXIMIZED Y-AXIS PERFORMANCE!

Y-AXIS TRAVEL 55MM THE LARGEST IN CLASS!
8 INCH MAIN SPINDLE | 5 INCH SUB SPINDLE
65MM BAR MAIN SPINDLE | 52MM BAR SUB SPINDLE
CUTTING DIA. 300MM | CUTTING LENGTH 452MM

LEAD
MACHINE TOOLS

SINO CNC MACHINERY · MICRO DYNAMICS · MITSUBISHI ELECTRIC · ŠKODA · RENISHAW apply innovation™ · TAILI PLASTIC MACHINERY

Web www.leadmachinetools.co.za Email sales@leadmachinetools.co.za Mobile +27 83 992 3092

MTM®
Machine Tool Market
SOUTHERN AFRICA

MARCH/APRIL 2021 Vol. 30 – No. 2

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

MAGNUM M
USED MACH

Monfort Vertical CNC Lathe

Loading & Unloading
Max Turning Ø 220mm
Fanuc 21i Control

Monforts RNC5 Heavy Duty CNC Lathe with Milling

Fanuc 16T Control

Victor V80

Travels 800 x 500
Twin Arm Tool Changer
Fanuc Control

Fanuc T10B Robodrill with Fanuc 16M Control

Travels 500 x 380
Fanuc 16M Control

Some photos are for illustration purposes only.

ACHINE TOOLS
INE DIVISION

For new machines, visit our website

WMW BFT 80/2 Boring Mill

JFY 150 x 4000 4 Axis CNC Pressbrake

6000 x 2500 High Definition Plasma Cutter with a Hypertherm HSD130 Plasma Source

MAGNUM PRECISION MACHINE TOOLS

MTMA

CELL: +27 83 384 9326 CELL: +27 83 411 6620 TEL: +27 31 700 6621
sean@magnumtools.co.za cyril@magnumtools.co.za FAX: +27 31 700 5341
59 GOODWOOD ROAD • MAHOGANY RIDGE • PINETOWN • RSA • 3610 www.magnumtools.co.za

MTM®

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

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

High speed and Accuracy for all production environments

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®

LOGICAL EXTENSION

Several years ago, ISCAR launched a unique and innovative LOGIQ product line – a campaign that brought new families of cutting tools to the world market. These families were designed to address challenges in metalworking industries, from increasing productivity to finding cost-effective indexable alternatives to small-in-diameter solid carbide tools.

Today, ISCAR introduces NEOLOGIQ, a logical extension to the previous campaign comprising of an entire range of advanced products and technological solutions for metal cutting tools – a quantum leap in the field.

What are the main targets of the NEO product lines?

ISCAR believes that NEOLOGIQ provides the answers to typical questions that modern metalworking faces today due to the latest changes in technology. Today, we are witnessing serious upheaval with far-reaching effects on manufacturing.

A distinct course for electric and hybrid cars will lead to a gradual abandonment of traditional cars with an internal combustion engine and a lot of parts that need to be machined.

A rise of accurate metal shaping methods, such as precision investment casting, precision forging, and 3D printing, which are all capable of shaping a part very close to its final profile, significantly diminishes the stock that is traditionally intended for chip-removal processes. A logical result of this is the considerably reduced share of machining operations in a part manufacturing cycle and this trend is already noticeable in the market today. Does it mean that a few good metalworking shops, factories, or even whole branches will abandon machining? Of course not, but the requirements for machining operations in engineering processes will be changed. The role of productive and accurate cutting with a small allowance at high speeds and feeds will substantially grow, and metalworking industries will require a wide range of suitable tools that are expected to be more precise and durable.

Digitized manufacturing, which is dictated by INDUSTRY 4.0 momentum, has its own demand and expects a new level of a cutting tool "intellect" to be suitable for smart manufacturing.

NEOLOGIQ products. An intelligent tool to expand machining boundaries.

In preparing for the upcoming changes, ISCAR considers NEOLOGIQ as the next logical step to the cutting tool for the smart factory. **'Machining with no Boundaries'** is the motto of ISCAR's NEOLOGIQ products.

How do we overstep the customary boundaries of metal cutting? A short overview of some of the new products will help you understand how this is viewed by ISCAR.

Logical Milling

High feed milling (HFM), also referred to as fast feed milling, is considered a commonly used effective method for rough machining both complex and plane surfaces. ISCAR has an extremely wide range of HFM products to meet the requirements of a customer. However, even in this niche of products, there is place for new innovations.

LOGIQ4FEED, a family of high feed milling cutters carrying specific bone-shaped inserts, was enriched by new tools with greater insert sizes. These new tools have several features that substantially improve performance in high feed milling, especially when machining big cavities and pockets in steel parts.

Another HFM product that provides the customer with a reasonable cost saving solution is NEOFEED, a family of mills with square, double-sided inserts. This insert has 8 indexable cutting edges to use on cemented carbide and a dovetail-shaped insert pocket that ensures reliable mounting to withstand heavy loads to enable higher cutting data and increased productivity.

NEOFEED high feed milling cutter carries cost-effective inserts with 8 cutting edges.

The progress in 5-axis machining and CAD/CAM systems opens new horizons for machining 3D surfaces using barrel-shaped endmills. Although such endmills are still not common in the metalworking industry, advanced accurate metal shaping methods will dramatically increase the demand for these barrel-shaped endmills. Therefore, the development of effective "cutting barrels" is one of ISCAR's highest priorities. In the NEOLOGIQ product range, the barrel-shaped endmills are represented by two configurations: a solid carbide design and a MULTI-MASTER head. Combining MULTI-MASTER advantages with the precise barrel profile of a cutting-edge will result in a cost-effective and sustainable solution for finishing complex-shape surfaces by milling with minimum machining stock.

The MULTI-MASTER family has expanded the boundaries of its product range by introducing a new threaded connection size, T21, which enables increasing the nominal diameter of an exchangeable endmill head to 32 mm (1.25").

Intelligent Turning

In internal turning, a boring bar is the main factor of tool rigidity. A large bar overhang to diameter ratio leads to the tool deflection and vibrations; and is the bane of machining accuracy and surface finish. WHISPERLINE, a family of anti-vibration boring bars, was developed to exceed the ratio bounds. These bars have a specially designed built-in absorber and a

Anti-vibration boring bars WHISPERLINE enable stable cutting with the overhang up to fourteen diameters.

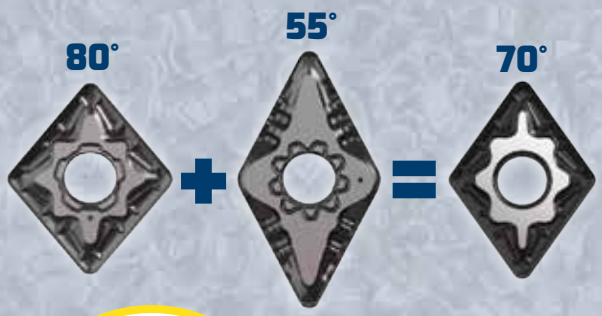
Cont. on page 10 ☞

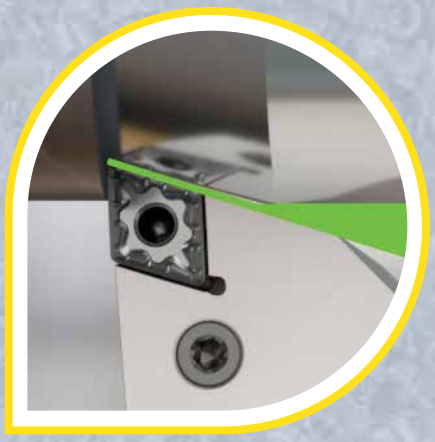
AMAZING PRODUCTIVITY

NEOTURN
ISOTURNING

70° Corner Angle Turning

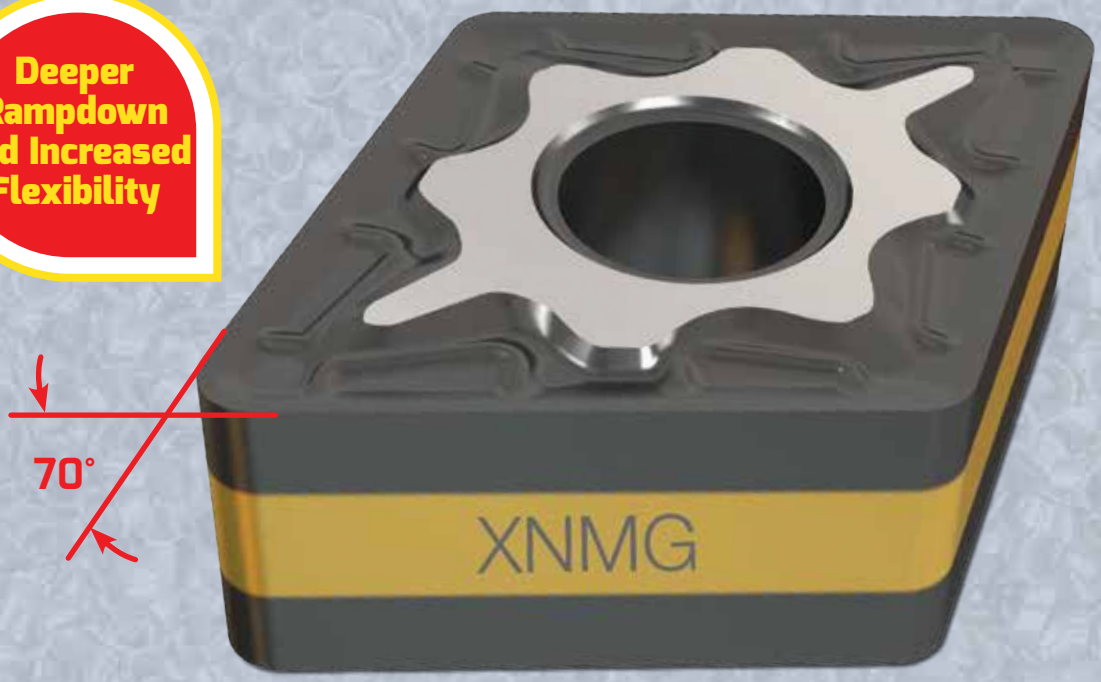
New XNMG **70° Corner Insert** for Turning Combines 55° and 80° Inserts. One Insert for **All Turning Applications.**





Guaranteed Excellent
Chip Evacuation

Deeper Rampdown and Increased Flexibility



☞ *Cont. from page 8*

vibration-dampening mechanism that enables stable cutting with an overhang of up to 14 diameters.

WHISPERLINE bars are important elements of the new versatile modular system NEOMODU, providing a rich variety of assembly options for turning tools. A combination of different system units such as shanks, anti-vibration capsules, and interchangeable heads with indexable carbide inserts result in a tool assembly, which is maximally customized to a specific application. The shanks may be cylindrical, square, or with a polygon taper interface in accordance with ISO 26623 standard.

Speaking of new turning products, one cannot pass the XNMG insert. It is a beneficial combination of two famous ISO rhombic insert shapes: CNMG and DNMG inserts with 80° and 55° including angles. This intelligent integration resulted in the XNMG 70° angle insert that features improved clearance and ramping angles, when compared to the CNMG, and strengthened cutting corners against DNMG. The advantages of the new insert are visible in efficient multi-directional turning applications. The cartridges carrying insert XNMG, which are intended for mounting on NEOMODU units, are available as well.

Competent Parting

ISCAR began its leadership with just parting tools. That is why every company's innovation in parting gains special interest.

Adapters and holders occupy a prominent place among ISCAR's NEOLOGIQ parting products. The concept of the LOGIQFGRIP family is based on a 4-pocket adapter that is clamped in a reinforced tool block. High rigidity of such an assembly in combination with an inner high-pressure coolant supply (HPC) option facilitates productive cutting with extremely high feed rates.

A JETCROWN accessory provides pinpointed high-pressure coolant, maximizing productivity in parting.

In parting, one of the secrets to success is well-directed high-pressure cooling. If an adaptor has no HPC channels, mounting a specially designed crown-shaped accessory pushes the boundaries of application limits and enables effective pinpointed coolant flow to the active cutting edge of an insert.

Growing capabilities of modern multitasking machines and turning centers pushed the common boundaries of cutting strategies. Particularly, they brought the method of efficient turning along Y-axis. In quite a few cases, it is a worthy alternative to the traditional X-axis machining. In Y-axis turning, the dissipation of cutting force components is more favorable, and the main load is directed to a holder. The cutting process becomes more stable, and this facilitates increasing cutting data to improve productivity. Therefore, providing appropriate cutting tools for turning operations along the Y-axis is one of the central points of NEOLOGIQ.

LOGIQYGRIP, a new Y-axis parting modular system enables vibration-free machining with high-efficiency. A wide range of exchangeable TAGPAD-T adapters for inserts ensures the exceptional versatility of the system.

Efficient Holemaking

Helical flutes with variable helix angle in a LOGIQCAM drill body improve the dynamic behavior of the drill and increase the drilling depth to eight drill diameters.

One of the more impressive product lines introduced in the LOGIQ campaign is LOGIQCHAM, a family of drills with replaceable carbide heads and three cutting edges, providing an effective tool for significantly increasing productivity for drilling depths up to five drill diameters.

In drilling, especially in drilling deep holes, efficient chip evacuation is extremely important. It is not enough to optimize chip control by an advanced design of the head geometry. The flute shape should ensure seamless chip flow. Undoubtedly, the need to organize three grooves weakens the body: when comparing a two-helical-flute drill of the same diameter, the three-flute body is less rigid. When the depth grows, longitudinal vibrations may occur, and this reduces tool life and adversely affects the accuracy and roughness of a machined hole. It was the decrease in stiffness that determined the barrier for the drilling depth and limiting it by five diameters maximum.

A new design of the three-flute drill body is based on a variable flute helix angle. Such a concept considerably improves the dynamic behavior of the drill and results in expanding the drilling depth boundaries: the maximum depth can now reach eight diameters.

The metalworking community faces new challenges and must find the shortest way to get out of the maze. ISCAR believes that new innovative solutions, which take machining to a whole new level, can become the new "Ariadne's thread". NEOLOGIQ, a logic of development for a new range of tools, has expanded the boundaries of intelligent machining.

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

MODUGRIP MODULAR GRIP CARTRIDGES: NEW MODULAR ADAPTERS FOR PARTING AND GROOVING

MODUGRIP is a new compact modular adapter system for parting and grooving applications that enables design of modular tools in envelope dimensions of integral shank tools with similar sizes.

ISCAR's DO-GRIP, HELI-GRIP, TANG-GRIP and PENTACUT parting and grooving adapters can be clamped on the same toolholder, with an accurate and rigid attachment guaranteed since machining forces are not exerted on the clamping screws. High pressure coolant channels is directed to the cutting edge for maximum flow efficiency.

With no set up time due to the high edge location repeatability after adapter indexing and less downtime as a damaged pocket can be replaced while retaining the shank, MODUGRIP offers a complete economical solution. In addition, the absence of any under head protrusion means that the system can be used with most types of machine.

MODUGRIP can be considered as the most compact system in the market today, as other standard systems feature larger tool head dimensions.

Harp Quality never lets you down

ENTER OUR WORLD OF MACHINE TOOLS

New Harp Pinnacle Turret Milling Machine
ISO40 spindle

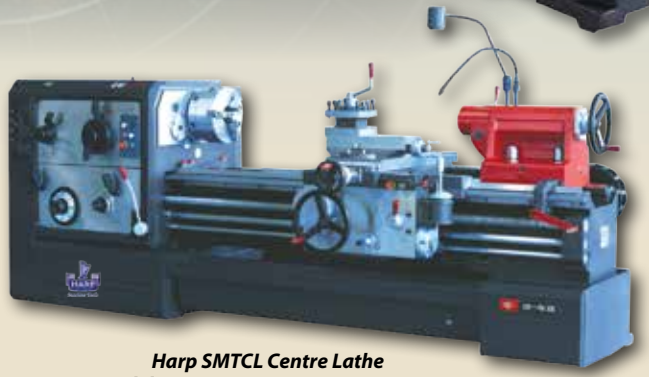
New Standard Turret Milling Machine
ISO40 spindle
Power draw bar
Extra long travel and table

New Harp Pinnacle Turret Mill
Stepped pully R8 spindle

New Harp Colchester Student 2500 Centre Lathe

New Harp TA Centre Lathe
Heavy duty CO6291B x 3000

New Harp TA Centre Lathe
C6266C x 2000



Harp SMTCL Centre Lathe
Models: 3000mm, 4000mm, 5000mm,
6000mm, 8000mm

Harp Machine Tools

Monday-Thursday 08:00-17:00 • Friday 08:00-14:00 | Saturday by appointment

FINANCE FACILITIES AVAILABLE - ONLY 24 HOURS FOR APPROVAL

e-mail: harp@icon.co.za • TEL: (011) 918-5138 • FAX: (011) 918-5139 • **www.harp.co.za**

•161 DORMEHL ROAD, ANDERBOLT, BOKSBURG NORTH • PO BOX 2698 BENONI 1500 •

MTM®

Case Study

HWACHEON XXL CNC LATHES FOR HIGH PRECISION IN HEAVY-DUTY MACHINING

The machining of long and several tons of heavy parts is particularly demanding when at the same time high precision and tightest tolerances are required. It is not only the technical competence of the machine operator that is important, the turning center must also be able to comply with the high demands of the machining process for large, accurate and heavy workpieces. In order to be able to produce even small and smallest batch sizes economically and precisely, Hyss Metallberarbeitung in Lennestadt, Germany, for many years has been counting on large turning centers from Hwacheon, a South Korean machine tool manufacturer.

Gerhard Hyss (right) and his son Steffen (left) invested in the extremely robust and precise turn-mill center Hi-TECH 850L YMC.

The contract manufacturer specializes in turning of large and heavy parts, up to 8 tons, 1,100 mm in diameter and 3,500 mm in length. These are often one-off productions or small series in small quantities.

While in 1982 Gerhard Hyss started his business with two partners and the production of small turned parts, they envisaged manufacturing larger parts and decided to invest in machines for processing maximum diameters of 550 mm and peak weights of 1.5 tons. "This allowed us to expand our range of services and gain new market segments," explains Hyss.

"The concept worked, and more and more orders for large precision turned parts were received. Eventually, the previously available production area reached its capacity limits and subsequently a new production facility was built in 1999 at the current location. The new halls offered space for even larger machines and thus also for machining larger and heavier workpieces.

First lathe from Hwacheon – Hi-TECH 700

With the rigid Hi-TECH 700 from Hwacheon, workpieces up to a diameter of 700 mm and a turning length of 2,000 mm can be processed.

Hyss Metallverarbeitung produces large and heavy turned parts in small batch sizes on its XL lathes.

At the Metav exhibition in Düsseldorf, Gerhard Hyss spotted the Hwacheon Hi-TECH 700, a horizontal turning center for heavy-duty machining, which offers an extremely rigid spindle design. The high-precision cylindrical roller bearings and the particularly impact-resistant angular roller bearings of the headstock are specially designed for tough and hard turning operations. Torques of up to 3,071 Nm at 115 rpm can be achieved via the integrated gearbox. Hyss was fascinated with this extremely stable and qualitatively well-processed lathe in XL format and decided to buy his first Korean machine: "With the Hi-TECH 700, new doors opened for us. Now we were able to machine parts up to a diameter of 700 mm and a turning length of 2,000 mm and achieve more flexibility and speed in production," he says.

With the new machine, more new orders came for even larger workpieces. The company had found its niche market and at the same time acquired a reputation as a specialist in the manufacture of large parts for the engineering industry. In the period that followed, the order backlog continued to grow, so another Hi-TECH 700 was purchased to adjust the production capacity.

New opportunities

While space available for storing raw material was no longer sufficient, an additional hall was added. At the same time, the contract manufacturer received more and more inquiries for larger size turned parts with integrated milling work. Therefore, the procurement of a turning-milling center was planned.

Steffen Hyss, son of the company founder and co-managing director, saw the Hi-TECH 850L YMC turning and milling center at the opening of the new Hwacheon European headquarters in Bochum. With this XXL machine, workpieces up to eight tons and diameters of up to 920 mm

can be precisely machined up to a turning length of 3,500 mm. In addition to classic turning tasks, milling work can also be carried out in one setup in combination with an additional Y axis. This increases precision of machined parts, because clamping errors that can occur when changing from the turning to the milling machine are excluded. Hyss was so impressed with the Hi-TECH 850L YMC that the company decided to buy the machine.

Extremely rigid machine bed and flat guide ways

The spindle, tailstock and extremely rigid machine bed of the Hwacheon Hi-TECH 850L YMC are designed for large, heavy workpieces. The machine bed is bevelled by 45 degrees for optimal heat management.

This prevents excessive heating of the workpiece and machine, while ensuring high precision.

The stable and robust machine has a particularly rigid monolithic machine bed with a weight of 23.5 tons, which is manufactured in Hwacheon's own foundry. For optimal heat management, it is bevelled by 45 degrees so that hot chips can be reliably removed. This means that the machine and workpiece are not excessively heated, even during roughing operations with a large amount of chips. All flat guides of the machine are hand scraped and polished. Especially with this time-consuming work process, the manufacturer's more than 75 years of mechanical engineering experience become clear. The flat guides have significantly lower vibrations even for heavy-duty machining tasks and thus ensure greater stability for greater precision and longer tool life.

Thanks to the massive design of the extra wide turret with a width of 250 mm, even large boring bars up to a diameter of 100 mm and a turning length of 1,000 mm can be clamped. The four-stage main spindle gear offers exceptionally high torque, especially in the lower speed range. The bearings are lubricated and cooled using the oil cooling system specially developed by Hwacheon. The temperature of the four-stage gear is continuously regulated in order to minimize thermal expansion, while ensuring accuracy during long operating times and heavy machining. With a drive power of 45 kW, the machine achieves a maximum torque of 6,873 Nm.

On the Hi-TECH 850, the company is able to machine all materials from structural steels, tempered steels, quenched and tempered steels, stainless steels, brass to plastics and super duplex steels.

For more information, contact Lead Machine Tools – Tel: 021 534-5351.

OUTSTANDING PERFORMANCE WITH THE NEW HI-TECH 750

Rapidly advancing CNC technology is driving innovation everywhere, especially in CNC machine tools and software. The key to being able to innovate and remain competitive is to take advantage of the technology trends adapting to market demands.

The newest edition to the Hwacheon successful Hi-TECH Line – Hi-TECH 750 is a CNC lathe with 15 – 24" chuck and solid box guide ways in all axis. The creation of the HI-TECH 750 follows the very successful Hi-TECH 850 series which was launched more than ten years ago.

The new Hi-TECH 750 adopts the same successful path as the Hi-TECH 850, where the machine's standard, variations and options are wide and flexible and can be utilised in practically all industries and applications.

Applications of Horizontal Turning Center Hi-TECH 750

The modern design of Hi-TECH 750 gives a clear signal to the market, that this is not only a new horizontal turning centre, but also a modern and further enhanced machine specifically designed following market and customers' feedbacks and application needs. While standard 2-axis to multi-axis machining including the requirements for modern manufacturing have been considered, the flexibility of the H-TECH 750 provides multi-axis turning for large shaft type application and complex parts which require turning OD & ID as well as milling, drilling and tapping operations. From standard steel to modern tough materials such as Inconel, titanium, stainless steel, high tensile stainless steel, the extraordinary machine structure and design will be the basis for all variations and applications demands.

Key Features of Horizontal Turning Center Hi-TECH 750

Following the Hwacheon principle, key functions come as standard and are included at no extra cost, such as the precision main spindle including an oil-jet lubrication system for bearings including a high capacity oil cooling and filter unit

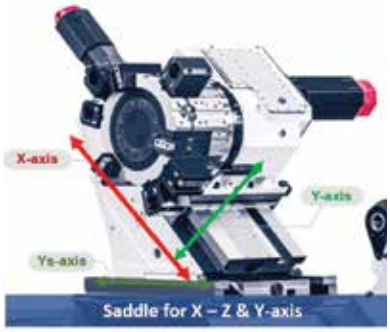
The machine is supplied with a powerful direct main drive and gear box (no belt drive) featuring up to 45Kw and up to 6,560Nm torque, subject to the CNC control system selected.

Other key features are a high capacity milling drive system up to 11.3Kw and 215Nm torque plus a 280mm wide turret disk, including twelve (12) stations with BMT 85 tooling holder as standard.

The programmable built-in tailstock which provides not only a very rigid and solid support to even the most heavy workpieces, compensates automatically for the growth and shrinking rate of a warming and cooling workpiece.

Available spindle bore sizes are diameter 132mm or 185mm, resulting in a bar size of 116 or 164mm, respectively, while big bore versions will follow suit.

The Hi-TECH 750 horizontal turning center features not only a simple slant bed design but a trapezoidal-designed machine bed. The strong and dynamic tailstock is mounted at the slant bed section of the machine and so is the optionally available steady rest base for hydraulic as well as standard manual steady rest versions. The unit for X – Z and Y-axis is mounted on a solid flat-bed design to ensure highest stability and accuracy at all times and conditions.



The triangular saddle is a highly optimized unit where the Y-axis can perform without limitations or chattering or weaker performance results.

The basic machine bed weight for our Hi-TECH 750 short version (2,250m) is 8 tons, while featuring a high quality meehanite casting, extra wide guide way designs and sizes, providing extreme stable cutting conditions. Available length sizes are 2.25m / 3.25m & 4.25m.

Enhanced user convenience is provided through new designed spindle drive system which is bringing the machines main spindle centre closer to the operator (546.5mm), while optionally available is a modern programmable steady rest base, providing everything a customer would need to use a manual or hydraulic steady rest of various make and sizes.

Customer can choose a bracket where the steady rest can be mounted at left or right side or if preferred for ultimo flexibility at both sides

A large and deep pocket (above spindle / chuck) is providing easy operation for long boring bars. Users worldwide appreciate that large and long boring bars (up-to max. diam. 80 x 800mm) can be left mounted at turret unit and still standard operations are possible to conduct with other tools mounted at turret. Larger and longer boring bar solutions are available at on request.

The large dimensioned front doors of Hi-TECH 750 provide wide dimensioned safety windows for easy view during operation, while an optional auto door function is available.

Maintenance is made easy as coolant tank and chip conveyor can be moved out from under the machine to the front.

For more information, contact Lead Machine Tools – Tel: 021 534-5351.

MAGNUM
MACHINE TOOLS

THIS MONTH'S Special

V TOP 6 METRE TUBE LASER

- 20 - 200 Cutting Diameter

R1 795 000 + Vat

BAYKALS FULL ELECTRIC / SERVO CNC PRESSBRAKE

Benefits of this machine:

- High speed
- High accuracy
- No oil or cylinders
- Low maintenance
- Extremely quiet

V TOP FIBRE LASER GF1530 X 3KW

- 1500 x 3000mm cutting area x 3KW
- Max tube length 6000mm (various sizes on request)
- Range of tube diameters 20mm - 200mm (various sizes on request)

Email Us For More Info:
sean@magnumtools.co.za

While Stocks Last

www.magnumtools.co.za

Get in touch

59 Goodwood Road
Mahogany Ridge Pinetown 3610

MAGNUM MACHINE TOOLS

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

TONGTAI TMS SERIES FROM PBS

By Alroy Savides

In January 2019 Tongtai turned 50 years old and with that comes a push towards the future. Tongtai has released several new machines in the last two years including VMCs with turning functionality (VMT-200), 5 Axis VMCs with additive hybrid technology (AMH-350) as well as Ultra-sonic machining solutions (VU-5).

Tongtai always has and will continue to provide the *best productivity vs cost ratio* solutions to its customers. With the ability to supply single function CNCs all the way through to mass production turnkey systems, Tongtai is the ideal partner for any manufacturing organization.

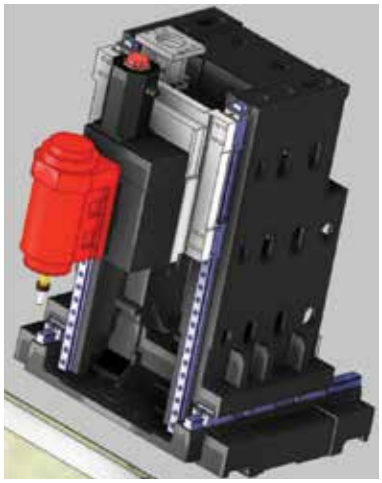
With this is mind and following requests from customers, the decision was made to introduce a B-axis head multi-tasking CNC lathe.

When comparing to competitors, Tongtai has focused on overall larger diameters with longer length capacities.

Tongtai TMS Series mill/turn machines are available in 4 different models, each with 3 different configurations with up to 9 axes. The standard **TMS** machine has a main spindle with programmable tailstock, while the **TMS-S** has a sub-spindle in place of the tailstock, and the **TMS-ST** features both a sub-spindle and a lower turning turret. Maximum turning diameter is 660mm with bed lengths up to 2000mm.

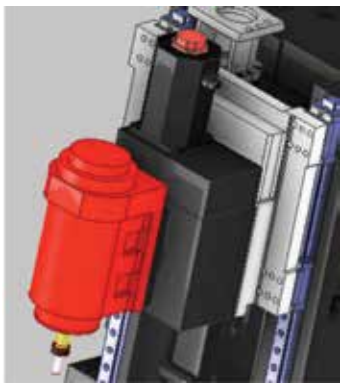
The TMS Series consists of the TMS-2000 (8" chuck, 51" bar), TMS-2500 (10" chuck, 76" bar capacity), TMS-3000 (12" chuck, 76" bar capacity) and TMS-3800 (15" chuck, 89" bar capacity).

With such a large working envelope and machine options, the target workpieces and industries include aerospace, prototyping, medical, automotive, tooling and medium to mass production.



TMS Series machines feature a one piece 75° mono-block slant bed that permits free flow of chips as well as easy access to the spindles and cutting tools. A true linear (perpendicular) Y-axis simplifies programming. Roller-type linear guideways in all axes and large-diameter pre-tensioned ballscrews provide precise position accuracy. The machines are made of Meehanite cast iron for rigidity and vibration dampening.

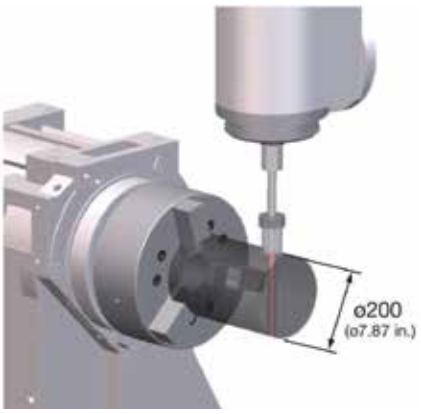
Both main and sub-spindles feature dual-wound built-in motors with electronic high/low gears. Both spindles have a full Cs axis (0.001°) with braking system. Three-piece Hirth couplings rigidly lock the spindles in place in 1° increments for heavy milling and high accuracy. Spindle power ranges from 26kW on the TMS-2000 to 60kW on the TMS-3800. Both main and sub-spindles are liquid cooled for thermal stability.



The B-axis milling spindle has a zero-backlash roller gear drive with high-speed rotation of 33.3 rpm and ±120° of movement from the vertical position. It features a rigid 3-piece coupling to lock the spindle in place for heavy turning and can be indexed in 15° increments.

The integral spindle milling motor delivers 22kW and 12,000 rpm and a 40 station with 80 optional arm type tool changer is standard, while an optional 10 station lower turret provides turning capability to both spindle as well as pinch turning ability with the B-axis. The automatic tool changer is available in either HSK-63T or Sandvik Capto C-6 tooling systems. These options mean the machine is especially suitable for small-volume, large-variety production.

The extended Y-axis stroke of ±125mm promotes less dependence on C-axis which results in shorter cycle times.



The standard Fanuc 31iT-B provides two-path control for simultaneous turning operations as well as 4+1 milling ability. The optional 31iT-B5 or Siemens 840D enables 5-axis simultaneous milling.

The benefits of multi tasking machining are proven time and again. However, incorporating single clamping, easy tool set up and interchange ability means that machines become even more productive, while increasing efficiency leads to a better cost per piece for the user.

For more information please contact PBS Machine Tools – Tel: 011 914-3360.

UNIQUE VALUE PROPOSITION

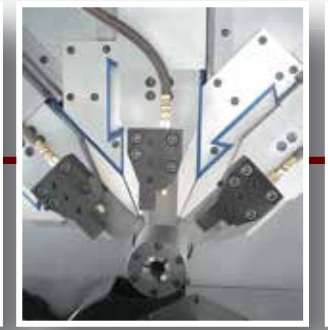
NEXT GENERATION CAM AUTO BY CNC

SIMPLE | RELIABLE | PROFITABLE

Polygim Multi Series

CNC Cam Auto Type Lathe

- 4 tools machining simultaneously
- Up to 6 OD turning tools
- Independent gang slide for ID tools
- Capacity options - Ø25mm and Ø42mm
- Sub-spindle independent machining
- 3m barfeeder



COMPLETE MACHINE TOOL SOLUTIONS

PBS Machine Tools (Pty) Ltd
PO Box 18422, Sunward Park, Boksburg 1470
10 Asset Road, Jet Park 1459, South Africa
Tel: +27 11 914 3360
www.pbsmt.co.za

PBS MACHINE TOOLS
FOR PRODUCTIVE BASED SOLUTIONS

SKETCH 2017/10342

FROM CONVENTIONAL MILLING TO CNC MILLING

In a market where skilled artisans are becoming more and more scarce, it has become necessary to look at alternative ways of machining, whether it be for general engineering, tool-making or production work.

CNC machining is quicker and certainly more accurate than conventional milling machines and there is no need for constant monitoring while in use. Taking this into account, MJH Machine Tools have a solution to suit customers' needs. Featuring an entry level CNC control, our Ctek CNC milling machine is the first step to CNC machining.

Ctek CNC Milling Machine.

As long as the operator has basic knowledge on using a DRO, he can, within a few hours, be taught how to program and run the machine. There is no need for G code knowledge as the control is conversational, using a question and answer format. The software is simple to use with graphic input in basic machinist language. The control has options for standard operation modes such as drill, tap, bore, contour and pocket programming, which is ideally suited to general engineering work without a need for external programming packages.

The latest Ctek's come with linear guides on all three axes for better accuracy and speed, as well as a direct spindle drive motor and an improved Z axis motor with inline break which eliminates the need for a counterbalance. The Ctek can be fitted with a 4th axis within a matter of hours and programmed from the standard Ctek control.

The Ctek range has six x-travel sizes, 800mm, 1 000mm, 1 500mm, 1 800mm, 2 000mm and 2 500mm. These machines are available in open type or fully enclosed depending on the customer's requirements. All spares are available ex stock at a fraction of the cost compared to other controls. With hundreds of these machines sold throughout South Africa since 1997, it is not surprising that Ctek CNC milling machines have been the first step to full CNC machining in many workshops.

Akira Seiki Milling Machine.

Should there be a requirement for a high performance machining centre for super fine finishing and accuracy, the Akira Seiki is the machine to consider. Spindle power ranging from 15HP on the Junior series to 42HP on the Super Vertical range and spindle speeds from 9 000rpm to 15 000rpm guarantee high quality surface finish.

Akira Seiki machines come standard with spindle oil chillers, inner spindle air chiller, coolant through spindle, pneumatic counter balance, chip screw conveyor, quick change ATC and 4th axis preparation.

For further information, please contact MJH Machine Tools – Tel: (031) 705 7514.

ALL UNITS NOW IN STOCK

The fastest bend!

Xpert Range

The economical bend!

Xpress Range

The most versatile bend!

Xact Range

Cutting | Bending | Automation

bystronic.co.za

sales.za@bystronic.com

+27 10 410 0200

Bystronic

Best choice.

HARRISON ALPHA CNC 1550XS – THE BEST MACHINE IN THE FACTORY

For the machining of a complete variety of turned parts for the oil & gas, defence, rail and power generation sectors, Medley Precision Engineering, a Mansfield UK based manufacturer is no stranger to machining difficult to cut materials, and this is why the company opted for the robust platform of the Harrison Alpha 1550XS from 600 UK.

The Harrison Alpha XS is a 2-axis manual/CNC lathe designed for fast, high-quality repeatability, accuracy and surface finish to exacting toolroom accuracy standards, which significantly reduces component production costs.

Commenting upon the machine acquisition, Medley Precision Engineering's Production Manager Mr Stuart Solomon says: "It's the best machine we have in the factory. This is because it is remarkably easy to program as it has its own Alphalink system that can be programmed on the laptop and I can draw parts and send them straight into the machine."

The Alpha XS lathe benefits from the ultra-high speed Fanuc CNC control along with Harrison's own developed Alphalink software. This software makes the Alpha ideal for new and experienced operators alike.

The flat-bed CNC lathe retains a conventional element and discussing this, Solomon says: "We often do low quantities of work and this machine can be up and cutting in a matter of minutes and this is a big bonus for our business."

Highlighting other features that make the Harrison Alpha lathe the 'best' machine on the shop-floor at Medley, Solomon continues: "The machine has never caused us any issues or problems, so support isn't a factor we've needed to be concerned about. It's a very solid machine that is well built and extremely reliable. We are often cutting difficult materials like super duplex and the Alpha XS generates an excellent surface finish, something that is a credit to the build quality of the machine. It's an extremely flexible and versatile machine and there isn't anything I wouldn't feel comfortable putting on the Alpha."

The Alpha ranges are backed up by some very attractive low-cost finance and lease options on the XS and the 3-axis XC ranges, which can all be built in a wide variety of sizes, with XS bed lengths up to a maximum of 6 metres. Alpha XS and XC lathes are not only fitted with a wealth of standard features but also have a list of options available to suit every turning application.

COLCHESTER MULTITURN CNC LATHE

The MultiTurn is a simple, flat-bed CNC lathe incorporating the powerful and user-friendly Siemens 828D control with Shopturn as a standard feature, although Fanuc 0iTF with Manual Guide i can also be fitted should the customer specify it.

The MultiTurn takes a highly established, robustly engineered lathe concept from Colchester that makes it the perfect machine for many of today's CNC turning applications. The MultiTurn is everything that you come to expect from a Colchester lathe – robust, stable and highly precise, irrespective of the component size handled.

The Siemens 828D control with Shopturn has a well-earned reputation for being highly user-friendly and intuitive, ensuring that operators can

cut quickly and easily with very little training. However, the Shopturn system is also powerful enough for more advanced CNC users to output maximum productivity quickly.

The Colchester MultiTurn lathe has been designed specifically for CNC users looking for increased versatility on one-off and small batch production, first time CNC buyers and jobbing shops looking for real programming simplicity and education and training establishments needing a real lathe with step-by-step simplicity

600 UK offer 6 Colchester MultiTurn models, starting with the compact MultiTurn 1000, which has a 330mm swing over bed, a 7.5kW motor, outputting spindle speeds of 3500 rpm, right through to the heavyweight MultiTurn 6000, which has a massive 760mm swing over bed and an 18.5kW motor giving spindle speeds of up to 1400 rpm.

The MultiTurn 6000 also has bed length options ranging from 1.5 to 6 metres, ensuring that the MultiTurn is capable of turning any component, regardless of size, right through to long shafts, billets, bar stock and castings.

For more information, contact 600 SA – Cell: 072 157 6003.

Not just Passion! Precision as well!

600SA Machine Tools (PTY) LTD

- Partner with the names and people you trust!
- Accuracy and Repeatability

Harrison Alpha

Takisawa

Takumi

Tos Trens

Gleason

Colchester

Sales:
Johnny Pierdica. Cell: 072 157 6003 / Email: johnny@mt600sa.co.za
Richard Poalses. Cell: 061-525-3060 / Email richard@mt600sa.co.za
Spares & Service:
Carlos Hlanganiso. Cell: 064-505-9906 / Email carlos@mt600sa.co.za
General enquiries: Email: info@mt600sa.co.za
Website: www.mt600sa.co.za
Address: 5 Evans St, Alrode South, Alberton, 1448

TAKISAWA QUASER we cut faster Colchester HARRISON Gleason Takumi LNS
JESCO TRENS HARDINGE Bridgeport PROKING Pinnacle TJR Rotary table

600SA Machine Tools (PTY) LTD

TOS TRENS SN71C UNIVERSAL CENTRE LATHE

The SN71C is a universal centre lathe designed for piece and small-lot production for turning workpieces of bigger dimensions. It is suitable for maintenance and repair divisions as well. A wide range of operational speeds and its unique execution ensure high stability in material machining.

Designed for easy maintenance and a long lifetime, the SN71C offers low operating costs, an easy and ergonomic control plus high turning precision. Added to these features, there are various versions with a wide range of optional accessories available, which include digital read-outs, quick-change tool posts, steady – and follow rests, rolling contact bearings for steadies, micrometric stops, taper turning attachments, faceplates and chucks.

Grey cast iron is used during construction of the machine guaranteeing minimization of vibrations throughout the machining process, while hardened bed guide ways provide long lifetime and constant accuracy of machining.

Hand scraping has been applied for high precision during machining.

Universal centre lathes belong to the most requested products of production portfolio from TRENS SK. Since half of the twentieth century they were known under the brand TOS and are still fulfilling the highest customers' requirements. Thanks to persistent quality and sustaining development TRENS SK ranks among the leading producers of universal centre lathes in worldwide.

For more information, contact 600 SA – Cell: 072 157 6003.

TAKUMI VC1052 DESIGNED FOR PERFECTIONISTS

VC series vertical machining centres are fast, three-axis linear guide machining centres designed for customers doing batch or production work.

To meet the requirements for fast cutting, the 3 axes are equipped with linear guide-ways for quick responses in acceleration and deceleration and high rapid traverse of 48 m/min.

The machine features travels of 1,060 x 520 x 610 mm and comes with a table size of 1,160 x 520 mm. Supplied with a machine net weight of 5,900 kg, the VC1052 can accommodate a maximum table load of 650 kg.

While featuring a spindle speed of 12,000 rpm and motor power of 7.5/11 kW, the Takumi VC1052 provides a magazine capacity for24 tools. Rapids are 36 x 36 x 24 m/min.

Providing a perfect combination of fast cutting and high stability, the machine is designed and built for mould machining with pre-tensioned ballscrews minimizing thermal growth and improving accuracy.

An ergonomically designed table simplifies setup, while the swivelling control panel optimizes floor space utilization.

A robust, precision-machined casting, hand-scraped contact areas and an integrated wash-down chip management system add to the highlights of the Takumi VC1052.

The spindle chiller maximizes heat dissipation and direct-coupled ballscrews increase accuracy, while the absolute encoder ensures a fast start-up.

For more information, contact 600 SA – Cell: 072 157 6003.

EVERISING

EVERISING MACHINE CO.

"A CUT ABOVE"

TOTAL CUTTING SOLUTIONS

BS SERIES

CIRCULAR SAWS

FULLY AUTOMATIC

SEMI AUTOMATIC

MITRE CUTTING

P SERIES

SALES • SERVICE • PARTS

FIRST TOTAL CUTTING SOLUTIONS

CUT (PTY) LTD

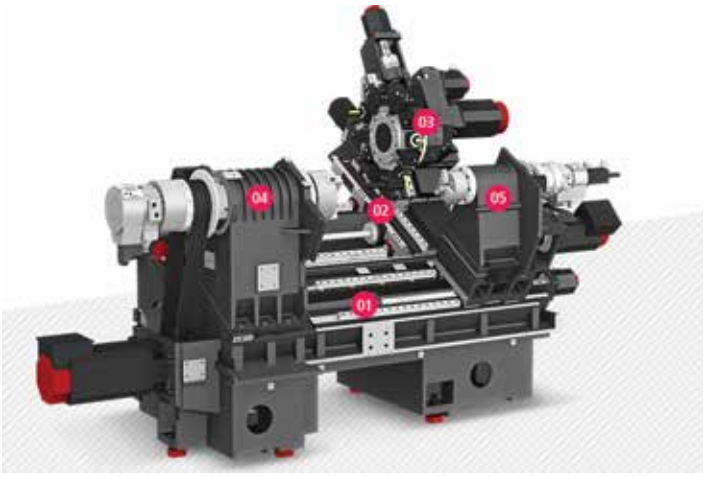
MTMA

JHB: +27 614 1112, DBN: +27 31 701 3960, C.T.:+27 21 531 3126
P.E: +27 41 453 3826, NLS: +27 13 753 3805/06
WEBSITE: www.firstcut.co.za EMAIL: info@firstcut.co.za

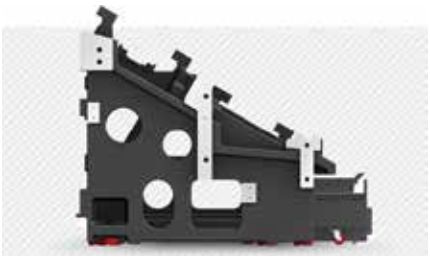
VERSATILE, HIGH PRODUCTION Y-AXIS CNC TURNING CENTRE

Hyundai WIA, one of the largest machine tool makers in Korea, used its accumulated know-how and latest technology to develop the SE-SY Series, which delivers high-performance, high heavy cutting capability and maximum productivity.

Specializing in small-parts, the Y-axis CNC turning centre features a 30° slanted one-piece bed structure with high rigidity, while the stabilized unit structure is designed to minimize thermal displacement.



01 Optimal Structural Analysis



Structural analysis was applied when designing the machine enhancing the tool post body, while reducing the machine's height in order to maintain the bed's dynamic rigidity even during heavy-duty cutting.

02 High-speed Roller LM Guideway

Linear roller guideways are used in SE-SY Series reducing non-cutting time, while achieving high-rigidity.

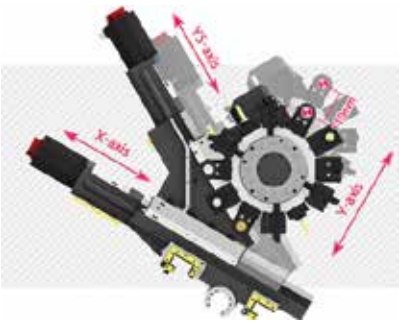
In order to eliminate thermal growth and increase accuracy, all axes are driven by high precision double anchored ballscrews.

The rapid traverse rate for X/Y/Z/ZB is 30/10/36/15 m/min with a travel distance of X/Y/Z/ZB of 210/110/560/560 mm.

03 Wedge Type Y-axis Structure

The SE-SY Series is designed with a wedge type Y-axis that is transferred by the simultaneous operation of the Ys-axis and the X-axis. In addition, excellent rigidity promotes superb quality when heavy-duty cutting.

Y-axis rapids are 10 m/min with a Y-axis travel range of 110 (±55) mm.



04 High-precision main spindle for Heavy-duty Cutting and High Quality

The main spindle is designed with the same structure often found in larger sized machines. The combination of double cylindrical roller bearings and angular contact ball bearings leads to excellent heavy duty cutting performance.

05 Sub Spindle

The S-type sub spindle with 5" chuck is designed to minimize thermal distortion caused by heavy cuts and high-speed machining.

For more information, contact Spectrum Africa – Tel: 011 865 4090.

HYUNDAI MOTOR GROUP

HYUNDAI WIA

2021 THE ALL-NEW MACHINE STORY

SE-SY Series

SUB Spindle + Y-axis Multitasking T/C

FANUC 15" Touch Screen
Cutting edge FANUC 15" touch screen offers greater user convenience features.

Wedge Type Y-axis
Provides superior rigidity during rough cuts due to wedge design.

Sub Spindle (S-type)
The sub spindle is designed to minimise thermal distortion caused by heavy cuts and high-speed machining.

CNC Turning Centers • Vertical Machining Centers • Horizontal Machining Centers • Automation Systems • Software

MTMA

Local: 08600 DURMA (38762)
International: +27 11 865 4090
Johann 064 396 1273
Vaughn 082 448 4991
www.spectrumafrica.co.za

SPECTRUM MACHINE TOOLS

HURCO CNC LATHE – CONSIDERATIONS AND TERMINOLOGY

By Michael Cope, Senior Applications Engineer & Product Specialist at Hurco Companies, Inc.

When purchasing a CNC lathe, there are several questions that you need to ask yourself before you begin the process. Some of these questions will be quite obvious: How much axis travel do I need? What size chuck should I look for? How many tool stations are on the turret? What is the spindle bore size, etc.? However, there are other specifications that are just as important, but not always so obvious: What is the maximum swing distance that my work will require? What is the maximum turning diameter necessary for my family of parts? What kind of spindle horsepower and torque will my type of work consume? The first set of questions above is relatively easy to answer, but the second group requires a better understanding of lathes in general.

I am often amazed at the number of highly skilled CNC machinists and operators who can accomplish almost anything on a milling machine, but who are very uneasy and intimidated around a lathe because they don't really understand the meaning of basic lathe terminology. That is the purpose of this article. I will try to clarify the meaning and benefit of a few of the "not-so-obvious" features that exist on a typical lathe spec sheet, and attempt to clarify their definition and explain why they might be an important consideration when purchasing a CNC lathe.

Maximum Turning Diameter: This simply indicates the largest size of part that can be turned on the machine – using standard length tooling – without interference or collision with guarding or other machine components.

With the X-axis retracted all the way positive, what size of part can be turned safely, as it relates to X-axis travels of the machine tool. For example: if you are looking at a machine with a max turning diameter of 16", and the parts that you run on a regular basis are 15" in diameter or larger, then you would probably want to look at a machine with a larger maximum turning diameter.

Even though, in our example above, the part would technically "fit" in this case, you must realize that you are running on the very edge of the envelope, and if you had to hang a tool out of the turret farther than normal – for one reason or another – you would likely NOT have enough X-axis travel to accommodate the part.

Maximum Swing: Refers to the largest diameter part that can be spun in the chuck without mechanical interference with guarding, cross-slide, or other machine components located near the chucking area. Depending on the style and design of the machine tool in question, this value could be larger than the maximum turning diameter mentioned above, however this does NOT mean that you can turn a part larger than that specified in the maximum turning diameter specification.

Horsepower & Torque: Horsepower and torque are obvious considerations when purchasing a new machine, but their necessity may not be so obvious in all cases. If you are running work such as castings and forgings,

drilling large diameter holes in steel, or generally turning features on large diameter parts, then horsepower and torque are going to be very important to you, and you should be certain that the machine in question has enough for your application. However, if you are more focused on high production or general turning of small to medium sized parts, then spindle RPM may become more important than power in your case.

Just as we have seen in the milling arena over the past several years, high-speed machining is quickly making its way into turning as well. As the technology of turning tooling is advancing, and through the tool coolant options are more prevalent, the principles of cutting shallower but faster are becoming more common. Spindle speed, rapid traverse, and maximum programmable feed rates become much more important than sheer horsepower and torque.

Maximum Turning Length: Very similar to the maximum turning diameter, this specification indicates the longest part that can be turned based on the mechanical limitations and axis travels of the machine tool. Keep in mind – the effective maximum turning length, for a particular part, can be less than specified by the use of larger or deeper chucks, or tooling that sticks out from the face of the turret farther than what is considered "normal". In both cases you would be introducing the possibility for mechanical interferences – which would restrict the length of the part that could be machined, even though the physical travels and limits of the machine have not been changed.

Bed design

Now let's discuss the ins and outs of the two main bed designs – the true slant bed and the flatbed "flying wedge" configurations.

First we will dive into the *true slant bed* design. Unlike the flatbed *flying wedge* design – where the *slant* is achieved by the addition of a bolt-on wedge that is mounted on the cross slide – the true slant bed machine casting is manufactured with the slant built in. This not only offers more rigidity and thermal stability, but also proves to give the casting more overall mass, and means you have a much heavier machine with a smaller footprint. Typically the true slant bed design is offered in one of two slant angles, 30 degree and 45 degree, but there are also some 60 degree models available.

There are many advantages to the true slant bed design, and it is probably the most common configuration in modern CNC lathes. One of the most well-known and obvious advantages to the true slant bed is better chip evacuation. As the chips are created during the machining process, they are immediately washed down toward the chip bed by gravity and the

Cont. on page 26 ☞

SOLUBLE CUTTING OIL

Standard Cutting Oil "S2S"

210 Litre Drum
R8 045,00 ea

20 Litre Container
R832,00 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

TRUMPF TRUMATIC L4030 LASER CUTTING MACHINE

4 000 watt class 4 CO_2 laser

Koch's Cut and Supply
STEEL CENTRE (PTY) LIMITED

For enquiries, please contact Genevieve
kochs1@argent.co.za
Tel: 031 700 4422 • Fax: 031 700 9839
22 Kyalami Road, Westmead, Pinetown 8610

TH MACHINE TOOLS

For New, Used and Reconditioned Machines

HUGONG

Intecut-HT CNC Plasma Table

10" CNC Control with Colour Display
Type: Dual drive gantry system with water bed
Affective cutting area: 1500 x 3000mm
Max thickness: 25mm production pierce

HUGONG

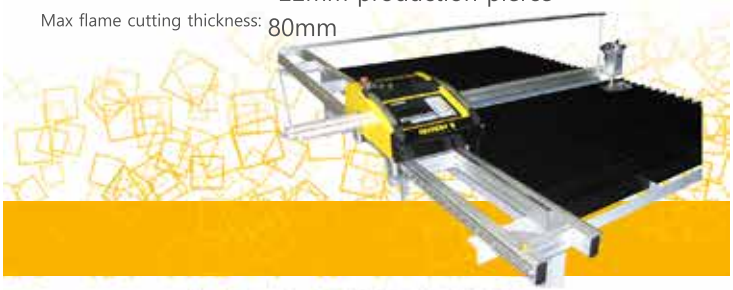
Econocut 3500 CNC Plasma and Flame Cutting Table

17" CNC Control with Colour Display
Type: Dual drive gantry system
Affective cutting area: 2900 x 6500mm
Max plasma cutting thickness: 32mm production pierce
Max flame cutting thickness: 120mm

HUGONG

Intecut 5 CNC Plasma and Flame Cutting Table

7" CNC Control with Colour Display
Type: Cantilever system with dry bed
Affective cutting area: 1500 x 3000mm
Max plasma cutting thickness: 22mm production pierce
Max flame cutting thickness: 80mm



Includes FastCAM Nesting Software
Hypertherm Plasma Source options available.

CALL NOW

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

☞ *Cont. from page 24*

normal flow of the coolant. This keeps chips from accumulating on flat surfaces, which not only helps control the chips in high volume production applications, but can also aid in prolonging the overall life of a machine – by reducing undue wear on the ways and other moving parts.

Another advantage to the true slant design is larger X-axis travels. Unlike the flatbed lathes where guide rail length is limited to the horizontal depth of the casting, the true slant bed design allows for longer X-axis rails. Just like in a square box, the straight sides of the box are one specific length, but the angular distance from one corner to the other is much longer. The same is true for the slant bed casting design which obviously means a larger part capacity in a smaller machine footprint. Although the *flying wedge* design, with the bolt-on slant, can also offer some increased X-axis travels over traditional flatbed machines, it can also magnify the lack of rigidity that is present in the bolt-on approach. You just cannot substitute for a sturdy casting design.

Thermal dynamics are also a big consideration in any machining process. The angular configuration of the base casting, and extended X-axis guideways, also offer better rigidity and part accuracies. Since the linear rails are longer, the base saddle casting that carries the turret can also be longer, providing a much sturdier base of support for the turret. And as the machine components begin to heat-up during the machining process, the headstock, tailstock and cross slide will all begin to grow along the same 30, 45, or 60 degree plane as the X-axis – unlike the flatbed *flying wedge* design, where the X-axis is mounted on a slant, but the rest of the machine components are mounted on the horizontal flatbed plane.

For more information, please contact TH Machine Tools – Tel: 012 259-1375.

iR Services

reliable IR solutions

Employment Law Specialists

IR Services (PTY) Ltd's ultimate aim is to manage associated employment risk on behalf of the employer to ensure that the business owner focuses on operational needs and growth.

Such risk is managed in line with current prevailing employment laws and in line with best practice by our skilled consultants.

A tailor-made solution is designed for the particular employer in order to suit the business' needs, at very competitive rates.

Services

Industrial Relations Solutions

- Consultation and Negotiations at all levels
- Restructuring / Downsizing of your Workforce due to operational / similar needs
- Disciplinary Hearings and related Procedures
- CCMA & Bargaining Council representation
- Strike contingency plans & management thereof
- Telephonic advice and assistance
- Contracts of employment & similar agreements
- Company policy formulation & implementation
- Assistance and guidance with UIF and TERS processes due to Covid 19

2020.v1

*Terms and Conditions apply. E&OE.**Visual only. ©

Dimitri Stavridis

dimitris@irservicesint.co.za

JHB Office: 05 Janssens Rd, Constantia Kloof, Roodepoort

PTA Office: Silver Lakes Office Park, Office Park 1, Block 3, Von Backstrom Boulevard, Silver Lakes, Pretoria

082 674 0610

012 424 0160

THE NEW SAFANDARLEY E-BRAKE ERGONOMIC

With the Ergonomic design of the E-Brake, SafanDarley enables the operator and the press brake to work as a unit. The operator is partially seated inside the machine, surrounded by an edging table with his legs in a spacious cut-away below the lower beam, where the foot pedal is located.

Ergonomic ease of operation is assured as the seating position as well as the height and angle of the footrest can be adjusted.

The SafanDarley E-Brake Ergonomic can easily be adapted to changing work situations, such as a different product or a different operator. The edging table can be adjusted enabling users to achieve perfect pick-up height, working height and cast-off height every time. In addition, the edging table can be fully or partially collapsed, enabling the operator to bend whilst standing up. Finally, the entire edging table can easily be removed from the machine to make the front freely accessible.

While the height of the rotating 17" Touch Screen is adjustable, the unit can be placed to both the left and right of the operator, meaning that left-handed operators can use the machine with the same level of ease as right-handed operators.

The double-function safety light screen, integrated into the control panel secures the bending zone and allows the axis to move, while the operator turns, picks up or removes the product. These simultaneous actions of operator and machine lead to very fast cycle times.

While the innovative back gauge can be used across the full working length, it has a maximum depth of 1000mm and a height adjustment of 150mm. Combined with the possibility of setting the upper beam at a 5° angle, this means unparalleled flexibility. The back gauge comes with an X axis and an R axis as standard features, but can be expanded, depending on the model, with 5 optional axes.

SAFAN M-SHEAR

The Safan M-Shear's extremely functional design satisfies current and future requirements with possible expansion plans, such as material-handling systems, already provided for. At its core is the advanced hybrid drive for the cutting beam consisting of a servo-electronic motor and hydraulic pump, a combination producing a remarkably quiet and energy-saving system.

While the robust hydraulic systems are controlled by modern electronics increasing both productivity and quality of products, the servo-electronic motor powering the hybrid drive only runs when the cutting beam is in motion thus saving energy and reducing noise levels while cutting.

Maximum ease of operation is provided by the Safan Touch Screen control TS 200 while the settings are indicated by clear symbols on the TFT colour monitor. The control operates with Microsoft Windows®.

With blades having four cutting edges, on both top and bottom, shearing is done very economically as blade wear is spread over the blade's entire length, thanks to the programmable starting position of the cutting beam. Another feature includes independent left and right clearance adjustment and built-in measuring sensor with an accuracy of ±0.01mm. Due to the special frame construction, clearance is self- compensating so that, even with a load in the middle of the shear, the clearance remains constant over the entire length. When the clearance is changed, the back gauge setting is automatically corrected. Size of cut can be directly entered, after which the position of the back gauge is adjusted. The back gauge adjustment occurs by means of play-free guides and ball screws. Setting precision is 0.01mm and repetitions are accurate to within ±0.03mm.

The shear has extensive guards on the back and sides. These consist of mechanical side covers on the right and left sides plus a photo-electrical guard on the back. The machine's foot-operated console is fitted with an emergency stop. Robust finger guards have been installed. For up to and including 6mm cuts, openings have been made in these guards, allowing the operator to safely get closer to the blade.

As an option, the M-Shear can be supplied with pneumatic sheet support equipment making cutting easier, especially when dealing with larger-size blank sizes. The sheet to be cut is supported at the back of the shear, ensuring it can be accurately positioned against the back gauge, which can be equipped with sheet support arms, if requested.

In combination with the pneumatic sheet support system, a scrap separation feature is available.

For more information, please contact CML Machine Tools – Tel: 083 232 9470.

SENFENG
LEIJIANG LASER

EUROMAC®
punching machines

Fiber Laser

Euromac meets
your ambitions

Strong
affordable
easy fast
flexible

SAFAN DARLEY®
The E-volution in sheet metal working

LEADERS IN THE INNOVATION OF SERVO ELECTRIC PRESS BRAKES

SafanDarley –
THE ORIGINAL SERVO ELECTRIC PRESS BRAKE

Bending
with the E for
ergonomics

**SafanDarley
M-Shear**

SafanDarley E-Brake

Superior cutting technology
with hybrid drive

AMOB

eMOB150CNC
9 Axis Pipe Bending
Machine

CML
MACHINE TOOLS
Suppliers of Fine Equipment

Unit 4 Rapid Park, Apex Road, Apex
Tel: 0861 422 423
e-mail: luis@cmlmachines.co.za • web: www.cmlmachines.co.za

MTMA

MTM®

HIGH PERFORMANCE TAPS FOR HIGHER CUTTING SPEEDS AND TOOL LIFE

NORIS taps for processing a wide variety of steel alloys, cast iron and various non-ferrous alloys are well known under the names SALOREX UNI for blind holes and STABIL UNI for through-hole. REIME NORIS now extends the UNI series to high performance taps made of HSSE-PM (HSS-PS) with improved cutting geometry and TiCN coating.

NORIS SALOREX UNI – the specialist for deep blind hole threads up to 3 x D thread depth – has 42° right-hand helix flutes. These provide secure chip removal against the cutting direction.

NORIS STABIL UNI stands for the production of through hole threads up to 4 x D thread depth. The special STABIL-flutes move the chips in the cutting direction.

The drills are available in metric sizes from M3 to M20 and M8 x 1 to M16 x 1,5 in stock.

In both versions, the use of powder metallurgical high-speed steel permits higher cutting speeds while increasing tool life. The user benefits by increasing the cycle times and a reduction in tool costs. With the ability to process a very wide range of materials, additional cost of storage and tool investment can be reduced. The proven cutting edge geometries were further optimized in detail. They are specially adapted to the characteristics of the HSSE-PM substrate and the coating. REIME NORIS thus promises significant performance gains and expects especially in the production of small- and medium-sized series, the greatest economic advantages of using these high performance taps.

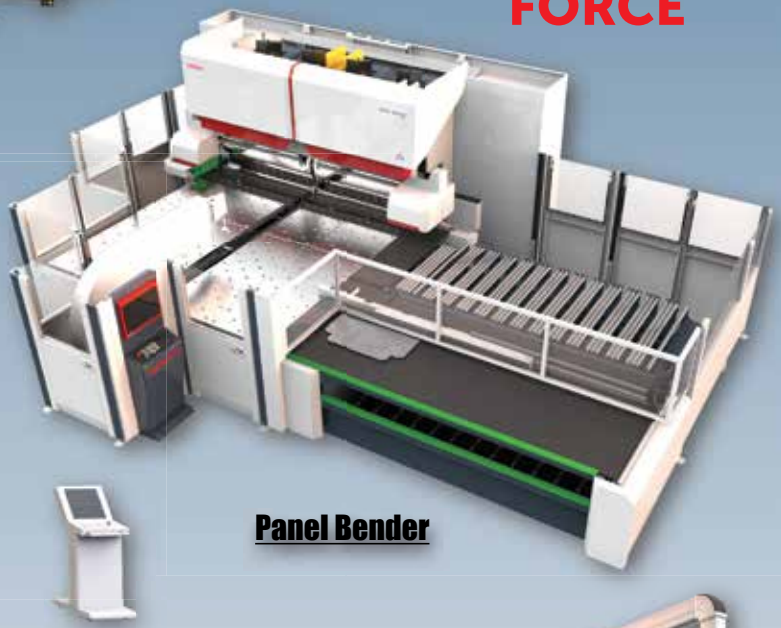
For more information, please contact Duncan Macdonald – Tel: 011 444-4345.

NORIS STABIL UNI HSS-PS TiCN in machining situation through hole: Chips are evacuated in the cutting direction.

DURMA

THE WINNING FORCE

HD-TC Series
Tube FIBER Laser System



Panel Bender

HD-FA 3015
5-Axis FIBER Laser System

AD-ES 1240 RobotCell

AD-Servo Press Brake

HD-FL FIBER Laser 10 kW & D-Server

Yesterday Today Tomorrow

SM SPECTRUM MACHINE TOOLS

www.spectrumafrica.co.za

MTMA

Local: 08600 DURMA (38762) International: +27 11 865 4090 | sales@spectrumafrica.co.za | Vaughn 082 448 4991 | Johan 064 396 1273

MTM®

Special Purpose Machinery!

STRETCH LEVELLERS LOCALLY BUILT BY A.P. DESIGN

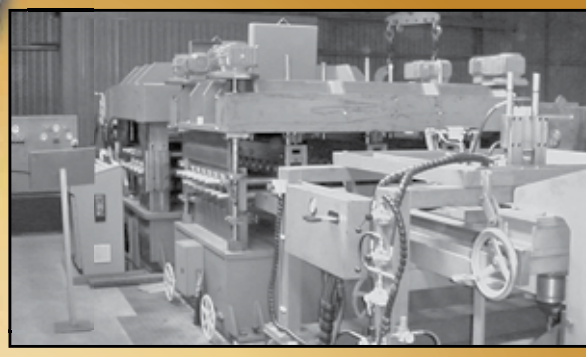
SHAWN TECH

New Range of Autofeed drills, tappers and rotary index tables at unbeatable prices.

45 Years' Service to the Industry

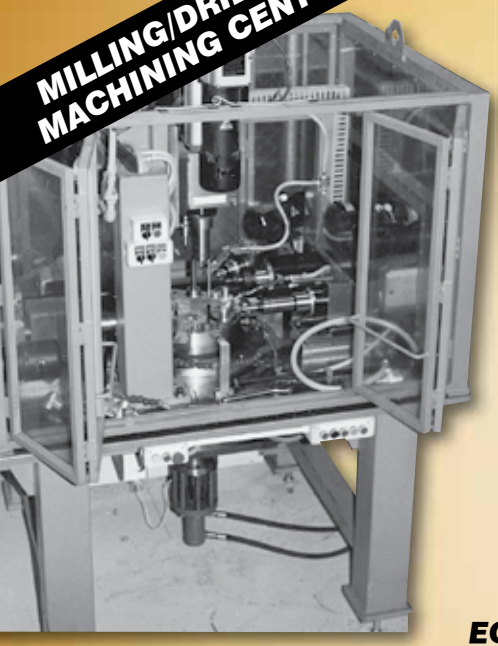
COLLABORATIVE ROBOT "I WORK 24/7 WITHOUT A BREAK"

Siasun Sales Service & Free Training



Cut to Length/Slit from 0.4 to 8mm Flying Shear

MILLING/DRILLING MACHINING CENTRE



Tapping up to M30

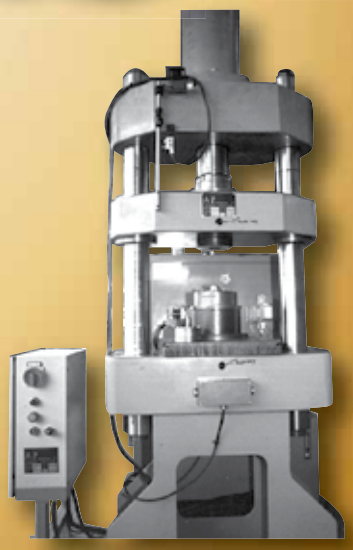
Strip Feeders for your press shop. Material 50 to 450mm width and length.

- Servo Roll Feeders
- Cut To Length Lines .4 To 8mm
- Flying Shear
- Pay Off & Recoil Equipment
- Steel Strip Straightening Machines
- PLC & Microprocessor Control
- Automatic Assembly Machines
- Drilling Machine
- Jig & Tool

All units with mounting No Columns and clamps required

Drilling up to 40mm

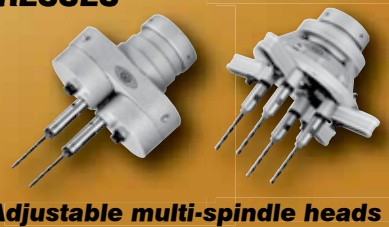
ECCENTRIC PRESSES 45 TO 250 TON. PRICES FROM R125 000.00



2 IN 1 STRAIGHTENER DECOILER

HYDRAULIC PRESSES

- 30 To 1000 Ton



Adjustable multi-spindle heads

A.P. DESIGN SPECIAL PURPOSE MACHINERY

SPECIAL PURPOSE MACHINERY

PO Box 741, Isando 1600
Cnr Nuwejaarsvoël & Element Roads,
Chloorkop Ext. 1, Kempton Park.

Tel : +27 100 100 495
Cell : 083 626 6216 Graham Pike
Fax : 086 503-7256

VISIT OUR WEBSITE http://www.apdesign.co.za
e-mail gpike@mweb.co.za

MTM®

MACHINE TOOL PROMOTIONS

Rebuild or Upgrade?

Planning a machine tool rebuild or upgrade? Then let Machine Tool Promotions be your experienced partner and do your next machine rebuild or upgrade with us.

Our services include

- Geometric rebuilding
- Slideway grinding
- CNC control retrofitting
- Mechanical upgrading
- Sourcing of donor machines

MACHINE TOOL PROMOTIONS (PTY) LTD.

New and rebuilt machine tools

Tel: 016 931 1564 • Fax: 016 981 0404

10 Fraser street, Vanderbijlpark, South Africa 1900 • P O Box 1187, Vanderbijlpark 1900

e-mail: jaci@mtpsa.co.za • website: www.mtpsa.co.za

MJH
Machine Tools cc

Durban - 031 705 7514

Ricky - 079 510 4144
ricky@mjhsa.co.za

Brandon - 066 234 1702
sales@mjhsa.co.za

www.mjhmachinetools.com