

bristol fashion

MACH MACHINE TOOLS' CUSTOMER NEWSLETTER Edition 2

MACH 2022 SPECIAL EDITION

The 'Speed King.'

Introducing the new
MACH MDHS-65S
high-speed machining
centre.

Along came a 'Spider.'

The MDS 8T-845: an
innovative toolroom mill
with a difference.

A secret - no more!

Discover the unique strengths
of the DynaPath Control.



IF NOT NOW, WHEN?

MACH MACHINE TOOLS
HALL 20 - STAND 370



We're on a mission!

“Welcome to this MACH 2022 Exhibition Special edition of Bristol Fashion designed to give you the lowdown on what we’re exhibiting on our stand (Hall 20 Stand 370), and why you should make us your first port of call.

Being the first MACH show for four years, and recognising the many issues and challenges that have confronted UK and Irish manufacturers in the intervening period, we’ve decided to really push the boat out for MACH 2022.

So, from what is the largest stand we have ever booked for a MACH event, we are showcasing a range of new and innovative machines designed to inspire, motivate and bring back that feel good factor.

From the nine machine tools we’re taking to MACH 2022, six are equipped with the powerful, sophisticated and versatile DynaPath WinDelta control - a control that, we believe, has been the Industry’s best kept secret...until now!

The DynaPath controlled machines on our stand are equally impressive and comprise a new high-speed machining centre, class-leading toolroom milling machines...a number with high-productivity integrated tool changers...and a CNC lathe.

Our machine tool line-up is completed with the next generation of our best-selling Super Precision manual turret-type milling machines - the MACH VS-1 SP and MACH VS-2 SP - putting in an appearance, along with an equally popular MACH L1340 manual lathe.

This year’s MACH show is a real watershed for the company and demonstrates how far we’ve developed and grown in the last ten years. (It wasn’t that long ago when we were best, and indeed only, known for our MACH VS-1 manual turret type milling machine.

How times have changed!”

Matt Andrew
Director
MACH Machine Tools



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DynaPath Control:

A secret - no more!

MACH Machine Tools' latest generation of milling machines, lathes and high-speed machining centres are all supplied with the advanced DynaPath WinDelta control.

Used extensively in Asia and throughout the US, the DynaPath control (and DynaPath-controlled machines for that matter), has a large and loyal customer base who extol the virtues of the control's flexibility, speed, power and ease of use.

This control, now available in the UK and Ireland, courtesy of MACH Machine Tools, is re-defining what machine tool control technology is all about, and is set to revolutionise the market.

DynaPath WinDelta is powerful, versatile and unique CNC control system that is both user-friendly and cost-competitive. It is a single platform CNC control system that can be used by absolute beginners through to highly experienced and seasoned professionals.

The control is easy to use and is flexible for manual, semi-automatic, and full production operations and

facilitates both conversational and ISO/G code programming. All control functions are enabled and accessed via an intuitive touchscreen interface.

An 8GB on-board (program) storage facility combined with 1000 block look-ahead on standard machines (10,000 block look-ahead on high-speed machines) ensures the controls' fast processing speeds and responsiveness which, for high speed machines etc., helps facilitate high-speed contouring and deliver improved part accuracies, superior surface finishes and increased process control.

The DynaPath control has simple to understand menus, and the integration of on-screen graphics helps to eliminate programming omissions and errors. The provision of an advanced DXF reader, as standard, plus an on-board DXF Editor and a proven CAM system add to the control's flexibility and appeal.

A unique aspect of the DynaPath control concerns the 'Remote Assistance' provided to users.

Remote Assistance provides direct and immediate

help to an operator working on a machine. This help can be application based (i.e., how to perform a machining task), or could be concerned with trouble-shooting and problem-solving (i.e., understand why an alarm has been triggered etc.).

Remote Assistance is easily activated, and the process is quick and seamless.

"A real strength of the DynaPath control system is the Remote Assistance facility. In just a few minutes an operator can be talking over any issues or problems they may be encountering with a dedicated and experienced DynaPath engineer.

"It's a proven system. And it works," says Matt Andrew.

What makes our DynaPath Control so popular and appealing?

LET'S COUNT THE WAYS.

1

SINGLE PLATFORM SYSTEM

USED BY ABSOLUTE BEGINNERS THROUGH TO EXPERIENCED AND SEASONED PROFESSIONALS - AND A CONTROL THAT DRIVES 2-AXIS TURRET MILLS AND LATHES - THROUGH TO FULL SIMULTANEOUS 5-AXIS MACHINING CENTRES. YES - IT IS THAT VERSATILE.

2

EASY TO USE

SIMPLE, STRAIGHTFORWARD AND VERSATILE. CONVERSATIONAL AND ISO/G CODE PROGRAMMING - WHATEVER YOUR PREFERENCE. EQUIPPED WITH A TOUCHSCREEN, ON-SCREEN GRAPHICS AND ICONS, EASY-TO-NAVIGATE MENUS FOR FAST SET UPS AND ELIMINATION OF PROGRAMMING ERRORS.

3

POWERFUL AND FAST

EQUIPPED WITH AN 8GB ON-BOARD (PROGRAM) STORAGE FACILITY, 1000 BLOCK LOOK-AHEAD CAPABILITY...THAT ENSURE FAST PROCESSING SPEEDS, ULTRA-RESPONSIVENESS, AND UNRIVALLED PROCESS RELIABILITY.

4

FLEXIBLE

THE INCORPORATION OF A DXF READER, AN ON-BOARD DXF EDITOR AND A PROVEN CAM SYSTEM (ALL SUPPLIED FOC) FURTHER INCREASES ITS FLEXIBILITY AND APPEAL.

5

REMOTE ASSISTANCE

DIRECT, SECURE AND IMMEDIATE HELP, AVAILABLE 24/7, TO CUSTOMERS: APPLICATIONS' SUPPORT, TROUBLE-SHOOTING AND PROBLEM SOLVING ALL INSTANTLY ACCESSIBLE.



DynaPath

The 'Speed King'

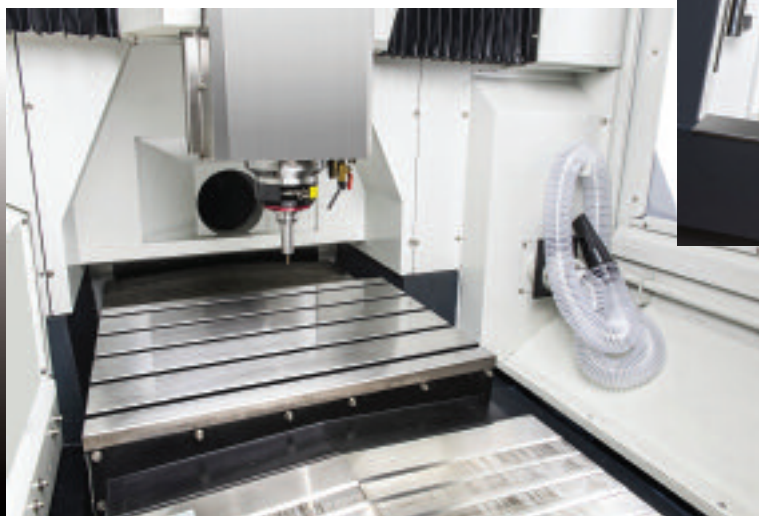
A quick introduction to the MACH MDHS-65S high speed machining centre.

A new addition to MACH Machine Tools' product line-up is the MACH MDHS-65S - a high-speed vertical machining centre designed for the fast processing of high-precision components, mould tools and copper electrodes - and a machine that performs as good as it looks.

As one would expect from a MACH machine, the MDHS-65S boasts an impressive specification with many technological features and innovations supplied as standard.

These include class-leading 10,000 block look ahead capability, a whopping 8GB of memory that also includes AI-based adaptive motion control, advanced Part Smoothing, Smart Path Interpolation, Jerk Control, Feed Forward and Friction Compensation.

Collectively these enable fast and accurate profiling and contouring, and the ability to machine superior and 'right first time' surface finishes...significantly reducing time and costs associated with secondary bench finishing operations.



With maximum positional error being less than 5µm and reversal spikes of less than 2µm (when operating at feeds of 8m/min), component manufacturers can achieve high quality machined components delivered in double-quick time.

Truly class leading!

The MACH MDHS-65S: a closer look

The machine features a fixed, rigid and thermally-stable double column bridge structure, roller-type linear guideways, direct-drive axis servo motors, a built-in and air/oil chilled HSK 40E spindle (7.5kW/ 24,000rpm with a 30,000rpm option), a servo-driven 12-tool ATC and, of course, the powerful and flexible DynaPath WinDelta control.



The machine is flexible, powerful and easy-to-use and features a 15" touchscreen control interface, a built-in DXF Reader with integrated DXF Program Editor that supports all programming and editing formats (i.e., Conversational, DXF, ISO/EIA G-Code etc.).

As with all DynaPath-controlled machines, the MDHS-65S is supplied with Wi-Fi enabled remote support, diagnostics and programming support - all guaranteed to deliver process reliability and peace of mind.

For manufacturers machining graphite electrodes, a specially-designed MDHS-65S machine equipped with DynaPath's HSM Graphite and filtration package is available. This machine is called the MACH MDHS-65G.

The MACH MDHS-65S delivers speed with control, best-in-class process reliability and is supplied with a range of technology features that include: a 24,000rpm built-in spindle (30,000rpm option available) • 12-position ATC (24-position option available) • Spindle chiller unit • Coolant pump • Work light and tricolour light beacon • Auto lubrication system • Electrical cabinet heat exchanger.



■ TECHNICAL SPECIFICATIONS

SPINDLE TAPER	HSK40E
SPINDLE RPM	24,000 rpm
SPINDLE POWER	7.5 kW
TABLE LENGTH	500 mm
TABLE WIDTH	700 mm
X-AXIS TRAVELS	600 mm
Y-AXIS TRAVELS	500 mm
Z-AXIS TRAVELS	270 mm
MAX TABLE LOAD	350 kg



Groundbreaking

MACH MDT-2

The MACH MDT-2 CNC controlled turret-type milling machine provides manufacturers with increased accuracies and surface finishes, best-in-class reliability and, like all MACH machines, great value too.

The machine is equipped with the powerful and easy-to-use DynaPath WinDelta D1 CNC control which, along with its simple and intuitive architecture and navigation, features a 12.1" colour LCD touchscreen, 8GB program storage capability, conversational programming software, a DXF file reader and remote Wi-Fi enabled diagnostics.

All supplied as standard!

The MDT-2 has a Meehanite cast construction and features hardened and ground table tops and T. slots, hardened and ground slideways with a Turcite B anti-friction covering, and C3 class ball-screws that deliver high precision and long life accuracy.

The machine also features technically excellent Yaskawa controlled axis drives that are ultra

responsive, ensure smooth transmission...with no backlash and deliver increased process reliability.

As is the case with all MACH machine tools, the MDT-2 is supplied, as standard, with an impressive range of technology features. These include: 3-Axis CNC control (Z-Axis mounted on the quill) • DynaPath 12.1" LCD touchscreen CNC control • 8GB of memory • DXF File reader • Wi-Fi remote assistance • Electronic MPG • Manual hand wheels for X-, Y- and Z-Axis • Air power drawbar • MPG run • Manual DRO capability • Interlocked table guard • Coolant system with stand-on-style base splash tray • Automatic lubrication • 4th-axis capability • Program retrace • LED work light • Knee position power rise and fall.



■ TECHNICAL SPECIFICATIONS

SPINDLE TAPER	ISO 40
SPINDLE RPM	50-3750 rpm
SPINDLE POWER	3.75 kW
TABLE LENGTH	1473 mm
TABLE WIDTH	279 mm
X-AXIS TRAVELS	885 mm
Y-AXIS TRAVELS	380 mm
Z-AXIS TRAVELS	400 mm
MAX TABLE LOAD	585 kg



ALONG CAME A SPIDER

MACH MD 845-8T

■ TECHNICAL SPECIFICATIONS

SPINDLE TAPER	BT40
SPINDLE RPM	8000 rpm (10,000 rpm TSC & 12,000 rpm direct-drive options)
SPINDLE POWER	5.5 kW
TABLE LENGTH	850 mm
TABLE WIDTH	420 mm
X-AXIS TRAVELS	800 mm
Y-AXIS TRAVELS	450 mm
Z-AXIS TRAVELS	450 mm
MAX TABLE LOAD	220 kg

The MACH MDS 8T-845 'spider' milling machine has been designed and built as a competitively-priced alternative to a compact vertical machining centre or a more typical toolroom mill.

The fully enclosed machine is competitively-priced and has a uniquely-configured eight tool position ATC around its 5.5kW/ 8000rpm spindle (10,000rpm TSC and 12,000rpm direct-drive options) enabling fast and trouble-free tool change operations to occur. The integration of the ATC makes the MDS 8T-845 incredibly productive, efficient, versatile and affordable.

As is the case with all MACH machine tools, the MDS 845-8T is supplied, as standard, with an impressive range of technology features. These include: UKCA/CE safety enclosure • Solid state hard drives • Yaskawa digital drives interlocks and electrical equipment • Bed wash • Coolant/air gun • LED machine lighting • End-of-cycle light stack • Electrical cabinet air conditioning.



THAT'S NOVEL!

MACH Machine Tools' bed mills are supplied with the DynaPath control and feature a range of innovations that increase their application potential and customer appeal.

MACH MDM 1000

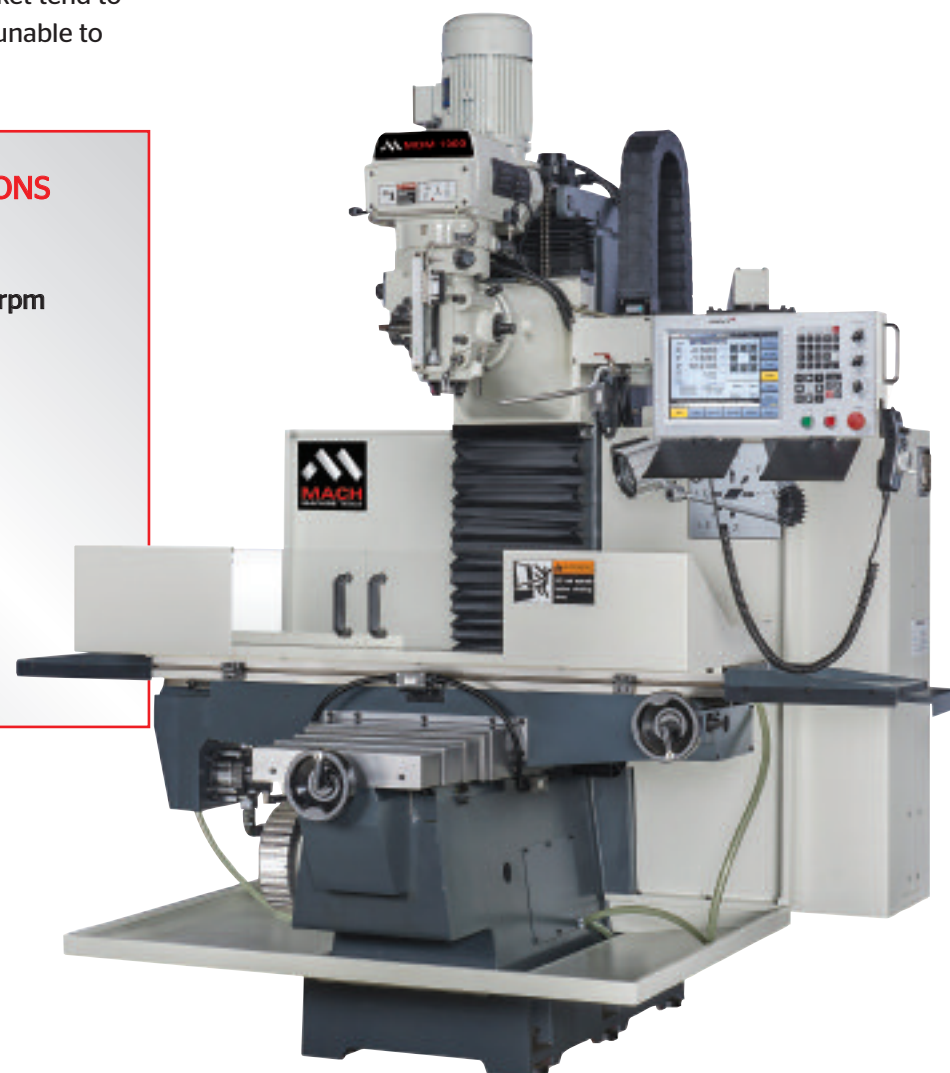
The MACH MDM 1000 CNC bed mill is the largest model in MACH's MDM bed mill range.

The machine has a ISO 40 5HP/5000rpm spindle, a 1524mm x 330mm work table (500kg maximum table load), and is supplied with a 12.1" colour touchscreen.

The MDM 1000 is being showcased with an integrated 4th-axis unit and is the only machine of its kind and class to boast full 4th-axis and 3D capability. (Other bed mills on the market tend to feature simple indexing units that are unable to provide continuous 4th-axis indexing).

■ TECHNICAL SPECIFICATIONS

SPINDLE TAPER	ISO 40
SPINDLE RPM	50-5000 rpm
SPINDLE POWER	5 hp
TABLE LENGTH	1524 mm
TABLE WIDTH	330 mm
X-AXIS TRAVELS	1000 mm
Y-AXIS TRAVELS	500 mm
Z-AXIS TRAVELS	610 mm
MAX TABLE LOAD	500 kg



As is the case with all MACH machine tools, the MDM 1000 is supplied, as standard, with a range of technologies and functions that give it the edge over competitors' machines i.e., DXF File Reader • MPG hand wheel • Mechanical hand wheels for X & Y Axes • Air draw bar • Interlock table guard • Fully programmable spindle speed • Low volt light • Coolant equipment • Wi-Fi enabled for online support.

MACH MDS 4T-900

■ TECHNICAL SPECIFICATIONS

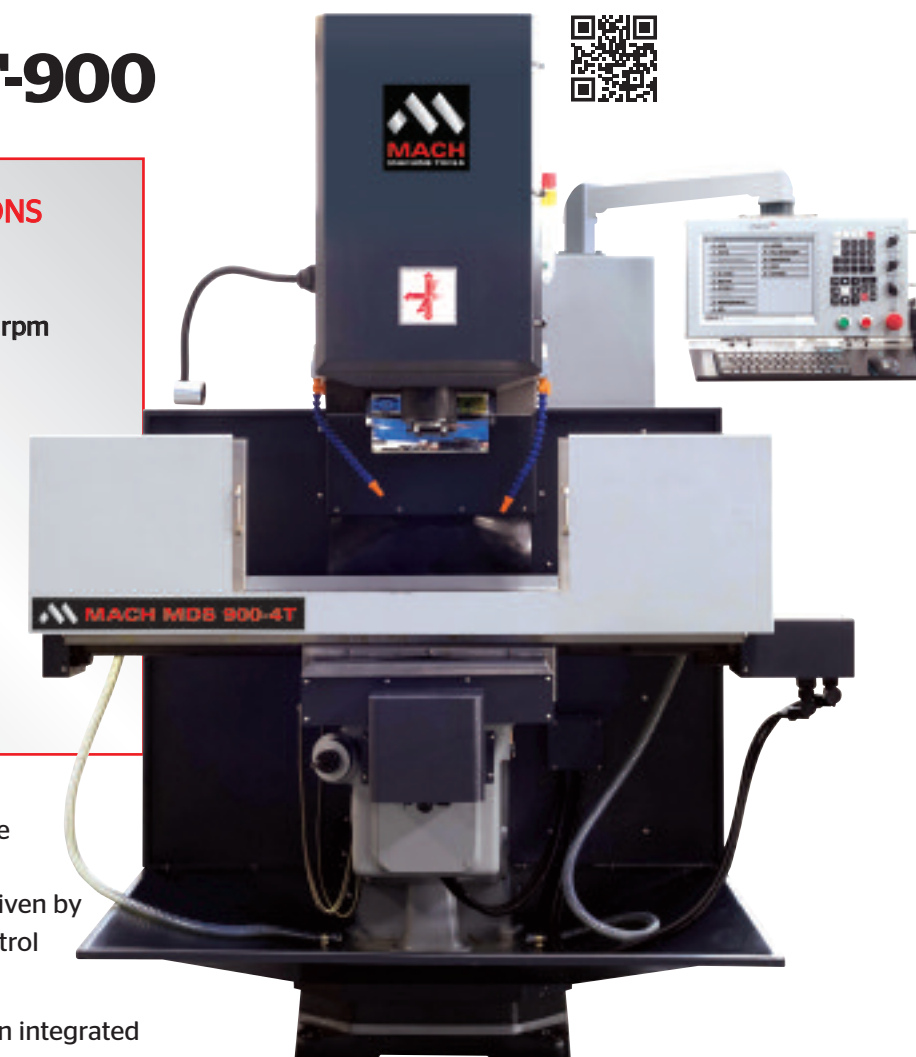
SPINDLE TAPER	BT40
SPINDLE RPM	50 - 5000 rpm
SPINDLE POWER	3.75 kW
TABLE LENGTH	1470 mm
TABLE WIDTH	320 mm
X-AXIS TRAVELS	900 mm
Y-AXIS TRAVELS	340 mm
Z-AXIS TRAVELS	120 mm
MAX TABLE LOAD	220 kg

The MACH MDS 4T-900 is an innovative machine, and is the world's first UKCA/ CE-compliant CNC/manual knee mill driven by the 3-axis (4-axis option) DynaPath control and Yaskawa drives.

The MACH MDS 4T-900 also features an integrated 4-tool position ATC, located around the machine's spindle, that increases the machine's performance, productivity and appeal.

The machine has directly driven X-, Y- and Z-axes, and a direct-drive BT40 3.75kW/5000rpm spindle and can be used in manual, semi-automatic and fully automatic modes - and is ideal for use in toolrooms and machine shops.

As is the case with all MACH machines tool the MDS 4T-900 is supplied, as standard, with an



impressive range of technology features. These include: 3-Axis CNC control (Z-Axis mounted on the head) • 4-position ATC • DXF File reader • Wi-Fi remote assistance • Electronic MPG • Peck drill and rigid tapping cycles • Power tool clamp • MPG run • Manual DRO capability • Interlocked table guard • Coolant/air blast system with base splash tray • Automatic lubrication • 4th-Axis ready • Program retrace • LED work light.

TURNING TO QUALITY!

Best-in-class CNC and manual lathes show cased at MACH...by MACH Machine Tools.

MACH Machine Tools has a rich pedigree in supplying high-performance lathes and turning centres to UK and Irish manufacturers.

This tradition continues at MACH 2022 with the showcasing of a class-leading DynaPath-controlled flat bed lathe and a best-selling manual lathe.

MACH MDL 1800

The MDL 1800 is a high-performance flat bed lathe equipped with the DynaPath WinDelta CNC control.

The machine delivers improved productivity and is destined to become a firm favourite with manufacturers of prototypes, one-offs and small batches.

As is the case with all MACH machine tools, MDL models are supplied, as standard, with an impressive range of technology features. These include: 12.1 inch Touchscreen LCD • Conversational, DXF and ISO/EIA G-Code Programming • Dual Electronic Handwheel Station • Auto Lubrication System • 10" 3-jaw chuck, 12" 4-jaw chuck • Tailstock with Quill • Quick change tool post (4-way auto tool post option) • Travelling and fixed steadies • Work Light • Tri-Colour Light Post.



■ TECHNICAL SPECIFICATIONS

SWING OVER BED	480 mm
SWING OVER CROSS SLIDE	260 mm
DISTANCE BETWEEN CENTRES	1250 mm
WIDTH OF BED	400 mm
SPINDLE SPEED	400 - 3500 rpm
CHUCK SIZE	Manual 8" or 10" 3-Jaw
RAPID X/Z	5/5 m/min

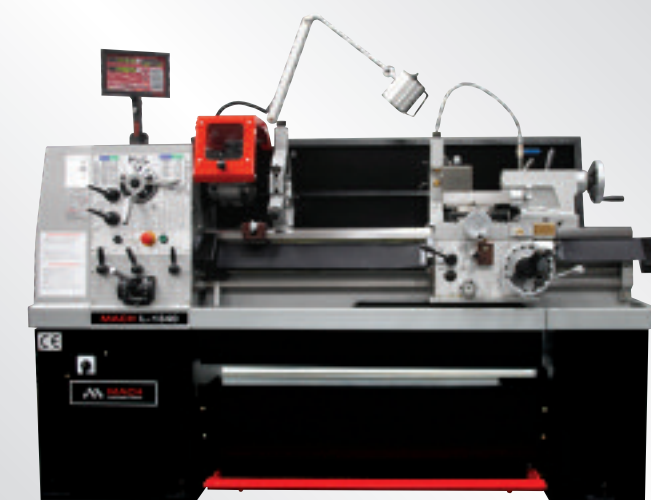


MACH L-1340

The MACH L-1340 is a rigidly-built and highly flexible manual lathe that delivers excellent performance, high accuracies and increased process reliability.

The machine features a heavy-duty spindle housed in a robust headstock for increased flexibility and improved productivity (MACH L-1340: 2.2kW/ 2570rpm). The headstock is rigidly-designed and built and features British Matrix manufactured clutches; nylon safety wheels in the end train, and Chromium Molybdenum gears and shafts.

The L-1340 is a compact machine that packs a punch: (1000mm distance between centres; 171mm height of centres; X-axis = 180mm; Z-axis = 1000mm). Other standard technology features include: • Newall DP 500 Digital readout (2-axis) • 3 & 4 jaw chucks and quick change tool posts • Induction hardened and ground gears and shafts for reliable and long-life performance • Meehanite cast, anti-vibration and stress-relieved beds for high accuracy and process reliability featuring Turcite B coating between the bed and carriage • Anti-float-designed backlash eliminators for improved accuracies, surface finishes and tool life • High-performance tailstocks (Quill diameter and travel - 50mm and 112mm respectively) • Travelling and fixed steadies • LED light.



■ TECHNICAL SPECIFICATIONS

CENTRE HEIGHT	171 mm
SWING OVER BED	342 mm Dia
SWING IN GAP	512 mm
SWING OVER CROSS SLIDE	205 mm
DISTANCE BETWEEN CENTRES	1000 mm
SPINDLE NOSE	D1-4 x MT No 5
SPINDLE BORE	40 mm
SPINDLE SPEEDS	16 step via 8 ranges
CARRIAGE LENGTH	400 mm
QUILL TRAVEL/TAPER	112 mm/MT No 3
WEIGHT	1200 kg
SIZE L X W X H	2270 x 965 x 1900 mm

WHAT'S THE SP?

Here's the low down on our new Super Precision (SP) MACH VS-1 and MACH VS-2 machines.

Our popular and proven MACH VS-1 turret-type milling machine has been re-engineered. The result is the creation of two new, next-generation 'super precision' models - the MACH VS-1 SP and the MACH VS-2 SP.

Both machines represent outstanding value and deliver the high accuracy, speed and reliability one expects from a MACH machine tool. And both are being showcased on our stand at MACH 2022.

With their familiar gloss black livery and polished aluminium heads, the new machines

are built to exacting quality standards and feature:

- Hand scraped hardened and ground dovetail slideways on the VS-1 SP, with square and box slides on the VS-2 SP • Turcite B on the machines' ways, slideways and gibs
- Hardened and ground table tops and T-slots, with nickel-coated lead screws
- State-of-the-art, EVS Yaskawa-spindle inverter and motor that provides absolute control over the infinitely variable spindle speeds (up to 5000rpm) • 3HP spindle power for the VS-1 SP and 5HP for the VS-2 SP.

MACH VS-1 SP

■ TECHNICAL SPECIFICATIONS

ABLE TRAVEL (X-AXIS)	850 mm (with power feed)
SADDLE TRAVEL (Y-AXIS)	305 mm
QUILL TRAVEL	127 mm
WORKTABLE (STANDARD)	1245 x 229 mm
T-SLOT SIZE	16 mm
WEIGHT OF WORKPIECE (MAX.)	340 kg
BORING RANGE	152 mm Mild Steel
SPINDLE DIAMETER	48 mm
SPEED, HIGH (INFINITELY VARIABLE)	420 - 5000 rpm
FLOOR SPACE	1620 mm x 1350 mm
MACHINE HEIGHT	2140 mm
MACHINE WEIGHT	950 kg



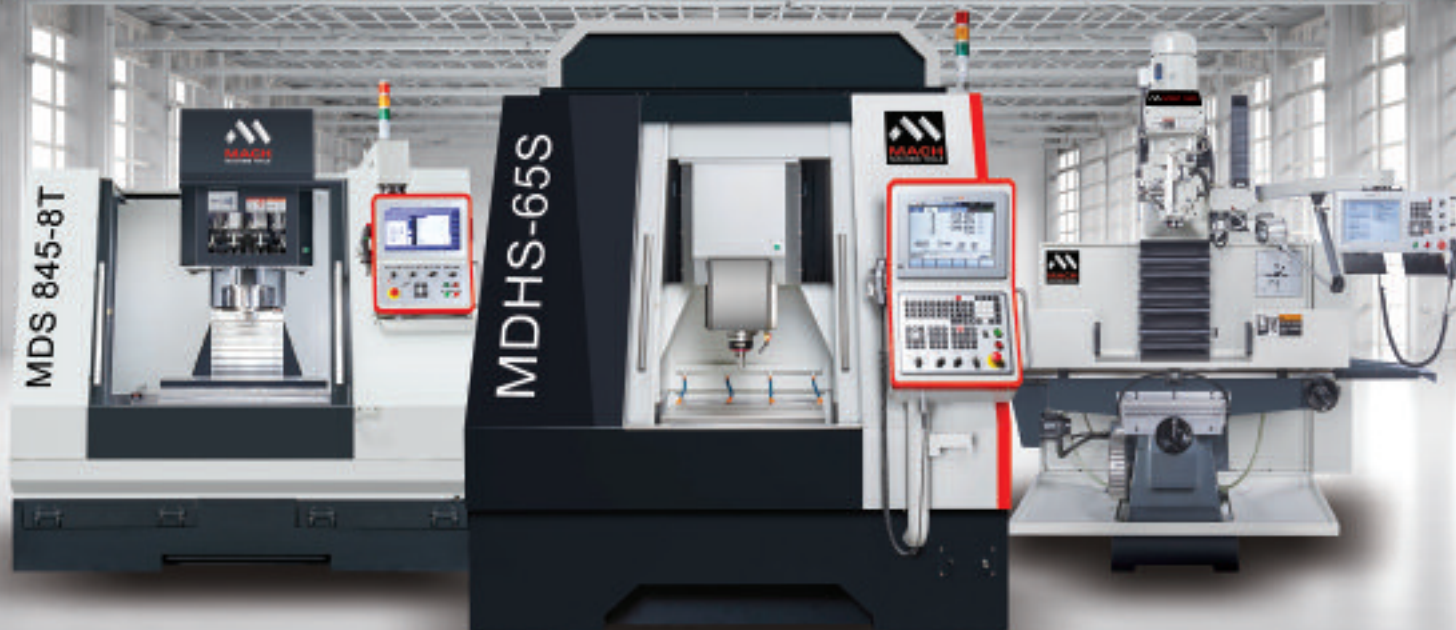
MACH VS-2 SP

■ TECHNICAL SPECIFICATIONS

TABLE TRAVEL (X-AXIS)	890 mm (with power feed)
SADDLE TRAVEL (Y-AXIS)	390 mm
QUILL TRAVEL	127 mm
WORKTABLE (STANDARD)	1370 x 245 mm
T-SLOT SIZE	16 mm
WEIGHT OF WORKPIECE (MAX.)	500 kg
BORING RANGE	200 mm Mild Steel
SPINDLE DIAMETER	85.725 mm
SPEED, HIGH (INFINITELY VARIABLE)	420 - 5000 rpm
FLOOR SPACE	1950 mm x 1450 mm
MACHINE HEIGHT	2230 mm
MACHINE WEIGHT	1300 kg



MACH 2022, Hall 20-Stand 370.



Forget the road to nowhere. Take the **Path** to glory instead!

New DynaPath controlled high-performance toolroom mills and high-speed machining centres from MACH Machine Tools.

Here are just three of the seven advanced MACH machine tools, equipped with the powerful, flexible and easy-to-use DynaPath WinDelta control, we're showcasing on our stand at MACH 2022.

Visit us at MACH (Hall 20-Stand 370). See the machines in action. Talk to our engineers about the feature-rich DynaPath control. And get your productivity, performance and profitability back on track.

To find out more call us on 0117 965 2706 or
visit www.machmt.co.uk

