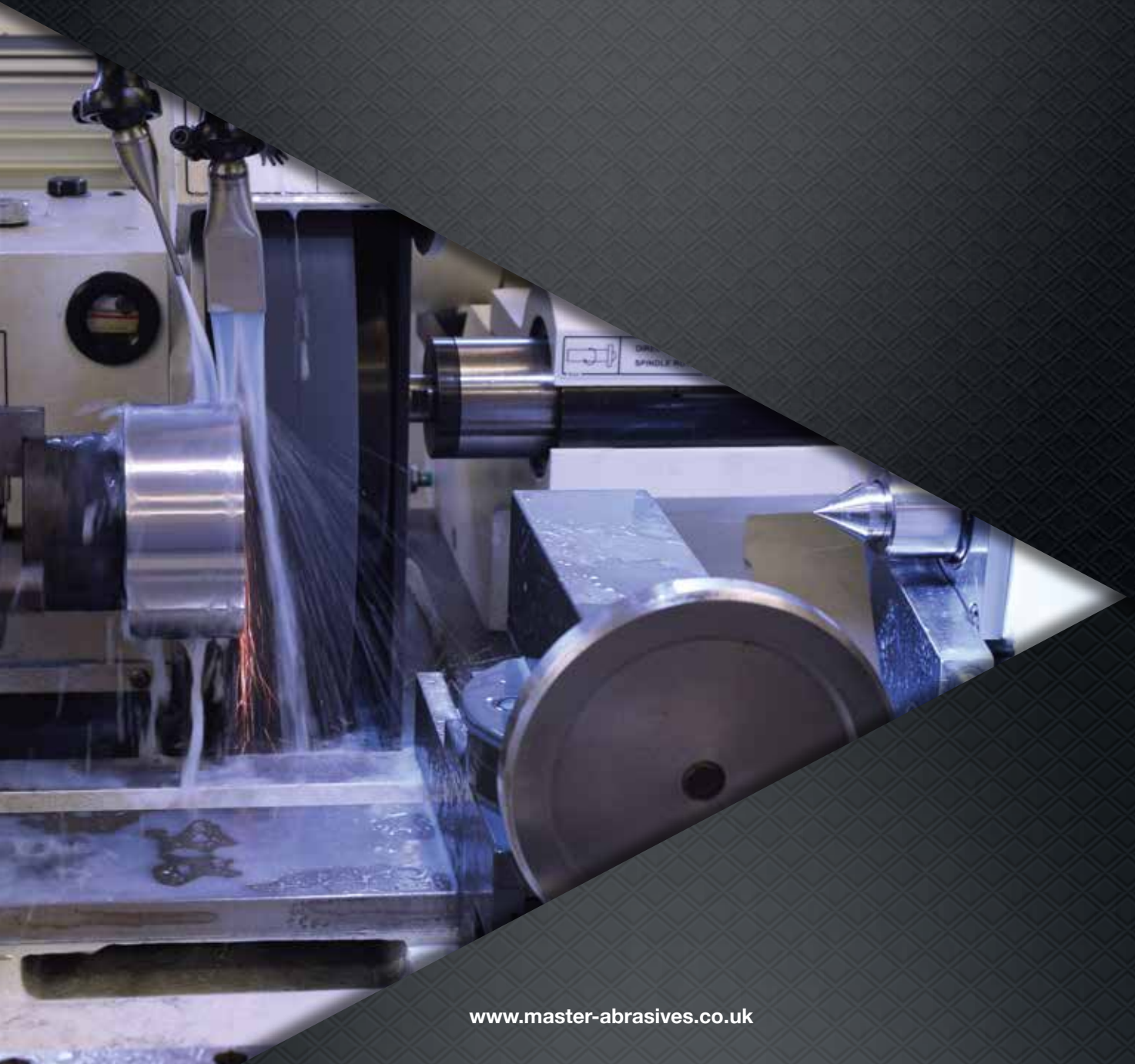


MASTER ABRASIVES

Machinery & Equipment

SOLUTIONS FOR INDUSTRY



Introduction

Master Abrasives

At Master Abrasives, we have a hard and long earned reputation in the UK market for providing solutions with high-quality products and professional service. We now serve industry globally as an independent UK owned company and have an extensive product portfolio including our own affordable, high-quality Master® brand abrasives range.

We have carefully selected partners to enable us to also offer our customers first-class machinery and equipment - so they can find a complete grinding solution from their familiar and reliable abrasives supplier. We can now provide machinery including grinding machines, metrology and balancing equipment, superfinishing spindles and mass finishing machines. Our technical applications team has extensive knowledge of these areas and work with our customers worldwide finding solutions to achieve improved productivity.

Offering high-quality products backed up by a professional and technical service and support, we aim to provide ultimate solutions for industry.



Our Machinery & Equipment brand offering:



Micromatic

We have a comprehensive range of precision grinding machines such as external hydraulic and CNC Cylindrical, Internal and Centreless grinding machines manufactured by Micromatic Grinding Technologies, part of the Ace Micromatic Group.



Cylindrical Grinding Machines

In the hydraulic machine range, the compact model eco 200 is ideal for external, internal or face grinding of large or heavy components in small to medium production batches. Their cylindrical range is available in several models and sizes to accommodate most customer requirements and can be fully CNC controlled.



Centreless Grinding Machines

Micromatic centreless grinding machines are configured for both through-feed & in-feed grinding. Various types of automation can be integrated with the machine for parts such as engine valves, U-J cross, piston pin, shocker tube, hydraulic valve spool and others.



Special Purpose Machines

Micromatic Grinding Technologies have also developed special purpose machines by working with customers to solve application challenges. Special purpose machines such as Valve Seat Grinders, Piston Ring Profile Grinders and special grinders for grinding Fuel Injection parts have been developed internally by Micromatic.

With extensive experience in precision abrasives, we have a deep understanding of not only the machine tool but the application itself. Our aim is to provide solutions for every aspect of the grinding process, whether it's the grinding wheel, dresser, coolant delivery system or machine for the application. Our applications engineering team can help you cut costs and increase productivity in manufacturing.

ROSA

We are an authorised agent in the UK and Ireland of ROSA Ermando S.p.A, a leading worldwide supplier of grinding machines based in Italy. ROSA has been designing and manufacturing surface and profile grinding machines near Milan since 1964. In 2017, the well-known Italian manufacturer FAVRETTO was integrated in ROSA group of companies.

Today ROSA is one of the largest manufacturers of surface grinding machines on the market, offering a broad portfolio of machines for flat surfaces and profiles either with horizontal spindle, vertical spindle or universal head.

The main industrial sectors where ROSA surface grinders are to be found are mould and dies manufacturers, tool makers, the machine tool industry, aerospace industry guideways, linear guiding systems, circular and straight knives for steel, aluminium and paper industry.



FAVRETTO
GRINDTECH

ROSA
GRINDTECH



Surface Grinding Machines

ROSA offer grinding machines for various applications such as creep feed of hirth couplings and gears and press brake tools.

Vertical Grinding Head (MRV) Machines

A range of rotary table grinding machines with vertical grinding spindle with a fixed, swivelling, or universal head. External diameter grinding up to 1600mm. Tailored for the bearing industry.

Double Column Machines

A wide range of solutions with sizes starting from 1500 x 1500mm up to 8000 x 2500mm with fixed or universal automatic swivelling grinding head.

Supfina

As UK and Ireland agents for Supfina Grieshaber GmbH & Co. KG, Germany's Innovation Leader in superfinishing and grinding machines. Supfina have solutions for superfinishing, flat finishing, fine grinding, double-disk grinding, and automation through the use of robotics, with options from stand-alone machines to complete production line. To complete the package, machines retrofit, update and servicing can be undertaken.



supfina

Superfinishing and Grinding Machines

The superfinishing range includes plunge-cutting, stone finishing, tape finishing, centreless and superfinishing machines with rotating cup wheels.

With the Face series, Supfina provides the ultimate solution for versatile flat finishing for medium and large workpieces. These machines are ideal for the components of injection technology, transmission components, hydraulic or engine parts and can be produced with the tightest tolerances reliably and efficiently.

The Supfina Spiro range offers an ideal fine grinding solution for the most stringent tolerance and material requirements providing precision without compromise.

The latest generation of the Planet machine series takes double disk grinding to a new level offering extreme efficiency. The extremely firm machine bed enables grinding of steel, sintered metal, non-ferrous metal, plastics, ceramics and glass. Two powerful motors achieve stock removal of over 1mm, at cycle times well below one second.

Finishing Attachments

There are suitable stone finishing attachment models for integration into small, medium or large CNC or conventional machines. Both pneumatic and electric stone finishing attachments are available.

Tape finishing units by Supfina include suitable models for integration into small, medium or large grinding machines for superfinishing of ground and finely turned surfaces. In addition to rotationally symmetrical shapes, flat surfaces can also be processed. The devices can take a tape ranging from under 25 to 150 mm, depending on the model.

Supfina's ball finishing attachments range includes Supfina 291, a ball finishing attachment for mounting onto small-, medium-, and large-sized base machines for the superfinishing of ground or fine-turned surfaces. The attachment is well suited for the

finishing of ball valves, cam slide plates, nozzle edges and crowns. Wear of the superfinishing cup wheel is automatically compensated.



Automation

With the R-Cell robotics, Supfina offers an innovative robotic cell that provides a flexible, modular, and economical manufacturing solution. In the modular cell, a large number of components can be arranged according to customer needs and, thanks to the flexible design, can also be expanded or adapted over time. The solution offers great potential for savings thanks to efficient production in a compact space.



UVA LIDKÖPING



We are a UK and Ireland agent for UVA LIDKÖPING AB, a worldwide leading global supplier of high-precision grinding machines.

Grinding Machines

We offer centreless infeed and through feed, face, external, internal, rib face as well as simultaneous grinding machines from UVA LIDKÖPING.

With a wide variety of industries that will hugely benefit from these partnerships and improving manufacturing efficiency, it's the perfect time to provide more cost-effective solutions. We can also now help companies to refurbish and maintain existing UVA LIDKÖPING machinery, offering to restore grinding machines to their precise state as if they were new. This will help to improve machine reliability, increase production output, quality and optimise the precision of the grinding machine.

LIDKÖPING machines offer solutions for customers in the bearing and automotive industry, where the highly automated manufacturing processes place great demands on productivity, precision and cost efficiency. The wide range of high precision grinding machines is suitable for workpieces with dimensions between 5mm - 820mm combined with several grinding processes.

UVA machines are found among fuel injection technologies and other industries where the demands for productivity, precision and rational production methods are exceptional. Their machines are suitable for grinding workpieces with dimensions between 0.5mm - 160mm.



Surface Grinding Machines

As the sole UK and Ireland representative of the range of precision grinding machines manufactured by G&N Genauigkeits Maschinenbau Nürnberg GmbH, targeted at the semiconductor industry.

Over the past 80 years, G&N has sold over 15,000 machines and gained a wealth of grinding knowledge manufacturing high-precision surface grinding machines for machining of metals, ceramics and semiconductor materials like silicon, GaAs, sapphire, and others.

The German based company offers a full range of vertical surface grinding machines with machine programmes varying from small manually operated table machines and semi-automatic machines up to the fully automatic wafer grinding systems.

MPS 1 Surface Grinder

Precision surface grinding machine for fast and easy grinding of metals and other materials. Manually operated grinder with high accuracy.

Also available as MPS 1 R130 for surface and match grinding of rings and locating discs with a rotary table.

MPS 2 Surface Grinder

Precision surface grinding machine for fast and easy grinding of metals and other materials. Manually operated grinder with high accuracy and variable clamping options.

Also available as MPS 2 R220 for surface and match grinding of rings and locating discs with high-precision frequency-controlled rotary table.

Grinding & Dressing Machines

We are the agents for Top-Work Industrial Co. Ltd. who offer a range of high-quality well-priced grinding and dressing machines specifically targeting the tool manufacturing industry. The Top-Work range includes:

- Precision CNC Pinch/Peel Grinding Machines
- Diamond/CBN Wheel Truing and Dressing Machines
- CNC Broach Grinding Machines

Top-Work, founded in 1986, is a specialist in tool grinder manufacturing. The company is CE certified and has won research and development awards from Taiwan's Industrial Bureau for three consecutive years.

Diamond/CBN Wheel Truing and Dressing Machine

The TD Series is a high-precision machine for truing and dressing superabrasive wheels, commonly used in the cutting tool industry. The range covers straight, angled, and radiused wheels (50-250mm in diameter). Dressing wheels on their arbours from multi-axis grinding machines offers the advantages of improved cutting edges and extended wheel life. The TD machines are available in two versions: the TD-3, which features PLC control and open guarding, and the TD-5, which is fully enclosed with CNC control for enhanced safety and precision.



Precision CNC Pinch/Peel Grinding Machine

The TP-4 is a high-precision CNC cylindrical pinch/peel grinder with smart technology. It features two grinding wheels that operate simultaneously, enabling the grinding of cylindrical materials such as cutting tools and form punches. The TP-4 is used after centreless grinding and before the pre-processing stage on a 5-axis tool grinder. It has been successfully employed in several industries, primarily the high-precision tool industry, mould making, and the electronics and medical parts sectors.



CNC Broach Grinding Machine

Broach tools are used for manufacturing and reshaping of broaches, broaching inner and outer diameters, keyways, hexagons, gears and gear racks to metals. After continuous use of broach tools, they need to be resharpened and ground to allow broaching accuracy and a smooth surface finish.

This TB Series CNC Broach Tool Reshaping Machine offers accuracy, rigidity and efficiency. TB series reshaping machine provides 4,5 and 6 axis by servo control with maximum broach tool length of 2000mm and diameter range of 20 to 125mm.

Applications the machine can be used for include flat broach, round broach and helical broach reshaping.

Acton

ActOn
FINISHING

As agents for ActOn Finishing, we can offer vibratory finishing machines manufactured in Britain including bowls, troughs, duals, and centrifugal high energy finishing machines. ActOn finishing machines are built with a wear-resistant polyurethane lining to prevent damage and reduce maintenance costs and come with a 12-month warranty.

Mass finishing of components results in improved surface finish alongside cost and time savings as it allows large numbers of parts to be finished simultaneously. This process can be used for a variety of applications, such as deburring, removal of machining lines and superfinishing in many industries including medical, automotive and aerospace.

Alongside a full range of machines, we can offer sample testing and a full range of Master media to ensure you achieve your optimum finish and productivity.



RK-System

Representing RK-System, we can offer VibroDAQ, a professional measurement system for balancing and vibration measurements. These instruments can be used in various industries involved in maintenance of mechanical equipment in different types of companies.

The VibroDAQ portable system allows one to four plane rotor balancing. The device is equipped with an LCD touch screen display and has special sophisticated algorithms for grinding wheel balancing and control, meeting the ISO1940 requirements. It's provided with USB 2.0 (high speed, full speed) and RS-232 communication interfaces.

A graphical chart of the vibrations and spectrum analysis views are available. The software provides many additional features: balance tuning - eliminates errors in placement of correction mass, correction mass division for balancing of propeller fans and balancing of grinding wheels directly on the grinder.

The VibroDAQ is ideal for use on those machines without automatic balancing options and is easy to use. It allows for grinding wheels to be balanced in situ ensuring rapid accurate wheel balancing - essential for good surface finishes and ecumenical use of grinding wheels. The system can also be used for other critical balancing of rotary shafts.



RK-SYSTEM®

Innovative

As the UK representative for Innovative Automotive Products, we offer a full range of measuring equipment for the grinding process including optical, air, co-ordinate and other areas of metrology. A selection of tools is available for viewing at our grinding and finishing showroom, including a height gauge, air gauge and vertical profile projector.



Air metrology equipment such as air gauges offer high accuracy and repeatability and provide SPC output. They are available as single or multi-channel and with single or double displays.



Co-ordinate metrology equipment includes 1D and 2D height gauges, available in manual and motorised versions. These come with a measuring length of 325, 625, 1025 or 1150mm.



Optical metrology equipment includes profile projectors, available as vertical, horizontal, slant screen and offset with a 200-1000mm screen diameter. Geometric data processors and software are offered for profile projectors which are compatible with CAD and can export data to Excel.



Special purpose metrology equipment includes items such as cam shaft profile measuring machines.

Innovative Automation Products has a complete in-house design team for mechanical, electronics and software development. The manufacturing set up is equipped with two units having a state-of-the-art mechanical workshop, clean SSMT electronics assembly line, calibration facilities and more. Our applications engineering team can work with customers to get the most suitable and accurate products offering advanced performance for reliable and easy to use measuring in the grinding process.



Auxiliary equipment

We also offer auxiliary equipment:



Dressing Systems



Coolant Nozzles



Grinding Wheels



Quills

Spindle Repairs

We offer an independent repair service with extensive experience of spindles used in a wide range of applications.

We provide repair, maintenance, and modifications of all types of spindles including grinding, milling, machining centres and more. Together we offer fast, high-quality solutions that minimise costly down time.

Among grinding, main and auxiliary spindles we repair, maintain and modify spindles as well as ride trestles for all machine types. We offer repair of all major spindle brands.

Common spindle problems that we repair include storage or water damage, temperature problems, machine crashes, measuring system failure, defective rotary feedthrough and tool clamping problems. We provide maintenance, modification, conversion and rebuilding of spindles.

Service and Support

Master Abrasives machinery and equipment portfolio is built around our expertise and knowledge in grinding and finishing applications. The range is continually evolving to offer our customers optimum solutions. Contact us for more information on any of the products displayed in this brochure.

Our highly experienced applications engineering team offers service and support, including service contracts, for our machinery and equipment.





Aerospace

Tooling

Fabrication

Power
Generation

Medical

Heavy
Engineering

Automotive

Bearing

Oil & Gas

Woodwork

SOLUTIONS FOR INDUSTRY



For further information on Master Abrasives' products and services or technical applications support, please contact us

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