

Mike Excell – Editor of MWP magazine previews new J&S UltraGrind

30th June 2009 – Leicester, UK. Respected UK machine tool industry commentator and Editor of Metal Working Production magazine, Mike Excell enjoys a preview of the new J&S UltraGrind machine - in production at the company's Leicester manufacturing centre. Mike talks to Alan Fisher, Engineering Manager at Jones & Shipman.

"The next generation UltraGrind CNC cylindrical grinding machine recently launched by Jones & Shipman features a new version of the company's innovative Easy control system, as well as innovative new full CNC control that offers the best aspects of the easy control functionality via a convenient hand set control."

UltraGrind also features a brand new modular wheelhead design that not only offers multiple wheel spindles configured to suit customer requirements, but also provides more power, more accuracy and increased component weight handling. There is also a high degree of modularity in the way the machine can be configured from build, allowing customer specific machines to be manufactured quickly and easily.

The UltraGrind CNC is designed for the precision production environment such as aerospace and higher volume manufacture including automotive, as well as high-precision sub-contract machining for biomedical, high-end process tool/die sets, F1 and motorsport engineering.

Viewed as a key strategic development, a special UltraGrind project team was created to design the machine. They carried out customer surveys not only with J&S customers but many users of other equipment to ensure this project met market requirements now and in the future. From the feedback this team were able to create the specification, build and test the machine to ensure that it achieved the highest levels of accuracy and flexibility always associated with Jones & Shipman machinery. Built on a one-piece bed design, the machine combines great rigidity, stability and stock removal rates whilst maintaining high precision. It incorporates many mechanical, electrical and software features, suggested from the customer research, that ensure it is easier to operate and change over in demanding production environments.

Mike Duignan, Sales & Marketing Director of Jones & Shipman commented: "The launch of the new UltraGrind machine is an exciting development for the precision grinding industry. The machine brings new standards of accuracy for a one-piece bed grinder, keeping the company at the forefront of the precision tool technologies industries. We will be demonstrating a working prototype at the CIMT so visitors to the Show will be able to see all the machine's distinct advantages. We have already received a number of orders for the UltraGrind, including one for two machines from a premium subcontractor to the aerospace industry."

A brand new modular wheelhead design ensures customers have a wide choice of external and internal grinding spindle combinations, effectively allowing the customer to specify a custom machine, but without the cost and build time associated with it. The modular wheelhead design gives wheel sizes up to $\text{Æ}500 \times 100\text{mm}$ and wheel spindle power up to 15kW, with ultra rigid spindles providing substantially increased metal removal rates and increased productivity.

Angular wheelhead positional accuracy and repeatability are assured via a high precision 1° Hirth coupling. An optional true B axis programmable to 0.001° utilising feedback from a high accuracy encoder mounted directly to the rotational spindle axis, infinitely variable positional resolution can be achieved. The machine currently offers 650mm or 1000mm between centres (with larger machine length capacities planned) and centre heights of 180mm, 200mm and 250mm. The increased diameter capacity (of up to 500mm) means there are options to cater for larger mass components up to 450Kg, and odd shaped components, which can result in high rotational inertia.

The UltraGrind machine uses a brand new Jones & Shipman's proprietary Windows® based graphical programming software suite, which further builds on the success of the Easy software that removes the requirement for operators to input code, although ISO programming is fully supported and codes can be easily viewed and used if that is the customer's preference. The user-friendly software is built around a Fanuc® 320i with touchscreen control system. This reduces the time needed for operator training, machining set-up and changeover times.

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Simplicity does not limit flexibility, however. A full suite of dressing and grinding programs are available for the operator. Easy to follow Jones & Shipman set up pages allow the operator to digitise diamond and wheel positions by means of a simple user-friendly touch screen interface. Graphical images that represent programs and set-up are simply touched to program, providing quick and simple input. A wide range of additional options including gauging and autoloading are also available.

Photo Captions

Picture 1: Mike Excell Editor of MWP magazine

Picture 2: Alan Fisher, Engineering Manager at Jones & Shipman

Picture 3: New UltraGrind CNC cylindrical grinding machine from Jones & Shipman offers more power, machine build flexibility and accuracy.

About JONES & SHIPMAN

We have more than 100 years of accumulated knowledge, experience and expertise as industry leaders serving a global customer base.

Our grinding and superabrasive machines and machining systems, produce ultra precision components in a diverse range of industries including aerospace, medical, mould tool & die, power generation and high end automotive.

We have developed some of the most sophisticated, bespoke software in the marketplace boasting a simple rapid set and intuitive user interface. An investment that allows customers to operate more efficiently and effectively with faster turnaround between jobs.

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