

First of Jones & Shipman's next generation CNC cylindrical grinders goes to leading French precision component manufacturer.

The first order for a new UltraGrind CNC cylindrical grinding machine from Jones & Shipman has been despatched to its new owner, a leading precision component manufacturer based in France. The machine features a brand new modular wheelhead design and multiple wheel spindles, allowing the high precision mould and mechanical component manufacturer to perform both internal and external grinding operations to extremely fine tolerances, in one grinding cycle. Overall, the UltraGrind will provide huge reductions in set-up time and machining costs.

The new UltraGrind was designed with manufacturers of precision components in-mind; companies that have to produce complex precision parts, particularly in small-to-medium sized volumes and need maximum flexibility. The flexibility is combined with ease-of-use, in order to keep component prices competitive by keeping cycle times as short as possible, matching some high-volume production systems that rely on using multiple machines.

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 ideal for the precision production environments including aerospace, defence, medical, tool room, F1 motorsport, automotive volume production and engineering applications.

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, including the Easy handset control, that provides the precision of a full CNC but with the practicality of a hand held indexing wheel and trigger controls, ensuring it is easy to operate and changeover in demanding production environments. An intelligent layout ensures there is a larger working area around each wheel improving flexibility for all work pieces while enabling improved coolant flow and excellent operator access.

A brand new modular wheelhead design ensures customers have a wide choice of external and internal grinding spindle combinations, effectively creating 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.

Angular wheelhead positional accuracy and repeatability are assured via a high precision 1° Hirth coupling. An optional true 'B' axis programmable to 0.0001° utilising feedback from a high accuracy encoder mounted directly to the rotational spindle axis enables infinitely variable positional resolution to be achieved. The machine currently offers 1000mm or 2000mm between centres 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 incorporates Fanuc's flagship 320i touchscreen CNC control with a Windows XP embedded system, providing benefits including a large capacity storage memory. The machine uses Jones & Shipman's proprietary Windows® based graphical programming software suite, which further builds on the success of the Easy software which 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. This reduces the time needed for operator training, machining set-up and changeover times.

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 diameter gauging, shoulder probing, autoloading and wheel balancing are also available.

JONES & SHIPMAN

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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