GM CNC PRESENTS HEAVY DUTY VMC

If you are looking for a machining centre that exceeds all your heavy-duty cutting performance demands, GM CNC now has the exciting new Victor Vcenter G-series of machines available. Unparalleled stability and rigidity are the foundation blocks of the Victor Vcenter range. The G-series is perfect for high material removal rates and applications where manufacturers are processing particularly challenging materials. If its flexibility you need, GM CNC has a G135 series in stock with a 4th-axis unit for you to see the potential of the range.

Like all machine tools manufactured by Victor, build quality and rigidity are assured with the Victor Vcenter G-series line-up. The powerhouse 3-axis G-series is available in three size variants to meet the diverse demands of the industry. Unlike its competitors in the mid-sized VMC market segment, the G-series incorporates a meehanite casting with a wide base A-Frame design, a wide span column, four boxways and screw removers with a wide boxway – all factors that take performance and stability beyond the realms of other machines in its class.

The three G-series variants include the G105, G135 and G165. The smaller G105 provides X, Y and Z axis travel of 1050 by 600 by 600mm and this stretches to a spacious 1650 by 850 by 900mm on the largest G165. This exceptional freedom of movement is matched by the accommodating bed sizes of 1100 by 600mm (G105), 1400 by 700mm (G135) and 1700 by 800mm (G165). Furthermore, the robust nature of the range permits the loading of components up to 1200, 2200 and 2500kg respectively for the three machines.

Common features on all three machines include a powerful gearhead spindle design that generates a power output of 18.5kW with an impressive torque level of 498Nm. Developed, manufactured and built in-house by Victor, the 6000rpm gearhead design spindle retains maximum torque levels throughout the speed range. This makes the Vcenter series the perfect choice for machining hard materials and exotic alloys with material removal rates that far exceed that of any other machine in its class. Adding to this, the G-series incorporates a BIG-PLUS BBT-50 spindle taper that guarantees dual face and taper spindle contact for industry leading precision, repeatability and performance. This power and stability enhance precision levels with a platform that also generates surface finishes and industry-leading component quality.

The Victor Vcenter has an automatic tool change unit with 24 tool capacity and the option for 32 or 40 tool positions; all positions can accommodate tools up to 15kg. The axis feed motor generates 3kW of power on all axes with a rapid feed rate of 20m/min and axis acceleration of 0.28G, which is driven through extremely large 50mm diameter ballscrews to further enhance stability.

As standard, the Victor Vcenter G-series is supplied with the latest FANUC 0i-MF Plus CNC control unit, fully enclosed splash guarding, spindle oil cooler, screw-type chip removal, bottom guarding for coolant flushing, rigid tapping, 3 step warning lights, auto power off and levelling pads.

Like every Victor machine that is available from GM CNC, the Vcenter G-series is available with a host of options to meet the exact requirements of the end user. Options include a 4th and 5th axis interface for increased flexibility, 32 or 40 tool ATC, probing for automatic tool and component measuring. Additional options include through spindle coolant, chip conveyor with cart, air conditioning for the electrical cabinets and linear scales for enhanced precision levels. Customers can also select a table shower, oil skimmer, automatic doors, air and coolant guns and much more.

Quality is built into the DNA of the Victor brand of machine tools; with customers the world over being filled with the confidence that this brand is built to last. The combination of Victor's quality and GM CNC's unwavering commitment to customer service and support gives manufacturers confidence that their spindles will always achieve maximum uptime. If you would like to view the Vcenter G-series or any of the extensive range of machining centres and turning centres available from Victor, you can book an appointment with a GM CNC team member to visit the new GM CNC showroom.

www.gm-cnc.com

VACUUM SEALS TESTED BUT NOT TOUCHED

TorqSense, a non-contact digital torque monitoring system that could guarantee an infinite lightness of touch Senor Technology state it has proven to be the only way to test the seals of super high performance vacuum systems.

The ultimate fields of precision manufacture, such as electronics, biophysics and thin film deposition where tolerances are measured in atoms, are often conducted in hard vacuum to remove airborne contaminants and avoid the performance reducing effects of tiny air movements.

However the vast majority of vacuum chamber designs require seals for rotary drive shafts (called rotary feedthroughs) and 'feedthroughs' for the passage of materials, components, tools and finished products. In high vacuum applications conventional seals are unlikely to be able to achieve the performance specifications required, so magnetic fluid seals are used.

A ferrofluid is a stable colloidal suspension of sub-domain magnetic nano particles in a liquid carrier. The particles, which have an average size of about 100Å (10 nm), are coated with a stabilising dispersing agent (surfactant), which prevents particle agglomeration even when a strong magnetic field gradient is applied to the ferrofluid.

With over thirty years of experience producing seals for the world's most demanding applications, Ferrotec of Woolwich in London is able to optimise ferrofluid materials for the most extreme performance requirements and incorporate them into bespoke vacuum system designs.

"About half of our work is to bespoke design," says Jeff Lewcock of Ferrotec, "and we have to test every seal to the nth degree to meet out customers specifications. To test the feedthrough it is mounted onto a vacuum chamber that is connected to a helium leak detector. Helium is then spayed onto the feedthrough and the leak rate observed during static and dynamic running.

www.sensors.co.uk