

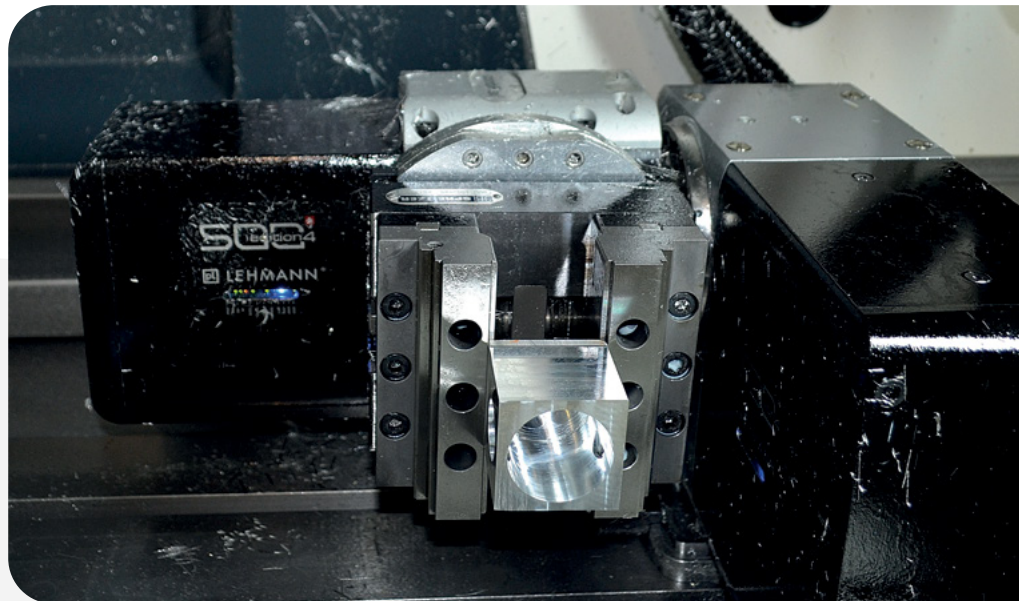
‘Turning the tables’ on University’s VMC

A member of the prestigious Russell Group, the University of York has more than 30 academic departments, amongst them the University’s Department of Chemistry. The Department of Chemistry’s research groups cover a wide variety of disciplines, including atmospheric chemistry, renewable technologies and both medical and neuroimaging, all of which are supported by the work of a multi-disciplinary Mechanical Workshop.

Led by Senior Technician, Mark Roper, the Workshop’s skilled staff undertake a wide range of projects, including designing and building bespoke instruments and apparatus for research and teaching purposes. Given the diverse demands placed on the Workshop, the flexibility of its machine tools is vital to its effective operation. Therefore, when the need arises to purchase new equipment, Mark Roper looks for cost-effective products that add value and that increase the Workshop’s machining capabilities.

This policy is reflected in the recent purchase of a pL Lehmann CNC rotary table that is now fitted to the Workshop’s DMG Mori CMX 600V, 3-axis Vertical Machining Centre (VMC). The pL Lehmann TF-507510 model was chosen as it provided the required levels of precision, ease of use and flexibility. In addition, the ingenious design and lower profile of the TF-507510 ensures minimum intrusion into machine tools’ working envelopes. Therefore, when compared to conventional, bulky rotary tables, the use of the compact TF-507510 results in much greater space being made available for spindle and tool movement.

Since being put into operation, the pL Lehmann CNC rotary table has significantly increased



the effectiveness of the Workshop’s VMC by enabling it to perform high-efficient 3+2 axis machining.

Mark Roper explained. “Our DMG Mori CMX 600V VMC has an XYZ capacity of 600 x 560 x 510 mm and It’s 900 x 560 mm table has a maximum load capability of 600 kg. Although our VMC’s specification allows us to produce a wide range of complex and accurate 3-axis work, we recently looked to further expand its capabilities

into 3+2 axis work by the addition of a CNC rotary table.

“As we have enjoyed the trouble free operation of an older pL Lehmann CNC rotary table for over 10 years, we were aware of the quality of the company’s products. Although, as we wanted to make sure that we purchased the correct product for our own particular use, and as we also needed to ensure that we received best value for money, in addition to pL Lehmann

products we also looked at other brands and models. Having considered the merits of several CNC rotary tables we decided that the pL Lehmann TF-507510 was ideal for our use.

"Given the amount of one-off components we produce and the very small production runs we perform, we need each of our machine tools to provide the best possible levels of adaptability. Our pL Lehmann CNC rotary table has made a significant contribution in this area as it allows our 3-axis DMG Mori VMC to now perform efficient 5-axis machining.

"Fitting a pL Lehmann CNC rotary table to our existing three-axis VMC has proven to be a practical way add to achieve five-sided machining in a single setup and to eliminate steps in our production process'. Furthermore, the rigidity of our pL Lehmann TF-507510 CNC rotary table and its high clamping forces allows high cutting forces to be applied and high-precision workpieces to be produced."

The pL Lehmann TF-507510 CNC rotary table, as purchased by Mark Roper, is based on a solid steel base-plate that has 2 through bores, clamping elements and 'T'-slot fittings. Secure clamping is assured by the use of a pneumatic-hydraulic system that applies a force of up to 800 Nm, whilst a high-level of precision is aided by the use of a PGD backlash-free, long-life gear unit.

pL Lehmann CNC rotary tables represent an extremely cost-effective means of entry into 5-axis machining for users of 3-axis VMCs. When mounted on VMCs, the company's CNC rotary tables are able to deliver a tilting A-axis and/or a rotational C-axis.

The extra available machining space that results from the use of compact pL Lehmann CNC rotary tables means that additional work-holding devices can be located alongside them inside VMCs. They are able to remain in the machine,



or if required can be quickly removed and later replaced to suit the machining tasks being performed.

When involved in serial production a flexible VMC + pL Lehmann CNC rotary table combination provides a major advantage over the use of a 5-axis machining centre. By mounting additional workholding next to the rotary table, a virtual 6-axis condition is created. In this arrangement, following the 5-sided machining of a workpiece located on the rotary table, without interruption, machining operations can be performed on the next workpiece in a batch that is held in the adjacent workholding.

As CNC rotary tables are located inside users' existing three-axis VMCs, the problems associated finding floor space for an additional large machine tool are avoided. As the multiple advantages of purchasing a pL Lehmann CNC rotary table are gained without the need to invest

in an expensive 5-axis machine tool, a rapid return on investment soon follows.

pL Lehmann has been involved in the design and manufacture of high-quality rotary tables for more than 40 years. The in-depth expertise gained throughout this time is reflected in the company's advanced products and in its first-class levels of service. To minimise parts and to enable the delivery of Swiss Quality at a cost effective price, pL Lehmann rotary tables are based on an innovative, standard modular system. This highly efficient approach allows a wide range of CNC rotary table options to be made available to meet customers' divers needs.

www.lehmann-rotary-tables.com/en/home