STFC Rutherford Appleton Laboratory

Specification for a CNC VMM (Vertical Milling Machine)

General description

This Tender specification is for a 3-axis CNC (Computer Numerical Controlled) Vertical Milling Machine (VMM) with minimum travel of 560 x 560 x 500 mm on XYZ axis respectively.

It will be installed in the RAL Space Millimetre Wave Technology Group's (MMTG) Precision Development Facility (PDF) at the Rutherford Appleton Laboratory, alongside other CNC milling machines. It will manufacture the aluminium formers required for the production of black body calibration targets for the MetOp Receiver programme and will also be used for larger items which cannot be accommodated by other machines in the PDF.

	Specification
1	Must have a minimum travel range of 560 x 560 x 500 mm (XYZ axis).
2	Machine shipping size must not be bigger than 2750 x 2000 x 2500 mm (LxWxH) to allow installation access.
3	Machine footprint must fit within the volume of 3 x 3 x 3 meters (WxDxH) and allow for access to open machine cabinets for servicing.
4	Minimum table size of 800 x 560 mm (X and Y axis respectively).
5	Tool carousel with a minimum of 20 tools
6	Spindle speed up to a maximum 12,000 rpm
7	Minimum Accuracy of 10 microns
8	Cabin roof on machine with access for loading and unloading of workpieces with a crane.
9	Ergonomic design around machine table for good swarf management.
10	Must have 400v 50Hz 3-phase power supply.
11	Linear guideways on X, Y and Z axis.

12	A fully featured machine controller that allows for numerous software solution cycles with 3D machining simulation aimed for workshop oriented programming with USB and Ethernet connectivity.
13	Please provide costs of a comprehensive touch probe kit that can be fitted to the machine.
14	Full Warranty for parts and labour, for a period of 12 months (minimum) after commissioning and acceptance.
15	UK Technical Help Desk Support