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## INFORMATION

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### **600 UK COMPLETES MAJOR FANUC ROBODRILLS ORDER FOR MICRO METALSMITHS**

600 UK has successfully completed a major order to supply nine Fanuc Robodrill A-T21iFL high-speed CNC machines to a leading UK precision metal components manufacturer, Micro Metalsmiths Ltd, of Kirkbymoorside, near York.

Part of 600 Group, the largest UK-based machine tools manufacturing and distribution company, 600 UK supplied the machines on behalf of Fanuc's European sales, service and support headquarters in Germany. Based at Heckmondwike, West Yorkshire, 600 UK operates a full distribution partnership with Fanuc in the UK, providing extensive technical support to customers.

The state-of-the-art Fanuc Robodrills, equipped with Fanuc's latest-generation FS-31iA5 CNC controls and capable of spindle speeds of up to 24,000rpm for the ultimate high precision drilling, form the centrepiece of a brand new centralised machining facility at Micro Metalsmiths' Pickering production centre nearby. They replace 13 older 10,000 rpm machines which remain at the Kirkbymoorside site.

The company specialises in the design and manufacture of microwave components for the aerospace, military and telecoms markets. Its other principal business stream is the in-house investment casting – and subsequent machining - of small metal components.

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Both divisions depend on the very highest standards of machining accuracy, quality, reliability and efficiency (including, in some instances, high speed machining over long unattended 'lights out' production runs).

Micro Metalsmiths selected the latest-generation Robodrill A-T21iFL model for its new machining facility after extensive testing and analysis of the machine's capability in all production phases, especially long unattended runs. These were deemed essential to increase annual machining hours and so achieve the best possible 'cost per hour' of machining operations.

The company's Chairman and Managing Director, Christopher Shaw, said: "After tests with several machine tool candidates, we determined that the latest Fanuc Robodrill, effectively a very high accuracy 'C' frame milling machine, could handle the work with minimal risk of cutter breakage or damage."

"The company ascribes this to the very latest Fanuc model FS-31iA5 control which provides highly accurate control of acceleration rates and allows for 12 hour cycles with 2mm cutters at 24,000rpm." In recent tests, capability has been extended to the drilling of 1.2mm holes and to the thread milling of 1.5mm threaded holes even in such difficult alloys as Invar.

The Fanuc A-T21iFL has axis travel lengths of 700mm (X-axis), 400mm (Y-axis) and 330mm (Z-axis) and a maximum tool length of 250mm. The versatility of the machine, designed to provide high quality solutions to a wide variety of machining applications, including milling, tapping, boring, drilling and profiling, is clearly demonstrated in the detailed specifications of the machines supplied to Micro Metalsmiths.

Four are standard machines with 24,000rpm spindle speeds, while one is configured with a Nikken 4<sup>th</sup> axis unit, two have additional Nikken 4<sup>th</sup> and 5<sup>th</sup> axis units and a further machine is equipped with a Fanuc DDR 4<sup>th</sup> axis unit. These upgraded control facilities enable simultaneous contouring which is particularly useful for multi-surface machining of small, complex components.

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Additionally, each machine is equipped with Renishaw spindle mounted probing equipment and with Renishaw laser checking of tool diameter and length. This equipment was specified and project managed by 600 UK and is instrumental in maintaining accuracy, reducing mistakes and in increasing utilisation.

In use, the machines are occupied in machining close tolerance investment castings during the day in attended operation. At night they are operated unattended on long cycle microwave components or on single billet multiple part set-ups. The resulting high efficiency regime allows Micro Metalsmiths to offer further capacity to outside customers for long run unattended work at very advantageous prices. The aim is to work the machines for over 6000 hours per year, which is well within the capabilities of the Robodrill machines.

The largest of three advanced machines in the Robodrill range, the A-21iFL benefits from high rigidity construction for optimum high-precision machining. High speed axis feed, high speed spindle operation and optimal acceleration and deceleration control provides efficiency and reduced cycle times.

Technical specification – Fanuc Robodrill A-T21iFL

Table working space (X-axis/Y-axis)	-	850 x 410mm
Capacity of workpiece	-	300kg
Spindle taper size	-	30
Rapid traverse rate	-	54m/min (X,Y,Z)
Feedrate	-	1-30,000mm/min
Tool change system	-	Turret type
Tool storage capacity	-	21 tools
Tool changing time (cut to cut)	-	1.6 seconds

**RELEASE ENDS**

## Notes to Editors

600 UK is part of The 600 Group PLC is the UK's largest machine tool company operating from a number of locations worldwide and sells its products into more than 180 countries. The Group has two core areas of business activity centred on machine tools and laser marking excellence:

- **Machine Tool Division:** 600 Group is one of the world's leading names in the manufacture and global distribution of state-of-the-art machine tools. Principal products within the internationally renowned **Colchester-Harrison** range include **Tornado CNC** turning centres, **Alpha CNC** combination lathes, **Storm** vertical machining centres and conventional centre lathes. Important parts of this division are:
  - The 600 Europe operations in West Yorkshire and Stuttgart, Germany, distribute 600 Group products throughout the UK, Continental Western and Central Europe. Additionally, it distributes workholding accessories under the **Parat** brand.
  - 600 North America, based in Michigan, supplies Group products throughout the USA and Canada, including the **Clausing** range of machine tools.
  - The Group's international distribution centres also stock and ship a wide range of workholding accessories manufactured for other machine builders, most of which are manufactured in the Group's UK facilities. These accessories include manual and power chucking products from **Pratt Burnerd**, workholding products from **Crawford Collets** and precision machine tool bearings from **Gamet Bearings**.
  - To support these comprehensive product ranges, a complete technical support service is available for all customers, including on-site service engineering and extensive spare parts stockholding for the installed base of existing machines.
- **Laser Marking Division:** **Electrox** provides laser marking solutions for a huge range of materials and applications, through its operations in the UK and USA. Electrox is one of the few truly integrated manufacturers of laser marking systems in the world, taking end-to-end responsibility for every aspect of design, development and production of both hardware and software technologies.

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