

DECO 8sp: Ultra-high precision machining of small diameter parts

Moutier, 14th September 2005

TORNOS hoped to benefit from the growth in the electronics consumer market (40-50% per annum) with its new CNC single spindle lathe with sliding headstock – the DECO 8sp – which was presented in April 2005 in Moutier. In fact, this lathe is able to meet the very strict demands made of manufacturers of components for hard mini disks that are found in many portable numeric units, such as, in particular, the MP3 audio players, the mini IPODs, as well as camscopes, cameras, electronic organizers and soon, the multi-function cell phones.

The DECO 8sp lathe to be exhibited at the EMO in Hanover, from 14th to 21st September 2005, is the first of the new [s-line] series intended for the medium-machined parts market segment. It has 5 basic numeric, linear axes and two independent tool systems. It can machine parts with a diameter from 1 to 10 mm in all types of materials. The design of the machine is such that it can machine simultaneously with the main spindle and at the rear of the part using the counter-spindle, thereby saving on production time and cost.

The strength of this machine is undeniably its machining precision. The manufacturer guarantees dimensional precision for turning diameters of $\pm 1\mu$ (0.001 mm) in stainless steel and geometric precision in the order of 0.001 during production. This is achieved by an adapted machine design and the deployment of new technologies, as the TORNOS specialists will demonstrate to visitors at the EMO.

The facility of programming the lathe in the conventional way, using the ISO system, the use of the latest generation NC control and the deployment of standard tools with inserts, means that the lathe can easily be operated by all users.

Its highly competitive price for this range of lathes means that TORNOS can offer a good price-to-performance ratio, which ensures that the machine is well positioned in the competitive world, in particular, the Asian markets.

This lathe is not only ideal for manufacturers of electronic components (mini hard disks).

Part miniaturisation and the more stringent quality requirements are a fact of life in many industrial sectors, whether in the luxury horological, automotive or even the medical sector.

The feed-back from the market, following the launch of the lathe initially at TORNOS in Switzerland and then in Singapore, Asia, is most encouraging for the manufacturer. The Asian manufacturers of mini hard discs very quickly saw the advantages of the machine compared with the existing production facilities. Several large orders for delivery at the beginning of 2006 are currently being processed. By consistently listening to its clients, TORNOS brought out the version presented in Moutier in the spring. The new machine, which will be shown at the EMO, will be fitted with a more flexible linear tool system with different types of tool holders. This enhances both the modularity and ergonomomy of the machine.

With respect to precision, TORNOS is proud to show astonishing results achieved for parts destined for the electronics sector (see graph on page 4).

DECO 8sp – Technical characteristics

Main areas of use:	Electronics, watch industry, automotive, medical
Max. bar diameter:	8 mm (10 with bar preparation)
Part length:	17.5 mm
Work without guide bush:	yes
Number of axes (+c)	5 (+2)
Number of tools	19 (21)
Number of back-operation tools:	up to 6
Number of tools working simultaneously:	3 max
Diameter machining precision	$\pm 1\mu$
Max. speed:	15,000 rpm
Power of spindle / counter-spindle	3.7 kW
Turning tools	up to 4
Strong points:	<ul style="list-style-type: none">- strength- extreme precision- high productivity- ergonomomy and space requirement- price-to-performance ratio

Precision diameter measurements – exhibited parts

