



P R E S S R E L E A S E

MACH 2010 Review Information Stand: 5250

World premiere of Star's new 38 mm slider

The new Star ST-38 sliding-head mill-turn centre with 38 mm nominal bar capacity made its world premiere at MACH 2010. One of five Star multi-axis CNC lathes on show, it took centre-stage on a stand which, at 350 sq m, was Star GB's largest ever.

Emphasising that it is always a cost-effective manufacturing solution that a customer wants, rather than just a machine tool, Star played host to an impressive array of partner companies and their products. All are designed to extract maximum benefit and productivity from sliding-headstock lathes.

Equipment on display included LNS bar feeders in addition to Star GB's agency range of FMB bar magazines, high-pressure coolant systems from Pumps & Equipment, Filtermist oil mist collection and filtration, Nobel fire suppression, PSL Datatrack production management

software, cutting tools from WNT and NTK, and two agency lines from Emmaco UK, namely IBAG high-speed spindles and Argotech acoustic and power monitoring systems. In addition, manufactured parts were inspected on a Hommel Opticline non-contact measuring system from Metrology Direct.

Demonstrations running on all five Star machines showed their full capabilities in conjunction with the above equipment. In addition to the new ST-38 fitted with an FMB Turbo 5-55 bar magazine, there was a 10 mm capacity SR-10J equipped with an FMB Micromag and three 20 mm capacity lathes. There was an SR-20RIII with LNS 5-42 three-metre magazine, ECAS-20T plus FMB Turbo 3-36, and the SR-20JN without guide bush fed from an LNS short bar magazine.

Star ST-38



This was a show-stopper. Although sliding-head lathes above 32 mm capacity are available on the market, it is very rare to find one in use in the UK because, until now, the mainstream players have not offered one.

Said Bob Hunt, Star GB's managing director, "Sales of sliding-head bar automatics have prospered over the past decade. They allow cost-effective manufacture of small, complex, high precision components that

are needed in much of today's equipment, particularly in the electronics, aerospace and medical sectors.

“With the arrival of the ST-38, more companies will be able to take advantage of sliding-headstock technology, with its faster cycle times, greater accuracy and higher productivity compared with fixed-head turning.

“As a result of the increased bar capacity offered by the ST-38, the range of sliding-head applications is set to increase dramatically.”

The new lathe has 12 CNC axes shared between two C-axis spindles and three live turrets for one-hit machining of highly complex components. X and Z axis rapids are 30 m/min, resulting in short idle times.

A 3-axis and a 2-axis turret can perform combinations of turning and prismatic machining concurrently on round or hexagonal bar rotating at up to 7,000 rpm in the main, 11 kW spindle. Another 2-axis turret is devoted to simultaneous back-working on a parted-off component in the 7.5 kW / 7,000 rpm counter spindle.

Each turret has 10 tool stations driven by a 4 kW / 5,700 rpm motor for carrying out prismatic cross-working and end-working operations. As

each station can accept two tools, a total of 60 cutters can be resident in the machine for almost limitless metalcutting flexibility.

Despite its suitability for machining highly complex components in small batches, the ST-38 remains faithful to the origins of sliding-headstock technology, as it is able to produce simpler parts economically in high volumes. To this end, idle times are further reduced by Star's motion control system, whereby programming is carried out off-line for relatively simple turning operations, resulting in very high speed cycles on the machine.

Conventional computer numerical control is provided by a standard Fanuc 30i-A CNC system. It is used for more complex operations, programming being in ISO either remotely or at the machine. For parts involving a combination of simple and complex operations, the complete cycle can be made up from both motion control programming and traditional ISO format.

ST-38 is a strong, robust machine weighing well over six tonnes. It has 350 mm of headstock stroke in Z, allowing parts up to this length to be produced in one chucking. The other 11 CNC machining axes are C on the main spindle, Y, Z, C on the synchronous sub-spindle, X and Y on both the left and right rear turrets, and X,Y,Z on the front turret.

Standard equipment is comprehensive, extending to a coolant chiller, broken tool detection, air purge on the counter spindle, centralised lubrication, absolute position detection, component ejection monitoring and a parts conveyor. The machine can be retrofitted with a chip conveyor if this option is not selected at the outset.

High-pressure coolant systems rated from 50 to 250 bar are similarly available. They are invaluable for breaking up and removing stringy swarf, such as that produced when stainless steel is machined. HPC also allows deep hole drilling in the main and counter spindles to a maximum depth of 120 mm.

For users of Star's 32 mm capacity sliding-head lathes – ECAS-32T, SV-32 and KNC-32 – it is worth noting that many of the toolholders used on those machines are compatible with the ST-38.

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Photographs available – please e-mail Chris Wright for JPEGs

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1. The 38 mm capacity Star ST-38 is the first sliding-headstock lathe available in the UK from a mainstream supplier for bar of more than 32 mm diameter, dramatically extending the range of possible applications.

2. Working area of the ST-38, showing the two turrets that serve the main spindle and the way that two tools can reside in each station.

3. The 12 CNC axes on the Star ST-38.

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