

# Drives with Style give Precision Cutting



**One of Europe's fastest growing manufacturers of PC-based CNC lathes and machining centres has standardised on drives and servos from Control Techniques' Drive Centre in Holland.**

The Dutch company, STYLE High Tech, is a young, professional company that takes a radical approach to the design and performance of lathes and milling machines, aiming at the small to medium-size operation for batch production or prototyping and the range includes special 'Teach-In' machines for colleges.

From its start in 1997, when the STYLE 2000 TF Control System was introduced and the first Teach-In lathe introduced two years later, STYLE has aimed to combine economy with high performance. It was in the search for more dynamic and flexible drives that STYLE turned to Control Techniques for more stable spindle drives and servo-drives and motors for multi axis control.

Control Techniques Commander SK drives are used for open-loop spindle control, Unidrive SP for closed loop control (from 5.5 to 15 kW), whilst M'Ax servo drives teamed with Control Techniques Dynamics' Unimotors with SLM control are the choice for the X,Y and Z axis servo control.

Control Techniques' Rotterdam Drive Centre now supplies the company with around 250 servo axes and 100 spindle drives per year, with STYLE ordering standard 'kits of parts' for just-in-time delivery. These include software options for functions not supported by the STYLE CNC controller and implemented within the Unidrive SP applications module – spindle positioning for rigid tapping and gain switching for increasing the speed range are just two examples. The customer also uses special option modules for non-standard encoder simulations for feeding back position to external controllers.

"We looked at 12 drives suppliers," says STYLE Technical Director, Anton Lammers, "and found that Control Techniques was the best for us in several ways. We particularly like the SLM technology that gives high precision and stiff servo control – and it's easy to commission too. It is very straightforward to add additional functionality that a customer may require by programming the application module in the Unidrive SP – it's a very flexible drive. We also like the fact that both the Unidrive

#### KEY BENEFITS

- HIGH PRECISION
- STIFF SERVO CONTROL
- EASY COMMISSIONING
- ADDITIONAL FUNCTIONALITY OPTIONS



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SP and Commander SK have the same footprint and connection arrangements, which simplifies our design and build requirements.”

Control Techniques SLM technology uses a high resolution Sin/Cos encoder with a speed loop processor coupled directly to the Unimotor. In this way, a digital network consisting of CNC, SLM and drive is able to achieve a feedback resolution of over 8.3 million points per turn, 50 nano seconds synchronisation between any axis, local intelligence in the motor, up to 50% less wiring, and elimination of the +10V analogue reference signal.

“The just-in-time arrangement we have with Control Techniques works very well and has saved us at least €100,000 because we don’t hold drives in stock,” adds Anton Lammers.

STYLE High Tech is set, in the second quarter of 2008, to launch a new digital motion control (DMC3) card which will increase the number of axes from four up to eight, “which will give us even greater dynamic control and accuracy,” says Anton Lammers. “We will be able to give existing users a direct replacement for the analogue boards and a simple software upgrade. As part of this new development, we will change from the single axis M’Ax servo-drives to the three-axis Multi-Ax, servo-drive.

Unidrive SP, the world’s most advanced ‘solutions platform’ AC drive, is used in closed loop for spindle drive control and Commander SK in open loop mode for motors up to 45 kW, up to 12,000 rpm for milling or 6,000 rpm for lathes. Again the Unidrive SP is used where position control is required when a tool-changer is used and the spindle can be positioned to  $\pm 5\mu\text{m}$ .

The M’Ax single axis, dedicated servo-drive is the world’s first genuine ‘plug-and-play’ servo system that builds up with true distributed architecture into as many axes as the user needs, with no loss in speed of response or accuracy. It is particularly suited to use with the SL type Unimotor that is designed to provide highly accurate speed and position control with a SLM digital link unaffected by noise.

STYLE High Tech’s range of machines are built in a state-of-the-art production facility in Bunschoten in The Netherlands. The company has a high-level of in-house development, with a very strong emphasis on ergonomic design and the use of the latest technologies to produce products that stand out in this very competitive market sector. The company is the market leader in the Netherlands and is becoming one of the major players in the world market for small and medium sized CNC cutting machines. Besides that STYLE High Tech has established a particularly successful market niche in education and has launched a team dedicated to this area; STYLE Education.



For further information please visit  
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