Turning Centers Improve Efficiency For OEM

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The three machines—a Super Kia Turn 28LB and two 21LMB turning centers—were installed primarily as replacements for older machines, but the company soon discovered that because of the machines' high productivity levels, an additional CNC lathe could be removed from service and relocated to a sister company's site.

With a history dating back to the 1890s, the company originally manufactured brass and gun metal valves and fittings for London's breweries and dairies. Since its beginning, Dairy Pipe Lines (DPL) has developed a range of hygienic valves for the food, dairy,

brewing and soft drinks industries, where quality of manufacture and confidence in product performance are key concerns. The company is also making inroads into the pharmaceuticals industry where stringent hygiene standards are also a concern.

The diverse nature of the modern fluidshandling market has led to the development of a range of product types including seat, butterfly, ball, nonreturn, relief, plug and diaphragm valves. DPL's policy of continuous product development also means that it has to constantly review its manufacturing processes.

"Valves and actuators continue to represent an increasing share of our manufacturing capacity, and significant investment in CNC machines has enabled us to continually achieve more efficient production targeted at meeting market demands," says Managing Director Steve Sharp.

"This is highlighted by the recent purchase of the HyundaiKia machines. While they were partly bought as replacements for older machines, we were also looking for additional efficiency and to expand our manufacturing capacity."

Complete with a C axis, live tooling, subspindle and a 65mm spindle bore, the two Super Kia Turn 21LMB turning centers offer a main 15/11 kW spindle motor that produces 25 to 4,000 rpm, while the 3.7/2.2 kW subspindle reaches 30 to 6,000 rpm. The 12station bidirectional turret has a driven tool speed range of 20 to 4,000 rpm generated by a 3.7/2.2 kW motor.

According to Manufacturing Manager Mark Edwards, the company wanted a "valuefor money" CNC lathe with live tooling specifically for the face drilling of flanges. Most of the work undertaken so far on the Kias has been batch work on stainless steel forgings and billets. The tough machining properties of stainless steel also led DPL to opt for high pressure coolant delivery systems on the machines, which helps to remove swarf from the machining zone.

With maximum turning lengths and diameters of 530 mm and 255 mm respectively, the 21LMBs have a swing over the bed of 550 mm. Rapid traverse rates are 36 m/min. The 21LMB also boasts a series of high specification standard features, including a torque limiter on the X and Z axes, a QSetter for quick tool compensation, a 210mm threejaw hollow spindle hydraulic chuck on the main spindle and a main and subparts catcher.

Because DPL is accredited to BS EN ISO 9001: 2000, the importance of quality criteria is another reason for selecting the HyundaiKia machines. "Surface finish down to half a micron is commonplace on components of this nature," Mr. Edwards states. "I'm pleased to say we don't see any rejects from the Kia machines."

Part of DPL's mission statement highlights its ambition to be the United Kingdom's largest manufacturer of hygienic flow equipment. With the three Kia machines now pulling their weight, there seems little reason to doubt that the company is well on its way.

"The machines are very reliable," Mr. Sharp says. "Overall, the whole project has been a success. We did our homework and put a lot of effort into researching the market, and we feel we have gotten our rewards."

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