



OVERVIEW

Optidrive E2 provides competitive advantage for machine tools.

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- easy to use and incredible performance
- leading edge design and technology
- highly committed to innovation
- products you can rely on
- global support and suppliers

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COMPANY

DENFORD LIMITED

Machine tool manufacturer / Educational supplier

United Kingdom

The easy to use features and 'fast stop' function of the Optidrive E2 variable speed drive from Invertek Drives are providing a competitive advantage for machine tools being manufactured for use in the educational sector around the World.

Denford Ltd is a world leader in the supply of educational machine tools, CAD CAM equipment and is a proud founder and Sponsor of the "FI in Schools Technology Challenge".

In late 2005, the Denford design team developed two new routing machines; the Compact 1000 and Router 2600. To allow users to work with a wider variety of materials, an all new metal cutting facility was then added, allowing a wider output speed range. The models with this feature were called Compact 1000PRO and Router 2600PRO. These machines were the first in the market to allow high speed routing whilst also having the rigidity required to allow cutting of non ferrous metals.

The constraints of making a machine cut as a router and also cut non ferrous materials requires high spindle speeds, rigid spindle bearings and excellent sealing. Denford selected a suitable brushless high speed spindle motor, which allowed speeds up to 24000RPM to be used, whilst also providing a rigid sealed spindle unit with a collet to hold the cutting tool. A suitable inverter was then required to allow the motor to achieve the desired speed. The key requirements were high output frequency capability, ease of use, low cost and compliance with the necessary CE directives.

Denford originally selected the Invertek Optidrive E 1.5kW as the ideal inverter drive solution, thanks to its competitive pricing and user friendly nature. They have since changed over to the Optidrive E2. Using Optidrive E2 allowed the motor to operate from the 8000RPM minimum speed up to the maximum 24000RPM quickly and quietly. A further advantage of the Optidrive was the ability to utilise DC injection braking to stop the spindle freewheeling in the event of a mains power loss. This 'fast stop' function provided enhanced safety for end users, a subject of great importance for Denford and its customers.

Being a worldwide supplier, Denford often supply machines to countries with only 110V power available. Again, Invertek were able to offer a solution, using the Optidrive E2 2.2kW 110V 'Voltage Doubler' drive for these machines. By allowing Denford to utilise the same motor, regardless of supply voltage and negating the need for an autotransformer, further cost and simplicity benefits were realised.

Steve Oddy, Technical Director of Denford Ltd commented 'In the 3 years we have used the Optidrives from Invertek Drives, they have proved to be reliable, cost effective and easy to support'.



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