

FIELD NOTES

→PRODUCT:

HPM 450U

→SUPPLIER:

GF Machining
Solutions

→END USER:

Miltera Machining
Research Corp.

→ Miltera Machining Research Corp. in Kitchener, ON, specializes in five axis machining of complex components with tight tolerance and short runs, so it needs high precision machines to meet customer demands.

When Michael Blackburn formed the company ten years ago, his first machine was from GF Machining Solutions. Today, the company operates three GFMS five axis Mikron machining centres: the HPM 800U, the HSM 400U LP and the most recent, the HPM 450U. GFMS' Canadian distributor is Machine Tool Systems.

"The main reason we chose the machines is that they're user friendly. They're equipped with Heidenhain controls [iTNC 530 digital control system], which are great for the prototyping work we do because we can quickly adjust programs. Another amazing feature we like is the fact that the machines are well integrated with automation. The automation capability is well thought out on the machines because you can use it without automation, which is good for prototyping work and then we can switch to automation for production work during the night."

www.gfms.com
www.machinetoolsystems.com
<http://miltera.com>



The machines are stable, predictable and ergonomically designed. Equally important is the machines' ease of use.

"Setup and program transfers are quick, so it makes it great to work on the machines," adds Blackburn.

The HPM 450U in Miltera's shop is equipped with a 20,000 rpm HSK63,

A91Nm spindle designed to machine a variety of materials, and a 60-tool tool changer. The machine is well suited to the jobs and types of materials Miltera typically works on as it's designed for five axis simultaneous high performance milling with C and B axes driven by torque motors. The ergonomically designed machine features a versatile, adjustable torque round swiveling table and a protective cabin enclosure with large windows for optimal viewing inside the machine. Heavy workpieces can be loaded by a crane. The machine is designed for full chip control and features through-spindle coolant supply with a belt filter and variable, adjustable pressure of 18 to 70 bar.

One advantage Miltera has with the Mikron machines is all of the GF Machining Solutions machines are equipped with simulation, optimization and post-processing software from CAMplete, a company owned by Blackburn.

"Miltera is an internal customer to CAMplete and it's a huge advantage to have specialized five axis machining software. Often when we do a turnkey program for a customer, we can send them a CAMplete program, which customers can open easily and make speed changes, tool changes and change other parameters and easily run the program."

Miltera has carved a niche in the highly complex part machining world in large part because of the equipment it houses in its shop, which includes Zeiss CMMs with sub-micron measuring capabilities and other machine tools.

"We also do a lot of turnkey work and help companies set up manufacturing processes. So if a company is looking to bring manufacturing inhouse or adopt five axis capabilities we help to develop the process."

The company, which was nominated as one of Canada's fastest growing companies on the Profit 500 rankings, has also grown considerably since it was formed. Today, Miltera operates in two fully automated facilities spanning more than 1,579 sq m (17,000 sq ft) and in addition to five axis machining, it performs multi-axis turning, EDM and grinding operations.