iCAM NBM Series CNC Machining Centres

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Proudly Built in New Zealand

NBM Series CNC Nesting Machines from iCAM

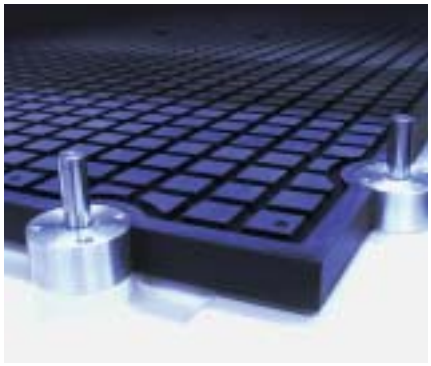
Designed for businesses making the move to Nested Based Manufacturing, the NBM series offers many features usually only found on the more expensive imported machines.

Process Sizes

Standard process sizes range from 1220x2440mm to 1830x6000mm and custom sizes can also be ordered.

Workpiece Holdown

A matrix table and powerful vacuum pump, (up to 500m3/h, -900mbar) are used to allow the best vacuum hold down, this is essential for nested-based manufacturing.



Pin Stop Registration

iCAMs pin stop registration system allows quick and easy sheet registration - the pins automatically retract out of the way of the cutter when the job is started.

Pin stop registration allows the user to process the edge of the sheet and make optimum use of the material.

Automatic Tool length Sensor

Tool lengths are digitised by the automatic tool length sensing unit. Tool lengths are stored and automatically recalled when a tool is selected from the auto tool change unit.


DRIVES
HALT
EMERGENCY STOP
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Machining Head

The NBM is equipped with an ISO30 7.5kw high frequency spindle with programmable speeds of up to 18,000 RPM. The spindle is fitted with ceramic bearings to withstand high temperatures.

A10kw spindle is an option as is HSK connection on both spindle sizes. Twin heads are also available for those wanting the ultimate in production capabilities.

The NBM series of CNC Machine comes standard with ISO 30 connection, HSK 63F is available as an option.

Auto Tool Cange Unit

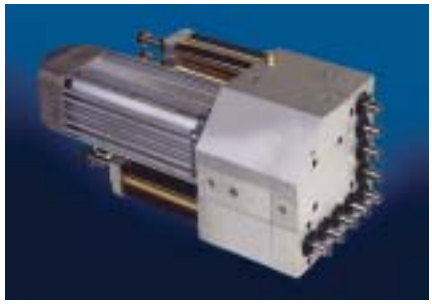
The on board10 station rotary tool-changer is bi-directional and will take the shortest path between any two tools, allowing the quickest change times possible. The tool-changer eliminates the need for the operator to stop the machine to change tools manually, allowing the program to continue uninterrupted.

Positioning Systems

Motors and drives are digital brushless AC Servo on all axes. (Including tool changer)

Linear motion is by ballscrew drive on the Z axes, precision rack & pinion on the X & Y axes. The NBM features 30mm Linear rail systems on all axes.

Travelling with the gantry is a 10-station rotary auto tool change unit. The station remains below the matrix bed and presents the tool required.



9 Spindle horizontal Vertical Drilling Unit, 5x5 'L' Shape.

Vertical Boring Head Option

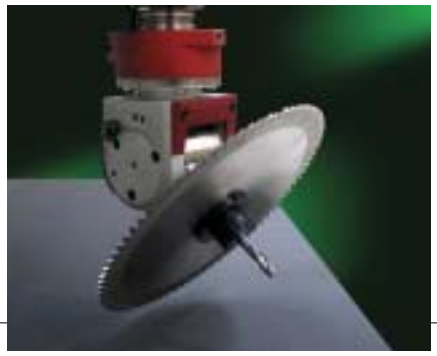
The addition of a vertical boring head on a nesting machine such as the NBM Series can help minimise processing time by drilling multiple holes at once and decreasing tool change time.

Easy to use Operator interface

The most user friendly on the market, the iCAM Operator Interface is based on touch screen technology and allows each operator interface to be customised to suit a specific machine and application. They are designed to be simple to use and to provide the operator with maximum feedback - as well as ensuring safe operation of the machine.

Unlike most other systems, which rely on your memory to scroll through lists of options or punch in number codes, the iCAM virtual control panels clearly display each function of the machine. With the ability to create multiple virtual control panels, panels can be customised to meet the specific needs of an individual within an organisation. The system supervisor will probably need access to more functionality on the machine than one of the operators, who only requires a limited set of functions. Password protection ensures low skilled operators are only able to use the functions they have been trained to use.

Another important feature of the iCAM Operator Interface is the Graphic Trace Panel. This feature not only allows you to view the file graphically at the machine to confirm it is correct before you run the job, it also graphically displays the job you are processing showing in real-time how much of the job is completed.



Adjustable angle combination routing/ sawing aggregate.

Versatile

Not only is the NBM the ideal nesting machine it also can be adapted for component processing, making the NBM one of the most versatile machines on the market. Double acting vacuum pods hold components above the bed to allow aggregates access for processing edges. Aggregates available include horizontal drilling and routing units, sawing units, corner notching and floating head units.

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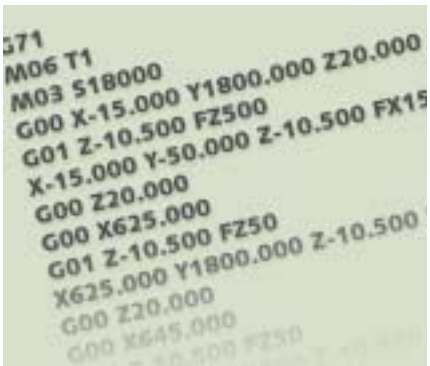

Industry Standard G-Code Programming Language

Genuine industry standard ISO G-Code programming language means the end user can choose machining software that best suits their application. Commonly used software packages include AlphaCAM and ASPAN.

The iCAM control system supports tool compensation. This means toolpath files are not tool dependant, giving more flexibility on the factory floor.

Four sided right angle routing and boring aggregate.

Technology

The iCAM NBM CNC Machining Centre employs the latest technologies from Europe in both electronics and machine construction.

The machine base and gantry are fully welded, heavy steel structures that are precision machined, allowing the ultimate in accuracy and rigidity. With standard machines weighing 2000-3900kgs, the NBM is no lightweight.

To move the heavy structure with speed and accuracy iCAM uses powerful digital AC servo drives and motors. The brushless motors use high resolution encoders that constantly feed their position back to the controller. This high-tech drive system allows feed rates of up to 60m/min while maintaining ultimate accuracy.

The European sourced AMC controller sets the standard for advanced motion control. Using special motion algorithms combined with a 'distance based look-ahead' and 'independent axis intersect speed optimisation', iCAM's NBM machines achieve unmatched productivity. The motion algorithms determine the fastest feed rate at which each stroke or vector can be blended into the next on all moving axes simultaneously, without unnecessary stopping, and precisely control the speed between vectors. The result is higher accuracy, smoother motion and higher actual feed rates, especially with complex part geometry. This allows greater machine productivity.

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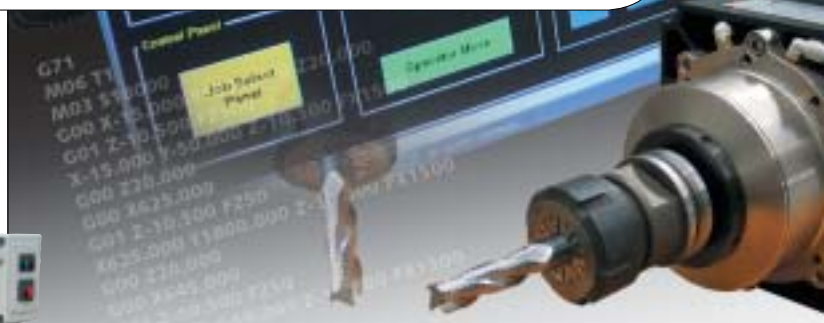
iCAM NBM Series CNC Processing Centres



features

ISO 30 -10 HP spindle	✓
Onboard Rotary Auto Tool Changer	✓
Brushless digital AC Servo on all axes	✓
Precision Machined Steel Chasis	✓
Machining Head Enclosure	✓
Automated tool length measurement	✓
Pneumatic part location pins	✓
Advanced Motion Control	✓
Tool Diameter Compensation	✓
Expert Local Support	✓

technical

Process Sizes	Model 2412 - 2440mm x 1220mm Model 3612 - 3660mm x 1220mm Model 3618 - 3660mm x 1830mm Model 2412/2 - 6000mm x 1220mm (Twin work zones, 2 each 2440mm x 1220mm) Model 2418/2 - 6000mm x 1830mm (Twin work zones, 2 each 2440mm x 1830mm)
Workpiece Clearance	250mm - dependant on tool length used.
Z-Axis Travel	280mm
Drive Motors	Digital brushless AC servo on all axes. (Including tool changer)
Axis Traverse/Feedrates	X axis rapid traverse/feedrate up to 60 m/min
	Y axis rapid traverse/feedrate up to 60 m/min
	Z axis rapid traverse/feedrate up to 20 m/min
Spindle	10 HP ISO 30 with programmable spindle speeds up to 18,000 RPM Optional HSK 63F with programmable spindle speeds up to 18,000 RPM
Auto Tool Changer	One on-board rotary tool-changer, servo-controlled and bi-directional.
	Max. number of tools - 10 (upto 20mm shank)
	Max. tool diameter 80mm
Weight	2400-3900 kg approx.
Extraction Requirements	Extraction capacity min. 2000 m3/hr
	Extraction vacuum min. 2000 PA
	Extraction air speed min. 20m/sec
	Connector diameter 150mm
Electrical Requirements	Connected power 440 V / 50 Hz
	Total load 16-20 kW (excluding vacuum pump)
Compressed Air Requirements	Operating pressure 7 bar
	Max. pressure 8 bar
	Air consumption 100-200 l/min

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iCAM
Your Local CNC Experts

iCAM Mechatronics
27 The Boulevard
PO Box 11068
Hamilton, New Zealand

Tel: 0800 422 669
Fax: 07-846 7214
E-mail: info@icam.co.nz
www.icam.co.nz