

CNC MACHINING CENTRES

High performance machining centres specifically designed for educational and training installations



The Boxford range of 3-axis CNC Machining Centres are ideally suited to fulfil all levels of education and training requirements. Featuring a high-end machine controller, utilising the latest motion control technology, they can satisfy all your 2½ and 3D milling requirements.

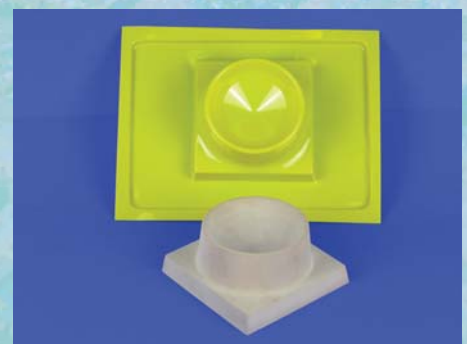
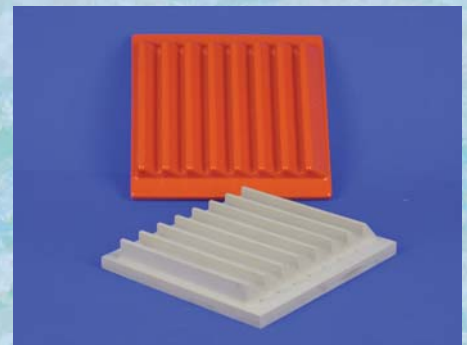
FOR ALL YOUR MILLING REQUIREMENTS



The Boxford range of 3-axis CNC Machining Centres offers educational users unrivalled performance and ease of use. Within a matter of minutes 2½D components incorporating pockets, slots, holes and text can be designed, simulated and manufactured in a variety of materials. Amazing 3D hologram photos can also be produced using the included 'ImageRelief' software wizard. Utilising the included '3DGeoCAM' software wizard, complex 3D solid models created in virtually any CAD package can be imported and again machined in a variety of materials.



These Machining Centres utilise industrial level programming codes and are ideal for vocational engineering training. The 190VMC*xi* and 300VMC*i* machines and can also be integrated into FMS/CIM systems when fitted with optional factory fitted automated equipment.



MidiMILLi

Bench top PC controlled Vertical Machining Centre



Shown with optional Portable Cabinet Base and optional Laptop Shelf

- Entry level bench top CNC Machining Centre suitable for machining wax, plastics and other synthetic materials.
- Full 2D and 3D capability.
- Extended Z-axis facilitates the machining of tall components.
- Precision Dovetail Slide construction.
- Anti-backlash lead screws on all axes.
- Single, totally enclosed cabinet housing the integrated electronic controller facilitates easier movement between rooms.

190VMCxi

Bench top PC controlled Vertical Machining Centre



Shown with optional Portable Cabinet Base, Laptop Shelf, Auto Tool Changer, Automatic vice and Air Mist Coolant

- Rigid cast iron construction, incorporating high quality precision components, facilitates the machining of mild steel, alloys, plastics and other synthetic materials to close tolerances.
- Precision Dovetail Slide construction.
- Pre-loaded anti-backlash ball screws on all axes.
- Closed loop spindle control.
- Single, totally enclosed cabinet housing the integrated electronic controller facilitates easier movement between rooms.
- Automated accessories and robot interface port available for FMS/CIM system integration.

300VM*i*

Floor standing PC controlled Vertical Machining Centre



- Rigid cast iron construction, incorporating high quality precision components, facilitates the machining of mild steel, alloys, plastics and other synthetic materials to close tolerances.
- Precision Dovetail Slide construction.
- Pre-loaded anti-backlash ball screws on all axes.
- Closed loop spindle control.
- One shot integrated lubrication system fitted as standard.
- Flood Coolant fitted as standard.
- Integrated lockable storage cupboards.
- Includes removable laptop shelf (shown).
- Automated accessories and robot interface port available for FMS/CIM system integration.

STANDARD FEATURES ON ALL MACHINING CENTRES

- Integrated touch sensitive control panel incorporating illuminated push buttons allows manual machining.
- Interlocked solenoid guarding cannot be opened when spindle is running. Open guard inhibits slide movement and spindle rotation.
- Incorporates a high-end machine controller utilising the latest motion control technology to produce smooth and fast 3-axis simultaneous movement.
- Integrated machine electrics.
- Integrated machine lighting.
- USB interface.
- Single seat of Boxford 'CAD/CAM Design Tools' software (PC not included) incorporating Techsoft 'Mill Design' and import wizards for creating 2 and 3 axes machining routines from 2D and 3D CAD Files, JPEG and BMP image files, and PCB Gerber files. Also includes conversational and manual programming, ideal for vocational training. (Optional site/network licence upgrade).

ACCESSORIES	MidiMILLi	190VMCxi	300VMCi
Comprehensive Tooling Set	✓	✓	✓
Comprehensive Tool Holder Set	✓	✓	✓
6 Station Automatic Tool Changer*		✓	
8 Station Automatic Tool Changer*			✓
Precision Machine Vice	✓	✓	✓
Air Mist Coolant*		✓	
Flood Coolant			STD
Automatic Pneumatic Vice*		✓	✓
Automatic Pneumatic Guard*		✓	✓
Robot Connection Port for FMS/CIM Integration		✓	✓
Automatic Lubrication system		✓	✓
Portable Cabinet Base	✓	✓	

*Requires a 6 Bar, 70/90 PSI compressed air supply



Comprehensive Tooling Set

A package consisting of 7 off 3-flute TiCN coated slot drills, 1 off facing cutter and 2 off ball end cutters.



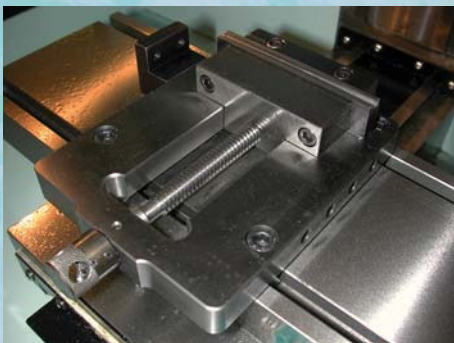
Comprehensive Tool Holder Set

Set off tool holders, complete with pull studs, suitable for 190VMCxi and 300VMCi machines with either manual or automatic tool changers.



Automatic Tool Changer

Accommodates either 6 (190VMCxi) or 8 (300VMCi) tool holders. Requires a 6 Bar, 70/90 PSI compressed air supply.



Precision Machine Vice

Incorporates replaceable jaws and, on the 190VMCxi and 300VMCi versions, a fixed space saving clamping screw. Other work holding options available including chucks on base plates.



Automatic Pneumatic Vice

Incorporates replaceable jaws and is interlocked and programmable. Can be controlled externally via optional robot port for FMS/CIM integration.

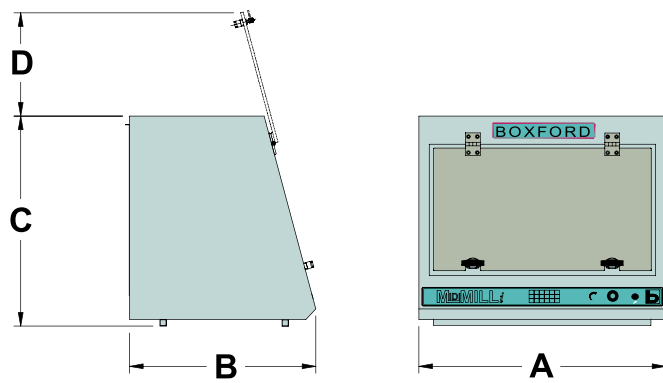


Portable Cabinet Base

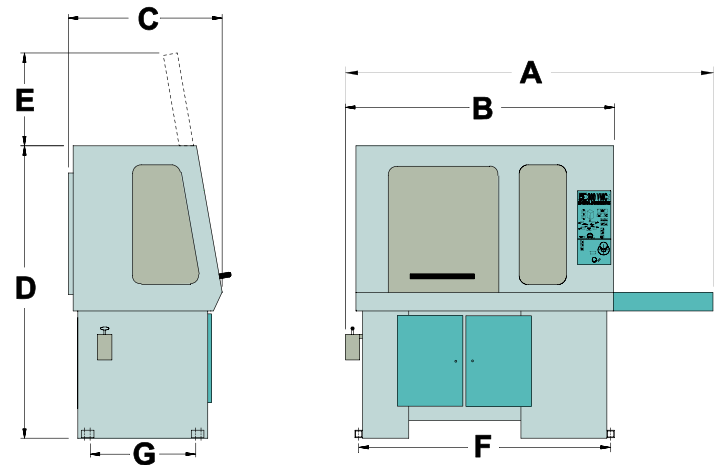
Incorporating a shelved lockable storage cabinet to accommodate a bench top machine. Optional Laptop shelf available (shown above).

SPECIFICATIONS	MidiMILLi	190VMC <i>xi</i>	300VMC <i>i</i>
X Axis Travel (Longitudinal)	300mm	225mm	304mm
Y Axis Travel (Cross)	180mm	150mm	157mm
Z Axis Travel (Vertical)	230mm	140mm	213mm
Table Area	450 x 153mm	410 x 130mm	505 x 135mm
Spindle to Table	250mm	202mm	260mm
Centre Line of Spindle to Column	170mm	130mm	155mm
Tee Slots	4 x Special 40mm Centres	2 x 10mm 100mm Centres	3 x 10mm 50mm Centres
Spindle Motor	380 watts	450 watts	1260 watts
Infinitely Variable Spindle Speeds	200 - 4000rpm	350 - 3500rpm	200 - 4000rpm
Electrics	110/220/240 V 1 Phase	110/220/240 V 1 Phase	110/220/240 V 1 Phase
Programmable Feed	0 - 1500 mm/min	0 - 2000 mm/min	0 - 5000 mm/min
Rapid Feed Rate at 100%	1500 mm/min	2000 mm/min	5000 mm/min

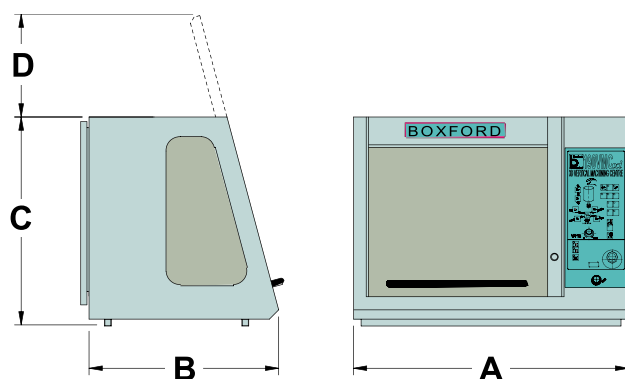
MidiMILLi



300VMC*i*



190VMC*xi*



Machine Dimensions

	MidiMILLi	190VMC <i>xi</i>	300VMC <i>i</i>
A	840mm	890mm	1955mm
B	630mm	610mm	1425mm
C	710mm	600mm	820mm
D	350mm	680mm	1550mm
E	-	340mm	490mm
F	-	-	1335mm
G	-	-	560mm
Weight	90kg	150kg	500kg



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