

Improved productivity for complex machining

CINCOM

Sliding Headstock Type CNC Automatic Lathe

A20^{VII}



A

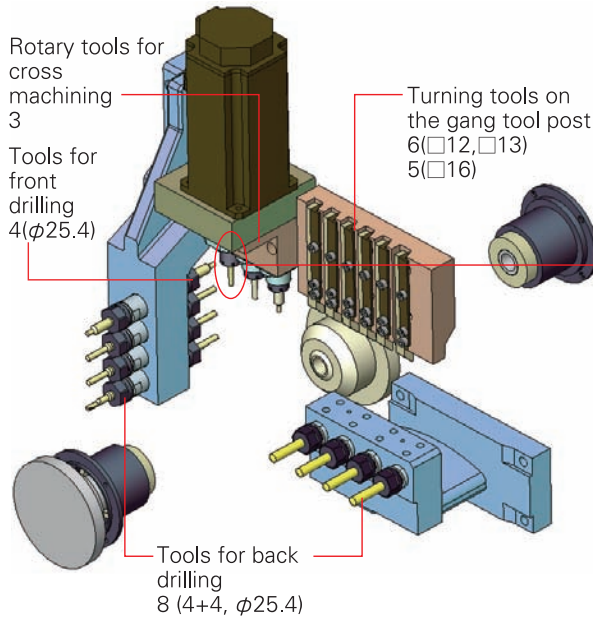
Exceptional Productivity and Cost Performance in a 5-axes $\phi 20$ Machine

The A20 has been acclaimed by customers as a high-rigidity, low-cost machine. Now, we are launching the A20VII model with an additional axis on the back spindle. It shares the outstanding cost performance

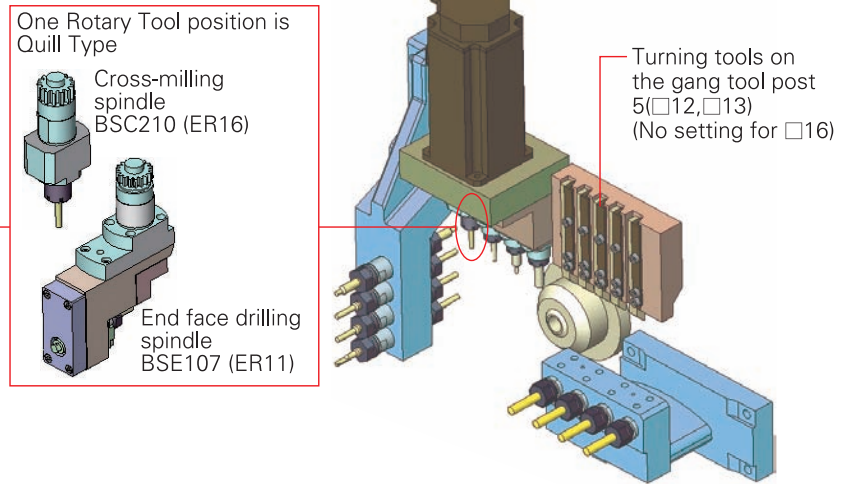
that was the major benefit of the A20 and has achieved an extraordinarily reasonable price for a 5-axes, $\phi 20$ mm machine. An additional axis, X2, on the back spindle enables front/back simultaneous machining

and this, in combination with the fast 32m/min rapid feed rate, has substantially cut cycle times. Conformity with IP54 maximizes reliability and with ISO12100 ensures operator safety.

Standard Tool Layout



4 Rotary Tools for Cross Machining (Optional)



3 Rotary tools (standard)

There are three cross-machining rotary tools in the standard specification, one cross-milling spindle (BSC210) can be changed to optional end face drilling spindle (BSE107).

4 Rotary tools (option)

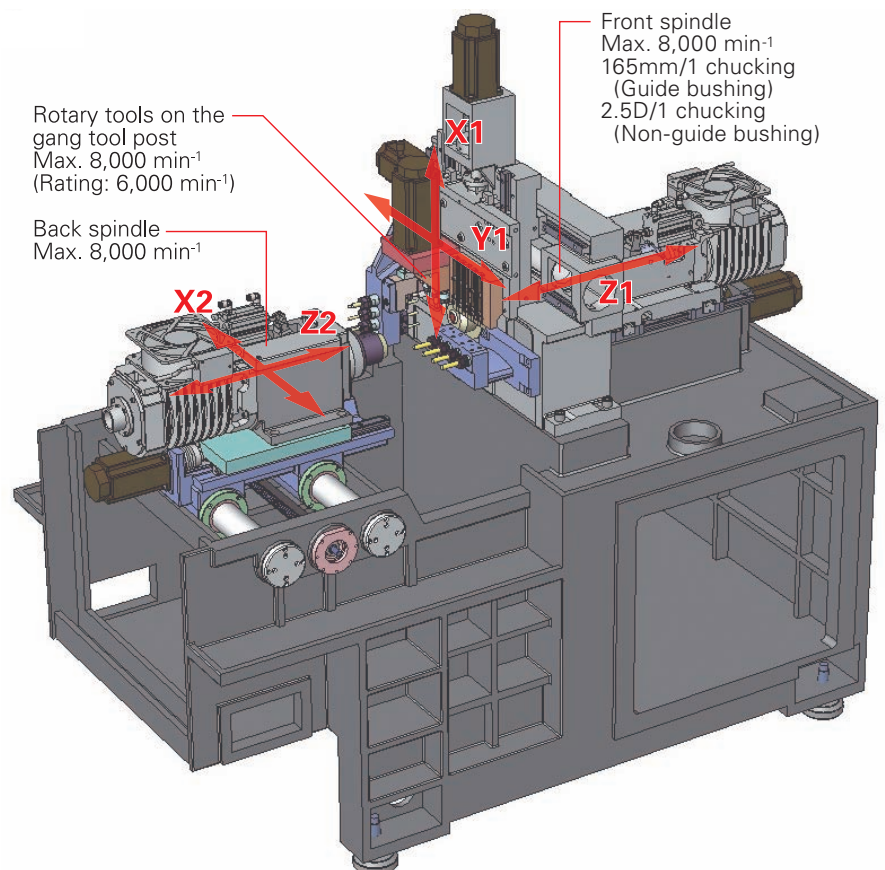
Using the optional four rotary tool spindle unit (U32B) gives four cross-machining rotary tools. One rotary position is Quill type and can be fitted with a cross-milling spindle (BSC210) or an end face drilling spindle (BSE107). With the four tool spindle specification there are five turning tools on the gang tool post ($\square 12$, $\square 13$) and the maximum tool spindle speed is 6,000 min^{-1} (rating: 4,500 min^{-1}).

End face drilling spindle (BSE107)

Quill type end face drilling spindle (BSE107) enables front face drilling/milling (available tool length is 40mm).

Independent Back Tool Post

Four $\phi 25.4$ mm drill sleeves can be mounted on the back tool post. The X2 axis enables parallel front machining with gang tools and back machining with the back tool post, which makes substantial reductions in cycle time possible.



High Productivity, High Rigidity and Citizen's Renowned Accuracy with Streamline Control and Rapid Feed Rate 32m/min

The approach to productivity improvements that won acclaim in high ranking models like the K16 and L20 has also been applied to the new A20VII. Idle time has been slashed by using Citizen's unique "streamline control" control technique. These factors, combined with the increased rapid feed rate, achieve substantial reductions in idle time.

Streamline Control

Streamline control is Citizen's unique control technique that ensures high speed and smooth operation. It reduces idle time with no effects on cutting. The "axis motion overlap function" starts the next axis motion without waiting for the completion of the current one. This eliminates wasteful idle time and realizes optimum operation by suppressing machine vibration. "Direct C-axis Indexing" commands the spindle to decelerate to a stop after rotating direct to the index position, substantially shortening indexing time. And, in the operation for selecting a tool for back machining including operation of the new X2 axis, mechanical shock is minimized by making the tool path an arc, thus reducing tool change time by motion overlap.

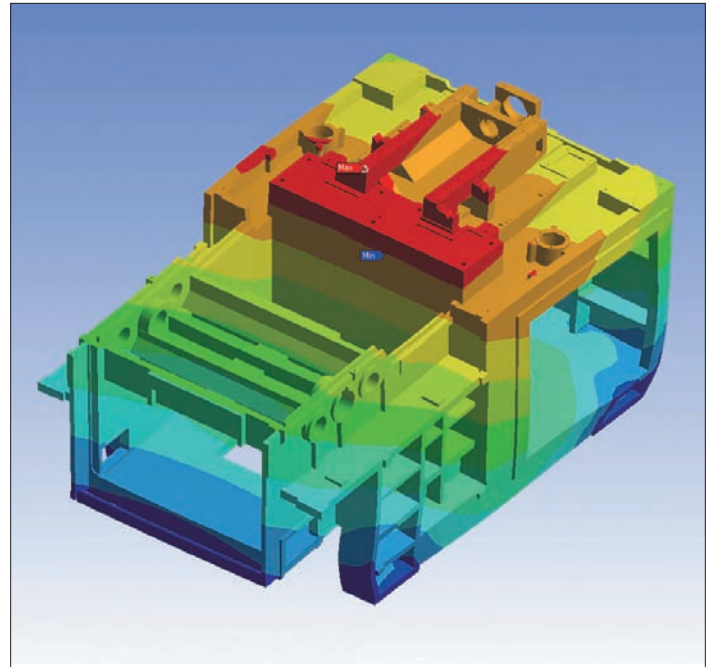
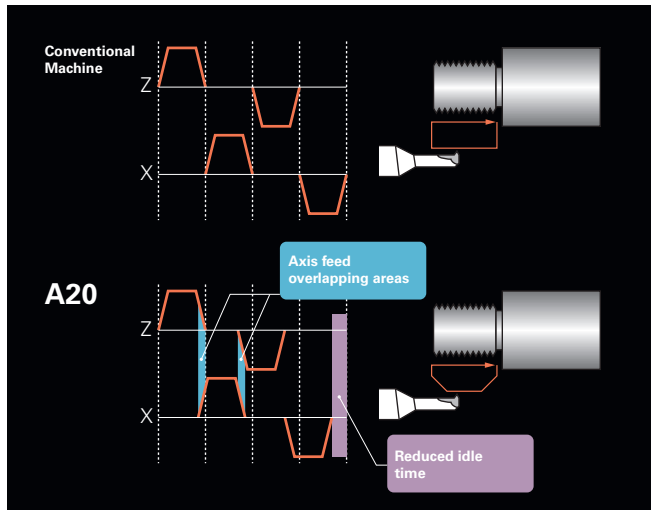
Rapid Feed Rate of 32m/min

In a considerable improvement on the 18m/min rapid feed rate of the A20VI, the A20VII travels at 32m/min on all axes except X1.

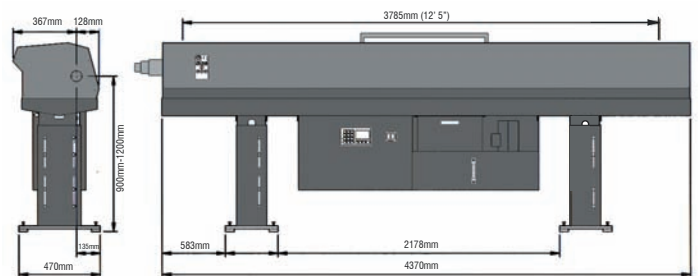
High Rigidity and Left/Right Symmetrical Bed

With a bed 1.8 times as heavy as those of existing machines, the machine is constructed to counter thermal displacement. The relatively small thermal displacement of the bed during long periods of operation promotes high accuracy.

Axis Feed Motion Overlap Function



C320 Barfeeder



Machine Specifications

Item	A20VII	A20VIIC
	Guide bushing	Non-guide bushing
Maximum machining diameter (D)	φ20mm	
Maximum machining length (L)	165mm/1 chucking	2.5D/1 chucking (Z1 stroke 55mm)
Maximum front drilling diameter	φ10mm	
Maximum front tapping diameter (tap, die)	M8	
Spindle through-hole diameter	φ31mm	φ28.5mm
Main spindle speed	8,000min ⁻¹	
Maximum drilling diameter of gang rotary tool	φ7mm	
Maximum tapping diameter of gang rotary tool	M6	
Spindle speed of gang rotary tool	max 8,000min ⁻¹ (rating: 6,000min ⁻¹)	
with 4 rotary tools driving device (optional)	max 6,000min ⁻¹ (rating: 4,500min ⁻¹)	
Maximum chuck diameter of back spindle	φ20mm	
Maximum protrusion length of back spindle workpiece	50mm	2.5D (max. 50mm)
Maximum protrusion length	100mm	2.5D (max. 50mm)
Maximum drilling diameter in back machining process	φ8mm	
Maximum tapping diameter in back machining process	M6	
Back spindle speed	8,000min ⁻¹	
Number of tools to be mounted	21	
Turning tools on the gang tool post	6 (□12, 13), 5 (□16)	
Cross rotary tools	3 (40°)	
Tools for front drilling	4	
Tools for back drilling	8 (4+4)	
Tool size		
Tool (gang tool post)	□13mm (□12mm, □16mm)	
Sleeve	φ25.4mm	
Chuck and bushing		
Main spindle collet chuck	TF25	BL25
Back spindle collet chuck	TF25	
Rotary tool collet chuck	ER16	
Chuck for drill sleeves	ER16	
Guide bushing	TD25NS	—
Rapid feed rate		
X2, Y1, Z1, Z2 axes	32m/min	
X1 axis	18m/min	
Motors		
Spindle drive	2.2/3.7KW	
Tool spindle drive	0.75KW	
Back spindle drive	1.1/1.5KW	
Coolant oil	0.25KW	
Lubricating oil	0.003KW	
Center height	1050mm	
Input power capacity	6KVA	
Air pressure and air flow rate for pneumatic devices	0.5MPa · 90NL/min (max. 150NL/min)	
Weight	2400Kg	

Standard accessories

Main spindle chucking device
 Back spindle chucking device
 Headstock cooling device
 3-Gang rotary tool driving devices
 Coolant device (with level detector)
 Lubricating oil supply unit (with level detector)
 Machine relocation detector
 Door lock function
 Workpiece separator
 Pneumatic device for air sealing
 Cut-off tool breakage detection
 Lighting
 Rotary guide bushing device

Optional accessories

4-gang rotary tool driving device
 Knock-out jig for through-hole workpiece
 Workpiece conveyor
 Chip conveyor
 Workpiece separator for front collection
 Coolant flow rate detector
 Signal lamp
 3-color signal tower
 Long workpiece machining device

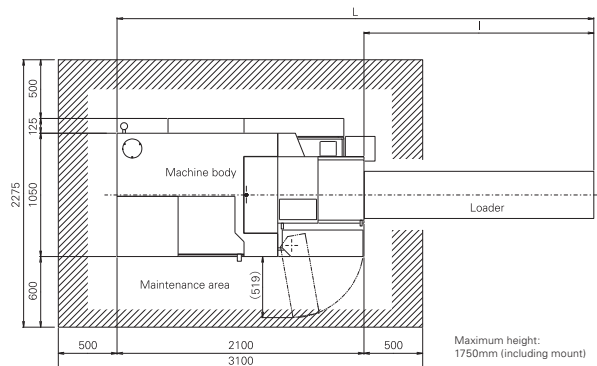
Standard NC functions

NC unit dedicated to the A20
 7.2-inch monochrome liquid crystal display (LCD)
 Pre-processing function
 Program storage capacity: 80m
 Tool offset pairs: 49
 Product counter indication (up to 8 digits)
 Spindle speed change detector (main & back)
 Automatic power-off function
 Main spindle indexing at 15° intervals
 On-machine program check function
 Constant surface speed control function
 (main & back spindle)
 Variable lead thread cutting
 Chamfering, corner R
 Direct input of drawing dimensions
 Spindle synchronized function
 Milling interpolation
 Main & back spindle C-axis function
 Multiple repetitive cycle for turning
 Canned cycle drilling
 Rigid tapping function
 Y-axis offset
 Tool life management I
 Tool life management II
 User macros
 Inch/metric conversion
 Sub-inch command
 B-code I/F
 Bar feeder interface
 Canned cycle for threading

Optional NC functions

Program storage capacity: 120m
 Additional custom macro variables

Machine Layout



Marubeni Citizen-Cincom Inc.

40 Boroline Road
 Allendale, NJ 07401
 (201) 818-0100

1801 F Howard Street
 Elk Grove Village, IL 60007
 (847) 364-9060

17815 Newhope Street, Suite P
 Fountain Valley, CA 92708
 (714) 434-6224

www.marucit.com



※All specifications are subject to change without prior notice. ※This product is subject to the export control laws of the United States and other countries. A license may be required prior to export, reexport or transfer of these products. Please contact us for further information.