Cincom
A20
Sliding Headstock Type CNC Automatic Lathe
Acclaimed for its excellent cost to performance ratio, the A20 has evolved as a 5-axis machine for ø20 mm applications with the advantage that it can be used with or without a guide bushing. Use as a regular guide bushing automatic lathe when machining long, slender workpieces or without a guide bushing for shorter parts with minimal bar end remnants. The guide bushing can be quickly and easily mounted and removed.

The performance of the machine has been improved too. The high speed 10,000 rpm spindle enables optimized machining operations on smaller diameter bar material. The machining length per chucking is now extended to 200 mm enabling the number of re-chuckings and therefore cycle times to be reduced when machining long workpieces. As an option, bar material of up to ø25 mm can also be machined extending the range of workpieces.
**Tooling System**

- One rotary tool position is Quill Type.
- Rotary tools on the back tool post (option).

**Tools for front drilling:**
- 4 (1"")

**Turning tools on the gang tool post:**
- 5 (½"")

**Rotary tools for cross machining:**
- 4

**Tools for back drilling:**
- 8 (4+4, 1"")

**Switchable Guide bushing type**

**Non-guide bushing type**

**A20 Tooling Example**

- Rotary tools on the back tool post (option).
- Triple end-face spindle BSE607 (option).
- Triple both-end face spindle BSE707 (option).
The A20 features a new capability to switch between guide bushing and non-guide bushing operating modes.

The machine’s performance, including spindle speed and machining length per chucking, has been increased.

It is designed for ease of use and convenience with good chip clearance for fast set-ups.

**Maximum spindle speed of 10,000 rpm**
The maximum speed of the front spindle is high at 10,000 rpm enabling optimized machining conditions on small diameter bar material or using small diameter cutting tools.

**200 mm/1 chucking**
A longer 200 mm machining stroke reduces the need for re-chucking workpieces, which in turn, reduces cycle time.

**Support for stock material up to Ø25 mm (option)**
With its spindle through hole diameter of 26 mm, the A20 is capable of machining bar stock up to Ø25 mm by installing the optional 25 mm size chuck device — enabling a wider range of workpieces to be produced over the standard 20 mm machine.

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**Productivity Improvements**

Idle time is slashed using the preprocessing function the Cincom Control that analyses the machining program before it is run to minimize processing and calculation times.

**Direct C-axis indexing function**
Direct C-axis indexing enables deceleration of direct to chosen index position eliminating the wasted time of performing zero return.

**Axis feed overlap function**
The next axis feed motion starts without waiting for completion of the current motion of another axis. This cuts out wasteful idle time and also suppresses unwanted vibration.
Upgraded machine performance and usability

Work Light
Low energy illumination is provided as standard in the machining area giving an environment that is bright with ideal visibility.

USB/PC card slot
NC programs can be input and output using the USB slot or PC card slot on the front face of the control panel.

Coolant nozzle
Coolant nozzles are provided at the appropriate locations to ensure that sufficient coolant can be supplied to the point of machining.

Parts collection
The large collection box reduces the frequency of emptying. The optional workpiece conveyor discharges to the left front of the machine.

Coolant tank/chip collection box
A 150-litre coolant tank is standard, enabling extended periods of operation. The chip outlet port has been increased to improve chip removal. Optional chip conveyors are available to suit the type of chip material.

Adjustable operation panel
The pivoting operation panel enables easy operation while simultaneously viewing the machining process.
On-machine program check function
Using manual hand feed, operations can be run in the forward or reverse directions, can be paused to edit the program, and restart.

Display of code list
The function displays the list of G, M, and T codes including explanations - a useful aid to programming.

Easy viewing with text size change
Two text size settings can be applied to each screen (large text display illustrated).
Machine Layout

A20 Standard Machine

A20 Option-installed Machine
## Machine Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>A20VII (A20-3F7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. machining diameter (D)</td>
<td>ø20 mm (ø25 option)</td>
</tr>
<tr>
<td>Max. machining length (L)</td>
<td>GB: 200 mm/1chucking (188 mm: ø25 spec.) NGB: 2.5D</td>
</tr>
<tr>
<td>Spindle through-hole diameter</td>
<td>ø26 mm</td>
</tr>
<tr>
<td>Main spindle speed</td>
<td>Max. 10,000 rpm</td>
</tr>
<tr>
<td>Spindle speed of the gang rotary tool</td>
<td>Max. 6,000 rpm (Rating 4,500 rpm)</td>
</tr>
<tr>
<td>Max. chuck diameter of back spindle</td>
<td>ø20 mm (ø25 option)</td>
</tr>
<tr>
<td>Max. protrusion length of back spindle workpiece</td>
<td>50 mm</td>
</tr>
<tr>
<td>Max. protrusion length</td>
<td>100 mm</td>
</tr>
<tr>
<td>Back spindle speed</td>
<td>Max. 8,000 rpm</td>
</tr>
<tr>
<td>Number of tools to be mounted</td>
<td>21</td>
</tr>
<tr>
<td>Tool size</td>
<td></td>
</tr>
<tr>
<td>Tool (gang tool post)</td>
<td>1/2&quot;</td>
</tr>
<tr>
<td>Sleeve</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Chuck and bushing</td>
<td></td>
</tr>
<tr>
<td>Main spindle collet chuck</td>
<td>TF25 (TF30: ø25 mm)</td>
</tr>
<tr>
<td>Back spindle collet chuck</td>
<td>TF25 (TF30: ø25 mm)</td>
</tr>
<tr>
<td>Rotary tool collet chuck</td>
<td>ER11, ER16</td>
</tr>
<tr>
<td>Chuck for drill sleeves</td>
<td>ER11, ER16</td>
</tr>
<tr>
<td>Guide bushing</td>
<td>TD25NS (CD25: ø25 mm)</td>
</tr>
<tr>
<td>Rapid feed rate</td>
<td></td>
</tr>
<tr>
<td>All axes (except X1)</td>
<td>32 m/min</td>
</tr>
<tr>
<td>X1 axis</td>
<td>18 m/min</td>
</tr>
<tr>
<td>Motors</td>
<td></td>
</tr>
<tr>
<td>Spindle drive</td>
<td>2.2 / 3.7 kW</td>
</tr>
<tr>
<td>Tool spindle drive</td>
<td>0.75 kW</td>
</tr>
<tr>
<td>Back spindle drive</td>
<td>1.1 / 1.5 kW</td>
</tr>
<tr>
<td>Coolant oil</td>
<td>0.4 kW</td>
</tr>
<tr>
<td>Lubricating oil</td>
<td>0.003 kW</td>
</tr>
<tr>
<td>Center height</td>
<td>1,050 mm</td>
</tr>
<tr>
<td>Rated power consumption</td>
<td>7.1 kVA</td>
</tr>
<tr>
<td>Full-load current</td>
<td>20.2A</td>
</tr>
<tr>
<td>Main breaker capacity</td>
<td>30A</td>
</tr>
<tr>
<td>Air pressure &amp; air flow rate for pneumatic devices</td>
<td>0.5 MPa • 47NL</td>
</tr>
<tr>
<td>Weight</td>
<td>4,851 lbs</td>
</tr>
</tbody>
</table>

### Standard NC functions
- NC unit dedicated to the A20
- 8.4 inch color LCD
- On-machine program check function
- Operating time display function
- Preparation function
- Spindle speed change detector
- Nose radius compensation
- Constant surface speed control function
- Program storage capacity: 80m (approx. 32KB)
- Product counter indication (up to 8 digits)
- Automatic power-off function
- Continuous thread cutting function
- Pre-processing function
- Tool offset pairs: 49
- Sub micron commands
- Spindle synchronized function
- High speed rigid tapping function
- Chamfering, corner R
- Canned cycle drilling
- Drawing dimension direct input
- Multiple repetitive cycle for turning
- User macros
- Y-axis offset
- Front/Back spindle C-axis function
- Tool life management I
- Tool life management II
- Network I/O function
- Inch command
- Sub/inch command

### Optional NC functions
- Program storage capacity 2560m (approx. 1MB)
- Hob/polygon function B
- Optional block skip (9 sets)
- External memory program driving

### Standard accessories
- Main spindle chucking device
- Back spindle chucking device
- Rotary guide bushing device
- Cut-off tool breakage detection
- Lighting
- Workpiece separator
- Coolant unit with level detector
- Lubricating oil supply unit with level detector
- Door lock
- Pneumatic device for air sealing
- Machine relocation detector

### Optional accessories
- Fixed guide bushing device
- Knock-out jig for through-hole workpiece
- Callback chute
- Long workpiece unit
- Workpiece conveyor
- Chip conveyor
- Coolant flow rate detector
- Signal lamp
- 3-color signal tower

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