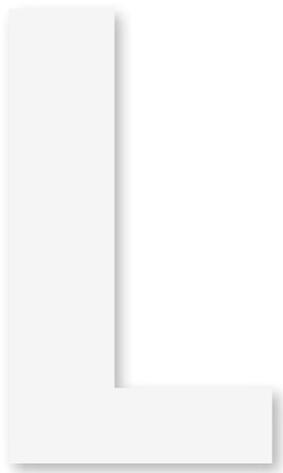


# Cincom

## Cincom Innovation Line

Sliding Headstock Type Automatic CNC Lathe

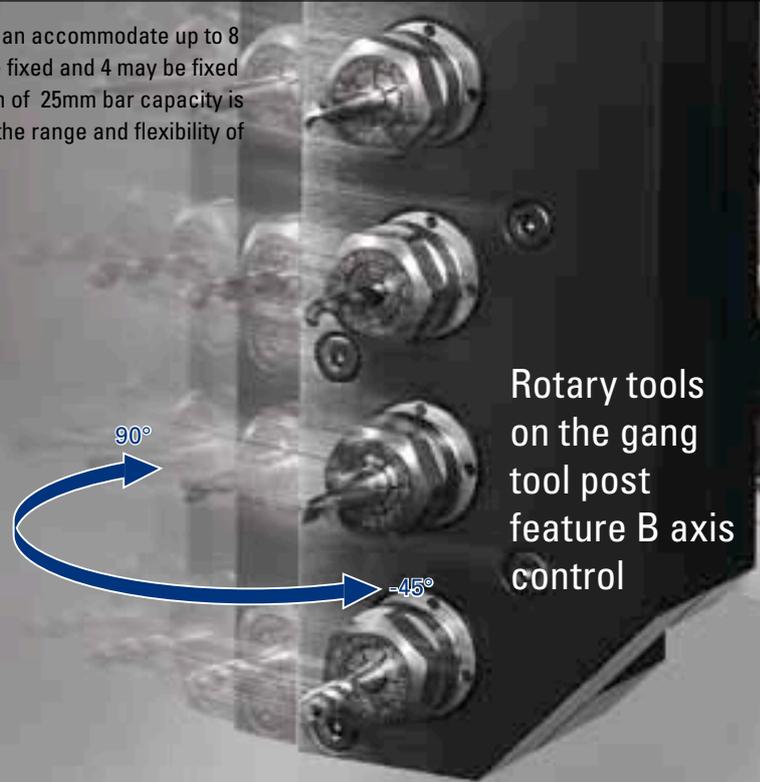
### L20-XII



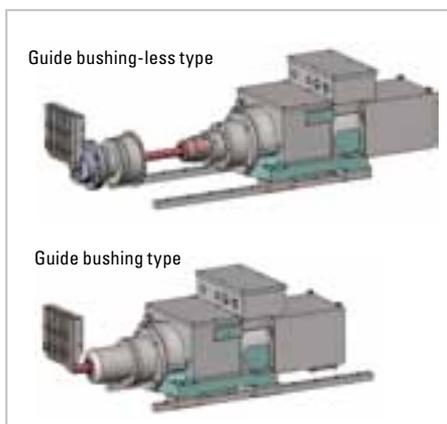
# L series revamped – B axis for rotary tools on the gang tool post, and Y2 axis control for the opposite tool post. Ability to switch between guide bushing type and guide bushing-less type.

Cincom's best-selling L series machines have been relaunched with exciting new functions. The rotary tools on the gang tool post feature B axis control, allowing the drilling and milling of angle features, and contouring with simultaneous 4-axis control. The swivel angle has a range of 135°, from 90° to -45° to enable the B axis to be used for both front and back machining. Another major feature is the ability to switch between use as a guide bushing type and as a guide bushing-less type. This feature is provided as standard. The guide bushing can be fitted or removed in a short time, and is a simple operation. The L20 can be used as a regular guide bushing type automatic lathe when machining long thin workpieces, and as a guide bushing-less machine for shorter workpieces when using cold drawn material and when short bar remnants are required. Also featured is Y2 axis control on the opposite tool post, realizing high productivity. A variety of simultaneous machining operations can be performed in front machining, making it possible to substantially reduce cutting time.

The back tool post can accommodate up to 8 tools, of which 4 are fixed and 4 may be fixed or driven. The option of 25mm bar capacity is available to extend the range and flexibility of this machine.



## Varied simultaneous/complex machining is realized



**Ability to use as a guide bushing type or guide bushing-less type by switching between them**  
The guide bushing can be fitted and removed in a short time and in a simple operation. The L20 can be used in accordance with the workpiece to be machined, either as a machine for long workpieces utilizing the guide bushing, or as a guide bushing-less machine able to reduce costs by leaving short remnant bars.



**Opposite tool post equipped with a Y2 axis**  
The opposite tool post is equipped with a Y2 axis, allowing a variety of machining by simultaneous control of the gang tool post and the opposite tool post. Furthermore, the opposite tool post can be optionally driven, permitting pinch milling, while options to support deep hole machining are also available.



**Back tool post has rotary tool specifications as standard**  
The back tool post offers rotary tool specifications as a standard feature. It can accommodate a total of 8 tools in 2 rows of 4; 4 rotary tools in the upper row and 4 fixed tools in the lower row. Slitting and cross drilling/end milling are possible.

# Tooling versatility expands the scope of machining

Enhanced end face rotary tools and cross rotary tools give flexibility in the machining of complex shapes

## L20 Type XII machine configuration

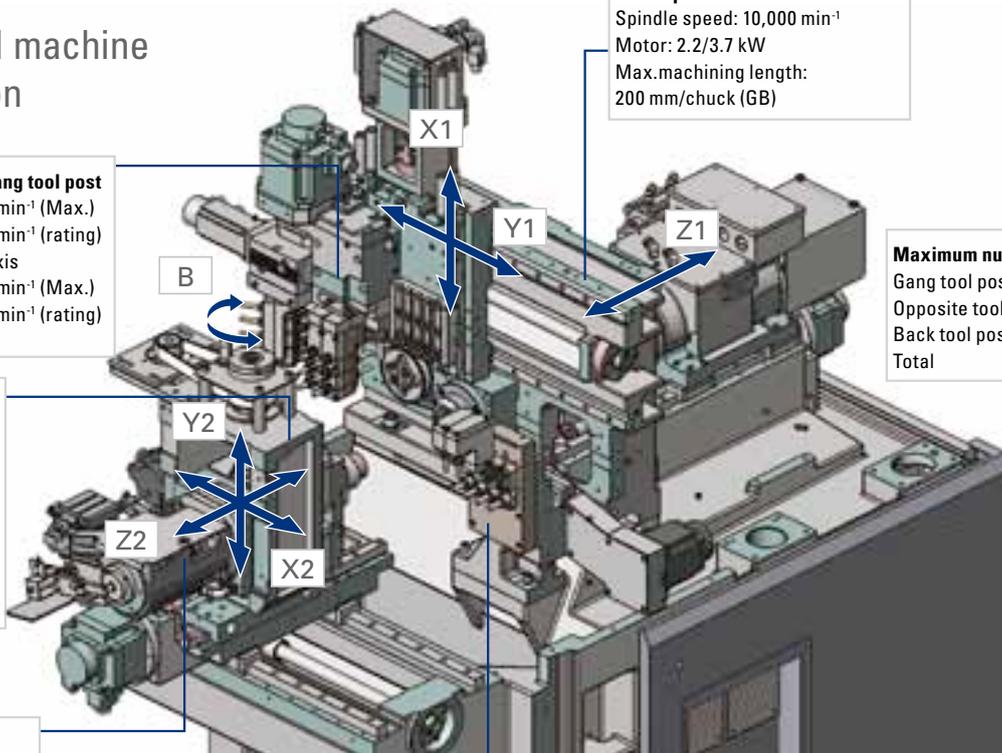
**Rotary tools on the gang tool post**  
 Spindle speed: 6,000 min<sup>-1</sup> (Max.)  
 Spindle speed: 4,500 min<sup>-1</sup> (rating)  
 Rotary tools with B axis  
 Spindle speed: 8,000 min<sup>-1</sup> (Max.)  
 Spindle speed: 6,000 min<sup>-1</sup> (rating)  
 Motor: 1.0 kW

**Rotary tools on the opposite tool post U128B<sup>optional</sup>**  
 Spindle speed: 7,500 min<sup>-1</sup> (Max.)  
 Spindle speed: 6,000 min<sup>-1</sup> (rating)  
 Motor: 0.75 kW

**Back spindle**  
 Spindle speed: 8,000 min<sup>-1</sup>  
 Motor: 0.75/1.5 kW

**Front spindle**  
 Spindle speed: 10,000 min<sup>-1</sup>  
 Motor: 2.2/3.7 kW  
 Max.machining length:  
 200 mm/chuck (GB)

| Maximum number of mountable tools |           |
|-----------------------------------|-----------|
| Gang tool post                    | 26        |
| Opposite tool post                | 6         |
| Back tool post                    | 8         |
| <b>Total</b>                      | <b>40</b> |



**Rotary tools on the back tool post**  
 Spindle speed: 7,500 min<sup>-1</sup> (Max.)  
 Spindle speed: 6,000 min<sup>-1</sup> (rating)  
 Motor: 0.75 kW

## L20 Type XII tooling example



# Machine specifications

| Item   | L20 Type XII (L20E-2M12)  |
|--|---|
| Maximum machining diameter (D)                       | Ø 20 mm   |
| Maximum machining length (L)                         | GB: 200 mm/1 chuck, GBL: 2.5D/1 chuck                           |
| Maximum front drilling diameter                      | Ø 10 mm   |
| Maximum front tapping diameter (tap, die)            | M8 (Cutting tap)  |
| Spindle through-hole diameter                        | Ø 26 mm   |
| Main spindle speed                                   | Max. 10,000 min <sup>-1</sup>                                   |
| Max. chuck diameter of the back spindle              | Ø 20 mm   |
| Max. protrusion length                               | 80 mm   |
| Max. protrusion length of the back spindle workpiece | 30 mm   |
| Max. drilling diameter for the back spindle          | Ø 8 mm  |
| Max. tapping diameter for the back spindle           | M6  |
| Back spindle speed                                   | Max. 8,000 min <sup>-1</sup>                                    |
| <b>Gang rotary tool</b>                              |   |
| Maximum drilling diameter                            | Ø 8 mm  |
| Maximum tapping diameter                             | M6 (Cutting tap)  |
| Spindle speed  | Max. 6,000 min <sup>-1</sup> (Rating: 4,500 min <sup>-1</sup> ) |
| <b>Back tool post rotary tool Option</b>             |   |
| Maximum drilling diameter                            | Ø 5 mm  |
| Maximum tapping diameter                             | M4 (Cutting tap)  |
| Spindle speed  | Max. 7,500 min <sup>-1</sup> (Rating: 6,000 min <sup>-1</sup> ) |
| <b>Front rotary tool</b>                             |   |
| Maximum drilling diameter                            | Ø 5 mm  |
| Maximum tapping diameter                             | M4 (Cutting tap)  |
| Spindle speed  | Max. 7,500 min <sup>-1</sup> (Rating: 6,000 min <sup>-1</sup> ) |
| <b>Number of tools to be mounted max</b>             | 40  |
| Gang turning tool                                    | 5   |
| Gang rotary tool                                     | 11 ~ 21   |
| Opposite tool post                                   | 6   |
| Back tool post                                       | 8   |
| <b>Tool size</b>                                     |   |
| Tool   | □ 12 mm (□ 13 mm, □ 16 mm)                                      |
| Sleeve   | Ø 25 mm (GDS107, 210), Ø 19.05 mm                               |
| <b>Chuck and bushing</b>                             |   |
| Main spindle collet chuck                            | 145E/F25  |
| Back spindle collet chuck                            | 145E/F25  |
| Rotary tool collet chuck                             | ER11 ER16   |
| Chuck for drill sleeves                              | ER11 ER16   |
| Guide bushing  | 22.001/T223   |
| <b>Rapid feed rate</b>                               |   |
| All axes (except Y2)                                 | 32 m/min  |
| Y2 axis  | 8 m/min   |
| <b>Motors</b>  |   |
| Spindle drive  | 2.2/3.7 kW  |
| Gang tool post rotary tool drive                     | 1.0 kW  |
| Back spindle drive                                   | 0.75/1.5 kW   |
| Back tool post rotary tool drive                     | 0.75 kW   |
| Front rotary tool drive                              | 0.75 kW   |
| Coolant oil  | 0.4 kW  |
| Lubricating oil                                      | 0.003 kW  |
| Center height  | 1,050 mm  |
| Rated power consumption                              | 7.3 kVA   |
| Full-load current                                    | 32 A  |
| Main breaker capacity                                | 40 A  |
| Air pressure   | 0.5 MPa   |
| Weight   | 2,400 kg  |

| Standard accessories                          |
|---|
| Knock-out device driven by pneumatic cylinder |
| Knock-out device for through-hole workpiece   |
| Workpiece conveyor                            |
| Coolant flow rate detector                    |
| Network function                              |
| 3-step signal tower                           |
| Work light                                    |
| Cut-off tool breakage detector                |
| Dedicated parts for GBL                       |

| Special accessories   |
|-----------------------|
| Long workpiece device |
| Chip conveyor         |
| High pressure pump    |

| Standard NC functions          |
|--------------------------------|
| NC unit: Mitsubishi Meldas M70 |
| Tool nose radius compensation  |
| Multiple repetitive cycle      |
| Canned cycle for drilling      |
| Constant surface speed control |
| Corner chamfer and R function  |
| Customer macro                 |
| Memory capacity 160 m          |
| External memory                |
| Spindel synchronisation        |
| Rigid tapping function         |
| C-axis main- and backspindle   |
| Milling interpolation          |
| Continuous threading cycle     |
| Variable lead threading        |

| Special NC functions     |
|--------------------------|
| Memory capacity 600 m    |
| Tool life management     |
| Polygon function         |
| Hobbing function         |
| Helical interpolation    |
| Circular thread function |
| Slant helical function   |
| Offset 80 sets           |

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