Cincom

L12
Sliding Headstock Type Automatic CNC Lathe
Cincom Innovation Line

“Evolution and Innovation” is the Future
Machining using a guide bushing is a useful method for small diameter workpieces. However, using a guide bushing with short workpieces produces more material waste which increases material costs. The optimum machine configuration differs depending on the workpiece to be machined, and up until now a variety of different machines have been required. The L12 solves this problem. It is a simple matter to fit or remove the guide bushing, so the machine configuration can be changed to suit the workpiece to be machined. As an automatic lathe that encompasses two roles in a single unit, it can be used to machine both long and short workpieces effectively. It also shows uncompromising performance as a machine for high-speed, small-diameter applications. It shortens cycle times with a front spindle capable of high-speed rotation of 15,000 rpm and 10,000 rpm rotary tools. The L series that has built Cincom’s history is now making new functions and performance standard in automatic lathes.
Achieving optimum machining conditions
*High-speed main spindle and rotary tool spindle*
The maximum main spindle speed is 15,000 rpm even with synchronized rotary guide bushing (maximum machining length is 135mm per chuck), and rotary tools are able to reach maximum speeds of 10,000 rpm. This makes it possible to use the optimum machining conditions even for small diameter bar material and drilling or milling tools.

Comprehensive Tooling
*Handles complex workpieces*
A full range of optional tooling is available. Three both-end rotary tools (angle adjustable from 0° to 30°) can be mounted among the rotary tools on the gang tool post. In addition, adopting rotary tool specifications for the back tool post has made it possible to mount end face rotary tools and a slitting spindle for back machining.

Compact Design
*Improved productivity per unit area*
The machine size is only 1,780mm (70”) wide by 820mm (32.3”) deep.

Comprehensive Tooling

### Gang tool post

- **GSE3607** (option)
  - End face drilling spindle (3 double ended spindles).
  - The angle can be adjusted in the range from 0° (perpendicular to the end face) to 30°.

- **MSC507** (standard: 3 pcs)
  - Outer diameter milling spindle
  - Rego type chuck: ER11

- **GDF7001** (standard)
  - 4 vertical sleeve holder
  - Sleeve mount hole diameter: ø19.05mm

### Back tool post

- **Back rotary driving unit** (standard)
  - Max. spindle speed: 10,000 rpm
  - Motor: 0.4 / 0.75 kW

- **MSC507** (option)
  - Outer diameter milling spindle
  - Rego type chuck: ER11

- **GSS1530** (option)
  - Slitting spindle
  - Max. cutter diameter: ø30mm

- **MSC507** (option)
  - Outer diameter milling spindle
  - Rego type chuck: ER11
The L12 is equipped with a detachable guide bushing as standard. This is a major and unprecedented feature. The L12 can be used as a regular guide bushing type automatic lathe for long and small diameter workpieces, and once the guide bushing is removed, it can be used for short workpieces thus minimizing material waste.

**C312 Barfeeder (option)**

The MCC C312 automatically feeds round, square and hexagonal bar stock into the L12VII in lengths up to 12’ and a diameter range of 3 to 12 mm.
Convenient functions for easy operation and improved productivity

Trouble-free operation for fast set-ups — easy to maintain with optional functions for flexibility

**Wide operator access**
Operability is improved with a lift-up cover that provides a large opening without taking up space at the rear of the machine.

**NC program input/output**
NC programs can be input and output using a USB memory stick or compact flash card. An RS-232C interface, as featured on previous models, can also be used.

**Product receiver box**
The workpiece gripped in the back spindle is unloaded into the product chute for collection. Workpiece conveyor is available as an option.

**Coolant tank**
The coolant tank has a large capacity of 26 gallons (100 liters) and can be easily removed.

**Chip receiver box**
With its large opening, the chip collection port is designed for easy cleaning.

**Central lubrication device**
Supplying lubricating oil to all ball screws improves maintainability.

**Up to 28 tools**
A maximum of 28 tools can be mounted.

**Deep hole drilling**
An optional drilling tool (L12-U120B) can be added to the opposite tool post which is effective for deep hole machining.
High-speed NC
The machine is equipped with the latest NC model to drastically reduce the start-up and screen switching time compared to conventional machines with advance functions. This feature provides a stress free operating environment.

On-machine program check function
Using manual handle feed, this effective aid to smooth programming allows operations to be run in the forward or reverse direction and can be temporarily stopped for editing, then restarted according to the edited program.

Easy to understand illustrations
In response to the selection of an item, the corresponding illustration is displayed on the screen so that the operator can easily recognize the meaning of the selected item. (The screen shown above displays the machining data).

Code list display
The function displays the list of G and M codes including explanations of the arguments to support programming.

Eco screen
The current power consumption is shown along with the maximum power consumption value, the power consumption record, the cumulative power consumption and the power regeneration (generation) status.

Eco screen
The machine’s power consumption can also be shown in the form of an easy-to-understand graph. Data can be output as well.

Environmental Information

<table>
<thead>
<tr>
<th>Basic Information</th>
<th>Energy usage</th>
<th>Power supply voltage</th>
<th>AC200V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Electrical power requirement (max)</td>
<td>6.1kVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Required pneumatic pressure</td>
<td>0.5MPa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Performance Information</th>
<th>Power consumption</th>
<th>Standby power*1</th>
<th>0.309kW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Power consumption with model workpiece*2</td>
<td>0.012kWh/cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power consumption value above converted to a CO2 value*3</td>
<td>5.5g/cycle</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air consumption</td>
<td>Required air flow rate</td>
<td>46NL (Power ON), maximum 190NL (during Air Blow)</td>
</tr>
<tr>
<td></td>
<td>Lubricant consumption</td>
<td>At power ON</td>
<td>2.5cc/60min</td>
</tr>
<tr>
<td></td>
<td>Noise level</td>
<td>Value measured based on JIS</td>
<td>77.9dB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach to Environmental Issues</th>
<th>Environmental load reduction</th>
<th>RoHS Directive / REACH regulations</th>
<th>Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recycling</td>
<td>Indication of the material names of plastic parts</td>
<td>Covered in the instruction manual **4</td>
</tr>
<tr>
<td></td>
<td>Environmental management</td>
<td>We are ISO 14001 accredited. We pursue “Green Procurement,” whereby we make our purchases while prioritizing goods and services that show consideration for the environment.</td>
<td></td>
</tr>
</tbody>
</table>

*1: In idle stop mode (a function that turns servomotor excitation off when it is not necessary, for example during program editing).
*2: In program operation (when not cutting) for one of our standard test pieces, shown for the purpose of comparing the environmental performance with that of existing models.
*3: Value converted in accordance with the CHUBU Electric Power CO2 emissions coefficient for 2009 as published by the Ministry of the Environment.
*4: If polyvinyl chloride (PVC) and fluor resin are not processed correctly, they can generate harmful gases. When recycling these materials, commission a contractor that is capable of processing them appropriately.
## Standard Accessories
- Main spindle chucking device
- Back spindle chucking device
- Gang rotary tool driving devices
- Coolant device (with level detector)
- Lubricating oil supply unit (with level detector)
- Machine relocation detector
- Door lock
- Workpiece separator
- Lighting
- Back rotary tool driving unit
- Rotary guide bushing device

## Optional Accessories
- Cut-off tool breakage detector
- Knock-out jig for through-hole workpiece
- Workpiece conveyor
- Chip conveyor
- High pressure coolant device
- Coolant flow rate detector
- Signal lamp
- 3-color signal tower

## Standard NC Functions
- NC unit dedicated to the L12
- 8.4” Color LCD
- Program storage capacity: 160m
- Tool offset pairs: 40
- Product counter indication (up to 8 digits)
- Spindle speed change detector
- Constant surface speed control function
- Automatic power-off function
- On-machine program check function
- Chamfering corner R
- Variable lead thread cutting
- Arc threading function
- Geometric function
- Spindle C-axis function
- Milling interpolation
- Back spindle C-axis function
- Back spindle chasing function
- canned cycle drilling
- High speed rigid tapping function
- Rigid tapping phase adjustment function
- Differential speed rotary tool function
- Tool Life Management I
- Tool Life Management II
- External memory program driving
- User macros
- Helical interpolation function
- Inclined helical interpolation function
- Hob function
- Polygon function
- Inch command
- Sub inch command

## Optional NC functions
- Tool offset pairs: 80
- Program storage capacity: 600m

## Optional Tool Holder
- GSE3607: 3 Front / 3 Back rotary tool holder (0–30 degree adjustable)
- GSS1530: Back slitting spindle (up to 30mm diameter cutter)

## Machine Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>L12-1M7 (L12VII)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum machining diameter (D)</td>
<td>Ø12mm</td>
</tr>
<tr>
<td>Maximum machining length (L)</td>
<td>GB: 135mm/1 chuck; NGB: 30mm/1 chuck</td>
</tr>
<tr>
<td>Maximum front drilling diameter</td>
<td>Ø8mm</td>
</tr>
<tr>
<td>Maximum front tapping diameter (tap, die)</td>
<td>M6</td>
</tr>
<tr>
<td>Spindle through-hole diameter</td>
<td>Ø20mm</td>
</tr>
<tr>
<td>Maximum main spindle speed</td>
<td>GB 15,000 rpm; NGB 12,000 rpm</td>
</tr>
<tr>
<td>Max. chuck diameter of back spindle</td>
<td>Ø12mm</td>
</tr>
<tr>
<td>Max. part length for front ejection to standard part separator</td>
<td>80mm</td>
</tr>
<tr>
<td>Max. protrusion length of back spindle workpiece</td>
<td>30mm</td>
</tr>
<tr>
<td>Max. drilling diameter for back spindle</td>
<td>Ø6mm</td>
</tr>
<tr>
<td>Max. tapping diameter for back spindle</td>
<td>M5</td>
</tr>
<tr>
<td>Back spindle speed</td>
<td>Max. 10,000 rpm</td>
</tr>
<tr>
<td>Gang rotary tool</td>
<td></td>
</tr>
<tr>
<td>Maximum drilling diameter</td>
<td>Ø5mm</td>
</tr>
<tr>
<td>Maximum tapping diameter</td>
<td>M4</td>
</tr>
<tr>
<td>Spindle speed</td>
<td>Max. 10,000 rpm</td>
</tr>
<tr>
<td>Back tool post rotary tool</td>
<td></td>
</tr>
<tr>
<td>Maximum drilling diameter</td>
<td>Ø5mm</td>
</tr>
<tr>
<td>Maximum tapping diameter</td>
<td>M4</td>
</tr>
<tr>
<td>Spindle speed</td>
<td>Max. 9,000 rpm</td>
</tr>
<tr>
<td>Number of mountable tools</td>
<td>Maximum 28</td>
</tr>
<tr>
<td>Gang tool post</td>
<td>6</td>
</tr>
<tr>
<td>Gang rotary tools</td>
<td>4 Stations (1 built-in/3 quil l)</td>
</tr>
<tr>
<td>Gang drilling tool</td>
<td>Front 4, Back 4</td>
</tr>
<tr>
<td>Back tool post</td>
<td>4</td>
</tr>
<tr>
<td>Tool size</td>
<td></td>
</tr>
<tr>
<td>Tool</td>
<td>3/8” square shank</td>
</tr>
<tr>
<td>Sleeve</td>
<td>3/4” diameter shank</td>
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<tr>
<td>Main spindle collet chuck</td>
<td>TF16</td>
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<tr>
<td>Guide bushing</td>
<td>SD125R</td>
</tr>
<tr>
<td>Back spindle collet chuck</td>
<td>TF16</td>
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<tr>
<td>Rapid feed rate (all axes)</td>
<td>35m/min</td>
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<tr>
<td>Motors</td>
<td></td>
</tr>
<tr>
<td>Spindle drive</td>
<td>2.2 / 3.7 kW</td>
</tr>
<tr>
<td>Gang tool post rotary tool drive</td>
<td>0.75 kW</td>
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<tr>
<td>Back spindle drive</td>
<td>0.4 / 0.75 kW</td>
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<tr>
<td>Back tool post rotary tool drive</td>
<td>0.5 kW</td>
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<tr>
<td>Lubricating oil</td>
<td>0.25 kW</td>
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<tr>
<td>Center height</td>
<td>39’ (1000 mm)</td>
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<tr>
<td>Input power capacity</td>
<td>6.1 kVA</td>
</tr>
<tr>
<td>Air pressure and air flow rate for pneumatic devices</td>
<td>0.5 MPa. 60NL</td>
</tr>
<tr>
<td>Weight</td>
<td>3,748 lbs (1700 kg)</td>
</tr>
</tbody>
</table>

Marubeni Citizen-Cincom Inc.

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

2316 Touhy Avenue
Elk Grove Village, IL 60007
847-364-9060

17815 Newhope Street, Suite P
Fountain Valley, CA 92708
714-434-8224

68 Moylan Lane
Agawam, MA 01001
413-786-6655

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