Abundant spec variations for high productivity and thorough ease of use from the user’s perspective. 

Machine shops around the world long for machines like this. Okuma has faced this challenge head on, resulting in the high quality GENOS global machine. Okuma’s technical genes are found in cutting edge manufacturing that seeks to balance high quality and low cost.

1-Saddle CNC Lathes
GENOS L250/L200-M
GENOS L400/L300-M
Okuma’s new global CNC lathe, GENOS L series.

GENOS L series machines are “simple multitasking machines” with superior cost performance. They combine simple machine structures for high quality and ease of use with a rich array of spec variations to handle everything from chuck workpieces to bar material workpieces with complex shapes. They are machines to meet every customer need.

Abundant spec variations available to match your specific application requirements

Diverse specification line-up contributes to increasing users’ productivity

- Travels
  - GENOS L200-MY: 80 mm (+30 to -50)
  - GENOS L300-MY, MYW: 100 mm (+50 to -50)

- Basic structure for Y-axis specs
  A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY, MYW specs).

- Outstanding dimensional stability
  In addition to maintaining high dimensional accuracy when room temperature changes, Okuma’s thermal deformation prevention provides high dimensional accuracy during machine startup and machining restart. By stabilizing thermal deformation, warming-up time is shortened and the burden of dimensional correction during machining restart is reduced.

- Model specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Spindle</th>
<th>Maximum machining length</th>
<th>Multitasking (M specs)</th>
<th>Optional specs</th>
<th>Sub-spindle (W axis)</th>
<th>Y-W axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENOS L250</td>
<td>A2-6</td>
<td>290/500</td>
<td>No</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>GENOS L200-M</td>
<td>11/7.5 kW</td>
<td>225/380</td>
<td>Yes</td>
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<tr>
<td>GENOS L400</td>
<td>A2-8</td>
<td>500/1,100</td>
<td>No</td>
<td>—</td>
<td>C1</td>
<td>—</td>
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<tr>
<td>GENOS L300-M</td>
<td>15/11 kW</td>
<td>450/1,060</td>
<td>Yes</td>
<td>C2</td>
<td>C1</td>
<td>—</td>
</tr>
</tbody>
</table>

*1. Max machining length becomes 420/1,020 mm  
*2. Max machining length becomes 150 mm
Easy to use, simple machine structure

Main spindle
High speed, high rigidity gearless spindle minimizes vibration and heat.

Sub-spindle
With these sub-spindle specifications, front and back machining can be done on a single lathe. Interference is not a worry even in back face machining with a multitasking V12 radial turret (MW, MYW specifications).

With the GENOS L series you can machine workpieces like these.

Turret
V12 turret

Multitasking turret
Compact milling spindle uses high power, high torque PREX motor for much faster multitasking operations.

Tailstock
Low center height, high stability Hydraulic tailstock.

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V12 turret

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Compact milling spindle uses high power, high torque PREX motor for much faster multitasking operations.

Tailstock
Low center height, high stability Hydraulic tailstock.
Turning capacity [actual data]

**GENOS L400 (Material: S45C)**
- OD heavy cut: 3.0 mm³
- Cutting speed: 120 m/min
- Cutting depth: 6.0 mm
- Feedrate: 0.50 mm/rev

**Spindle speed:** 4,500 min⁻¹  
**Output:** VAC 11/7.5 kW (30 min/cont)  
**Torque:** 93 N·m

**Main spindle**
- ø60 spindle specs (GENOS L300-M/MY)  
  - Spindle speed: 6,000 min⁻¹  
  - Output: PREX 5.5/3.7 kW (2 min/cont)  
  - Torque: 31 N·m

**Milling capacity [actual data]**

**GENOS L200-M (Material: S45C)**
- Chip volume: 96 cm³/min
- Cutting speed: 135 m/min
- Tool: ø12 6-flutes endmill
- Cutting depth × width: 18.0 mm × 2.5 mm
- Feedrate: 0.60 mm/rev

**Drilling**
- ø50
  - Cutting speed: 150 m/min  
  - Tool: ø50 insert drill  
  - Feedrate: 0.15 mm/rev

**GENOS L300-M (Material: S45C)**
- Chip volume: 142 cm³/min
- Cutting speed: 135 m/min
- Tool: ø16 6-flutes endmill
- Cutting depth × width: 20.0 mm × 4.0 mm
- Feedrate: 0.60 mm/rev

**Drilling**
- ø13
  - Cutting speed: 120 m/min  
  - Tool: ø13 insert drill  
  - Feedrate: 0.34 mm/rev

**Sub-spindle specs**
- ø30 spindle specs (GENOS L300-M/MY/MW/MYW (Radial))
  - Spindle speed: 6,000 min⁻¹
  - Output: PREX 7.5/5.7 kW (2 min/cont)
  - Torque: 3.7 N·m

**Turning accuracy [actual data]**

**GENOS L300-MW**
- Roundness: 0.42 µm
- Tool nose uniformity:
  - Rz: 0.58 µm  
  - Ra: 0.08 µm

The "actual data" referred to above for this brochure represent examples, and may not be obtained due to differences in specifications, tooling, cutting, and other conditions.
Comfortable operation, superior expandability with the customer in mind

Maintenance tasks from the front—effortlessly

- Hydraulic chuck pressure regulator, slideway lubrication tank, and other maintenance items brought to the front of the machine
- A big exit for falling chips and the 1-sheet saddle cover provide for smooth discharge of large volumes of chips

Machine operation screen (single screen operations)

- **Touch Setter gauging**
  Touch Setter arm advance and retraction, gauging cycle start, and setting and check of tool compensation values can all be done from a single screen. Operation and data settings for Touch Setter gauging can be done without changing screens.

- **Multitasking operations**
  The series of operations to start multitasking can be done from a single screen while confirming the status of the C and Y axes.

Loader Specs

- **1-machine 1-loader applications to full-scale production lines**
- **Your best layout for automation**
  - Get outstanding flexibility from 1-machine/1-loader to multi-machine lines, with optimum cycle times, operation mix, work flow, floor space and the like.
  - Okuma’s selection of work tables, part turnover stands, post-process gauges and other peripherals, can provide an ideal system arrangement to meet your needs.

- **Multi-machine 1-loader cell**

- **2-machine/1-loader cell**

- **2-machine/2-loader cell**
  - Blanks and finished parts can be stacked on one work table. (Not possible with 2-machine/2-loader.)
  - 2-machine/2-loader cell machines can be laid out in parallel.

One touch editing

G/M programs can be edited with a single touch on the shop floor. Editing can be started immediately by moving the cursor to the program execution block or the block that produced an alarm during machining in automatic operation mode.
With various earth-friendly features

Ecology and economy specs that eliminate waste

**Energy-saving functions**
- **Power-saving**
  After completion of automatic operation, equipment power shuts off at set time
  - In-machine lamp OFF
  - Gravity axis servo OFF
  - Spindle cooler motor OFF
  - Spindle orientation release
  - Coolant stop
  - Chip flusher stop

**Energy-saving operations**
- Chip conveyor intermittent operation
- Lift-up conveyor, mist collector interlocked operation

**Energy-saving technologies**
- **Energy-saving NC unit**
  - Computer in a flat panel with a high-performance CPU
  - Power-saving design
  - LCD (Liquid Crystal Display) used

**Energy-saving drive units**
- Low-loss power transistor used
- Power regeneration system used

With reduced power consumption, Okuma has achieved 57% for NC power and 12% for servo power.

Satisfaction from complete control of a machine tool

As a "machine & control" builder, Okuma makes further strides in machine tool manufacturing with this superb control featuring "Easy Operation". Okuma took a close look at the way machinists actually operate machine tools, to help them create smoother and more effective ways of producing parts. Novice operators as well as professional machinists get complete control—and satisfaction.

Moreover, what you want to see and do conveniently come together in a "single-mode operation". First, select one of three operation screens. Then simply touch the screen or press a function key to see and do your job.

- Setup operations
- Trial/continuous cuts
- Programming
- Tool preparations

**Chatter-free applications for lathes**

Chatter in a lathe can be suppressed by changing spindle speeds to the ideal amplitude and wave cycle—without decreasing spindle speed.

Cutting condition search for turning
Machining Navi Lg (Optional)
Interactive operations Advanced One-Touch IGF-L (Optional)

- **Part program create**
  After simple cutting data inputs (interactively), the required machining processes are determined and a part program is created (automatically).

- **Advanced run**
  To run the machine directly from the interactive part program screen. When a problem is detected it can be quickly corrected and checked, speeding up first part machining.

### Harmonic spindle speed control (Optional)

- **Reduce machining chatter**
  Holds down machining chatter as spindle speed is periodically changed and resonance points change, when cutting large, thin workpieces or small-diameter, long workpieces.

  ![Harmonic spindle speed control](image)

  L/D = 18 is machined without steadystest

### Variable spindle speed threading (Optional)

- **Good threads from the first piece**
  Feed axis perfectly synchronized with changing spindle speeds. Thread pitch accuracy is maintained even if the spindle speed changes during threading. Cutting conditions without chatter can be found by using spindle override during threading.
  As a result, you get good quality screws from the first piece.

  ![Variable spindle speed threading](image)

### Deep hole synchro tapping

- **Easy programming of machining know-how**
  Cutting is divided into multiple cuts by simply designating depth of cut, amount of relief, and amount of withdrawl, and tool damage from chip clogging is prevented. In addition, if overload is detected during synchronized tapping, machine returns to machining start point with synchronized feed and stops with alarm.

### Real 3-D simulation (Optional)

- **Live-performance machining**
  In all operating modes (auto, MDI, manual, etc), the cutting conditions are displayed in real time. Switching between solids, section views, transparent models, and performing machining simulation (dry runs with the machine locked) lets you check part program accuracy.

  ![Real 3-D simulation](image)

  Returns to machining start point when total depth of cut reaches amount of withdrawl.

### Hi-tech Okuma mechatronics for advanced machining applications

- **Harmonic spindle speed control**
  Harmonic spindle speed control keeps the spindle speed constant even when the system is being accelerated or decelerated.

- **Variable spindle speed threading**
  Variable spindle speed threading allows for precise control of thread pitch accuracy even when the spindle speed is changing.

- **Deep hole synchro tapping**
  Deep hole synchro tapping enables easy programming of machining operations, preventing tool damage due to chip clogging.

- **Real 3-D simulation**
  Real 3-D simulation provides live performance machining, allowing for real-time display of cutting conditions and easy machining program verification.

### Code Snippet

```
N0100 G97 S413 M41 M03 M08
N0101 G00 X108 Z105.2 T010101
N0102 G96 S140
N0103 G85 N0104 D8 F0.35 M85
N0104 G83
N0105 G01 X50.4 Z100
N0106 X100
```

Tables make it easy to make mid-cycle or individual process starts.

- **Continuous run**
  (finishing repeated)

- **Mid-cycle start**
  (machining repeated with this tool only)

- **Individual run**
  (machining repeated with this tool only)
## Machine Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>GENOS L250</th>
<th>GENOS L200-M</th>
<th>GENOS L400</th>
<th>GENOS L300-M</th>
<th>GENOS L300-MY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chuck size</td>
<td>8-inch</td>
<td>10-inch</td>
<td>8-inch</td>
<td>10-inch</td>
<td>10-inch</td>
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<td>Model name</td>
<td>GENOS L250</td>
<td>GENOS L200-M</td>
<td>GENOS L400</td>
<td>GENOS L300-M</td>
<td>GENOS L300-MY</td>
</tr>
<tr>
<td>Capacity</td>
<td></td>
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<td>mm</td>
<td>a500</td>
<td>a500</td>
<td>a500</td>
<td>a500</td>
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<td>Max turning dia</td>
<td>mm</td>
<td>a500</td>
<td>a500</td>
<td>a500</td>
<td>a500</td>
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<td>500</td>
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<td>mm</td>
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<td>220 (±155 to ±65)</td>
<td>225 (±180 to ±65)</td>
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<td>470</td>
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<td>Y axis</td>
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<td>1144</td>
<td>520</td>
<td>1144</td>
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<td>360 (0.001 increments)</td>
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<tr>
<td>Spindle</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Spindle speed</td>
<td>mm/rev</td>
<td>450</td>
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<tr>
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<td>0.8</td>
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<td>0.8</td>
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<tr>
<td>Spindle motor</td>
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<td>2.2</td>
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<td>3.0</td>
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<td>kW</td>
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<td>0.8</td>
<td>2.8</td>
<td>2.8</td>
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<tr>
<td>Turret</td>
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<td>Turret indexing</td>
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<tr>
<td>Spindle motor</td>
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<td>0.8</td>
<td>2.2</td>
<td>0.8</td>
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<tr>
<td>Milling tool</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle speed</td>
<td>mm/rev</td>
<td>50 to 6,000</td>
<td>50 to 6,000</td>
<td>45 to 4,500</td>
<td>45 to 6,000</td>
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<td>Spindle motor</td>
<td>kW</td>
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<td>3.0</td>
<td>5.8</td>
<td>3.0</td>
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<td>Feed drives</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid traverse (Y)</td>
<td>mm/min</td>
<td>Y: 10</td>
<td>Y: 10</td>
<td>Y: 10</td>
<td>Y: 10</td>
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<tr>
<td>Rapid traverse (W)</td>
<td>mm/min</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Rapid traverse (C)</td>
<td>mm/min</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<td>Feedrate (X, Y, Z)</td>
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<td>0.001-1,000,000</td>
<td>0.001-1,000,000</td>
<td>0.001-1,000,000</td>
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<tr>
<td>Tailstock</td>
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<td></td>
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</tr>
<tr>
<td>Tailstock quill diameter</td>
<td>mm</td>
<td>ø55</td>
<td>ø90</td>
<td>ø90</td>
<td>ø55</td>
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<td>MT 5 (dead center)</td>
<td>MT 4 (dead center)</td>
<td>MT 5 (dead center)</td>
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<td>Coolant pump motors</td>
<td>kW</td>
<td>0.9</td>
<td>0.9</td>
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<td>2.8</td>
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<tr>
<td>Machine size</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Height</td>
<td>mm</td>
<td>1,624</td>
<td>1,669</td>
<td>1,624</td>
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<td>Floor space</td>
<td>mm</td>
<td>1,627 × 1,642</td>
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<tr>
<td>Weight</td>
<td>kg</td>
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<td>3,800</td>
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</table>

**Note:** Optional
## GENOS L250/L200-M

### Machine Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>L250</th>
<th>L250E</th>
<th>L200-M</th>
<th>L200E-M</th>
<th>L200E-MY</th>
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<tbody>
<tr>
<td>Speeds</td>
<td>T</td>
<td>C</td>
<td>T</td>
<td>C</td>
<td>T</td>
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<tr>
<td>Spindle</td>
<td>A2-E</td>
<td>107 to 4500 min⁻¹</td>
<td>VAC11/1.5 kW (30 min/cont)</td>
<td></td>
<td></td>
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<tr>
<td>Turret</td>
<td>V12</td>
<td></td>
<td></td>
<td></td>
<td>M-V12</td>
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<tr>
<td>Milling tool</td>
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<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Table stock (Hydraulic)</td>
<td>MT 5</td>
<td></td>
<td>MT 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Dead quill</td>
<td>-</td>
<td></td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Standard accessories</td>
<td>Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools</td>
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<td></td>
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<tr>
<td>Standard Specifications</td>
<td>Door interlock, Lube monitor, Touch setter M (manual), Table stock quill auto advance/retract with confirmation, coolant pump 0.8 kW</td>
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<td></td>
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</tbody>
</table>

### CNC

OSP-P300L-R

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## GENOS L400/L300-M

### Machine Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>L400</th>
<th>L400E</th>
<th>L300-M</th>
<th>L300E-M</th>
<th>L300E-MY</th>
<th>L300-MW, MYW</th>
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<td>Speeds</td>
<td>T</td>
<td>C</td>
<td>T</td>
<td>C</td>
<td>C</td>
<td>C</td>
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<td>Spindle</td>
<td>A2-E</td>
<td>107 to 3000 min⁻¹</td>
<td>VAC15/11 (30 min/cont)</td>
<td></td>
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<td>(30 min/cont)</td>
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<td></td>
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<tr>
<td>Turret</td>
<td>V12</td>
<td></td>
<td></td>
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<td>M-V12</td>
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<tr>
<td>Milling tool</td>
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<tr>
<td>Table stock (Hydraulic)</td>
<td>MT 5</td>
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<td>MT 5</td>
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</tr>
<tr>
<td>• quill</td>
<td>-</td>
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<td></td>
</tr>
<tr>
<td>Standard accessories</td>
<td>Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools</td>
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<td>Standard specifications</td>
<td>Door interlock, Lube monitor, Touch setter M (manual), Table stock quill auto advance/retract with confirmation, coolant pump 0.8 kW</td>
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### CNC

OSP-P300L-R

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## Chucking / Tooling Kit Specifications

<table>
<thead>
<tr>
<th>Machine type</th>
<th>L250</th>
<th>L250E</th>
<th>L200-M*</th>
<th>L200E-M*</th>
<th>L200E-MY*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic hollow chuck</td>
<td>size</td>
<td>8&quot;</td>
<td></td>
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</tr>
<tr>
<td>Standard soft jaw A</td>
<td>3 pcs/set</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Standard soft jaw B</td>
<td>3 pcs/set</td>
<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>Resolving center (MT 5)</td>
<td>set</td>
<td>1</td>
<td>1</td>
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<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>OD toolholder (B)</td>
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<tr>
<td>OD toolholder base H32</td>
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</tr>
<tr>
<td>ID toolholder base H32 (VDI)</td>
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<td>1</td>
<td>1</td>
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</tr>
<tr>
<td>Making bar sleeve 12-H32</td>
<td>pcs</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>Making bar sleeve 16-H32</td>
<td>pcs</td>
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<tr>
<td>Making bar sleeve 20-H32</td>
<td>pcs</td>
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<tr>
<td>Making bar sleeve 25-H32</td>
<td>pcs</td>
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<tr>
<td>Drill sleeve M12-H32</td>
<td>pcs</td>
<td>1</td>
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</tr>
<tr>
<td>Radial drill / milling unit</td>
<td>set</td>
<td>3</td>
<td>3</td>
<td>3</td>
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</tr>
<tr>
<td>Axial drill / milling unit</td>
<td>set</td>
<td>3</td>
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</tbody>
</table>

* VDI tooling

---

## Chucking / Tooling Kit Specifications

<table>
<thead>
<tr>
<th>Machine type</th>
<th>L400</th>
<th>L400E</th>
<th>L300-M*</th>
<th>L300E-M*</th>
<th>L300E-MY*</th>
<th>L300-MW, MYW*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydraulic hollow chuck</td>
<td>size</td>
<td>10&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard soft jaw A</td>
<td>3 pcs/set</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard soft jaw B</td>
<td>3 pcs/set</td>
<td>1</td>
<td></td>
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<tr>
<td>Resolving center (MT 5)</td>
<td>set</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Dead center (MT 4)</td>
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<tr>
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* VDI tooling

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## Chucking / Tooling Kit Specifications

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<td>Dead center (MT 4)</td>
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<td>pcs</td>
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<td>Drill sleeve M12-H32</td>
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<td>Radial drill / milling unit</td>
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<td></td>
</tr>
<tr>
<td>Axial drill / milling unit</td>
<td>set</td>
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</tbody>
</table>

* VDI tooling

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* VDI tooling

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* Radial tooling
Tooling System
GENOS L250/E, L400/E  V12 turret tooling

- Drill sleeve
  - MT 1/440 (H30)
  - MT 2/440 (H30)
  - MT 3/440 (H30)
  - MT 4/440 (H30)

- Boring bar sleeve
  - ø 8-H40 (H30)
  - ø 10-H40 (H30)
  - ø 12-H40 (H30)
  - ø 16-H40 (H30)
  - ø 20-H40 (H30)
  - ø 25-H40 (H30)
  - ø 32-H40 (H30)

- OD tool shank
  - 25x25

- Commercially available items

*1. OD tools can use 20 x 20mm toolholders.
*2. Boring bar base H40 is needed for L400/E V12 turret.
*3. ID toolholder base, sleeve for oil-hole drill is available.

Tooling System
GENOS L200/E-M, MY  M-V12 turret (VDI) tooling

- OD tool shank
  - 25x25

- Drill sleeve
  - MT 1-H40
  - MT 2-H40
  - MT 3-H40
  - MT 4-H40

- Boring bar sleeve
  - ø 8-H40 (H32)
  - ø 10-H40 (H32)
  - ø 12-H40 (H32)
  - ø 16-H40 (H32)
  - ø 20-H40 (H32)
  - ø 25-H40 (H32)
  - ø 32-H40 (H32)

- ID toolholder base, sleeve for oil-hole drill is available

*1. OD tools can use 20 x 20mm toolholders.
*2. Boring bar base H40 is needed for L400/E V12 turret.
*3. ID toolholder base H32 is needed for L250/E V12 turret.

Tooling System
GENOS L300/E-M, MY, MW, MWY M-V12 turret (Radial) tooling

- OD tool shank
  - 25x25

- Drill sleeve
  - MT 1-H40
  - MT 2-H40
  - MT 3-H40
  - MT 4-H40

- Boring bar sleeve
  - ø 8-H40
  - ø 10-H40
  - ø 12-H40
  - ø 16-H40
  - ø 20-H40
  - ø 25-H40
  - ø 32-H40

- Commercially available items

*1. OD tools can use 20 x 20mm toolholders.
*2. Boring bar base H40 is needed for L400/E V12 turret.

* Commercially available items
GENOS L300-M  M-V12 turret (Radial)

Working Ranges

Axial mill/drill unit

Radial mill/drill unit

GENOS L300E-M  M-V12 turret (Radial)

Working Ranges

Axial mill/drill unit

Radial mill/drill unit

GENOS L300E-MY  M-V12 turret (VDI)

Working Ranges

Axial mill/drill unit

Radial mill/drill unit
Dimensional Drawings

GENOS L300-MY

- Power inlet (Ceiling)
- Chip conveyor (option)
- Operation panel (option)
- Status indicator
- Chip bucket (option)
- Lube tank (optional)
- Control cabinet door space
- Maintenance space
- Operation panel maintenance space
- Status indicator
- Chip conveyor
- Chip bucket
- Space for chip conveyor removal

GENOS L300-MYW

- Power inlet (Ceiling)
- Chip conveyor (option)
- Operation panel (option)
- Status indicator
- Chip bucket (option)
- Lube tank
- Control cabinet door space
- Maintenance space
- Operation panel maintenance space
- Status indicator
- Chip conveyor
- Chip bucket
- Space for chip conveyor removal

GENOS L300-MW

- Power inlet (Ceiling)
- Chip conveyor (option)
- Operation panel (option)
- Status indicator
- Chip bucket (option)
- Lube tank
- Control cabinet door space
- Maintenance space
- Operation panel maintenance space
- Status indicator
- Chip conveyor
- Chip bucket
- Space for chip conveyor removal

GENOS L300-MYW

- Power inlet (Ceiling)
- Chip conveyor (option)
- Operation panel (option)
- Status indicator
- Chip bucket (option)
- Lube tank
- Control cabinet door space
- Maintenance space
- Operation panel maintenance space
- Status indicator
- Chip conveyor
- Chip bucket
- Space for chip conveyor removal
### OSP-P300L-R
Okuma Sampling Path Control

#### Standard Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis control</td>
<td>X, Y, simultaneous 3-axis running, Z, X, Z, simultaneous 3-axis multi-processing</td>
</tr>
<tr>
<td>Position feedback</td>
<td>Full range absolute position (dead center of the machine), plus or minus the stroke of the machine</td>
</tr>
<tr>
<td>Tape format</td>
<td>N3-03, X3-03, X3-05,15-03, P3-05, F3-53, F3-75, 130</td>
</tr>
<tr>
<td>RS-232C interface</td>
<td>RS-232C interface, 1 channel</td>
</tr>
<tr>
<td>Programming</td>
<td>Auto ISO308A code recognition, absolute, incremental or both</td>
</tr>
<tr>
<td>Min command units</td>
<td>X-axis: 10mm, Z-axis: 0.001 mm</td>
</tr>
<tr>
<td>Max command units</td>
<td>8-digit decimal, ±99999.999 mm</td>
</tr>
<tr>
<td>Programmable units</td>
<td>Freely selectable: Tum, 10um, 1mm</td>
</tr>
<tr>
<td>Electrical point data</td>
<td>30V, 10um, trim increment</td>
</tr>
<tr>
<td>Tooling</td>
<td>Tool selection: B, R, C, D, G, H, J, K, M (with deviation measurement)</td>
</tr>
<tr>
<td>Threading slide hold</td>
<td>Freely selectable: 1µm, 10µm, 1mm, 10mm</td>
</tr>
<tr>
<td>Spindle VAC motor operation (multi-machining)</td>
<td>Direct spindle speed commands (±10%), fixed cutting speed</td>
</tr>
<tr>
<td>Feedrate</td>
<td>Spindle speed override: 100~200%, optimum turning speed designation</td>
</tr>
<tr>
<td>All spindle motor operation (multi-machining)</td>
<td>Direct spindle speed input</td>
</tr>
<tr>
<td>Display</td>
<td>13 Color display panel, touch panel on</td>
</tr>
<tr>
<td>Multifunction</td>
<td>Program writing, editing during work</td>
</tr>
<tr>
<td>Self-diagnosis</td>
<td>Automatic diagnostics and display of program, operation, machine and NC system problems</td>
</tr>
<tr>
<td>Door interlock</td>
<td>Safety function to interlock machine movement when the door is opened or closed</td>
</tr>
<tr>
<td>NC torque limiter</td>
<td>Instant detection of machine collision to reduce machine damage</td>
</tr>
<tr>
<td>Other</td>
<td>Calculates the speed control and torque properties of a motor for high-speed, high-stability positioning</td>
</tr>
<tr>
<td>Thermal deformation prevention</td>
<td>Extremely accurate deformation control</td>
</tr>
<tr>
<td>Other</td>
<td>Rotor resistor, zero offset, tool interference, software limit, chuck barrier, tool basket, dropin control, single block machine lock, block delete, optional stop, dry-run, stroke-end-limit cancel, etc.</td>
</tr>
<tr>
<td>Operation</td>
<td>ONS-Win: 7, sequence number search, cursor advancement to a specified sequence number in the selected program</td>
</tr>
<tr>
<td>SEQ restart silence</td>
<td>Restart from an interrupted sequence</td>
</tr>
<tr>
<td>Manual interrupt/auto return</td>
<td>Manual operation during automatic operation; return to interrupt point</td>
</tr>
<tr>
<td>User operation</td>
<td>Hold while during threading (optional for ±12%±5% non-fixed cycle)</td>
</tr>
<tr>
<td>Programming</td>
<td>Two programs can be edited simultaneously on one screen.</td>
</tr>
<tr>
<td>Memory appearance</td>
<td>Unlimited memory: Program storage capacity: 2MB, Operation backup capacity: 3MB</td>
</tr>
<tr>
<td>Useful help</td>
<td>Alarm help, G/M-code help, variable help, operation help, diagram display</td>
</tr>
<tr>
<td>PLC monitor</td>
<td>Display of PLC ladder drawings and PLC data</td>
</tr>
<tr>
<td>Output Function</td>
<td>Enlisted work list, operation results and alarm records</td>
</tr>
<tr>
<td>External output</td>
<td>Output above items to a USB port</td>
</tr>
</tbody>
</table>

#### Output Function Management

- **Display**: Enlisted work list, operation results and alarm records
- **External output**: Output above items to a USB port

#### Programming Function

- **Noise compensation**: Auto compensation for noise R dimension errors including arbitrary shapes and arcs
- **Arc radius compensation**: Circular interpolation by the radius and, in the arcs and Z and Y
directions
- **Angular compensation**: Single programming of arbitrary angles chambers (× ±)
- **Taper angle designation**: Taper interpolation by designating either the X or Z-axes and the starting point angle
- **Chip removal**: Chip removal: chip removal feedrate and tool changes are possible
- **Program schedule**: Non-stop operation possible by setting the sequence order of several work programs
- **Semi offsets via X-codes**: Program semi point offsets are possible
- **Threading**: Thread lead: 0.001~10.000 mm, possible to set the threading lead pitch
- **Custom fixed cycle**: Threading cycle, grooving cycle, drilling cycle
- **Custom drilling cycle (multi-machining)**: DoL, deep-hole drilling, boring, facing
- **User task**: SQMT, 9 statements, arithmetic, common variable, local variable, system operation variables
- **Program notes**: Comments can be added to programs

### Optional Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User task 2</td>
<td>Sub-programming, function operations, logic operations can be used with 8-point or 16-point number, etc.</td>
</tr>
<tr>
<td>Automatic programming (APK)</td>
<td>Add roughing conditions to finish programs for roughing to finish work optimized cutting by matching the best cutting mode with the material shape</td>
</tr>
<tr>
<td>Inch/metric switching</td>
<td>Inch, metric switching possible Via parameters</td>
</tr>
<tr>
<td>Anti-threading</td>
<td>Threading possible along arc tracks</td>
</tr>
<tr>
<td>Tool offset compensation</td>
<td>±10 sets, ±20 sets (standard) ±30 sets</td>
</tr>
<tr>
<td>Tool wear compensation</td>
<td>±10 sets, ±20 sets (Standard ±30 sets)</td>
</tr>
<tr>
<td>Coordinate switching (multi-machining)</td>
<td>Programming possible by changing X, Y-axes to X, Y-axes rectangular coordinate system</td>
</tr>
<tr>
<td>Work generation (multi-machining)</td>
<td>Programming X, Y-axes as two separate global surfaces is easy</td>
</tr>
<tr>
<td>Advanced one touch G/L/C</td>
<td>Quick and simple even operations without any NC knowledge can input a few keystrokes and be programmed on the fly.</td>
</tr>
<tr>
<td>Tooling</td>
<td>Tooling and automatic tool changes</td>
</tr>
<tr>
<td>Other</td>
<td>* Need to discuss with sales engineer</td>
</tr>
</tbody>
</table>

#### Monitoring

- **Condition display**: Automatic operation, work completion, alarm conditions displayed with a 3-color (X-color) signal box
- **NC operation monitor**: Display of cutting, operation, spindle speed, etc., on the LCD, workspace count-up
- **NC work order**: Counts M30 occurrences (displayed on the LED, alarm stop at count-up)
- **Tool life management**: Automatically calculates workpieces and cutting time, rotates a spare tool at the set time for the tool life has been reached
- **Load monitor**: Alarm occurs after the completion of a set cycle
- **DMC**: Personal computer DMC, Work program transfers
- **ONC-I**: Personal computer ONC, Work program transfers
- **Machining Nest LCP**: Cutting condition search for turning

#### Gauging

- **Auto work gauging/compression**: Internal/External
- **Machinability level**: Automatic

#### Automated Unattended Operation

- **Automatic Unattended Operation**: High/low switch, via M-codes
- **Batchstock pressure switch**: High/low switch, batchstock pressure switch with M-codes
- **Auto door operation**: Auto door operation, via M-codes (via interface COM/DOF switch)
- **Air cleaner**: Air cleaner is applied to the chuck area and the tailstock center via M-codes
- **Slant M-codes**: Open with M-codes
- **Auto power shut-off**: Power supply is shut off automatically according to M30 and alarm conditions
- **Cycle time reduction**: Possible to ignore a various of answers with M-codes
- **Other**: Cycle-short/open during spindle rotation

#### Kit Corresponding

- **Auto tailstock quill thrust during spindle rotation**: Auto tailstock quill thrust with M-codes
- **User interface**: User interface under the control interface
- **OSP-VPS (Viruses Protection System)**: External 3D simulation

* Need to discuss with sales engineer

**Multi-machining Corresponding**

**Kit Corresponding**

**Multi-machining Corresponding**

**Kit Corresponding**
GENOS
The origin of gene, from Greek genos
meaning race, offspring, origin
(pronounced “γένος” as in “generous”)

When using Okuma products, always read the safety precautions
mentioned in the instruction manual and attached to the product.

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47807 Krefeld
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Fax: +49 (0)2151-374100

The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice. Consult your local Okuma representative for specific end-user requirements.