Introducing AWEA with mature manufacturing abilities and advanced technology skills, the LG series gantry type machining center combines gantry type structure with adjustable crossbeam mechanism, strong horse power and high rigidity features, to provide you with a complete machining solution for extra large work pieces. It has been widely used in aerospace, shipbuilding, energy and machine tools industries.

The LG series could be equipped with automatic head changer and vertical / horizontal ATC system to provide maximum efficiency as of a 5-face machining center.
LG Series
Gantry Type Machining Center

Complete product line with full range specifications, the LG series could be equipped with self-developed milling heads, automatic head storage magazine and vertical / horizontal ATC system to provide high added cutting capabilities for large work pieces.

- Modular gear or built-in type spindle design provides different cutting features, to meet with various types of cutting needs.
- 2,500 kg/m² heavy-duty fixed working table could meet with all sorts of working conditions for large work pieces.
- Floor type tool magazine with speedy tool change is placed on the back of the machine to provide easy operation and maintenance.
- Super large separate type coolant tank and two rotating chip augers on both sides of the working table, allows easy maintenance and efficient chip removal while maintaining coolant performance.

- Gantry type structure design provides optimal stable dynamic accuracy and the space usage is 40% less than bridge type models.

For more information, contact Hillary Machinery at (877)902-3751 or https://www.hillaryinc.com
Combining our modular design concept and exclusive patented technologies, the LG series provides you with superior machining performance for super large work pieces. The LG-20070 is also the first super large machining center ever introduced with a 7,000 mm cross span among Taiwan manufacturers.

- The heavy-duty working table is adopted with high rigidity double layer structure design. It can easily endure super heavy work pieces without deformation. Its floor type design allows the working table to firmly attach to the base which effectively damps machining vibration while ensuring accuracy.

X-axis Modular Design
- The working table and side columns are all of modular design.
- The X-axis travel could be extended based on different machining requirements.
- The X-axis is adopted with AWEA’s synchronous servo control to ensure optimal dynamic accuracy.

Adjustable Crossbeam Mechanism
- AWEA’s patented design has successfully overcome the physical limits, minimizing the deformation caused by the weight of the 7,000 mm super wide crossbeam, while ensuring optimal machining accuracy.
Gantry Type Machining Center

- The Finite Element Method (FEM) analysis provides optimal machine design and light-weighted structure advantages while maintaining best machine rigidity.
- The crossbeam and side columns are adopted with high rigidity structure design. Plus, the contact surface of the crossbeam and slide saddle are all precisely hand scraped to ensure maximum precision, rigidity, and balanced load.
- High rigidity roller type linear guide ways on the Z-axis offers the advantage of both boxway’s heavy-duty cutting and linear guideway’s fast movement and low abrasion capabilities.

X-axis travel 4 m / 5 m models
The 2 sets of large size ball screws, servo motors and optical linear scales are driven by the simultaneous servo control, which lowers the deviation to a minimum while maintaining optimal dynamic accuracy.

X-axis travel 6 m and above models
The patented zero backlash rack & pinion combined with 1µm high resolution linear scale provides optimal dynamic accuracy.

For more information, contact Hillary Machinery at (877)902-3751 or https://www.hillaryinc.com

<table>
<thead>
<tr>
<th>Model</th>
<th>X-axis Travel</th>
<th>Y-axis Travel</th>
<th>Linear Scale</th>
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<tr>
<td>G4030</td>
<td>4 m</td>
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<td>G8030</td>
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<td>G5040</td>
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<tr>
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<tr>
<td>G8040</td>
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<td>5</td>
</tr>
<tr>
<td>G14050</td>
<td>14 m</td>
<td>7 m</td>
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<tr>
<td>G20070</td>
<td>20 m</td>
<td>7 m</td>
<td>5</td>
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</table>
**Optimum Spindle System**

### Centro-symmetric Spindle System
- Unique head design allows the spindle, spindle motor, ball screw and dual hydraulic counter weight cylinders to be symmetrically placed. Hereby preventing thermal distortion and minimizing deflection. Assuring accuracy and heavy-duty cutting capability.

### High Torque Gear Spindle
- **977 N-m Maximum Torque**
  - 2-speed super heavy-duty gear box
  - Floating type hydraulic tool release device eliminates pressure on the spindle bearing when releasing a tool.
  - 4,000 rpm high torque spindle is equipped with powerful 26 kW motor, delivering maximum torque output of 977 N-m at 254 rpm which can meet with various heavy-duty cutting conditions.
  - 5,000 / 6,000 rpm gear spindle (Opt.)

### Powerful Cutting Capability
- Inner-rail embraced structure provides high rigidity and good stress flow which minimizes over hang and vibration issues.
- The Y-axis roller type linear guide ways offset from each other, increases structural rigidity and reduces distance between the spindle to cross beam which enhances overall cutting performance.

### High Speed, High Torque Built-in Motorized Spindle
- **600 N-m Maximum Torque**
  - The FANUC built-in motor reduces centrifugal force effect and restrains spindle vibration, which increases the spindle life span and improves long-term machining accuracy.
  - Floating type hydraulic tool release device eliminates pressure on the spindle bearing when releasing a tool.
  - 6,000 rpm and 8,000 rpm are available, which provides maximum 600 N-m torque output at 350 rpm, to meet with various processing conditions.

### Additional Information
- For more information, contact Hillary Machinery at (877)902-3751 or https://www.hillaryinc.com
Multi-purpose Milling Head Combination

- All milling heads include 35°, 90° head, extension head and universal head are self developed and assembled.
- The contact surface of all milling heads and covers are precisely hand scraped while using the Japanese 2-piece curvic coupling for precision positioning.
- The automatic milling head can be controlled by programming.

High Flexibility 5-Face Machining Capability

- The LG series could be equipped with automatic head changer and vertical / horizontal ATC system to provide maximum efficiency as of a 5-face machining center.
- There are 2 or 3-head storage units available based on actual requirements. Furthermore, up to 6-head storage unit could be provided according to the Y-axis size, to meet with various processing needs.

35° Head
- Automatic head lock / manual tool lock
- Cs-axis automatic 5° index
- Max. speed : 2,000 rpm
- Max. output : 22 kW (30 HP)

90° Head
- Automatic head lock / automatic tool lock
- Cs-axis automatic 5° index
- Max. speed : 2,000 rpm
- Max. output : 22 kW (30 HP)

Extension Head
- Automatic head lock / hydraulic tool release
- No index function
- Max. speed : 3,000 rpm
- Max. output : 22 kW (30 HP)

Universal Head
- Automatic head lock / manual tool lock
- Cs-axis automatic 5° index (A-axis manual)
- Max. speed : 2,000 rpm
- Max. output : 22 kW (30 HP)
The vertical / horizontal ATC system provides quick tool change with sensors and sequence scanning to ensure safety and reliability.

Standardized short-cut tool path function can shorten tool change time and increase working efficiency.

32-tool ATC system (Std.), 60-tool (Opt.) is also available.
Optional Accessories

X-axis stainless steel telescopic steel covers (Opt.)
Automatic tool length device (Opt.)
Y / Z axes HEIDENHAIN optical linear scale (Opt.)
Rear type vertical / horizontal ATCs and module head storage

Dimensions

Table Dimensions

T-slot Dimensions

Machine Dimensions

For more information, contact Hillary Machinery at (877)902-3751 or https://www.hillaryinc.com
## Specifications

### Spindle

<table>
<thead>
<tr>
<th></th>
<th>LG-4030</th>
<th>LG-5030</th>
<th>LG-6030</th>
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<tbody>
<tr>
<td>Spindle motor (cont. / 30 min.)</td>
<td>kW (HP)</td>
<td>22 / 26 (30 / 35)</td>
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<tr>
<td>Spindle speed</td>
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<td>4,000 Gear Spindle (Std.)</td>
<td>5,000 / 6,000 Gear Spindle (Opt.)</td>
<td>6,000 / 8,000 Built-in Spindle (Opt.)</td>
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<tr>
<td>Spindle taper</td>
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### Feed Rate

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<tr>
<td>X-axis rapid feed rate</td>
<td>mm/min</td>
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<tr>
<td>Y-axis rapid feed rate</td>
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<td>15,000</td>
<td>12,000</td>
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<td>Z-axis rapid feed rate</td>
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<td>Cutting feed rate</td>
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### Tool Magazine

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<tr>
<td>Tool magazine capacity</td>
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<td>32</td>
<td>32</td>
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<td>32</td>
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<tr>
<td>Max. tool diameter / adj. pocket empty</td>
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<td>Max. tool length (from gauge line)</td>
<td>mm</td>
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<tr>
<td>Max. tool weight</td>
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### Accuracy

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<th>LG-14050</th>
<th>LG-10070</th>
<th>LG-20070</th>
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</thead>
<tbody>
<tr>
<td>Positioning accuracy (JIS B 6338)</td>
<td>± 0.020 / Full Travel</td>
<td>± 0.030 / Full Travel</td>
<td>± 0.040 / Full Travel</td>
<td>± 0.050 / Full Travel</td>
<td>± 0.060 / Full Travel</td>
<td>± 0.070 / Full Travel</td>
<td>± 0.080 / Full Travel</td>
<td>± 0.090 / Full Travel</td>
<td>± 0.100 / Full Travel</td>
<td>± 0.110 / Full Travel</td>
<td>± 0.120 / Full Travel</td>
<td>± 0.130 / Full Travel</td>
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<tr>
<td>Positioning accuracy (VDI 3441) X axes / Full Travel</td>
<td>P = 0.025</td>
<td>P = 0.030</td>
<td>P = 0.035</td>
<td>P = 0.040</td>
<td>P = 0.050</td>
<td>P = 0.055</td>
<td>P = 0.060</td>
<td>P = 0.065</td>
<td>P = 0.070</td>
<td>P = 0.075</td>
<td>P = 0.080</td>
<td>P = 0.085</td>
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<tr>
<td>Positioning accuracy (VDI 3441) Y / Z axes</td>
<td>P = 0.025</td>
<td>P = 0.030</td>
<td>P = 0.035</td>
<td>P = 0.040</td>
<td>P = 0.050</td>
<td>P = 0.055</td>
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<td>P = 0.065</td>
<td>P = 0.070</td>
<td>P = 0.075</td>
<td>P = 0.080</td>
<td>P = 0.085</td>
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<tr>
<td>Repeatability (JIS B 6338)</td>
<td>± 0.005</td>
<td>± 0.010</td>
<td>± 0.015</td>
<td>± 0.020</td>
<td>± 0.025</td>
<td>± 0.030</td>
<td>± 0.035</td>
<td>± 0.040</td>
<td>± 0.045</td>
<td>± 0.050</td>
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<td>Ps = 0.022</td>
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<tr>
<td>Repeatability (VDI 3441) Y / Z axes</td>
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<td>Ps = 0.075</td>
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### General

<table>
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<tr>
<th></th>
<th>LG-4030</th>
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<tr>
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<td>220</td>
<td>± 10 % Vac</td>
<td>3 phase</td>
<td>50 / 60 Hz</td>
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<tr>
<td>Pneumatic pressure requirement</td>
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<td>Hydraulic unit tank capacity</td>
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<tr>
<td>Coolant tank capacity</td>
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<td>1,300</td>
<td>1,600</td>
<td>1,900</td>
<td>2,100</td>
<td></td>
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</table>

### Standard Accessories

- Spindle 2-step gear box
- Continuously Variable Transmission
- Spindle cooling system
- Centralized automatic lubricating system
- Fully enclosed splash guard
- Twin hydraulic counter weight cylinders
- 32 Tool magazine
- Adjustable torque-limit clutch (3 Axes)
- X-axis optical linear scale
- Y / Z axes external encoder
- Twin screw type chip conveyor
- Semi-closed type feedback system
- Coolant system with pump and tank
- Twin screw type chip conveyor
- Recycling lubricating oil collector
- Caterpillar type chip conveyor and bucket
- Foundation bolt kit
- Footswitch for tool clamping
- Movable manual pulse wave generator
- RS232 interface
- Rigid tapping
- Tool box
- Alarm light
- Air gun
- Automatic power off system
- Extension Head
- 90˚ Head automatic 5˚ index
- 35˚ Head automatic 5˚ index
- Universal Head
- C-axis automatic 5˚ index
- A-axis manual 5˚ index

### Optional Accessories

- Coolant through the spindle (Form A)
- Column raiser
- Automatic tool length measurement
- 60 Tool magazine (LG-XX40 and above models)
- Y / Z axes optical linear scale (HEIDENHAIN)
- Foundation bolt kit
- Footswitch for tool clamping
- Movable manual pulse wave generator
- Extension Head
- Air gun
- Automatic power off system
- 90˚ Head automatic 5˚ index
- 35˚ Head automatic 5˚ index
- Universal Head
- C-axis automatic 5˚ index
- A-axis manual 5˚ index

Machine weights are changing depending on different specifications. Please contact AWEA sales for accurate weights. Specifications are subject to change without notice.