With the latest machine tools technology and precision turning performance, Goodway brings you the new GLS-1500 series high speed CNC turning center. Using 2 types of bed combined with high rigidity, high speed turning capability and compact size provides you with high efficiency cutting power. The GLS-1500 series equipped with an optional live tooling turret, Y-axis and sub-spindle can work on turning, milling, drilling tasks at the same time to increase the output capacity with high end value to meet your needs of today and tomorrow.

- 30° slant-bed design provides smooth chip disposal and easier operator access.
- Steel way covers and special steel wipers molded with industrial strength rubber are used for durability.
- Fully enclosed splashguards keep chips and coolant contained for a safe clean working environment.
- The auto lubrication system delivers metered amounts of lubrication to the slide ways, ball screws, and vital components. Distribution is automatically shut off during idling to prevent waste.

<table>
<thead>
<tr>
<th>SERIES</th>
<th>GLS-1500 SERIES</th>
<th>GLS-2000 SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chuck Size</strong></td>
<td>6”</td>
<td>8”</td>
</tr>
<tr>
<td><strong>Bar Capacity</strong></td>
<td>Ø 45 mm (1.77”)</td>
<td>Ø 51 mm (2.00”)</td>
</tr>
<tr>
<td><strong>Turning Length</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>330 mm (12.9”)</td>
<td>GLS-1500 / M</td>
</tr>
<tr>
<td></td>
<td>630 mm (25.9”)</td>
<td>GLS-1500L / LM / LY / LMS / LYS&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*1 Y-axis and sub-spindle is only applicable to the L series.
*2 Individual models may vary, detail Specification please see work range diagram.
Z-axis carriage manual locks onto the tailstock base and moves it to the desired position with precision accuracy.

The extension of the shaft can be controlled by program, which makes it easier to insert the center into the center hole.

Large 100L separate type coolant tank provides optimal heat dispersion and lower coolant temperature, which will help extend coolant life.

Compact structure and cover design minimizes factory space usage which increases efficiency.
Major structural components have been combined into one solid platform. The low center of gravity 30° slant bed design provides the most rigid foundation possible for the headstock, turret, and tailstock.

Built to withstand years and years of rigorous high production turning, the heavily ribbed, one-piece, thermally balanced bed and casting parts are of “Meehanite” casting. The 30 degrees true slant bed design further provides superior support for the headstock, turret, and tailstock, thus, creating the rigidity needed for long-term high precision turning and efficient chip removal.

By using Finite Element Methods ( FEM ), optimal reinforce ribbings are directly cast into the one-piece bed structure. Mechanical rigidity has been increased by more than 20% when compared to conventional designs. The GLS-1500 series is capable of performing heavy-duty turning and maintaining long-term high-precision accuracy. More rigidity also means extended tool life.

C3 class hardened and precision ground ball screws ensure the highest accuracy and durability possible.

X & Z axes utilize high performance linear guide way design which provides high precision high speed and low abrasion advantages.
The heavily ribbed, one-piece thermally balanced headstock and heat dispensing fins evenly dispense heat to reduce deformation, therefore, increasing machining accuracy.

Standard rigid tapping feature provides high-speed precision tapping without the use of floating tap holders. Set-up is easier and depth of thread more accurate, permitting maximum productivity for tapping operations.

The precision direct belt drive system provides greater spindle control, flexibility and serviceability. Pulley ratios fine tune the motor’s maximum RPM to match the spindle’s maximum RPM, which result in full output at the lowest RPM possible.

GLS-1500 models are available with built-in spindle motors, which eliminate traditional belts and pulleys. This advanced system provides faster spindle response, reduces vibration and power loss, which translate to faster cycle times, higher accuracy, and lowers maintenance costs.
ADVANCED TURRET TECHNOLOGY

- A high-speed servo motor indexing system provides the 10 or 12-station turret with a 0.2 sec. indexing time. Large diameter high precision curvic couplings and hydraulic clamping are used to enhance tool indexing accuracy and turret disk rigidity.

- The curvic couplings provide a large contact area and are designed with an auto-clean feature not seen on traditional couplings.

- Optional 24-tool turret and gang type turret are available to provide you with more machining flexibility.

LIVE TOOLING TURRET

- Live tooling and C-axis control capabilities on the GLS-1500 series allow the machine to perform multiple tasks on a work piece, such as turning, milling, drilling and tapping. This eliminates manpower and cycle time, while reducing accuracy lost, which will occur if the part is moved from one machine to another.

- GOODWAY live tooling turret utilizes advanced servo indexing technology to achieve 0.2 second indexing time for adjacent stations and 0.5 second for stations at the opposite end of the disk.

- With the latest technology, live tooling is driven by an AC servo motor to provide ample power, in the form of torque. Now, even the toughest of jobs may be tackled without a sweat.


**BACK-END MACHINING CAPABILITY**

- A 5” chuck size sub-spindle driven by a powerful 5.5 kW (7 HP, 5 min.) built-in type Fanuc motor (Integrated Motor) for back-end machining is available on the GLS-1500L series.

- The B-axis movement of the sub-spindle is applied with high performance linear guide way design which provides high speed high precision and low abrasion advantages.

- Automatic part transfer of work piece from main spindle to sub-spindle saves manpower and cycle time, while reducing accuracy lost, which will occur if manually handling the part from machine to machine.

- With Ø 32 mm (1.25”) bar capacity, the sub-spindle configuration is also ideal for machining long work pieces such as small diameter shafts. Both ends of the work piece can be supported by the main and sub spindles, allowing the middle section(s) to be accurately machined.
Y-AXIS MACHINING CAPABILITY

- Y-axis control further enhances multi-tasking live tooling capabilities and improves various machining precision. High precision grooving and X-axis off-center drilling are enabled.

On Y-axis equipped machines, the turret is mounted on a secondary 30 degrees wedge saddle on top of the X-axis slide. Both X & Y axes have extra wide linear guide ways to provides maximum strength.

Grooving with Y-axis control produces grooves with higher accuracy.
# MACHINING PERFORMANCE

## Turning Capability

<table>
<thead>
<tr>
<th>Test Model</th>
<th>Workpiece</th>
<th>Cutting Condition</th>
<th>Power Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS-1500</td>
<td>Heavy Cutting</td>
<td>S45C Ø 50</td>
<td>Spindle Speed (rpm)</td>
</tr>
<tr>
<td></td>
<td>Drill</td>
<td>S45C Ø 40</td>
<td>1,050</td>
</tr>
</tbody>
</table>

## Machining Capability

<table>
<thead>
<tr>
<th>Test Model</th>
<th>Workpiece</th>
<th>Cutting Condition</th>
<th>Power Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS-1500M</td>
<td>Drill</td>
<td>S45C Ø 13</td>
<td>Speed speed (mm/min)</td>
</tr>
<tr>
<td></td>
<td>End Mill</td>
<td>S45C Ø 13</td>
<td>610</td>
</tr>
<tr>
<td></td>
<td>Tapping</td>
<td>S45C M12 x P1.75</td>
<td>400</td>
</tr>
</tbody>
</table>
Interference Diagram

[Live Tooling Turret]

Tooling System

Face Tool Holder
CY-3749

O.D Tool Holder
CY-3748

I.D Tool Holder
CY-3747

Two-hole I.D Tool Holder
CY-3796 (Opt.)

Cut off Tool Holder
CY-3797 (Opt.)

Cut off Tool Holder
CY-3796

Dual O.D Tool Holder
CY-3795

90˚ Live Tool Holder
CY-3783

0˚ Live Tool Holder
CY-3782

O.D Tools
CY-3015A

Drill

Collet

O.D Tools

I.D Tools Sleeve

Sleeve

Drill

Insert Drill

[Face Tool Holder]

Max. Turning Dia. 831.0

X-axis Travel: 230

102.3

Max. 100

85

10

65

10

155

65

65

10

10

85

410

8" Chuck

5" Chuck

Y-axis

Unit: mm
Work Range

Live Tooling Turret

I.D / O.D. Tools

Z1-axis Travel
GLS-1500M / 2000M : 260
GLS-1500LM / 2000LM : 630

Z2-axis Travel
GLS-1500M / 2000M : 240

Quill Stock
GLS-1500M : 288
GLS-1500LM : 370
GLS-2000M : 323
GLS-2000LM : 385

Spindle Nose
GLS-1500M : 288
GLS-1500LM : 370
GLS-2000M : 323
GLS-2000LM : 385

Sheet Metal

6" : 91
8" : 103

6" : 29
8" : 39

GLS-1500M / 2000M : 147
GLS-1500LM / 2000LM : 150

GLS-2000M : 280
GLS-2000LM : 385
GLS-1500M / 2000M : 147
GLS-1500LM / 2000LM : 150

GLS-1500M / LM : 47
GLS-2000M / LM : 32

Unit : mm
Work Range

[Live Tooling Turret + Sub-spindle / Y-axis + Sub-spindle ] *1

I.D / O.D. Tools

*1For 「L」 models only.

Unit : mm
FEATURES

Chip Conveyor

- The standard chip conveyor features adjustable timers that allow the operator to set operation intervals according to the amount of chips generated by the machine. Thus, reducing coolant loss to a minimum.

Parts Catchers (Optional)

- Optional hydraulic parts catchers can be programmed to catch finished parts after cut-off. Parts conveyor systems are also available.

Load Monitoring (Optional)

- The optional load monitoring function is used to detect abnormal load of tools by monitoring the variation in spindle motor and servo motor loads during the cutting process. When abnormal loads are detected, the machine will stop at program end (M30) or immediately (feed hold status) according to tool life value or tool break value respectively.

Tool Setter (Optional)

- The optional Renishaw HPMA tool presetter simplifies machining setup.
# STANDARD & OPTIONAL FEATURES

<table>
<thead>
<tr>
<th>S: Standard</th>
<th>O: Option</th>
<th>O: Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>−: Not Available</td>
<td>C: Contact Goodway</td>
<td></td>
</tr>
</tbody>
</table>

## SPINDLE

- Main spindle motor configuration
  - Belt: S S
  - Built-in: O –
- Rigid tapping & spindle orientation: S S
- Main spindle brake: O O
- Cs-axis & disk brake for main spindle\(^1\): O O
- Sub-spindle & 5° hydraulic cylinder: O O

### WORK HOLDING

- Hydraulic hollow cylinder for chuck
  - 6°: S –
  - 8°: – S
- Hollow 3-jaws chuck & 1 set soft jaws
  - 6°: S –
  - 8°: – –
- Hard jaws: O O
- Collet chuck: O O
- Special work holding chuck: C C
- In spindle work stopper: O O
- Spindle liner (guide bushing): O O
- Foot switch for chuck operation: S S
- Quill hydraulic tailstock: O O
- MT#4 live center: O O
- Foot switch for tailstock operation: O O
- Two-stage programmable pressure
  - Chuck clamping: O O
  - Tailstock thrust: O O

## TURRET

- 10-station turret: O S
- 12-station turret: S O
- 24-station turret: S O
- Gang type turret: S O
- 12-station live tooling turret: O O
- Tool holder & sleeve package: S S
- Live tooling tool holders (0°x2, 90°x2): O O

## MEASUREMENT

- Renishaw HPMA tool presetter: O O

## COOLANT

- coolant pump
  - 3 Kg/cm\(^2\): S S
  - 5 Kg/cm\(^2\): S O
  - 10 Kg/cm\(^2\): O O
- High-pressure coolant system
  - 20 Kg/cm\(^2\): C C
- Roll-out coolant tank: S S
- Oil skimmer: O O
- Coolant flow switch: O O
- Coolant level switch: O O
- Coolant intercooler system: O O

## CHIP DISPOSAL

- Chip conveyor with auto timer
  - Right discharge: S S
  - Rear discharge: C C
- Chip cart with coolant drain: O O
- Chuck air blow: O O
- Tailstock air blow: O O
- Coolant gun: O O
- Oil mist collector: O O

## AUTOMATIC OPERATION SUPPORT

- Parts catcher: O O
- Work piece transport conveyor: O O
- Bar feeder: O O
- Bar feeder interface: O O
- Gantry-type loader / unloader: O O
- Auto door: O O
- External M-code output
  - 4 sets (8): O O
  - 8 sets (16): O O

---

1. For live tooling turret or Y-axis models.
2. For Oi-TD controller.
3. For standard models.
4. For live tooling turret models.
5. For Y-axis models.
6. Please contact GOODWAY for complete control specification list.
7. 10.4" color LCD option needed.

### SAFETY

- Fully enclosed guarding: S S
- Door interlock (incl. Mechanical lock): S S
- Impact resistant viewing window: S S
- Tailstock stroke out - end check: S S
- Chuck cylinder stroke out - end check: S S
- Chuck cylinder check valve: S S
- Low hydraulic pressure detection switch: S S
- Over travel (soft limit): S S
- Load monitoring function\(^2\): O O

### OTHERS

- Tri-color machine status light tower: S S
- Work light: S S
- External work light: S S
- Electrical cabinet: S S
- Heat exchanger: S S
- Advanced auto lubrication system: S S
- Complete hydraulic system: S S
- Foundation leveling & maintenance tool kit: S S
- Emergency maintenance electrical part package: S S
- Operation & maintenance manuals: S S

### CONTROL

- FANUC Oi: Mate-TD\(^*\)
- FANUC Oi-TD\(^*\)
- FANUC 31/\(^*\)

### FANUC CONTROL FUNCTIONS\(^6\)

<table>
<thead>
<tr>
<th>S: Standard</th>
<th>O: Option</th>
<th>O: Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>−: Not Available</td>
<td>C: Contact Goodway</td>
<td></td>
</tr>
</tbody>
</table>

- PMC system
  - Oi-Mate-TD PMC: 1 μsec/step: S S
  - Oi-TD PMC: 25μsec/step: S S
  - 31i: PMC: 25μsec/step: S S
- Display
  - 8.4" color LCD: S S
  - 10.4" color LCD: S S
- Graphic function
  - Standard: S S
  - Dynamic: O O
  - Heat exchanger: S S
- Full keypad
  - Small - 44 keys: S S
  - Large - 56 keys: – O\(^*\)
  - 312 K byte: S S
  - 1M byte: – S
  - Part program storage length
    - 2M byte: – O
    - 4M byte: – O
    - 8M byte: – O
  - Registerable programs
    - 1,000: S S
    - 4,000: – O
  - Tool offset pairs
    - 64: S S
    - 99: O O S
  - Servo control
    - HRV1: – O
    - HRV2 (3): S S S
  - Conversational programming
    - Manual Guide i: – O\(^*\)
  - Servo motors
    - \(\beta\): S S
    - \(\alpha\): S S
  - Spindle motors
    - \(\beta\): – S
    - \(\alpha\): S S
  - Run hour & parts counter: S S S
  - Auto power off function: S S S
  - Custom macro B: S S S
  - RS-232 port: S S S
  - Ethernet: S S S
  - Fast ethernet: O O
# MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>CAPACITY</th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. swing diameter</td>
<td>Ø 560 mm</td>
<td></td>
</tr>
<tr>
<td>Swing over saddle</td>
<td>Ø 230 mm</td>
<td></td>
</tr>
<tr>
<td>Max. turning diameter</td>
<td>Ø 430 mm</td>
<td></td>
</tr>
<tr>
<td>Standard turning diameter</td>
<td>Ø 168 mm</td>
<td></td>
</tr>
<tr>
<td>Max. turning length</td>
<td>330 mm / 630 mm</td>
<td></td>
</tr>
<tr>
<td>Chuck size</td>
<td>Ø 6”</td>
<td>Ø 8”</td>
</tr>
<tr>
<td>Bar capacity</td>
<td>Ø 45 mm</td>
<td>Ø 51 mm</td>
</tr>
<tr>
<td>SPINDLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hole through spindle</td>
<td>Ø 56 mm</td>
<td>Ø 66 mm</td>
</tr>
<tr>
<td>Spindle bearing diameter</td>
<td>Ø 80 mm</td>
<td>Ø 100 mm</td>
</tr>
<tr>
<td>Hydraulic cylinder</td>
<td>Ø 6”</td>
<td>Ø 8”</td>
</tr>
<tr>
<td>Spindle motor type</td>
<td>A2-5</td>
<td>A2-6</td>
</tr>
<tr>
<td>Motor output ( Cont. / 30 min.)</td>
<td>7.5 kW / 11kW</td>
<td></td>
</tr>
<tr>
<td>Motor full output speed</td>
<td>1,500 rpm</td>
<td></td>
</tr>
<tr>
<td>Spindle drive system</td>
<td>Direct Belt Drive</td>
<td></td>
</tr>
<tr>
<td>Spindle drive ratio</td>
<td>1:1</td>
<td>7:10</td>
</tr>
<tr>
<td>Spindle speed range</td>
<td>6,000 rpm</td>
<td>4,200 rpm</td>
</tr>
<tr>
<td>Spindle full output speed</td>
<td>1,500 rpm</td>
<td>1,050 rpm</td>
</tr>
<tr>
<td>BUILT-IN SPINDLE MOTOR ( OPTIONAL )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle motor type</td>
<td>α B112M / 15,000 i</td>
<td>—</td>
</tr>
<tr>
<td>Motor output ( Cont. )</td>
<td>5.5 kW</td>
<td></td>
</tr>
<tr>
<td>Motor output ( 30 min. )</td>
<td>7.5 kW</td>
<td></td>
</tr>
<tr>
<td>CS-AXIS SPINDLE ( OPTIONAL )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cs-axis drive motor</td>
<td>Bz-sensor</td>
<td></td>
</tr>
<tr>
<td>Min. spindle indexing angle</td>
<td>± 0.001°</td>
<td>± 0.002°</td>
</tr>
<tr>
<td>Dynamic accuracy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X &amp; Z AXES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. X-axis travel</td>
<td>230 mm</td>
<td></td>
</tr>
<tr>
<td>Max. Z-axis travel</td>
<td>330 mm / 630 mm</td>
<td></td>
</tr>
<tr>
<td>X / Z axes rapidis</td>
<td>30 m/min</td>
<td></td>
</tr>
<tr>
<td>Slide way type</td>
<td>Linear Guide Way</td>
<td></td>
</tr>
<tr>
<td>Feed rates</td>
<td>1~ 4,800 mm / min</td>
<td></td>
</tr>
<tr>
<td>X-axis servo motor</td>
<td>AC 1.2 kW ( 1.6 HP )</td>
<td></td>
</tr>
<tr>
<td>Z-axis servo motor</td>
<td>AC 1.2 kW ( 1.6 HP )</td>
<td></td>
</tr>
<tr>
<td>X-axis ball screw Ø / pitch</td>
<td>Ø 32 mm / Pitch 10</td>
<td></td>
</tr>
<tr>
<td>Z-axis ball screw Ø / pitch</td>
<td>Ø 32 mm / Pitch 10</td>
<td></td>
</tr>
<tr>
<td>X / Z axes thrust ( Cont. )</td>
<td>448 Kg</td>
<td></td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice.
### MACHINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>TURRET</th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stations</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Indexing drive</td>
<td>FANUC AC Servo motor</td>
<td></td>
</tr>
<tr>
<td>Indexing speed</td>
<td>0.2 sec. Adjacent / 0.5 sec. 180 degrees (Single step)</td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td>Positioning: ±0.00069°, Repeatability: ±0.00027°</td>
<td></td>
</tr>
<tr>
<td>OD tool shank size</td>
<td></td>
<td>20 mm</td>
</tr>
<tr>
<td>ID tool shank size</td>
<td>Ø 32 mm</td>
<td></td>
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</tbody>
</table>

### LIVE TOOLING TURRET (OPTIONAL)

<table>
<thead>
<tr>
<th></th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. turning length</td>
<td>240 mm / 540 mm</td>
<td></td>
</tr>
<tr>
<td>Stations</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Live tooling stations</td>
<td>12 (Live tooling tools rotate in working position only.)</td>
<td></td>
</tr>
<tr>
<td>Live tooling drive motor</td>
<td>2.7 kW</td>
<td></td>
</tr>
<tr>
<td>Live tooling torque</td>
<td>12 N-m (Cont.)</td>
<td></td>
</tr>
<tr>
<td>Indexing drive type</td>
<td>FANUC a 12 / 4,000i</td>
<td></td>
</tr>
<tr>
<td>Index speed</td>
<td>0.2 sec. Adjacent / 0.5 sec. 180 degrees (Single step)</td>
<td></td>
</tr>
<tr>
<td>OD tool shank size</td>
<td></td>
<td>20 mm</td>
</tr>
<tr>
<td>ID tool shank size</td>
<td>Ø 25 mm</td>
<td></td>
</tr>
<tr>
<td>Live tooling shank size</td>
<td>Ø 16 mm ER 25 collets</td>
<td></td>
</tr>
<tr>
<td>Live tooling RPM range</td>
<td>4,000 RPM</td>
<td></td>
</tr>
</tbody>
</table>

### Y-AXIS (OPTIONAL)

<table>
<thead>
<tr>
<th></th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. swing diameter</td>
<td>Ø 580 mm</td>
<td></td>
</tr>
<tr>
<td>Swing over saddle</td>
<td>Ø 580 mm</td>
<td></td>
</tr>
<tr>
<td>Max. turning length</td>
<td>540 mm</td>
<td></td>
</tr>
<tr>
<td>Max. Y-axis travel</td>
<td>70 mm ± 35 mm</td>
<td></td>
</tr>
<tr>
<td>Y-axes rapids</td>
<td>10 m/min</td>
<td></td>
</tr>
<tr>
<td>Slide way type</td>
<td>Linear Guide Way</td>
<td></td>
</tr>
<tr>
<td>Feed rates</td>
<td>1 ~ 4,800 mm/min</td>
<td></td>
</tr>
<tr>
<td>Y-axis servo motor</td>
<td>AC 1.6 kW (2.1 HP)</td>
<td></td>
</tr>
<tr>
<td>Y-axis ball screw Ø / pitch</td>
<td>Ø 32 mm / Pitch 10</td>
<td></td>
</tr>
<tr>
<td>Y-axes thrust</td>
<td>513 Kg</td>
<td></td>
</tr>
</tbody>
</table>

### TAILSTOCK (OPTIONAL)

<table>
<thead>
<tr>
<th></th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quill center taper</td>
<td>MT#4 (Live center required.)</td>
<td></td>
</tr>
<tr>
<td>Quill diameter (travel)</td>
<td>Ø 70 mm [80 mm] / Ø 70 mm [150 mm]</td>
<td></td>
</tr>
<tr>
<td>Tail stock base travel</td>
<td>300 mm / 500 mm</td>
<td></td>
</tr>
<tr>
<td>Programmable quill / base</td>
<td>Yes / No</td>
<td></td>
</tr>
<tr>
<td>Programmable base type</td>
<td>Positioned by Z-axis carriage</td>
<td></td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice.
*1 For 「L」 models only.
### Specifications

<table>
<thead>
<tr>
<th>SUB-SPINDLE (OPTIONAL)*1</th>
<th>GLS-1500 / L</th>
<th>GLS-2000 / L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hole through spindle</td>
<td>Ø 42 mm</td>
<td></td>
</tr>
<tr>
<td>Spindle bearing diameter</td>
<td>Ø 75 mm</td>
<td></td>
</tr>
<tr>
<td>Spindle nose</td>
<td>Ø 110 mm</td>
<td></td>
</tr>
<tr>
<td>Spindle motor type</td>
<td>Bil 100SS / 12,000</td>
<td></td>
</tr>
<tr>
<td>Motor (Cont. / 5 min.)</td>
<td>3.7 kW / 5.5 kW</td>
<td></td>
</tr>
<tr>
<td>Spindle drive system</td>
<td>Built-in motor</td>
<td></td>
</tr>
<tr>
<td>Spindle drive ratio</td>
<td>1 : 1</td>
<td></td>
</tr>
<tr>
<td>Spindle speed range</td>
<td>6,000 RPM</td>
<td></td>
</tr>
<tr>
<td>Spindle full output speed</td>
<td>1,300 RPM (15%) / 1,750 RPM (5 min.) / 2,300 RPM</td>
<td></td>
</tr>
<tr>
<td>Spindle torque (Cont. / 5 min.)</td>
<td>15 N·m / 30 N·m</td>
<td></td>
</tr>
<tr>
<td>Z2-axis travel</td>
<td>630 mm</td>
<td></td>
</tr>
<tr>
<td>Z2-axis rapid</td>
<td>30 m/min</td>
<td></td>
</tr>
<tr>
<td>Slide way type</td>
<td>Linear guide way</td>
<td></td>
</tr>
<tr>
<td>Z2-axis servo motor</td>
<td>FANUC β8/3,000iς</td>
<td></td>
</tr>
<tr>
<td>Z2-axis ball screw Ø [pitch]</td>
<td>Ø 32 mm / Pitch 10</td>
<td></td>
</tr>
<tr>
<td>Z2-axis thrust (Cont.)</td>
<td>448 Kg</td>
<td></td>
</tr>
</tbody>
</table>

#### GENERAL

| Positioning accuracy | ± 0.005 mm |
| Repeatability       | ± 0.003 mm |
| Standard CNC control| FANUC Oi-Mate TD (Opt. Oi-TD or 31i) |
| Voltage / Power requirement | AC 200 / 220 +10% to -15% 3 phase / 18 KVA |
| Hydraulic tank capacity | 20 L |
| Coolant tank capacity | 100 L / 160 L (Y-axis model: 170 L) |
| Coolant pump         | 0.5 kW (3/4 HP, 60 Hz) rated at 3 bar (43.5 PSI) |
| Machine weight       | 3,000 Kg / 3,400 Kg |
| Dimensions L x W x H | 2,124 × 1,523 × 1,680 mm / 2,612 × 1,780 × 1,716 mm |

Specifications are subject to change without notice.

*1 For 「L」models only.

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### Machine Layout

![Machine Layout](attachment:image.png)

Unit: mm