YK500XGL

Standard type: Medium type

**Arm length 500mm**

**Maximum payload 5kg**

### Ordering method

**YK500XGL - 150**

<table>
<thead>
<tr>
<th>Model</th>
<th>Z axis stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>YK500XGL</td>
<td>150</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Axis specifications</th>
<th>X-axis</th>
<th>Y-axis</th>
<th>Z-axis</th>
<th>R-axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>250 mm</td>
<td>250 mm</td>
<td>150 mm</td>
<td>150 mm</td>
</tr>
<tr>
<td>Rotation angle</td>
<td>+145°</td>
<td>+144°</td>
<td>-143°</td>
<td>+360°</td>
</tr>
</tbody>
</table>

### Controller

**RCX340**

<table>
<thead>
<tr>
<th>Controller</th>
<th>Power capacity (VA)</th>
<th>Operation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCX340</td>
<td>1000</td>
<td>Programming / I/O point trace / Remote command / Operation using RS-232C communication</td>
</tr>
</tbody>
</table>

**RCX240S**

<table>
<thead>
<tr>
<th>Controller</th>
<th>Power capacity (VA)</th>
<th>Operation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCX240S</td>
<td>1000</td>
<td>Remote command / Operation using RS-232C communication</td>
</tr>
</tbody>
</table>

**Note.** "Harmonic" and "Harmonic drive" are the registered trademarks of Harmonic Drive Systems Inc.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:

http://global.yamaha-motor.com/business/robot/

![YK500XGL Diagram](image)

**YK500XGL Diagram**

- User tubing 1 (44 blue)
- User tubing 2 (44 red)
- User tubing 3 (44 black)
- D-sub connector for user wiring (No. 1 to 10 usable)
- M8 bolt for installation, 4 bolts used
- Machine harness
- Maximum 315 during arm rotation
- User tool installation range
- User tubing 1 (44 black)
- User tubing 1 (44 blue)
- User tubing 2 (44 red)
- 4-6H blind bolt for installation, 4 bolts used
- Maximum 673 during arm rotation
- Machine harness
- Z-axis upper end mechanical stopper position
- Z-axis lower end mechanical stopper position
- R27 (Min. cable bending radius)
- User wiring/tubing through spline type
- View of F

**Note.**

- Do not move the cable.
- If the robot enters the inside of the corner of R200 and R250, the arm may be in contact with the machine harness. So, do not perform such motion.

### Note

1. This is the value at a constant ambient temperature. (X,Y axes)
2. When reciprocating 300mm in horizontal and 250mm in vertical directions.
3. There are limits to acceleration coefficient settings. See P.538.
4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

### Specifications Table

<table>
<thead>
<tr>
<th>Axis</th>
<th>Deceleration mechanism</th>
<th>Transmission method</th>
<th>Motor to speed reducer</th>
<th>Speed reducer to output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>Speed reducer</td>
<td>Harmonic drive</td>
<td>Harmonic drive</td>
<td>Direct-coupled</td>
</tr>
<tr>
<td>Rotation angle</td>
<td>Deceleration method</td>
<td>Harmonic drive</td>
<td>Ball screw</td>
<td>Direct-coupled</td>
</tr>
<tr>
<td>Maximum speed</td>
<td>Rotation angle</td>
<td>+0.01 mm</td>
<td>+0.01 mm</td>
<td>+0.004 °</td>
</tr>
<tr>
<td>Maximum payload</td>
<td>Travel limit</td>
<td>5 kg (Standard specification)</td>
<td>4 kg (Option specifications)</td>
<td></td>
</tr>
<tr>
<td>Standard cycle time: with 2kg payload</td>
<td>0.59 sec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-axis tolerable moment of inertia</td>
<td>0.05 kgm² (0.5 kgfcm²)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User wiring</td>
<td>Weight</td>
<td>0.2 kg x 10 wires</td>
<td>21 kg</td>
<td></td>
</tr>
<tr>
<td>User tubing (Outer diameter)</td>
<td>4 x 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel limit</td>
<td>Robot cable length</td>
<td>Standard: 3.5 m</td>
<td>Option: 5 m, 10 m</td>
<td></td>
</tr>
</tbody>
</table>

### Controller

- RCX340
- RCX240S

**Downloadable Resources**

Downloaded from our website at the address below:

http://global.yamaha-motor.com/business/robot/
YK500XGL Tool flange mount type

User tubing 1 (ϕ4 black)
User tubing 2 (ϕ4 red)
User tubing 3 (ϕ4 blue)
D-sub connector for user wiring (No. 1 to 10 usable)

D-sub connector for user wiring (No. 1 to 10 usable)

If the robot enters the inside of corners of R200 and R250, the arm may be in contact with the machine harness. So, do not perform such motion.

• Note that the robot cannot be used at a position where the base flange or robot cable interference with the tool flange in the working envelope shown above.
• X-axis mechanical stopper position: 142°
• Y-axis mechanical stopper position: 146°

4-M3 × 0.5 through-hole
(No phase relation to R-axis origin.)

As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.

4-M3 × 0.5 through-hole

Tapped hole for user wiring 5-M3 × 0.5 Depth 6
The weight of the tool attached here should be added to the tip mass.

Keep enough space for the maintenance work at the rear of the base.

Controller
RCX340 → 508 → RCX240S → 495