

# YK180X

Standard type: Tiny type

- Arm length 180mm
- Maximum payload 1kg



## Ordering method

**YK180X - 100**

<b>Model</b>	<b>Z axis stroke</b>	<b>Cable</b>
	100: 100mm	3L: 3.5m
		5L: 5m
		10L: 10m

**RCX340-4**

<b>Controller / Number of controllable axes</b>	<b>Safety standard</b>	<b>Option A (OP.A)</b>	<b>Option B (OP.B)</b>	<b>Option C (OP.C)</b>	<b>Option D (OP.D)</b>	<b>Option E (OP.E)</b>	<b>Absolute battery</b>
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Specify various controller setting items. RCX340 ▶ **P.494**

**RCX240S**

<b>Controller</b>	<b>CE Marking</b>	<b>Expansion I/O</b>	<b>Network option</b>	<b>iVY System</b>	<b>Gripper</b>	<b>Battery</b>
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Specify various controller setting items. RCX240/RCX240S ▶ **P.481**

## Specifications

		X-axis	Y-axis	Z-axis	R-axis
<b>Axis specifications</b>	<b>Arm length</b>	71 mm	109 mm	100 mm	—
	<b>Rotation angle</b>	+/-120 °	+/-140 °	—	+/-360 °
<b>AC servo motor output</b>		50 W	30 W	30 W	30 W
<b>Deceleration mechanism</b>	<b>Speed reducer</b>	Harmonic drive	Harmonic drive	Ball screw	Harmonic drive
	<b>Transmission method</b>	Direct-coupled			
	<b>Motor to speed reducer</b> <b>Speed reducer to output</b>	Direct-coupled			
<b>Repeatability</b> <sup>Note 1</sup>	+/-0.01 mm		+/-0.01 mm	+/-0.004 °	
<b>Maximum speed</b>		3.3 m/sec		0.7 m/sec	1700 °/sec
<b>Maximum payload</b>		1.0 kg			
<b>Standard cycle time: with 0.1kg payload</b> <sup>Note 2</sup>		0.39 sec			
<b>R-axis tolerable moment of inertia</b> <sup>Note 3</sup>		0.01 kgm <sup>2</sup>			
<b>User wiring</b>		0.1 sq × 6 wires			
<b>User tubing (Outer diameter)</b>		φ 3 × 2			
<b>Travel limit</b>		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
<b>Robot cable length</b>		Standard: 3.5 m Option: 5 m, 10 m			
<b>Weight (Excluding robot cable)</b> <sup>Note 4</sup>		5.5 kg			
<b>Robot cable weight</b>		1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)	

- Note 1. This is the value at a constant ambient temperature.  
 Note 2. When reciprocating 100mm in horizontal and 25mm in vertical directions.  
 Note 3. There are limits to acceleration coefficient settings. See P.522.  
 Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

## Controller

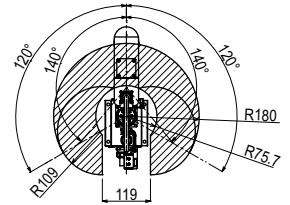
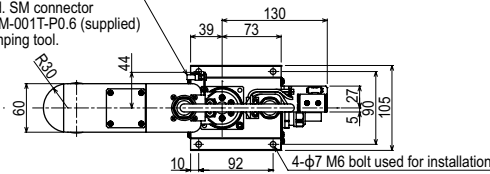
Controller	Power capacity (VA)	Operation method
RCX340 RCX240S	500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

- Note. "Harmonic" and "Harmonic drive" are the registered trademarks of Harmonic Drive Systems Inc.  
 Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)  
 See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:  
<http://global.yamaha-motor.com/business/robot/>

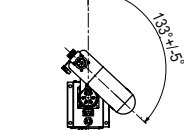
## YK180X

Connector for user wiring (No. 1 to 6 usable, socket contact)  
 J.S.T. Mfg Co., Ltd. SM connector SMR-6VB, pin SYM-001T-P0.6 (supplied)  
 Use the YC12 crimping tool.



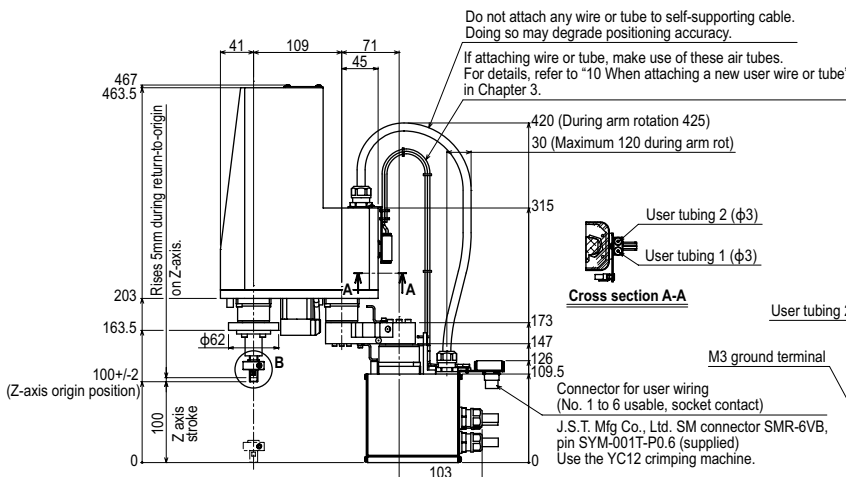
### Working envelope

X-axis origin is at 0°±5° with respect to front of robot base



### X, Y-axis origin position

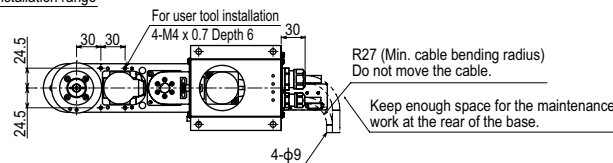
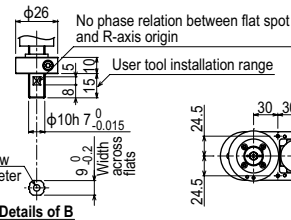
When performing return-to-origin, move the axes counterclockwise in advance from the position shown above.



### Cross section A-A

User tubing 2 (φ3)  
 User tubing 1 (φ3)

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 Use the YC12 crimping machine.



R27 (Min. cable bending radius)  
 Do not move the cable.  
 Keep enough space for the maintenance work at the rear of the base.