

# YA-U10F

7-axis

Maximum payload 10 kg

## Ordering method

<b>YA-U10F</b>	<b>4L</b>	<b>YAC100</b>				
<b>Model</b>	<b>Power cable length</b>	<b>Controller</b>	<b>Safety standard</b>	<b>Language setting</b>	<b>Option I/O</b>	<b>Network option</b>
	4L: 4m		N: Normal E: CE marking	JE: Japanese/English JC: Japanese/Chinese EJ: English/Japanese EC: English/Chinese	N, P: Standard I/O 28/28 N1, P1: 56/56 points N2, P2: 84/84 points N3, P3: 112/112 points N4, P4: 140/140 points	No entry : None CC: CC-Link DM: DeviceNet master DS: DeviceNet slave PB: PROFIBUS EP: EtherNet/IP™ PM: Profinet master PT: Profinet slave ES: EtherCAT slave



Note. High degree of motion like a human arm with its 7-axis arm.  
 Note. The high flexibility of motion makes operation possible even in narrow spaces inaccessible to humans.  
 Note. Folds to compact size when not in use.  
 Note. Many installation options: on the floor, on the wall or on the ceiling. Please contact us separately regarding wall-mounted or ceiling-mounted installations.  
 Note. Optimal for handling small objects.  
 Note. By utilizing internal user I/O wiring harness and air lines integrated in the arm, layout can be planned offline without worrying about peripheral interference.  
 (Internal user I/O wiring harness and air lines specifications: two air hoses and twelve-core cables)  
 External axis specification for a hand can be accommodated. Contact YAMAHA regarding your requirements.

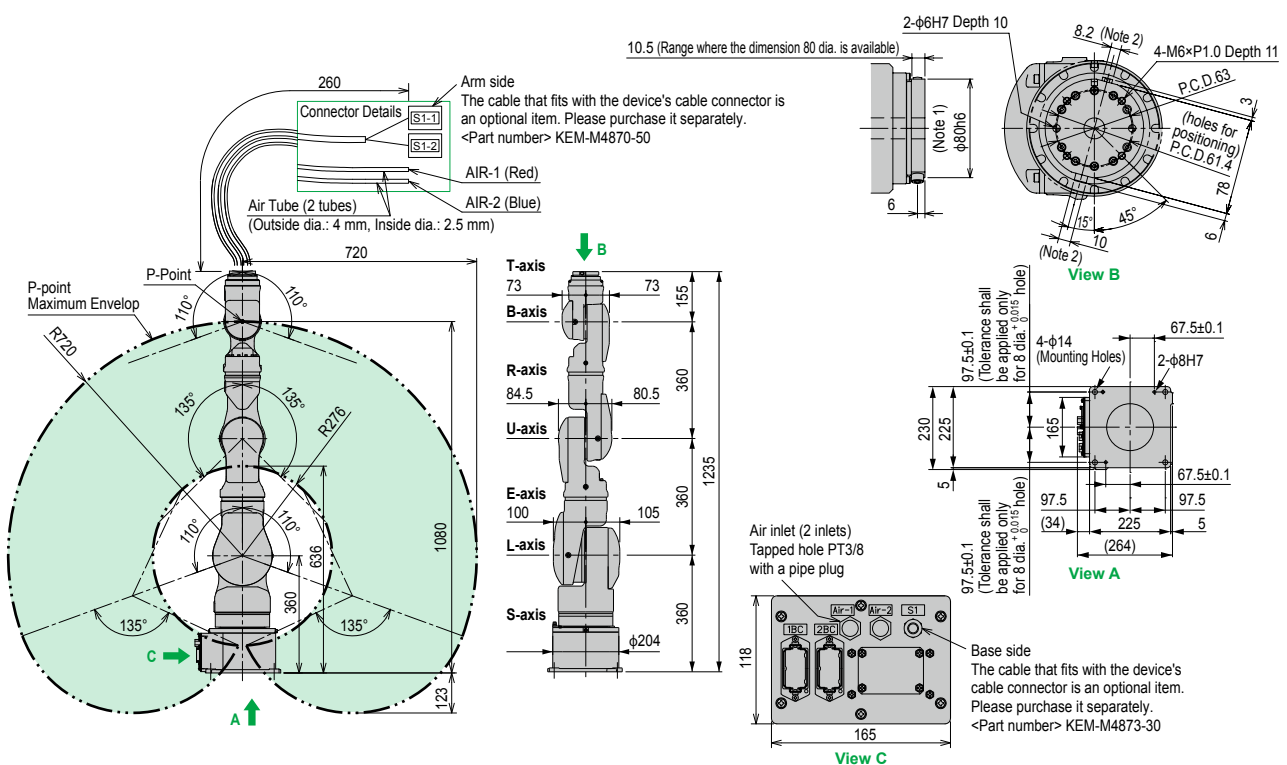
## Specifications

<b>Controlled Axis</b>	7	<b>Allowable Moment</b>	<b>R-axis (wrist roll)</b>	31.4 N-m	
<b>Payload</b>	10 kg		<b>B-axis (wrist pitch/yaw)</b>	31.4 N-m	
<b>Repeatability</b>	±0.1 mm		<b>T-axis (wrist twist)</b>	19.6 N-m	
<b>Range of Motion</b>	<b>S-axis (turning)</b>	-180° to +180°	<b>Allowable Inertia (GD<sup>2</sup>/4)</b>	<b>R-axis (wrist roll)</b>	1.0 kg-m <sup>2</sup>
	<b>L-axis (lower Arm)</b>	-110° to +110°		<b>B-axis (wrist pitch/yaw)</b>	1.0 kg-m <sup>2</sup>
	<b>E-axis (elbow twist)</b>	-170° to +170°		<b>T-axis (wrist twist)</b>	0.4 kg-m <sup>2</sup>
	<b>U-axis (upper arm)</b>	-135° to +135°		<b>Mass</b>	60 kg
	<b>R-axis (wrist roll)</b>	-180° to +180°		<b>Power Requirements</b> <sup>Note 1</sup>	1.0 kVA
	<b>B-axis (wrist pitch/yaw)</b>	-110° to +110°		<b>Temperature</b>	0 to +40°C
	<b>T-axis (wrist twist)</b>	-180° to +180°		<b>Humidity</b>	20 to 80%RH (non-condensing)
<b>Maximum Speed</b>	<b>S-axis (turning)</b>	2.97 rad/s, 170°/s	<b>Ambient Conditions</b>	<b>Vibration</b>	4.9 m/s <sup>2</sup> or less
	<b>L-axis (lower Arm)</b>	2.97 rad/s, 170°/s		<b>Others</b>	• Free from corrosive gasses or liquids, or explosive gasses • Free from exposure to water, oil, or dust • Free from excessive electrical noise (plasma)
	<b>E-axis (elbow twist)</b>	2.97 rad/s, 170°/s			
	<b>U-axis (upper arm)</b>	2.97 rad/s, 170°/s			
	<b>R-axis (wrist roll)</b>	3.49 rad/s, 200°/s			
	<b>B-axis (wrist pitch/yaw)</b>	3.49 rad/s, 200°/s			
	<b>T-axis (wrist twist)</b>	6.98 rad/s, 400°/s			

Note 1. Varies in accordance with applications and motion patterns.  
 Note. SI units are used for specifications.

## YA-U10F

Units: mm [ ] : P-point Maximum Envelop



Note 1. The flange is equipped with a cable through hole. When mounting equipment such as an attachment, ensure that no foreign liquid, oil, or dust go into hole.  
 Note 2. A bolt is mounted for T-axis grease replenished. When attaching an attachment to 80 dia. -0.035/0 part of the T-axis, enough space for the grease zerk (A-MT6X1) is required to the shape of the attachment.

Articulated robots  
YA

Linear conveyor modules  
LCM100

Compact single-axis robots  
TRANSEVO

Single-axis robots  
FLIP-X

Linear motor single-axis robots  
PHASER

Cartesian robots  
XX-X

SCARA robots  
YK-X

Pick & place robots  
YP-X

CLEAN

CONTROLLER INFORMATION