YA-U20F

7-axis

Maximum payload 20 kg

Note. The YA series does not comply with the EU RoHS directive.

Ordering method

YA-U20F	- 4L	- YAC100	- N	-	-	-
Model	Power cable length	Controller	Safety standard	Language setting	Option I/O	Network option
	4L: 4m		N: Normal	JE: Japanese/English JC: Japanese/Chinese EJ: English/Japanese EC: English/Chinese	N, P: Standard I/O 28/28 N1, P1: 56/56points 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. Assembles and handles heavy objects up to 20 kg.
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 sixteen-core cables)
External axis specification for a hand can be accommodated. Contact YAMAHA regarding your requirements.

Specifications

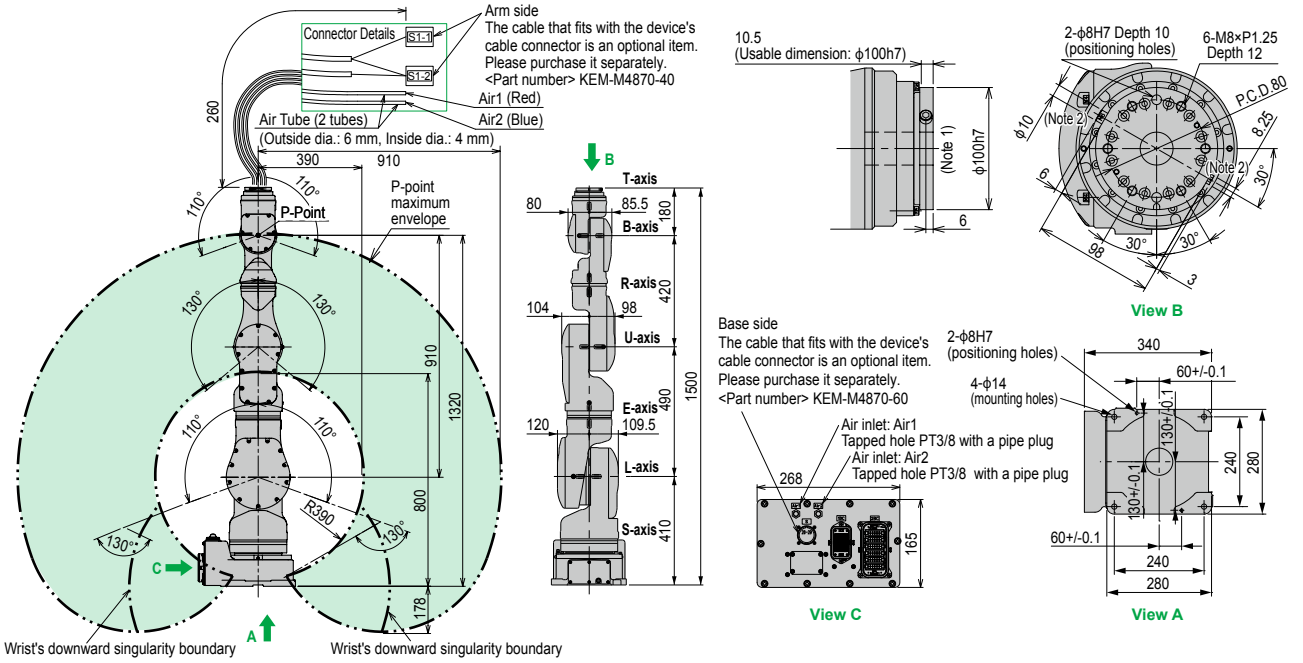
Controlled Axis		7
Payload		20 kg
Repeatability		+/-0.1 mm
Range of Motion	S-axis (turning)	-180˚ to +180˚
	L-axis (lower Arm)	-110˚ to +110˚
	E-axis (elbow twist)	-170˚ to +170˚
	U-axis (upper arm)	-130˚ to +130˚
	R-axis (wrist roll)	-180˚ to +180˚
	B-axis (wrist pich/yaw)	-110˚ to +110˚
	T-axis (wrist twist)	-180˚ to +180˚
Maximum Speed	S-axis (turning)	2.27 rad/s, 130˚/s
	L-axis (lower Arm)	2.27 rad/s, 130˚/s
	E-axis (elbow twist)	2.97 rad/s, 170˚/s
	U-axis (upper arm)	2.97 rad/s, 170˚/s
	R-axis (wrist roll)	3.49 rad/s, 200˚/s
	B-axis (wrist pich/yaw)	3.49 rad/s, 200˚/s
	T-axis (wrist twist)	6.98 rad/s, 400˚/s

Allowable Moment	R-axis (wrist roll)	58.8 N·m
	B-axis (wrist pich/yaw)	58.8 N·m
	T-axis (wrist twist)	29.4 N·m
Allowable Inertia ($GD^2/4$)	R-axis (wrist roll)	4.0 kg·m^2
	B-axis (wrist pich/yaw)	4.0 kg·m^2
	T-axis (wrist twist)	2.0 kg·m^2
Mass		120 kg
Power Requirements[Note 1]		1.5 kVA
Ambient Conditions	Temperature	0 to +40˚C
	Humidity	20 to 80%RH (non-condensing)
	Vibration	4.9 m/s^2 or less
	Others	•Free from corrosive gasses or liquids, or explosive gasses •Free from exposure to water, oil, or dust •Free from excessive electrical noise (plasma)

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

YA-U20F

Units: mm : P-point maximum envelope



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.

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