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- SCARA Robots
- 6-axis Robots
- Controllers
- Software
- Vision System
- Part Feeding
- **■** Force Sensing
- Options

Epson Robots



Here at Epson, our technology is driven by our commitment to society and the environment. We focus on the essential and eliminate the unnecessary to create greater value. With this philosophy at our core, Epson has always strived to meet sustainability needs and will continue to do so.

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Direct inquiries to

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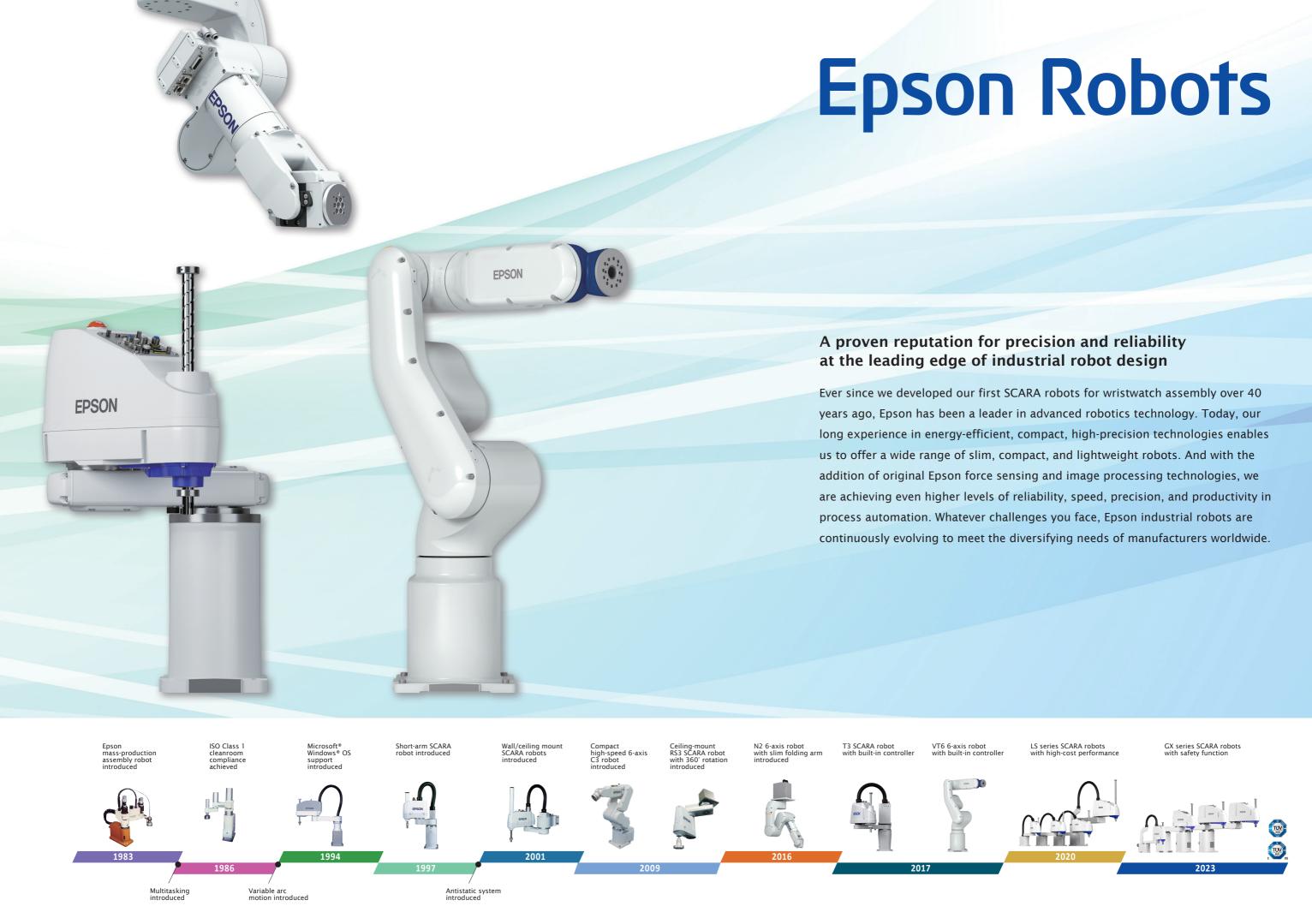


https://corporate.epson/en/products/robot-systems.html



Please read associated manuals carefully before installing or using our robot products. Always use products properly per guidelines in the manuals.





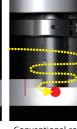


Low TCO and high reliability for the ultimate in automated productivity

High productivity

- Proprietary Epson technology reduces residual vibration to ensure high speed and precision for reduced takt time.
- Slim, lightweight body design reduces work cell space requirements while enabling higher productivity.





Epson robot C

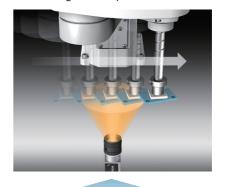
entional robot/ *Image

High quality

Extremely accurate toolhead positioning enables high-precision dispensing and cutting operations.



■Integrated machine vision systems boost setup ease and workpiece handling accuracy.



Easy operation

- Intuitive graphical interface makes programming easy even for first-time users.
- From program testing to full production, improved operating ease helps reduce cost and manpower requirements.



3D simulator for workcell layout and toolpath program testing

Software Integration

Vibration control technology

Epson Robots

Sensing technology

Vision technology

Global support

Epson supports robotics customers worldwide through an international network of sales and service offices, providing information about equipment configuration options and performing simulations of the tasks that customers want robots to perform. We are also partnered with systems integrators around the world, and can provide end-to-end turnkey solutions to meet virtually any process automation need.

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						SCA	RAI	Robo	ts							6-axis R	obots			
	G/GX Series				LS	Series		T S	Series	RS Se	eries	C Series			N Series		S	VT6		
	To		oeed, repe esidual vil	eatability, o	and	F		iability an onality	d	cont f cost-e	ilt-in troller for efficient mation	Orig space- des fo high pro	saving ign or	Slim, lightweight body for greater installation flexibility		ility	Original compact design for greater freedom of movement in tight quarters		dom of	Compact, easy setup, low TCO
Publication page	▶ P.7	▶ P.9	▶ P.13	•	P.17	▶ P.21	▶ P.23	▶ P.25	▶ P.27	▶ P.29	▶ P.31	▶ P.33	▶ P.35	▶ P.37	▶ P.39	▶ P.43	▶ P.45	▶ P.47	▶ P.49	▶ P.51
	G1	GX4	GX8	GX10	GX20	LS3	LS6	LS10	LS20	T3	T6	RS3	RS4	C4	C8	C12	N2	N6 -A850	N6 -A1000	VT6L
Model name			3			1			5	<u> </u>	5		DOX				ā			
Payload (kg)	4-axis 3-axis	Max 4	Max 8	Max 10	Max 20	Max 3	Мах	Max 10	Max 20	Max 3	Max 6	Max 3	Max 4	Max 4	Max 8	Max 12	Max 2.5	Max 6	Max 6	Max 6
Arm length (mm)	175 225	250 300 350	450 550 650	650 850	850 1000	400	500 600 700	600 700 800	800 1000	400	600	350	550	600 900	700 900 1400	1400	450	850	1000	900
Environmental specifications	STD Class	STD ESD Class	ESD Class 3	STD Class 3	STD 1 Class 3	STD Class 4	STD Class	STD Class	STD Class 4	STD "	STD "1	STD Class	STD Class	STD Class	Class C8, C8L Class C8XL P67	STD Class	STD	STD Class 5	STD Class	STD Class 4
Installation specifications	<u>-</u>		*-						-	-	-	A	7							
Compatible controller	RC700-A	RC700-E	RC700-E	RC700-E	RC700-E	RC90-B	RC90-B	RC90-B	RC90-B	Built-in controller	Built-in controller	RC700-A	RC700-A	RC700-A	RC700-A	RC700-A	RC700-A	RC700-A	RC700-A	Built-in controller
	l	I	I	I	I	I	I	1	I	I	l	I			l	I	1	I	*1: IP20 *2: S	l Standard model only

















Controllers

■ GYROPLUS Technology

Software ■ Epson RC+ Express

▶ P.57 ▶ P.62

▶ P.53

▶ P.56

■ Safety solution of Epson robot ► P.63 ■ Vision system

▶ P.64 ■ Part feeding ▶ P.67 ■ Force sensing ▶ P.69 Software options

▶ P.73 Robot controller options ▶ P.77 Manipulator options ▶ P.78

■ Option quick-reference table ► P.79

Option setup example ▶ P.80



Compact, high-rigidity body for precision assembly and press-fit applications

■ Our lightest G series robot (8kg)

Model Number G1 - 17 1 S - UL

- Available with 175mm or 225mm arm
- 3-axis model available for screw-in, press-fit with hand offset, and dispensing tasks

: Non UL compliant

-UL: UL compliant

: 4-axis spec

Z: 3-axis spec

S:Standard C: Cleanroom & ESD



Specifications

1 :1kg

17 : 175mm

22 : 225mm

1 :100mm

Model name		G1						
		4-a	ixis	3-axis				
Model number		G1-171□	G1-171□ G1-221□		G1-221□Z			
Armlength	Arm #1, #2	175 mm	225 mm	175 mm	225 mm			
Payload Rated		0.5	ikg	0.5	kg			
	Maximum	11	kg	1.5	kg			
Repeatability	Joints #1, #2	±0.005 mm	±0.008 mm	±0.005 mm	±0.008 mm			
	Joint#3	±0.0	1mm	±0.0	Imm			
	Joint#4	±0.0	1deg	-	-			
Standard cycle time*1		0.29 sec	0.30 sec	0.29 sec	0.30 sec			
Max. operating speed	Joints #1, #2	2630 mm/sec	3000 mm/sec	2630 mm/sec	3000 mm/sec			
	Joint#3	1200 m	nm/sec	1200 mm/sec				
	Joint#4	3000 d	leg/sec	_				
Joint #4 allowable moment of	Rated	0.0003	3 kg•m²	-				
inertia*2	Maximum	0.004	kg•m²	_				
Joint #3 down force			50	ON				
Installation environment		Standard/Cleanroom*3&ESD						
Mounting type		Table	е Тор	Table Top				
Weight (cables not included)		81	kg	8 kg				
Applicable Controller		RC700-A						
Installed wire for customer use		15 Pin D-Sub, 9 Pin D-Sub						
Installed pneumatic tube for custome	eruse	Φ6 mm x 2, Φ4 mm x 1: 0.59 MPa (6 kgf/cm²)						
Power		AC200-240 V Single phase						
Power Consumption*4		0.5kVA						
Cable length		3m/5m/10m/15m/20m						
Safety standard		CE, KC, UL						

*1:Cycle time based on round-trip arch motion (100mm horizontal, 25mm vertical) with 0.5kg payload (path coordinates optimized for maximum speed).
*2:When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.
*3:Complies with ISO Class 3 (ISO14644-1) and older Class 1 cleanroom standards.

*4: Varies according to operating environment and program.

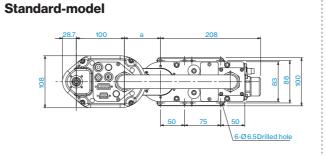
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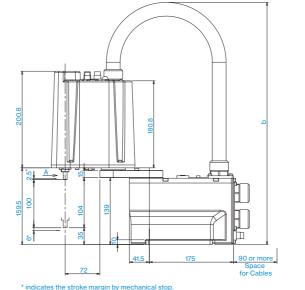
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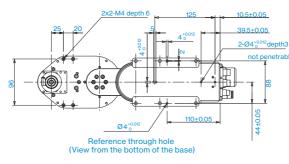
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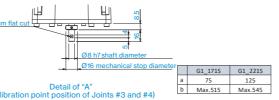
■ Outer Dimensions (Table Top Mounting)



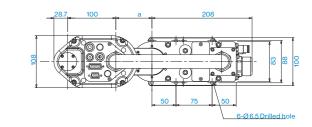


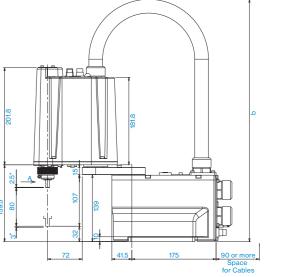


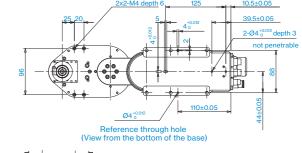


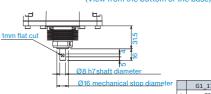


Cleanroom-model



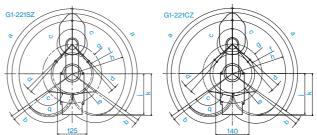






Ø 16 Mechanical stop diameter		G1_171C	G1_221C	
	а	75	125	
Detail of "A"	b	Max.515	Max.545	
Calibration point position of Joints #3 and #4)				

■ Motion Range (Table Top Mounting)

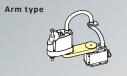


	Model	4-axis				3-axis			
\		G1-171S		G1-221S	G1-221C	G1-171SZ		G1-221SZ	G1-221CZ
// 0	g Length of Arm #1 (mm)	75		125		75		125	
/ //	h-g Length of Arm #2 (mm)	100		100		100		100	
-	f Motion range	64	.3	59.6	64.8	70.9	86.4	89.2	94.4
	a Motion range of Joint #1 (°)	125		125		125			
×	c Motion range of Joint #2 (°)	14	10	152	149	135	123	135	132
/ // \	e Mechanical stop area	60.4	62.6	52.8	56.2	69.2	82.5	82	.2
\//	b Joint #1 angle to hit mechanical stop (°)	3		3		3			
	d Joint #2 angle to hit mechanical stop (°)	3	3	4	5	1.3	3	4	7

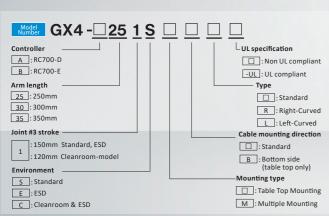


Compact body with rank-above technology for high speed and low vibration

- ■Handles small, heavy components and payloads up to 4kg
- ■Available with left- or right-curved arm for greater operating versatility
- ■A small robot with a long reach









■ Specifications

Model name		GX4						
Model number		GX4-□251□□□	GX4-□301□□□	GX4-□351□□□				
Armlength	Arm #1, #2	250 mm	300mm	350 mm				
Arm shape		Star	Standard					
Payload*2	Rated	2kg						
	Maximum	4kg						
Repeatability	Joints #1, #2	±0.008 mm	±0.0	1mm				
	Joint#3		±0.01mm					
	Joint #4		±0.005 deg					
Standard cycle time*3		0.33 sec	0.34 sec	0.35 sec				
Max. operating speed	Joints #1, #2	3550 mm/sec	3950 mm/sec	4350 mm/sec				
	Joint#3	1100 mm/sec						
	Joint #4	3000 deg/sec						
Joint #4 allowable moment of inertia*4	Rated	0.005kg•m²						
	Maximum	0.05 kg•m²						
Joint #3 down force		150 N						
Installation environment		Standard (equivalent to IP20), Cleanroom*5 & ESD*6, ESD*6						
Mounting type			:Table top mounting, M:Multiple mounting					
Weight (cables not included)		Table top:15 kg	Table top:15 kg Multiple 17 kg	Table top:16 kg Multiple 17 kg				
Applicable Controller			A:RC700-D B:RC700-E					
Installed wire for customer use			15 Pin D-Sub x1, RJ45 8 pin x1					
Installed pneumatic tube for custom	eruse	Φ4mmx2,Φ6mmx1:0.59MPa (6kgf/cm²)						
Power		AC200-240 Single phase						
Power Consumption*7		1.2kVA						
Cable length		Standard:3m/5m/10m/15m/20m Flexible:5m/10m/15m/20m						
Safety standard		CE, UKCA, KC, NRTL						
		-						

- 1
 **I: The curved arm is only supported in 350mm arm table top model.
 **2: Do not apply the load exceeding the maximum apayload.
 **2: Do not apply the load exceeding the maximum apayload.
 **3: Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) at rated payload setting of table top model boost mode (path coordinates optimized for maximum speed)
 **4: Set the parameters by the Inertia command according to the load and end effector status (refer to the instruction manual for the parameter calculation method).
 **5: Complies with ISO (lass 3 (1001464+1) and Fed-std2090 (103s 1 (less than 10.1 m particles per 28,317cm31ctf) cleanorom standards.
 **6: Main resin parts of the ESD model use conductive materials or apply plate processing. For the tip of the Manipulator (tool mounting part), we have confirmed that it is +/- 5 V or less even immediately after operating the measurement under our standard.
 **7: Varies according to operating environment and program.

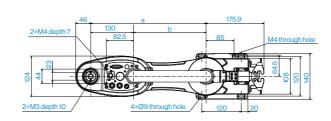
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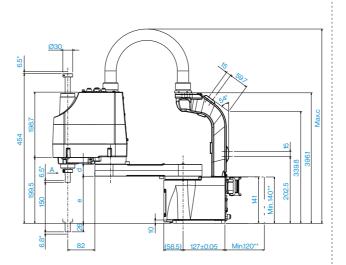
[Unit: mm]

■ Outer Dimensions (Table Top Mounting)

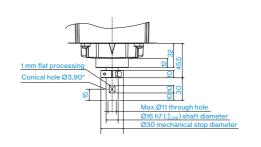
Standard-model



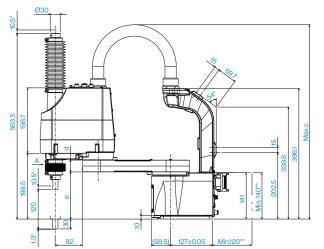
Cleanroom-model



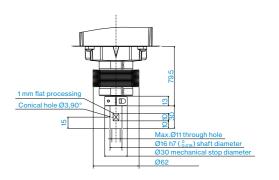
* indicates the stroke margin by mechanical stop.



	GX4-□251S	GX4-□301S	GX4-□3
а	250	300	350
b	120	170	220
r	560	585	610



* indicates the stroke margin by mechanical stop.



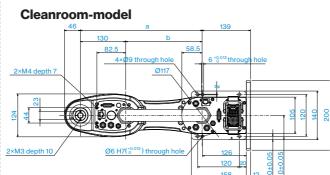
	GX4-□251C	GX4-□301C	GX4-□3510
а	250	300	350
b	120	170	220
_	500	505	640

■ Outer Dimensions (Multiple Mounting)

Standard-model

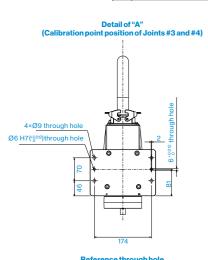
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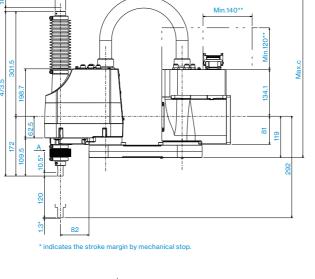
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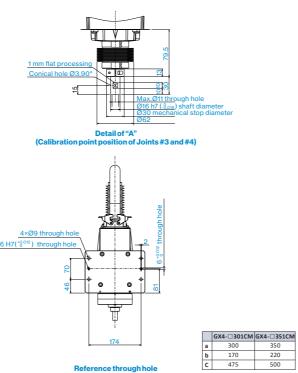


930 (**) Space for Connector





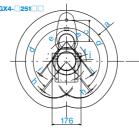




■ Motion Range (Table Top Mounting)

[Unit: mm]

Straight Arm



Model	Straight Arm							
Model	GX4-□251S	GX4-□251C	GX4-□301S	GX4-□301C	GX4-□351S	GX4-□351S		
a Length of Arm #1+ Arm #2 (mm)	2	50	30	0	35	0		
c Length of Arm #2 (mm)	130							
d Motion range of Joint #1(°)	140							
e Motion range of Joint #2 (°)	141	137	142	141	14	2		
f Motion range	87	95	105	107	14	2		
h Joint #1 angle to hit mechanical stop (°)			2.	5				
i Joint #2 angle to hit mechanical stop (°)	1	.5	2.4	1.6	2.	5		
j Mechanical stop area	84	92	99	103	13	7		

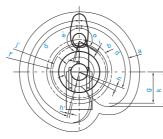
Left-Curved Arm



Mo	del	Left-Cur	ved Arm		
MO	idei	GX4-□351S-L	GX4-□351C-L		
а	Length of Arm #1+ Arm #2 (mm)	350			
С	Length of Arm #2 (mm)	130			
d/ď	Motion range of Joint #1 (°)	165 / 110			
e/e'	Motion range of Joint #2 (°)	165 / 120	160 / 120		
f/f'	Motion range	100 / 192	107 / 192		
h/h'	Joint #1 angle to hit mechanical stop (°)	3.0 /	7.0		
i/i'	Joint #2 angle to hit mechanical stop (°)	2.8 / 3.8	3.5 / 3.8		
j/j'	Mechanical stop area	97 / 183	102 / 183		

Right-Curved Arm

□351□ □-R

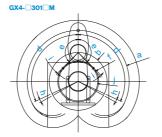


Model		Right-Curved Arm							
		GX4-□301S-R	GX4-□301C-R	GX4-□351S-R	GX4-□351C-R				
а	Length of Arm #1+ Arm #2 (mm)	300	300						
С	Length of Arm #2 (mm)		13)					
d	Motion range of Joint #1(°)	115		12	10				
е	Motion range of Joint #2 (°)	135		142					
f	Motion range	121		142					
h	Joint #1 angle to hit mechanical stop (°)		4.0	0					
i	Joint #2 angle to hit mechanical stop (°)		2.5	5					
j	Mechanical stop area	115		13	37				

■ Motion Range (Multiple Mounting)

[Unit: mm]

Straight Arm



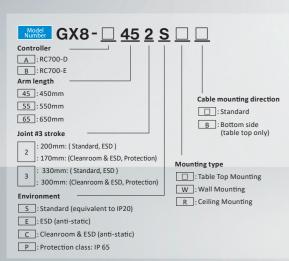
	del	Straight Arm				
IVIO	dei	GX4-□301SM	GX4-□351CM			
а	Length of Arm #1+ Arm #2 (mm)	350				
С	Length of Arm #2 (mm)	130				
d/ď	/d' Motion range of Joint #1(°) 110 / 165					
e/e'	Motion range of Joint #2 (°)	120 / 165	120 / 160			
f/f'	Motion range	192 / 100	192 / 107			
h/h'	Joint #1 angle to hit mechanical stop (°)	7.0 / 3.0				
i/i'	Joint #2 angle to hit mechanical stop (°)	3.8 / 2.8	3.8 / 3.5			
j/j'	Mechanical stop area	183 / 97	183 / 102			

GYROPLUS Technology



High speed and precision for small component assembly

- Handles payloads up to 8kg
- Available with 450mm, 550mm, or 650mm arm
- Internal cabling and ducting minimizes interference worries
- IP65 dust and water-resistant cleanroom models available
- Tabletop, ceiling, and wall mounting models available



EPSON

Specifications

Model name		GX8						
Model number		GX8-□45□□	GX8-□55□□	GX8-□65□□				
Arm length	Arm #1, #2	450 mm	550 mm	650 mm				
Payload	Rated	4kg						
	Maximum	8kg						
Repeatability	Joints #1, #2		±0.015 mm					
	Joint#3		±0.01 mm					
	Joint #4		±0.005deg					
Standard cycle time*1		0.28 sec	0.30sec	0.33 sec				
Max. operating speed	Joints #1, #2	7450 mm/sec	8450 mm/sec	9460 mm/sec				
	Joint#3		2350 mm/sec					
	Joint#4	2800 deg						
Joint #4 allowable moment of inertia*2	Rated	0.01kg•m²						
	Maximum	0.16 kg•m²						
Joint #3 down force		150 N						
Installation environment		Standard (equivalent to IP20), Cleanroom'3 & ESD'4, IP65, E: ESD'4						
Mounting type		Table top mounting, Wall mounting, Ceiling mounting						
Weight (cables not included)		Table top/Ceiling: 33, Wall: 35	Table top/Ceiling: 34, Wall: 36	Table top/Ceiling: 35, Wall: 37				
Applicable Controller			A:RC700-D B:RC700-E					
Installed wire for customer use		D-sub 15 pin x1, 9 pin x1, 8 pin (RJ45) x1						
Installed pneumatic tube for custom	er use	Φ4mm x 2, Φ6 mm x 2:0.59 MPa (6 kgf/cm²)						
Power		AC200-240 V Single phase						
Power Consumption*5		2.2kVA						
Cable length		Standard:3/5/10/15/20, Flexible:5/10/15/20						
Safety standard		CE,UKCA,KC,NRTL						

- *1: Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) at rated payload setting of table top model boost mode (path coordinates optimized for maximum speed).

- *2: Set the parameters by the Inertia command according to the load and end effector status (refer to the instruction manual for the parameter calculation method).

 *3: Complies with ISO Class 3 (ISO14644-1) and Fed-std209D Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.

 *4: Main resin parts of the ESD model use conductive materials or apply plate processing. For the tip of the Manipulator (tool mounting part), we have confirmed that it is +/- 5 V or less even immediately after operating the

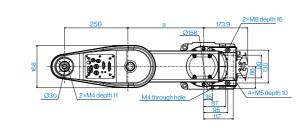
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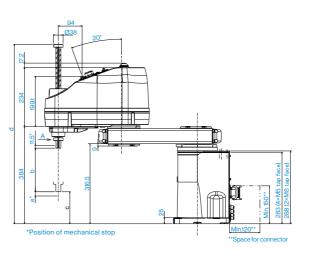
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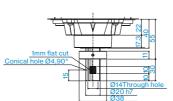
[Unit: mm]

■ Outer Dimensions (Table Top Mounting)

Standard-model

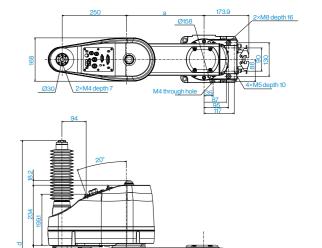


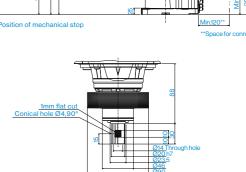




	GX8-□452S,E	GX8-□453S,E	GX8-□552S,E	GX8-□553S,E	GX8-□652S,E	GX8-□653S,E
а	200	200	300	300	400	400
b	200	330	200	330	200	330
С	99	-31	99	-31	99	-31
d	709	834	709	834	709	834
e	15.6	10.6	15.6	10.6	15.6	10.6

Cleanroom-model





_						
	GX8-□452C	GX8-□453C	GX8-□552C	GX8-□553S,E	GX8-□652C	GX8-□653C
а	200	200	300	300	400	400
b	170	300	170	330	170	300
С	96	-34	96	-34	96	-34
d	791.5	910.5	791.5	910.5	791.5	910.5
e	12.6	7.6	12.6	7.6	12.6	7.6

■ Motion Range (Table Top Mounting)



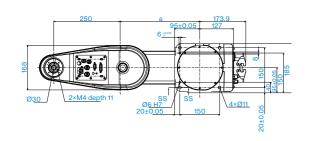
Мо	odel	GX8-0450S00	GX8-0450E00	GX8-0450C00	GX8-0450P00
а	Length of Arm #1+ Arm #2 (mm)		4	50	
b	Length of Arm #1 (mm)		20	00	
С	Length of Arm #2 (mm)		2	50	
d	Motion range of Joint #1 (°)		15	52	
е	Motion range of Joint #2 (°)	0 ≥ Z ≥ -270	175	0 ≥ Z ≥ -240	147.5
		-270 ≥ Z ≥ -330	145	-240 ≥ Z ≥ -300	137.5
f	Motion range	0 ≥ Z ≥ -270	134.8	0 ≥ Z ≥ -240	134.8
		-270 ≥ Z ≥ -330	145	-240 ≥ Z ≥ -300	137.5
h	Joint #1 angle to hit mechanical stop (°)		1	.4	
i	Joint #2 angle to hit mechanical stop (°)	0 ≥ Z ≥ -270	3.1	0 ≥ Z ≥ -240	3.1
		-270 ≥ Z ≥ -330	5.6	-240 ≥ Z ≥ -300	13.1
j	Mechanical stop area	0 ≥ Z ≥ -270	124	0 ≥ Z ≥ -240	124
		-270 ≥ Z ≥ -330	124	-240 ≥ Z ≥ -300	121.6

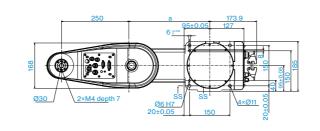
 $\hbox{\rm *5:}\ Varies\ according\ to\ operating\ environment\ and\ program.}$

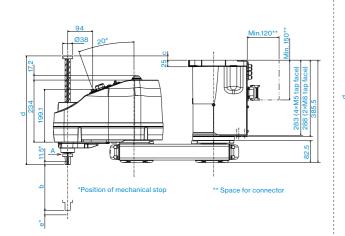
Outer Dimensions (Ceiling Mounting)

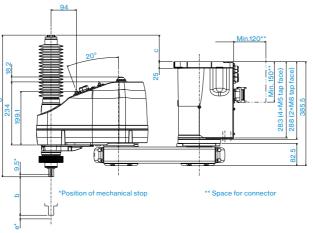
[Unit: mm]

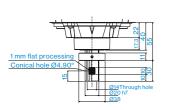
Standard-model Cleanroom-model

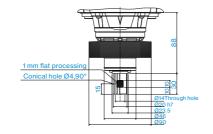












Detail of "A"

	GX8-□452SR,ER	GX8-□453SR,ER	GX8-□552SR,ER	GX8-□553SR,ER	GX8-□652SR,ER	GX8-□653SR,ER
а	200	200	300	300	400	400
b	200	330	200	330	200	330
C	16	141	16	141	16	141
d	410	535	410	535	410	535
е	15.6	10.6	15.6	10.6	15.6	10.6

	GX8-□452CR	GX8-□453CR	GX8-□552CR	GX8-□553CR	GX8-□652CR	GX8-□653CR
а	200	200	300	300	400	400
b	170	300	170	300	170	300
С	98.5	223.5	98.5	223.5	98.5	223.5
d	525.5	650.5	525.5	650.5	525.5	650.5
e	12.6	7.6	12.6	7.6	12.6	7.6

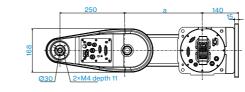
■ Motion Range (Ceiling Mounting)

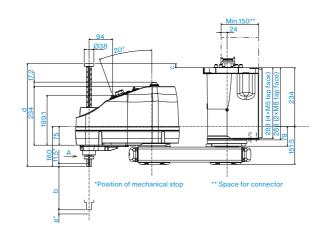


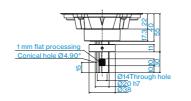
Model		GX8-□45□□R		GX8-□	55□□R	GX8-□65□□R	
		S,E C,P		S,E	C,P	S,E	C,P
а	Length of Arm #1+ Arm #2 (mm)	45	50	55	50	650	
b	Length of Arm #1 (mm)	20	00	30	00	400	
С	Length of Arm #2 (mm)			250			
d	Motion range of Joint #1(°)	10	05		15	2	
е	Motion range of Joint #2 (°)	12	25	147.5	145	147	7.5
f	Motion range	212	2.5	161.2	172.1	23	2
h	Joint #1 angle to hit mechanical stop (°)	0.	.9		1.	4	
i	Joint #2 angle to hit mechanical stop (°)	6.	.1	3.1	5.6	3.1	1
j	Mechanical stop area	19	1.7	14	7.7	219).7

Outer Dimensions (Wall Mounting)

Standard-model



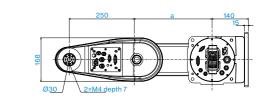


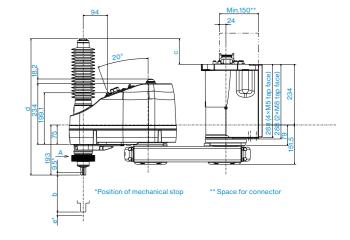


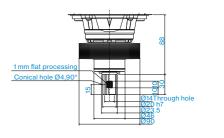
Detail of "A"

	GX8-□452SW,EW	GX8-□453SW,EW	GX8-□552SW,EW	GX8-□553SW,EW	GX8-□652SW,EW	GX8-□653SW,EW
а	200	200	300	300	400	400
b	200	330	200	330	200	330
С	16	141	16	141	16	141
d	410	535	410	535	410	535
е	15.6	10.6	15.6	10.6	15.6	10.6

Cleanroom-model



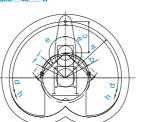




_						
	GX8-□452CW	GX8-□453CW	GX8-□552CW	GX8-□553CW	GX8-□652CW	GX8-□653CW
а	200	200	300	300	400	400
b	170	300	170	300	170	300
С	98.5	223.5	98.5	223.5	98.5	223.5
d	525.5	650.5	525.5	650.5	525.5	650.5
ρ	12.6	7.6	12.6	7.6	12.6	7.6

■ Motion Range (Wall Mounting)

GX8--45-W



Mc	odel	GX8-□45□□W		GX8-□55□□W		GX8-□65□□W	
		S,E	C,P	S,E	C,P	S,E	C, P
а	Length of Arm #1+ Arm #2 (mm)	450)	550		650	
b	Length of Arm #1 (mm)	200		300		400	
С	Length of Arm #2 (mm)	250					
d	Motion range of Joint #1 (°)	105	105		135		7.5
е	Motion range of Joint #2 (°)	125	;	147.5	145	147	7.5
f	Motion range	212.	5	161.2 172.1		232	
h	Joint #1 angle to hit mechanical stop (°)	0.9		11.2		5.	4
i	Joint #2 angle to hit mechanical stop (°)	6.1		3.1	5.6	3.	1
i	Mechanical stop area	191.	7	14	7.7	219	9.7

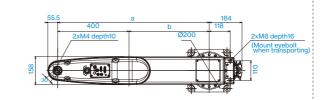
ARIZONAMACHINERY

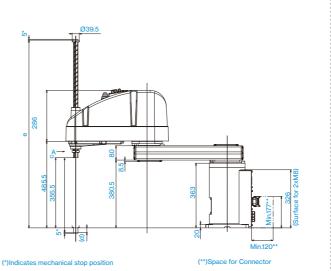
Web: www.arizonam.com

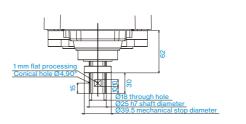
[Unit: mm]

Outer Dimensions (Table Top Mounting)

Standard-model



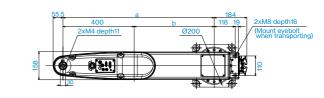


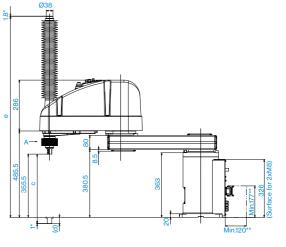


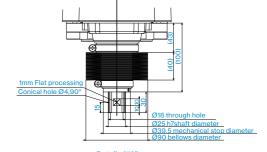
	GX10-□65□S	GX10-□85□S	GX20-□85□S	GX20-□A0□S
а	650	850	850	1000
b	250	450	450	600

	GX10/20-□□□1S	GX10/20-□□□4S
С	180	420
d	-213.5	26.5
_	813.5	1053.5

Cleanroom-model







		GX10-□65□C	GX10-□85□C	GX20-□85□C	GX20-□A0□C
	а	650	850	850	1000
ĺ	b	250	450	450	600

	GX10/20-□□1C	GX10/20-□□4C
С	150	390
d	-205.5	34.5
P	870.5	1129.5

0.25 kg·m² 0.45 kg·m² Joint #3 down force **■ Motion Range (Table Top Mounting)**

G20-B85□□

0.365 sec

11000 mm/s

GX10/20

850 mm

+0.025 mm

±0.01mm

±0.005 deg

2350 mm/s

Standard (equivalent to IP20), Cleanroom*3 & ESD*4, IP65 ınting, Wall mounting, Ceiling m

Table top/Ceiling: 49, Wall: 53

Standard: 3 / 5 / 10 / 15 / 20, Flexible: 5 / 10 / 15 / 20 CE,UKCA,KC,NRTL

G10-B85□□

0.377 sec

11000 mm/s

5 kg

10 kg

2400 deg/s

0.02 kg·m²

EPSON

1000 mm

0.422 sec

11500 mm/s

Table top/Ceiling: 50, Wall: 55

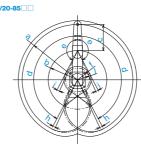
10 kg

20 kg

1700 deg/s

0.05 kg·m²

GX10/20-85



Мо	odel	GX10-□65□S GX10-□65□C GX10-□65□P		GX10- GX20-		GX20- A0 S GX20- A0 C GX20- A0 P		
а	Length of Arm #1+ Arm #2 (mm)	650		850		1000		
b	Length of Arm #1 (mm)	250		450		600		
С	Length of Arm #2 (mm)		400					
d	Motion range of Joint #1 (°)	152						
е	Motion range of Joint #2 (°)	152.5	152.5	0 ≥ Z ≥ -360	152.5	152.5		
				-360 ≥ Z ≥ -390	151			
f	Motion range	212.4	207.8	0 ≥ Z ≥ -360	207.8	307		
				-360 ≥ Z ≥ -390	218.3			
h	Joint #1 angle to hit mechanical stop (°)			3				
i	Joint #2 angle to hit mechanical stop (°)	3.5	3.5	0 ≥ Z ≥ -360	3.5	3.5		
				-360 ≥ Z ≥ -390	5			
j	Mechanical stop area	199.4		183.3		285.4		

Applicable controller	110700-2
Installed wire for customer use	D-sub15 pin x1, 9 pin x1, 8 pin (RJ45) x1
Installed pneumatic tube for customer use	Φ4 mm x 2, Φ6 mm x 2:0.59 MPa (6 kgf/cm²)
Power	AC200-240 V Single phase
Power Consumption*5	2.4kVA

GX10 GX20 GYROPLUS Technology

☐ : Table Top Mounting

650 mm

0.338 sec

8800 mm/s

Table top/Ceiling: 46, Wall: 51

W: Wall Mounting

R : Ceiling Mounting

S: Standard (equivalent to IP20)

P : Protection class: IP 65

Arm #1, #2

Maximum

Joints #1, #2

Joints #1, #2

Joint#3

Joint#4

Joint#3

Joint #4

Rated

EPSON

For high-speed, high-precision, multi-hand batch handling and

■ Choice of 650mm, 850mm, and 1000mm

■ Internal cabling and ducting minimizes

■ IP65 dust and water-resistant cleanroom

■ Tabletop, ceiling, and wall mounting

Model Number GX — - B 65 1 S —

packing of heavier loads ■ Handles payloads of up to 10/20kg

interference worries

models available

models available

65: 650mm (GX10 series only)

A0: 1000mm (GX20 series only)

: 420mm: (Standard)

Specifications

Arm length

Repeatability

Standard cycle time*1

Max. operating speed

Mounting type

Cable length

Weight (cables not included)

4 : 390mm: (Cleanroom & ESD, Protection)

10:10 kg 20 : 20 kg Arm length

85 : 850mm

Joint #3 stroke

*1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed)

*2: Set the parameters by the Inertia command according to the load and end effector status (refer to the instruction manual for the parameter calculation method).

*3: Complies with ISO Class 3 (ISO14644-1) and Fed-std209D Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.

*4: Main resin parts of the ESD model use conductive materials or apply plate processing. For the tip of the Manipulator (tool mounting part), we have confirmed that it is +/- 5 V or less even immediately after operating the

 $\hbox{\rm *5:}\ Varies\ according\ to\ operating\ environment\ and\ program.}$

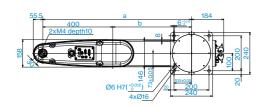
Outer Dimensions (Ceiling Mounting)

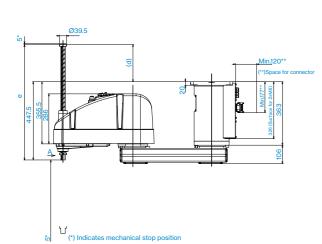
[Unit: mm]

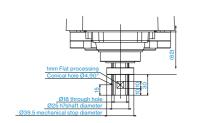
Outer Dimensions (Wall Mounting)

[Unit: mm]

Standard-model

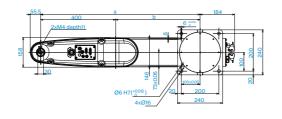


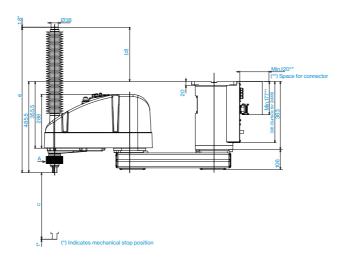


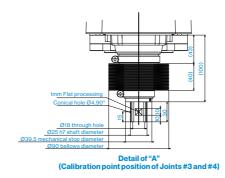


	GX10-□65□SR	GX10 -□]85□SR	GX20-□85□SR	GX20-□A0□SR	
а	650	850		850	1000	
b	250	450		450	600	
	GX10/20-□□□1SR		GX10/	20-□□□4SR		
С	180			420		
C d	180 -27.5					

Cleanroom-model

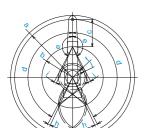






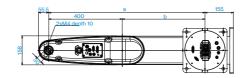
	GX10-□65□CR	GX10-	185□CR	GX20-□85□CR	GX20-□A0□CR
a	650	850		850	1000
b	250	450		450	600
	GX10/20-□□□1CR GX10/		20-□□□4CR		
С	150		390		
d	29.5		288.5		
e	51.5			774	

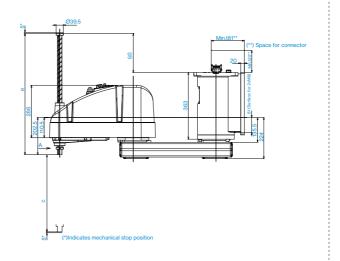
■ Motion Range (Ceiling Mounting)

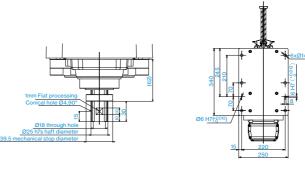


Model	GX10-□	GX10-□65□□R		GX10/20-□85□□R		GX20-□A05□□R	
Model	S	C,P	S	C,P	S	C,P	
a Length of Arm #1+Arm #2 (mm)	6	650		850		00	
b Length of Arm #1 (mm)	2:	250		450		600	
C Length of Arm #2 (mm)	400						
d Motion range of Joint #1 (°)	10	07	152				
e Motion range of Joint #2 (°)	13	30	152.5	151	15:	2.5	
f Motion range	30	6.5	207.8	218.3	30)7	
h Joint #1 angle to hit mechanical stop (°)	3						
i Joint #2 angle to hit mechanical stop (°)	3	.5	3.5	5	3.	5	
i Machanicalatanana	20	1.2	102.2		20	F 4	

Standard-model

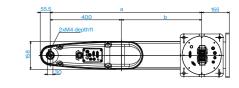


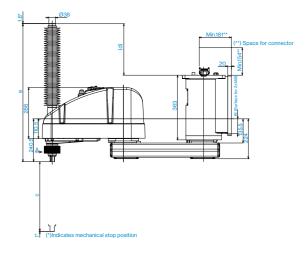


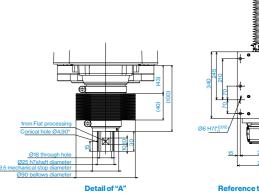




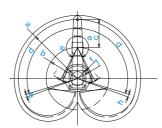
Cleanroom-model







■ Motion Range (Wall Mounting)



M	odel	GX10-□65□□W		GX10/20-□85□□W		GX20-□A05□□W		
	Juei	S	C, P	S	C,P	S	C,P	
а	Length of Arm #1+ Arm #2 (mm)	650		8	850		000	
b	Length of Arm #1 (mm)	250		450		600		
С	Length of Arm #2 (mm)	400						
d	Motion range of Joint #1 (°)	103	7	107				
е	Motion range of Joint #2 (°)	130		152.5	151	15	52.5	
f	Motion range	306.5		207.8	218.3	3	107	
h	Joint #1 angle to hit mechanical stop (°)	3						
i	Joint #2 angle to hit mechanical stop (°)	3.5	5	3.5	5	:	3.5	
j	Mechanical stop area	291,2 183,3 285,4				35.4		



LS series reliability and performance with improved operating ease

- Built-in Ethernet port on arm for easier camera connectivity
- Batteryless motor unit for reduced maintenance
- Diagonally oriented rear ducting for a lower profile that helps reduce installation space requirements

S : Standard

: 150mm: Standard-model : 120mm: Cleanroom-model (with bellows



■ Specifications

3 : 3kg

Arm length

40:400mm

Model Number LS3 - B40 1 S

Model name		LS3-B			
Model number		LS3-B401S/C			
Armlength	Arm #1, #2	400 mm			
Payload*1	Rated	1kg			
	Maximum	3kg			
Repeatability	Joints #1, #2	±0.01 mm			
	Joint#3	±0.01 mm			
	Joint #4	±0.01deg			
Standard cycle time*2		0.42sec			
Max. operating speed	Joints #1, #2	7200 mm/sec			
	Joint#3	1100 mm/sec			
	Joint #4	2600 deg/sec			
Joint #4 allowable moment of inertia*3	Rated	0.005 kg·m²			
	Maximum	0.05 kg·m²			
Joint #3 down force		100 N			
Installation environment		Standerd or Clean*4			
Mounting type		Table Top Mounting			
Weight(cables not included)		14kg			
Applicable Controller		RC90-B			
Installed wire for customer use		D-sub 15 pin x1, RJ45 8 pin (CAT 5e) x1			
Installed pneumatic tube for custon	ner use	Φ6 mm×2, Φ4 mm×1: 0.59 MPa (6 kgf / cm²)			
Power		AC200-240 V Single phase			
Power Consumption*5		1.0 kVA			
Cable length		3m/5m/10 m			
Safety standard		CE,KC			

- *1: Do not apply the load exceeding the maximum payload.
 *2: Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) with Accel 120% and 2 kg payload (path coordinates optimized for maximum speed). *3: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
- *5: It depends on environment and motion program

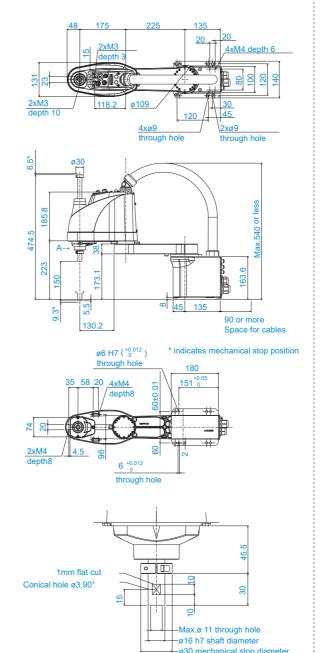
ARIZONAMACHINERY

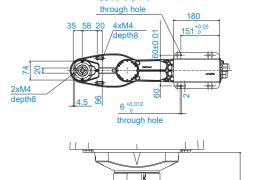
Web: www.arizonam.com

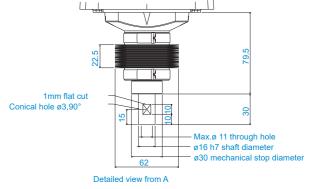
■ Outer Dimensions (Table Top Mounting)

[Unit: mm]

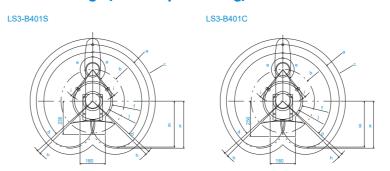
Standard-model Cleanroom-model







■ Motion Range (Table Top Mounting)



Мо	del	LS3-E	401□	
		Standard-model	Cleanroom-model	
а	Arm #1+ Arm #2 length (mm)	41	00	
b	Arm#1length (mm)	175		
С	Max. motion range (mm)	449		
d	Joint #1 motion angle (°)	132		
е	Joint #2 motion angle (°)	141		
f	Motion range (mm)	141.6		
g	Motion range at the rear (mm)	325.5		
h	Angle of the Joint #1 mechanical stop (°)	2	.8	
i	Angle of the Joint #2 mechanical stop (°)	4	.2	
j	Mechanical stop area (mm)	12	8.8	
k	Mechanical stop area at the rear (mm)	33	3 5	

S GYROPLUS Technology



LS series reliability and performance with improved operating ease

- Built-in Ethernet port on arm for easier camera connectivity
- Batteryless motor unit for reduced maintenance

S:Standard C:Cleanroon

■ Diagonally oriented rear ducting for a lower profile that helps reduce installation space requirements



Specifications

6 : 6kg

50:500mm 60:600mm

70:700mm

Model Number LS6 - B60 2 S

Model name			LS6-B				
Model number		LS6-B502S/C	LS6-B602S/C	LS6-B702S/C			
Armlength	Arm #1, #2	500 mm	600 mm	700 mm			
Payload*1 Rated			2 kg				
	Maximum		6kg				
Repeatability	Joints #1, #2		±0.02mm				
	Joint#3		±0.01mm				
	Joint#4		±0.01deg				
Standard cycle time*2		0.39 sec	0.40 sec	0.42 sec			
Max. operating speed	Joints #1, #2	7120 mm/sec	7850 mm/sec	8590 mm/sec			
	Joint#3	1100 mm/sec					
	Joint#4	2000 deg/sec					
Joint #4 allowable moment of inertia*3	Rated	0.01kg•m²					
	Maximum	0.12 kg•m²					
Joint #3 down force		100 N					
Installation environment		Standerd or Clean'4					
Mounting type		Table Top Mounting					
Weight(cables not included)		17	kg	18 kg			
Applicable Controller		RC90-B					
Installed wire for customer use		D-sub15pinx1,RJ458pin(Cat5e Class)x1					
Installed pneumatic tube for custon	ner use	Φ4mm×1, Φ6mm×2					
Power		AC200-240 V Single phase					
Power Consumption*5		1.1kVA					
Cable length		3m/5m/10m					
Safety standard			CE,KC				

- *1: Do not apply the load exceeding the maximum payload.
- *2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with Accel 120% and 2 kg payload (path coordinates optimized for maximum speed). Rounded down to the third decimal place.
- *3: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
- *5: It depends on environment and motion program

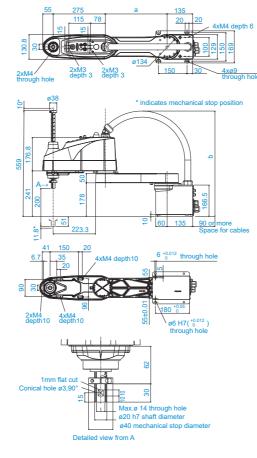
ARIZONAMACHINERY

Web: www.arizonam.com

[Unit: mm]

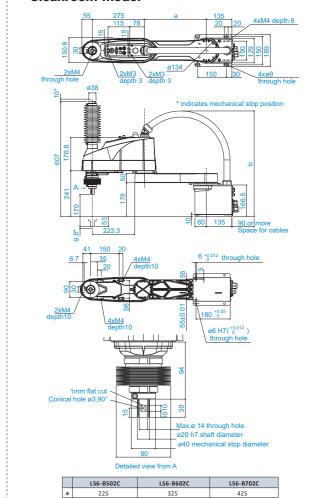
■ Outer Dimensions (Table Top Mounting)



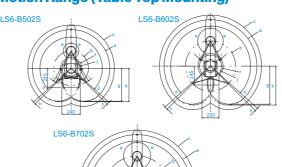


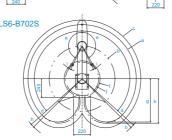
	LS6-B502S	LS6-B602S	LS6-B702S
а	225	325	425
b	529	559	589

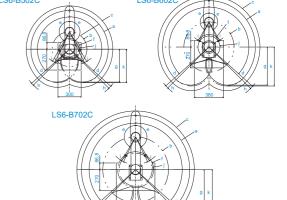
Cleanroom-model



Motion	Range (Table:	Ton N	(Auntina)	i







	·				
Model	LS6-B502□	LS6-B602□	LS6-B702□		
a Arm #1+Arm #2 length (mm)	500	600	700		
b Arm #1 length (mm)	225	325	425		
c Max. motion range (mm)	556	656	756		
d Joint #1 motion angle (°)	132				
e Joint #2 motion angle (°)	150				
f Motion range (mm)	138.1	162.6	232		
g Motion range at the rear (mm)	425.6	492.5	559.4		
h Angle of the Joint #1 mechanical stop (°)	2.8				
i Angle of the Joint #2 mechanical stop (°)	4.2				
j Mechanical stop area (mm)	121.8	142.5	214		
k Mechanical stop area at the rear (mm)	433.5	504	574.5		

26

S CYROPLUS Technology



A versatile new addition to the proven reliability and performance of the LS series

- 10kg payload for applications requiring high inertia or the use of complex effectors
- A choice of three arm lengths and two ball screw lengths for high configurability to suit a variety of application requirements
- Built-in Ethernet port for easy camera connectivity
- Batteryless motor unit for reduced maintenance



EPSON

■ Specifications

Model name			LS10		
Model number		LS10-B60□S/C	LS10-B70□S/C	LS10-B80□S/C	
Armlength	Arm #1, #2	600 mm	700 mm	800 mm	
Payload*1	Rated	5kg			
	Maximum		10 kg		
Repeatability	Joints #1, #2	±0.0	2 mm	±0.025 mm	
	Joint#3		±0.01mm		
	Joint#4		±0.01 deg		
Standard cycle time*2		0.39 sec	0.41sec	0.44sec	
Max. operating speed	Joints #1, #2	9100 mm/sec	9800 mm/sec	10500 mm/sec	
	Joint#3		1100 mm/sec		
	Joint#4		2700 deg/sec		
Joint #4 allowable moment of inertia*3	Rated	0.02 kg·m²			
	Maximum		0.3 kg·m²		
Joint #3 down force		200 N			
Installation environment		Standerd or Clean*4			
Mounting type		Table Top			
Weight(cables not included)		22	23 kg		
Applicable Controller		RC90-B			
Installed wire for customer use		D-sub15 pin x1, RJ458 pin (Cat 5e equivalent) x1			
Installed pneumatic tube for customer use		Φ6 mm×2, Φ4 mm×1			
Power		AC200-240 V Single phase			
Power Consumption*5		1.8 kVA			
Cable length			3 m/5 m/10 m		
Safety standard			CE,KC		

- *1 : Do not apply the load exceeding the maximum payload.
- *2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with Accel 120% and 2 kg payload (path coordinates optimized for maximum speed).
 *3: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.

- *4 : Complies with ISO Class 4 cleanroom standards.
 *5: It depends on operating environment and operation program

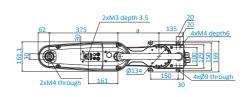
ARIZONAMACHINERY

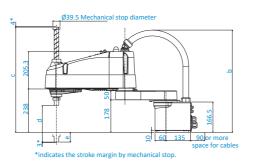
Web: www.arizonam.com

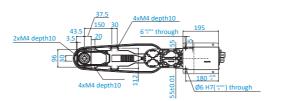
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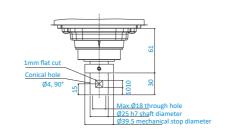
■ Outer Dimensions (Table Top Mounting)

Standard-model



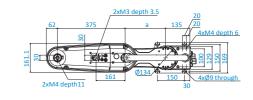


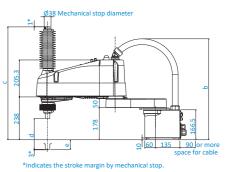


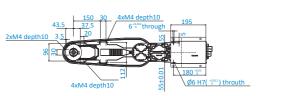


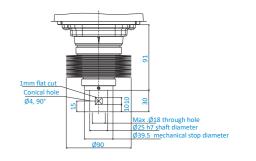
	LS10-B602S	LS10-B603S	LS10-B702S	LS10-B703S	LS10-B802S	LS10-B803S
а	225	225	325	325	425	425
b	Max.565	Max.565	Max.580	Max.580	Max.580	Max.580
С	577	677	577	677	577	677
d	200	300	200	300	200	300
_	F2	153	F2	153	F2	152

Cleanroom-model









	LS10-B602C	LS10-B603C	LS10-B702C	LS10-B703C	LS10-B802C	LS10-B803C
а	225	225	325	325	425	425
b	Max.565	Max.565	Max.580	Max.580	Max.580	Max.580
С	627	727	627	727	627	727
d	170	270	170	270	170	270
е	53	153	53	153	53	153

■ Motion Range (Table Top Mounting)



Model		Standard			Cleanroom		
	LS10-B602S/B603S	LS10-B702S/B703S	LS10-B802S/B803S	LS10-B602C/B603C	LS10-B702C/B703C	LS10-B802C/B803C	
a Length of Arm #1+Arm #2 (mm)	600	700	800	600	700	800	
b Length of Arm #1 (mm)	225	325	425	225	325	425	
c Max. motion range (mm)	663	763	863	663	763	863	
d Motion range of Joint #1(°)		132		132			
e Motion range of Joint #2 (°)		150			150		
f Motion range (mm)	212	188	213	212	188	213	
g Motion range at the rear (mm)	526	592	659	526	592	659	
h Joint #1 angle to hit mechanical stop (°)		2		2			
i Joint #2 angle to hit mechanical stop (°)		2		2			
j Mechanical stop area (mm)	206	176	200	206	176	200	
k Mechanical stop area at the rear (mm)	531	601	670	531	601	670	
m Motion range (mm)	420	330	320	420	400	480	
n Matian range (mm)							

LS20 A GYROPLUS Technology

LS series reliability and performance with improved operating ease

- Higher allowable moment of inertia for improved performance when using large end effectors to perform multi-item pick-and-place operations
- Built-in Ethernet port on arm for easy camera connectivity

Model Number LS20 - B80 4 S

- Batteryless motor unit for reduced maintenance
- Improved duct design for low vibration during operation and easy cable installation

S:Standard

: 420mm: Standard-model : 390mm: Cleanroom-model (with bellows)

EPSON

■ Specifications

20:20kg

Arm length 80:800mm

Model name		LS	20			
Model number		LS20-B804S/C	LS20-BA04S/C			
Armlength	Arm #1, #2	800 mm 1000 mm				
Payload*1	Rated	10	kg			
	Maximum	20	kg			
Repeatability	Joints #1, #2	±0.02	25 mm			
	Joint#3	±0.0	1mm			
	Joint#4	±0.01deg				
Standard cycle time*2		0.39 sec	0.43 sec			
Max.operating speed	Joints #1, #2	9940 mm/sec	11250 mm/sec			
	Joint#3	2300 mm/sec				
	Joint#4	1400 d	leg/sec			
Joint #4 allowable moment of inertia*3	Rated	0.05	kg•m²			
	Maximum	1.00 kg•m²				
Joint #3 down force		250 N				
Installation environment		Standerd or Clean*4				
Mounting type		Table Top Mounting				
Weight(cables not included)		48 kg	51kg			
Applicable Controller		RC90-B				
Installed wire for customer use		D-sub 15 pin x1, D-sub 9 pin x1, RJ45 8 pin (CAT 5e) x1				
Installed pneumatic tube for customer use		Φ8 mm × 2, Φ6 mm × 2:0.59 MPa (6 kgf / cm²)				
Power		AC200-240 V Single phase				
Power Consumption*5		2.4kVA				
Cable length		3m/5	m/10 m			
Safety standard		CE	кс			

- *1 : Do not apply the load exceeding the maximum payload.
- *2 : Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) with Accel 120% and 2 kg payload (path coordinates optimized for maximum speed).
- *3 : If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
- *4 : Complies with ISO Class 4 cleanroom standards.

 *5 : It depends on operating environment and operation program.

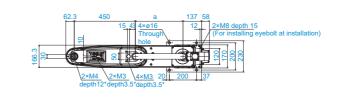
ARIZONAMACHINERY

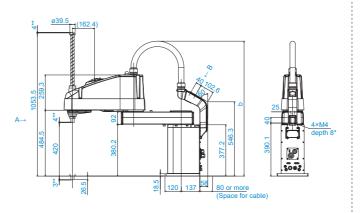
Web: www.arizonam.com

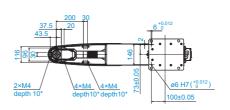
[Unit: mm]

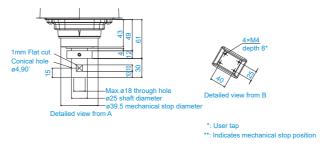
■ Outer Dimensions (Table Top Mounting)

Standard-model



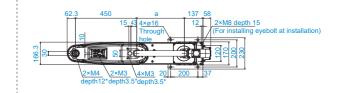


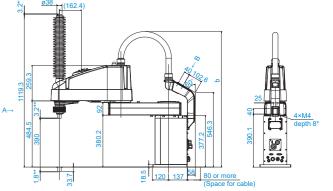


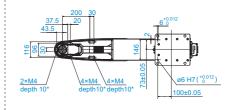


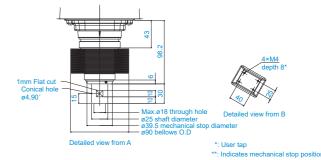
	LS20-B804S	LS20-BA04S
а	350	550
b	Max.1000	Max.1100

Cleanroom-model





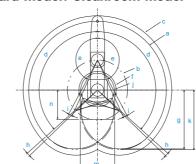




	LS20-B804C	LS20-BA04C
а	350	550
b	Max.1000	Max.1100

■ Motion Range (Table Top Mounting)

Standard-model / Cleanroom-model



Model	Stan	dard	Cleanroom	
	LS20-B804S	LS20-A04S	LS20-B804C	LS20-A04C
a Length of Arm #1+Arm #2 (mm)	800	1000	800	1000
b Length of Arm #1 (mm)	350	550	350	550
c Length of Arm #2 (mm)	864	1064	864	1064
d Motion range of Joint #1 (°)		1	32	
e Motion range of Joint #2 (°) 152				
f Motion range (mm)	216.5	260.7	216.5	260.7
g Motion range at the rear (mm)	684.2	818	684.2	818
h Joint #1 angle to hit mechanical stop (°)			2	
i Joint #2 angle to hit mechanical stop (°)		3	.6	
j Mechanical stop area (mm)	195.3	232.8	195.3	232.8
k Mechanical stop area at the rear (mm)	693.1	832.1	693.1	832.1
m Motion range (mm)	400	290	400	330
n Motion range (mm)	340	265	340	265

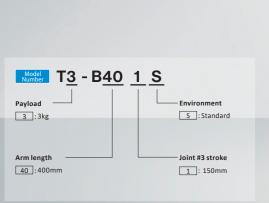
ARIZONAMACHINERY

■ Outer Dimensions (Table Top Mounting)

[Unit: mm]

Outstanding cost-efficiency and ease of use for significantly lower total operating cost

- Built-in controller reduces installation space and cabling requirements
- Convenient I/O ports located close to effector (including 24V power supply)
- Batteryless motor unit for reduced maintenance
- Operates on AC100V~240V power
- Superior energy-saving performance





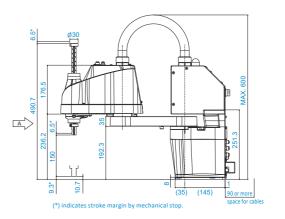
■ Specifications

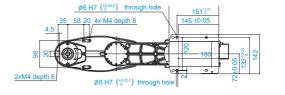
Model name		Т3		
Model number		T3-B401S		
Armlength	Arm #1, #2	400 mm		
Payload (Load) *1	Rated	1kg		
	Max.	3kg		
Repeatability	Joints #1-2	±0.02mm		
	Joint #3	±0.02mm		
	Joint #4	±0.02 deg		
Standard cycle time*2		0.54 sec		
Max. operating speed	Joints #1-2	3700 mm/sec		
	Joint #3	1000 mm/sec		
	Joint #4	2600 deg/sec		
Joint #4 allowable	Rated	0.003kg•m²		
moment of inertia*3	Max.	0.01kg·m ²		
Joint #3 down force		83N		
Installation Environment		Standard (IP20)		
Mounting type		Table Top		
Weight (cables not included)	tincluded) 16 kg			
Applicable Controller		Built in controller		
Installed wire for customer use		Hand I/O: IN6/OUT4 (D-sub 15 pin), 24 V User I/O: IN18/OUT12		
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x 1: 0.59 MPa (6 kgf/cm²)		
Power		AC100-240 V		
Power Consumption*4		0.66kVA		
Cable length		5 m		
Safety standard	ndard CE,KC			

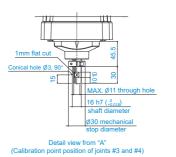
*1: Do not apply the load exceeding the maximum payload.

*2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1 kg payload (path coordinates optimized for maximum speed).

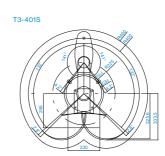
*3: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.







■ Motion Range (Table Top Mounting)



Web: www.arizonam.com

ARIZONAMACHINERY

Outstanding cost-efficiency and ease of use for significantly lower total operating cost

- Handles up to 6kg with 600mm arm length
- Built-in controller reduces installation space and cabling requirements
- Convenient I/O ports located close to effector (including 24V power supply)
- Batteryless motor unit for reduced maintenance
- Operates on AC100V-240V power



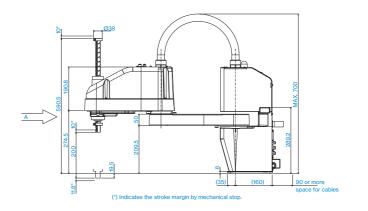
Model Number T6 - B60 1 S 6 : 6kg S:Standard Joint #3 stroke 60 : 600mm 2 : 200mm

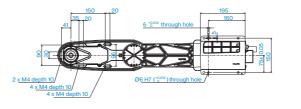
Specifications

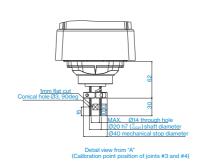
Model name		T6	
Model number		T6-B602S	
Armlength	Arm #1, #2	600 mm	
Payload (Load) *1	Rated	2kg	
	Max.	6kg	
Repeatability	Joints #1-2	±0.04mm	
	Joint #3	±0.02mm	
	Joint #4	±0.02deg	
Standard cycle time*2		0.49 sec	
Max. operating speed	Joints #1-2	4180 mm/sec	
	Joint #3	1000 mm/sec	
	Joint #4	1800 deg/sec	
Joint #4 allowable	Rated	0.01kg·m²	
moment of inertia*3	Max.	0.08 kg·m²	
Joint #3 down force		83N	
Installation Environment		Standard (IP20)	
Mounting type		Table Top	
Weight (cables not included)	i) 22 kg		
Applicable Controller	Builtincontroller		
Installed wire for customer use		Hand I/O: IN6/OUT4 (D-sub 15 pin), 24 V User I/O:IN18/OUT12	
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x 1: 0.59 MPa (6 kgf/cm²)	
Power		AC100-240 V	
Power Consumption*4	1.2kVA		
Cable length		5m	
Safety standard		CE, KC	

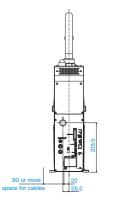
*1: Do not apply the load exceeding the maximum payload.
*2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2 kg payload (path coordinates optimized for maximum speed).
*3: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.

Outer Dimensions (Table Top Mounting)

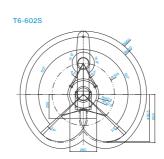








■ Motion Range (Table Top Mounting)



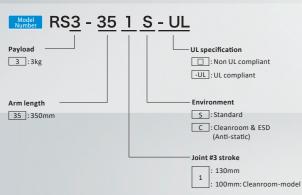
32

Force Sensing

RS3

Folding rotating arm enables large working area in limited space

- 350mm arm has effective reach of 494mm in four directions
- All-direction access for greater freedom in workcell layout
- Enables use of large pallets without requiring large robot installation footprint



Specifications

Model name		RS3	
Model number		R\$3-351□	
Armlength	Arm #1, #2	350 mm	
Payload	Rated	1kg	
	Maximum	3kg	
Repeatability	Joints #1, #2	±0.01mm	
	Joint #3	±0.01mm	
	Joint #4	±0.01deg	
Standard cycle time*1		0.34 sec	
Max. operating speed	Joints #1, #2	6237 mm/sec	
	Joint #3	1100 mm/sec	
	Joint #4	2600 deg/sec	
Joint #4 allowable moment of inertia*2	Rated	0.005 kg·m²	
	Maximum	0.05 kg·m²	
Joint #3 down force		150 N	
Installation environment		Standard/Cleanroom** &ESD	
Mounting type		Ceiling	
Weight (cables not included)	17 kg		
Applicable Controller		RC700-A	
Installed wire for customer use		15 Pin D-Sub	
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x 1: 0.59 MPa (6 kgf/cm²)	
Power		AC200-240 V Single phase	
Power Consumption*4		1.2kVA	
Cable length		3 m/5 m/10 m/15 m/20 m	
Safety standard		CE,KC,UL	

EPSON

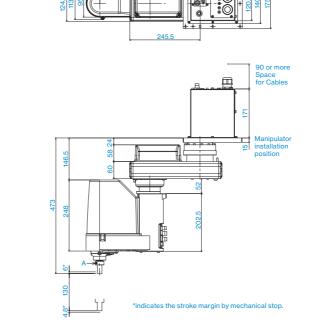
- *1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1kg payload (path coordinates optimized for maximum speed).
 *2: When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.
 *3: Complies with ISO Class 3 (ISO14644-1) and older Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.

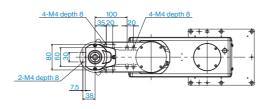
*4: Varies according to operating environment and program.

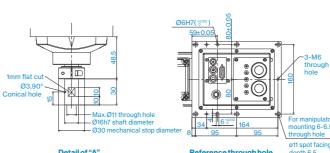
Outer Dimensions (Ceiling Mounting)

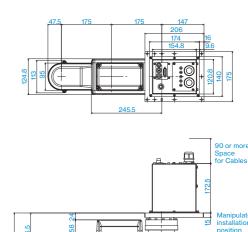
[Unit: mm]

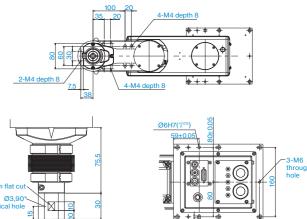


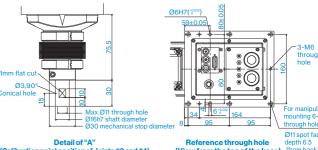




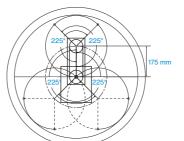








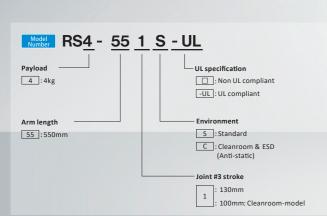
■ Motion Range (Ceiling Mounting)



Model	RS3-351□
Arm#1Length (mm)	175
Arm#2 Length (mm)	175
Joint#1Motionrange (°)	±225
Joint#2 Motion range (°)	±225

Folding rotating arm enables large working area in limited space

- 550mm arm has effective reach of 777mm in four directions
- All-direction access for greater freedom in workcell layout
- Enables use of large pallets without requiring large robot installation footprint





Specifications

Model name		RS4
Model number		RS4-551□
Armlength	Arm #1, #2	550 mm
Payload	Rated	1kg
	Maximum	4 kg
Repeatability	Joints #1, #2	±0.015 mm
	Joint#3	±0.01 mm
	Joint #4	±0.01deg
Standard cycle time*1		0.39 sec
Max. operating speed	Joints #1, #2	7400 mm/sec
	Joint#3	1100 mm/sec
	Joint#4	2600 deg/sec
Joint #4 allowable moment of inertia*2	Rated	0.005 kg·m²
	Maximum	0.05 kg·m²
Joint #3 down force		150 N
Installation environment		Standard/Cleanroom*3 &ESD
Mounting type		Ceiling
Weight (cables not included)		19 kg
Applicable Controller		RC700-A
Installed wire for customer use		15 Pin D-Sub
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x 1: 0.59 MPa (6 kgf/cm²)
Power		AC200-240 V Single phase
Power Consumption*4		1.4 kVA
Cable length		3 m/5 m/10 m/15 m/20 m
Safety standard		CE, KC, UL

- *1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1kg payload (path coordinates optimized for maximum speed).

 *2: When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.

 *3: Complies with ISO Class 3 (ISO14644-1) and older Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.

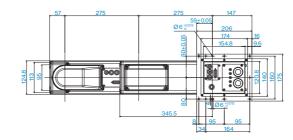
 *4: Varies according to operating environment and program.

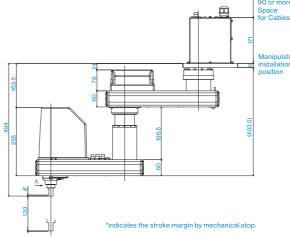
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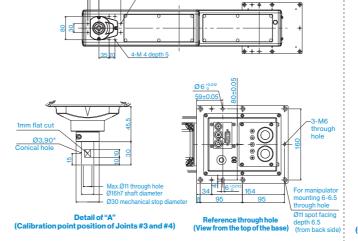
Web: www.arizonam.com

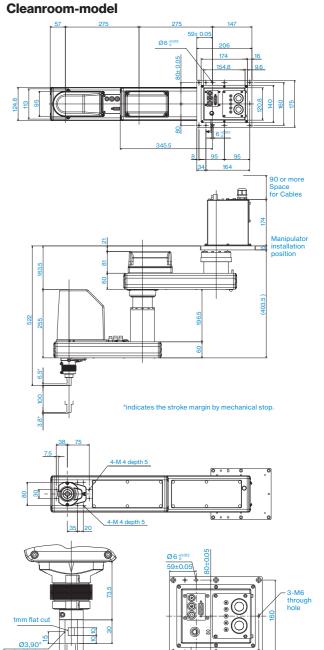
Outer Dimensions (Ceiling Mounting)

Standard-model









■ Motion Range (Ceiling Mounting)



Model	RS4-551□
Arm #1 Length (mm)	275
Arm #2 Length (mm)	275
Joint #1 Motion range (°)	±225
Joint #2 Motion range (°)	±225

Part Feeding

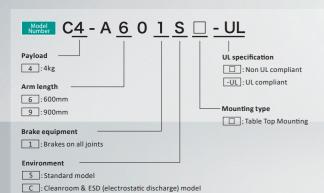
Controllers



GYROPI Technolog

Speed and flexibility for machine tending operation in confined workspaces

- High speed and repeatability for maximum productivity
- Compact design for enhanced configuration flexibility
- C4-A901 long arm model also available



■ Specifications

Modelname		C4	C4L	
Model number		C4-A601□	C4-A901□	
Max. motion range	P point:through the center of J4/J5/J6	600 mm	900 mm	
	Wrist flange surface	665 mm	965 mm	
Payload	Rated	11	kg	
	Maximum	4 kg (5 kg with arm do	wnward positioning)	
Repeatability	Joints #1-#6	±0.02 mm	±0.03 mm	
Standard cycle time*1		0.37 sec	0.47 sec	
Max. operating speed	Joint#1	450 deg/sec	275 deg/sec	
	Joint#2	450 deg/sec	275 deg/sec	
	Joint#3	514 deg/sec	289 deg/sec	
	Joint #4	555 de	eg/sec	
	Joint #5	555 de	eg/sec	
	Joint#6	720 deg/sec		
Allowable moment of inertia*2	Joint #4	0.15 kg·m²		
	Joint #5	0.15 kg·m²		
	Joint#6		.1kg·m²	
Installation environment		Standard/Cleanroom*3&ESD		
Mounting type		Table Top/Ceiling ^{≠4}		
Weight (cable not included)		27kg	29 kg	
Applicable Controller		RC700-A		
Installed wire for customer use		9 Pin D-Sub		
Installed pneumatic tube for customer		Ф4mm x 4: 0.59 MPa (6 kgf/cm²)		
Power		AC200-240 V Single phase		
Power Consumption*5		1.7 kVA		
Cable length		3m/5m/10m/15m/20m		
Safety standard		CE, KC, UL		

EPSON

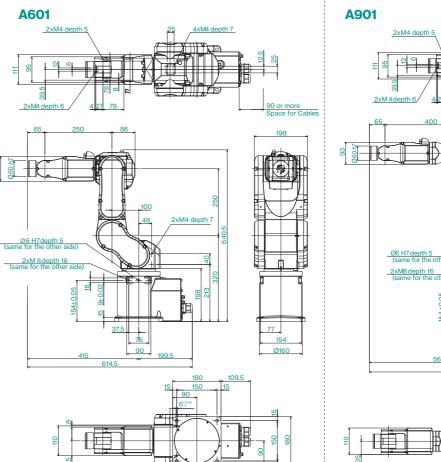
EPSON

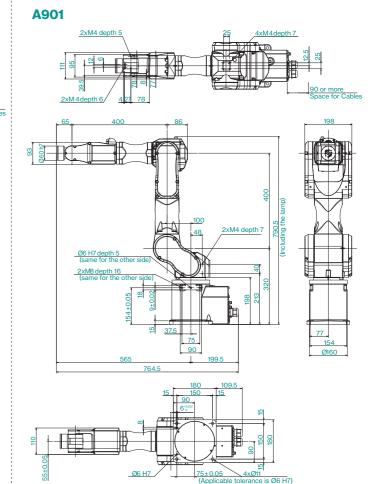
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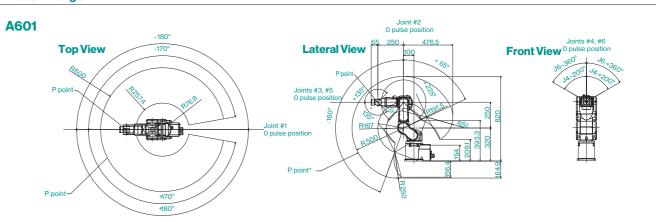
[Unit: mm]

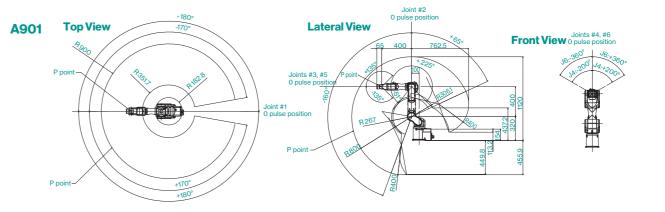
Outer Dimensions





■Motion Range





^{*1:} Cycle time based on round-trip arch motion (300mm horizontal, 25 mm vertical) with 1kg payload (path coordinates optimized for maximum speed). *2: When payload center of gravity is aligned with Joint #4, if not aligned with Joint #4, set parameters using INERTIA command. *3: Compiles with ISO Class 3 (ISO 14644-1) and older Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards. *4: Manipulators are set to "Table Top mounting" at shipment. To use the Manipulators as "Ceiling mounting" you need to change the model settings. For details on how to change the model settings. For details on how to change the model settings. For details on how to change the model settings. The second of the payload control of the second of the

ARIZONAMACHINERY

C8/C8L

Exclusive Epson technology ensures high speed and low vibration with heavy payloads

■ Ideal for multi-effector pick-and-place with multiple workpieces, and for handling and assembly tasks with heavy payloads

C8XL

Long, slim, 1400mm arm for machine tending operation

- Long, slim arm minimizes interference with nearby machinery and can reach into narrow spaces
- Low weight and compact design greatly increase configuration flexibility

Model Number C8 - A 14 0 1 3	<u> </u>
Payload ———	UL specification
8 : 8kg	: Non UL compliant
Arm length	-UL : UL compliant
7:710mm	Mounting type
9:900mm	: Table Top Mounting
14 : 1400mm	R : Ceiling Mounting
Brake equipment	W: Wall Mounting
1 : Brakes on all joints	M/C cable exit direction
Environment	: Rearward
S : Standard model	B: Downward
C: Cleanroom & ESD (electrostatic discharge) me	odel
P: Protection model (IP67)	

■ Specifications

Model name		C8 C8L C8XL		C8XL
Model number		C8-A701□□□	C8-A901□□□	C8-A1401□□□
Max. motion range	P point:through the center of J4/J5/J6	711 mm	901 mm	1400 mm
	Wrist flange surface	791 mm	981 mm	1480 mm
Payload*1	Rated	3 kg		
	Maximum		8 kg	
Repeatability	Joints #1-#6	±0.02 mm	±0.03 mm	±0.05 mm
Standard cycle time*1		0.31sec	0.35 sec	0.53 sec
Max. operating speed	Joint #1	331 deg/sec	294 deg/sec	200 deg/sec
	Joint #2	332 deg/sec	300 deg/sec	167 deg/sec
	Joint #3	450 deg/sec	360 deg/sec	200 deg/sec
	Joint #4	450 deg/sec		
	Joint #5		450 deg/sec	
	Joint#6		720 deg/sec	
Allowable moment of inertia*2	Joint #4		0.47 kg·m²	
	Joint #5		0.47 kg·m²	
	Joint#6	0.15 kg·m²		
Installation environment		Standard/Cleanroom*3 &ESD		
Mounting type	Table Top/Ceiling ⁺⁴ /Wali ⁺⁴ /Protection(IP67)			
Weight (cable not included)		49 kg (IP:53 kg)	52 kg (IP:56 kg)	62 kg (IP:66 kg)
Applicable Controller		RC700-A		
Installed wire for customer use		15 pin (D-sub), 8 pin (RJ45), 6pin (for force sensor)		
Installed pneumatic tube for customer		Φ6 mm x 2/Allowable pressure: 0.59 Mpa (6 kgf/cm²)		
Power		AC200-240 V Single phase		
Power Consumption*5		2.5 kVA		
Cable length		3 m/5 m/10 m/15 m/20 m		
Safety standard		CE,KC,UL		

^{*1:} Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) at each payload setting (path coordinates optimized for maximum speed)

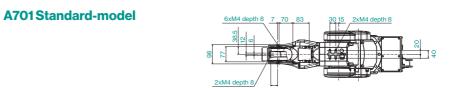
*2: When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4; if not aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.

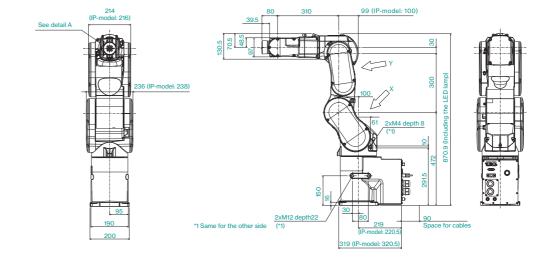
*3: C8 and C8L comply with ISO Class 3 (ISO14644-1) cleanroom standards (comparable to previous Clean Class 1: fewer than 10 particles with a diameter greater than 0.1 µm per 28317cm3:1cft in operating area air sample)

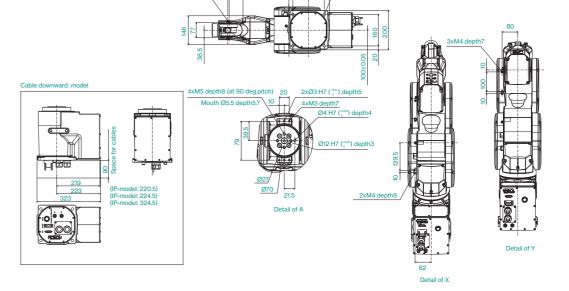
*4: Ceiling- and wall-mounts etlings- or wall-mount settings.

*5: Varies according to operating environment and program.

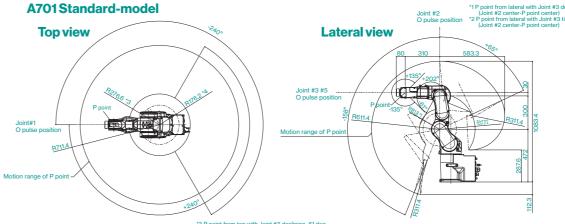
Outer Dimensions



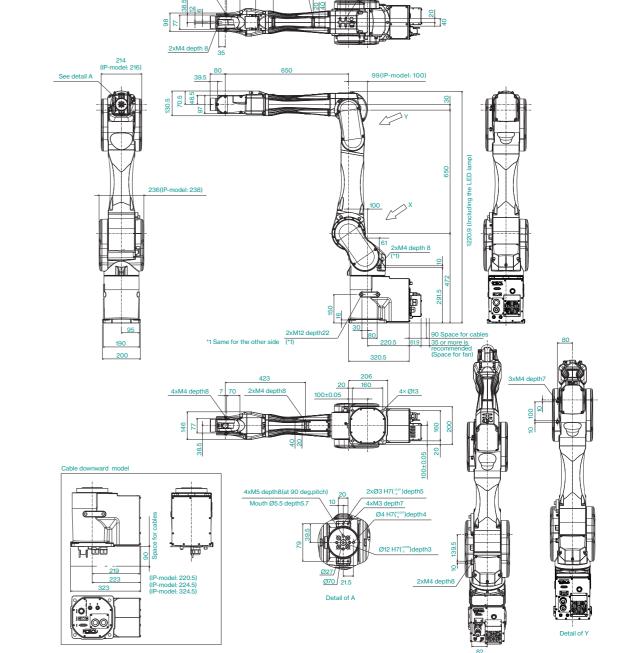




■ Motion Range

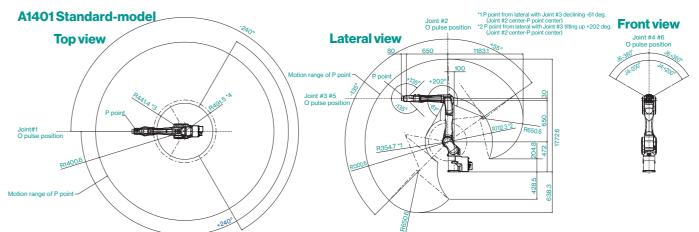


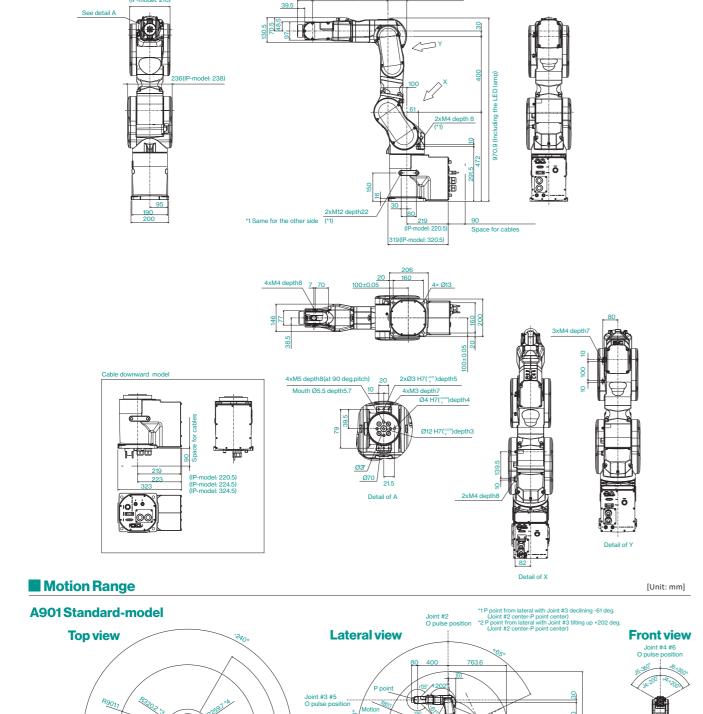
Front view



■ Motion Range

[Unit: mm]





41

Outer Dimensions

A901 Standard-model

Controllers

GYROPLUS Technology

Space saving, slim but highly payload

- Lightweight slim arm of 1400mm suitable for machine tending and transfer between processes
- The payload capacity has been increased to 12kg and can be used for a wide range of applications

Model number C12 - A14 01	
Payload	Mounting type
Arm length	M/C cable installation direction : Cable backward B: Cable downward
Blake equipment 1: Brakes on all joints	Environment S: Standard model C: Cleanroom model

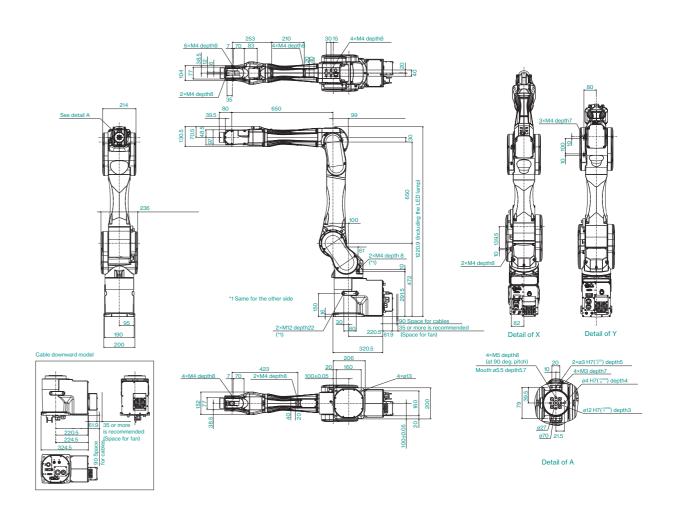
■ Specifications

•			
Model name		C12XL	
Model number		C12-A1401□□□	
Arm length Point P: J1-J5 center		1400 mm	
	J1-J6 Flange surface	1480 mm	
Payload	Rated	3kg	
	Max.	12 kg	
Repeatability	Joint#1-6	±0.05 mm	
Standard cycle time *1		0.50 sec	
	Joint#1	200 deg/sec	
	Joint#2	167 deg/sec	
Max. operation speed	Joint#3	200 deg/sec	
	Joint#4	300 deg/sec	
	Joint#5	360 deg/sec	
	Joint#6	720 deg/sec	
Allowable	Joint#4	0.70 kg·m2	
moment of inertia *2	Joint#5	0.70 kg·m2	
	Joint#6	0.20 kg·m2	
Installation Environment		Standard / Clean & ESD*3	
Mounting type		Table Top*⁴	
Weight (cables not include	d)	63kg	
Applicable Controller		RC700-A	
Installed wire for customer use		15 pin D-Sub , 8 pin(RJ45)CAT 5e	
Installed pneumatic tube for customer use		ø6 mm x 2 Pressure resistance : 0.59 MPa (6 kgf / cm²) (86psi)AC200-240 V	
Power*5		2.5 kVA	
Power Consumption		3/5/10/15/20m	
Cable length		CE, KC	
Safety standard			

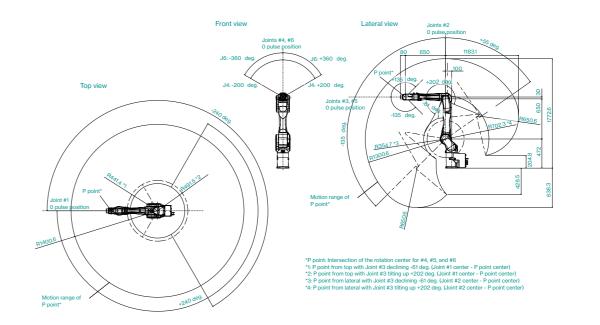
*1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with Accel 120% and 1 kg payload (path coordinates optimized for maximum speed). *2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command. *3: Clean level: ISO class 4 (ISO14644-1) *4: Mounting type other than table top are out of specification. If you wish, please contact the distributor.

*5: It depends on operating environment and operation program.

■ Outer Dimensions



■Motion Range

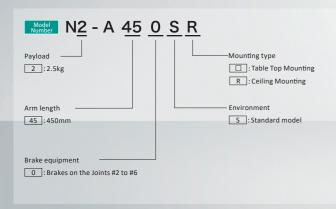




Unique folding arm design provides the motion flexibility of a 6-axis robot in the space-saving compact size

- Slim folding arm design
- Requires only 600mm x 600mm installation space 40% less than a C4 robot*
- Arm rotation enables shortcut access to workpiece from any direction

*C4: ø660 mm → N2: ø460 mm (Epson data as of October 2018)





■ Specifications

Specifications			
Model name		N2	
Model number		N2-A450SR	
Max. motion range	P point:through the center of J4/J5/J6	450mm	
	Wrist flange surface	532.2mm	
Payload*	Rated	1.0kg	
	Maximum	2.5kg	
Repeatability		±0.02mm	
Max. motion range	J1	297 deg/sec	
	J2	297 deg/sec	
	J3	356 deg/sec	
	J4	356 deg/sec	
	J5	360 deg/sec	
	J6	360 deg/sec	
Allowable moment of inertia*2	Joint #1-#6	0.2kg·m²	
	Joint#4	0.2kg·m²	
	Joint#5	0.08kg•m²	
Installation environment	Joint#6	Standard	
Mounting type		Ceiling / Table top *°	
Weight (cable not included)		19kg	
Applicable Controller		RC-700A	
Installed wire for customer use		15 pin (D-sub) 8 pin (RJ45) Cat 5e or equivalent (2 cables) (also used for Force Sensor)	
Installed pneumatic tube for customer		Φ6 mm x 2 : 0.59 MPa (6 kgf/cm²)	
Power		AC200-240 V Single phase	
Power Consumption [™]		0.6 kVA	
Cable length		3 m/5 m/10 m/15 m/20 m	
Safety standard		CE,KC	

- *1: Do not apply the load exceeding the maximum payload.
 *2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.

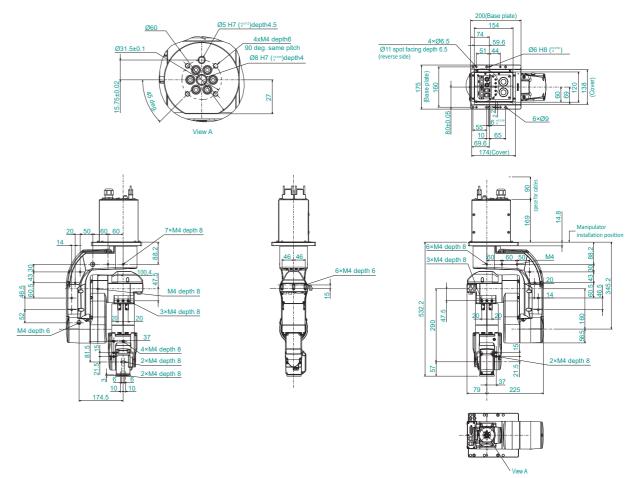
*4: Varies according to operating environment and program.

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Outer Dimensions

[Unit: mm]



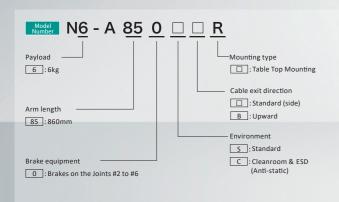
Motion Range

Company Compan



Ceiling mounted 6-axis robot with unique folding arm design

- 6-axis flexibility and SCARA-like arch motion enables shortcut access to work-piece from any direction in limited space
- 6kg payload ideal for automotive component handling
- Hollow arm construction for easy cabling setup and teaching



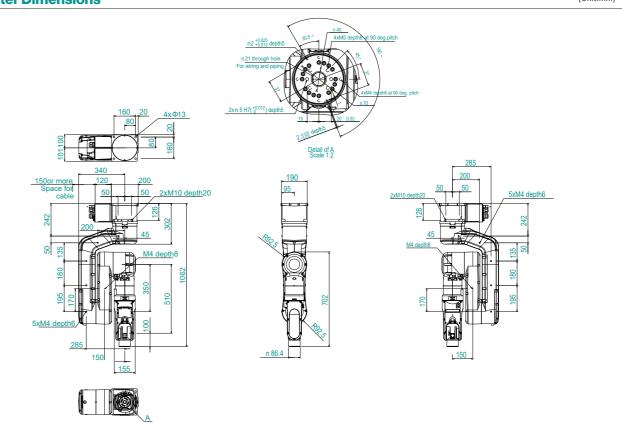


■ Specifications

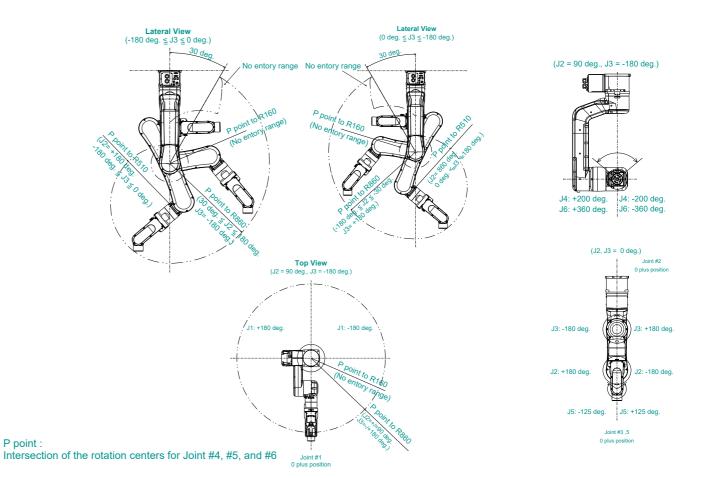
Model name		N6	
Model number		N6-A850□□R	
Max. motion range P point: through the center of J4/J5		860 mm	
	Wrist flange surface	960 mm	
Payload*1	Rated	3.0 kg	
	Maximum	6.0kg	
Repeatability	Joints #1-#6	±0.03 mm	
Max. motion range	J1	326 deg/sec	
	J2	326 deg/sec	
	J3	444 deg/sec	
	J4	444 deg/sec	
	J5	450 deg/sec	
	J6	537 deg/sec	
Allowable moment of inertia*2	Joint#4	0.42 kg·m²	
	Joint #5	0.42 kg·m²	
	Joint #6	0.14 kg·m²	
Installation environment		Standard, Cleanroom & ESD*3	
Mounting type		Ceiling	
Weight (cable not included)		64kg	
Applicable Controller		RC700-A	
Installed wire for customer use		D-sub 15 pin, RJ45 8 pin x2 (Cat 5e, for Vision and Force sensor)	
Installed pneumatic tube for customer		Φ6 mm x 2: 0.59 MPa (6 kgf/cm²)	
Power		AC200-240 V Single phase	
Power Consumption**		2.2 kVA	
Cable length		3 m/5 m/10 m/15 m/20 m	
Safety standard		CE, KC	
De antennius he lead averaging the manipum moderal			

- *1: Do not apply the load exceeding the maximum payload.
 *2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
- *3 : Complies with ISO Class 5 (ISO14644-1) and older Class 1 cleanroom standa

Outer Dimensions [Unit:mm]



Motion Range



No Company Section 1988 Section 1989 Section 1980 Section 1989 Section 1989 Section 1989 Section 1989 Section 1989 Section 1980 Section

Original folding arm mechanism reduces 6-axis robot installation space requirements

- High space utilization efficiency Extended reach for tall workpieces and high shelving Folding arm design enables installation in limited space
- Hollow arm construction for easy cabling setup

Model N6 - A 100 0	
Payload	Mounting type
6:6kg	☐ :Table Top Mounting R : Ceiling Mounting
Arm length	Cable exit direction
100 : 1010mm	: Standard (side)
	B: Upward/downward
Brake equipment	Environment
0 : Brakes on the Joints #2 to #6	S : Standard
	C : Cleanroom & ESD (Anti-static)



■ Specifications

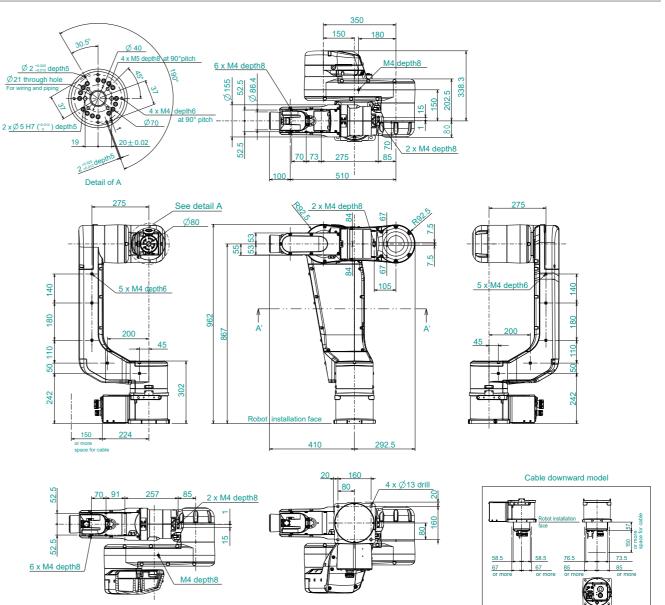
Modelname		N6	
Model number		N6-A1000□□□	
Max. motion range	Ppoint:through the center of J4/J5/J6	1010 mm	
	Wrist flange surface	1110 mm	
Payload*1	Rated	3.0kg	
	Maximum	6.0kg	
Repeatability	Joints #1-#6	±0.04mm	
Max. motion range	J1	326 deg/sec	
	J2	326 deg/sec	
	J3	444 deg/sec	
	J4	444 deg/sec	
	J5	450 deg/sec	
	J6	537 deg/sec	
Allowable moment of inertia*2	Joint #4	0.42kg•m²	
	Joint #5	0.42kg•m²	
	Joint#6	0.14kg•m²	
Installation environment		Standard, Cleanroom ⁴⁵ &ESD	
Mounting type		Table top / Ceiling st	
Weight (cable not included)		69 kg	
Applicable Controller		RC-700A	
Installed wire for customer use		D-sub 15 pin, RJ458 pin x 2 (Cat 5e, for Vision and Force sensor)	
Installed pneumatic tube for customer		Φ6 mm x 2:0.59 MPa (6 kgf/cm²)	
Power		AC200-240 V Single phase	
Power Consumption*5		2.2 kVA	
cable length		3m/5m/10m/15m/20m	
Safety standard		CE,KC	

*1: Do not apply the load exceeding the maximum payload. *2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
*3: Complies with ISO Class 5 (ISO14644-1) and older Class 1 cleanroom standards. *4: Ceiling-mounted robots should be programmed using the EPSON RC+ software ceiling-mount settings. *5: Varies according to operating

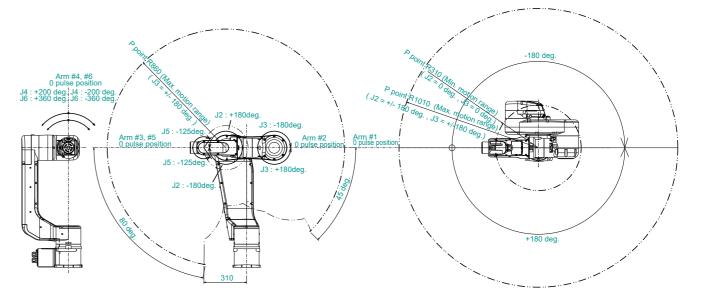
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Outer Dimensions [Unit: mm]

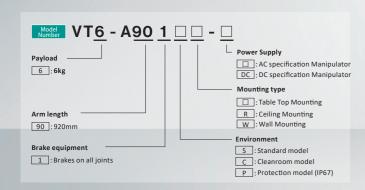


■ Motion Range



Simple setup and high cost-performance for easy and affordable automation

- Space-saving design with built-in controller
- 6-axis versatility without complicated setup
- 100V-240V power source compatibility
- Hollow wrist construction for internal cabling
- Batteryless motor unit for reduced maintenance





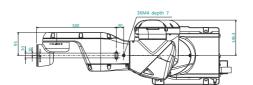
■ Specifications

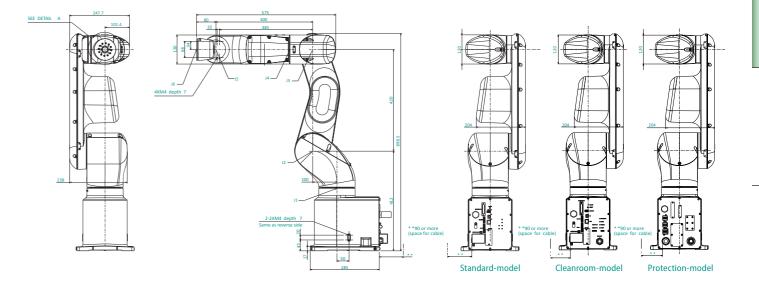
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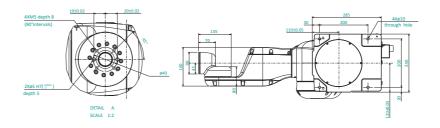
Modelname		VT6L			
Model number		VT6-A901□□-□			
Payload (Load)*1	Rated	3kg			
	Max.	6 kg			
Max.reach	P point : Joint#1-5 center	920 mm			
	Joint#1-5 flange surface	1000 mm			
Repeatability	Joint#1-6	±0.1mm			
Max. motion range*2	J1	166.2 deg/sec			
	J2	122.5 deg/sec			
	J3	141.2 deg/sec			
	J4	Standard, Cleanroom 268.7 deg / sec, Protection, DC 188.1 deg/sec			
	J5	296.8 deg/sec			
	J6	Standard, Cleanroom 293.2 deg/sec, Protection, DC 234.5 deg/sec			
Allowable moment of inertia*3	Joint#4	0.3 kg·m²			
	Joint#5	0.3 kg·m²			
	Joint#6	0.1kg•m²			
Mounting type**		Table top / Ceiling / Wall mounting			
Environment spec		Standard, Cleanroom**/Protection-model (IP67)			
Weight (cables not include	ed)	40 kg			
Applicable Controller		Built-in controller			
Installed wire for custome	ruse	None (External Wiring Option availabe)			
Installed pneumatic tube f	or customer use	None (External Wiring Option availabe)			
Power		☐, AC100-240 V single phase / DC, 43-60V**			
Power Consumption*7		1.2 kVA			
Cable length		□,5 m/DC,2m			
1/0	Standard I/O	In 24, Out 16 (Non polarity)			
	Remote I/O	In 8, Out 8 (Remote function assigned to standard I/O)			
Safety standard		CE,KC			

^{*1:} Do not apply the load exceeding the maximum payload. *2: In case of PTP control *3: If the center of gravity is at the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command. *4: Manipulators are set to "Table Top mounting" at shipment. To use the manipulators by other installation coordination, need to change the model settings on RC+ software. (Clean room & Protection models require table top mounting) *5: Complies with ISO Class 5 (ISO14644-1) and older Class 1 cleanroom standards. *6: When sharing the battery power source with AGV etc., a voltage higher than the stated value may be applied to the robot, depending on the operation of AGV etc. Take measures such as overcurrent protection. *7: It depends on operating environment and operation program.

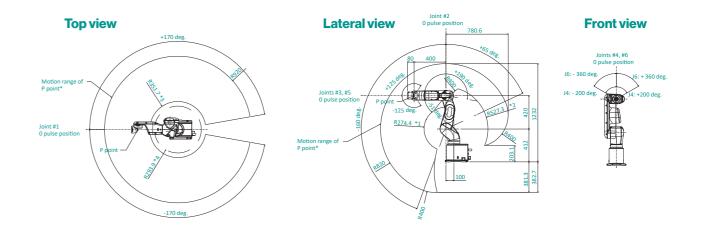
■ Outer Dimensions (Table Top Mounting)







■ Motion Range (Table Top Mounting)



11 RC700-A

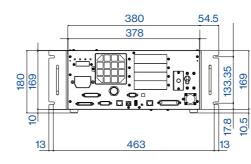
Multi-function Controller

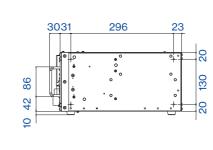
■USB connectivity; easy setup ■ Drive units can be added for multi-robot control

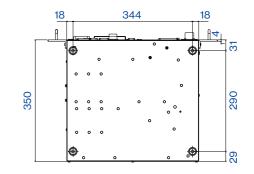
RC700-As	oftware/Man	ipulator supp	ort
Software		Epson RC+7.0	•
		G series	•
	SCARA robots	LS series	-
	COAMATOBOLO	RS series	•
Manipulator		T series	_
		C series	•
	6-axis robots	N series	•
		VT series	_











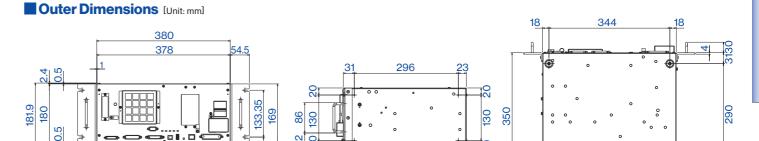
101RC90-B

Dedicated LS series Controller

■USB connectivity; easy setup

RC90-B software/Manipulator support				
Software		Epson RC+7.0	•	
		G series	_	
	SCARA robots	LS series	•	
	OUANA TOBOGS	RS series	_	
Manipulator		T series	_	
		C series	_	
	6-axis robots	N series	_	
		VT series	_	





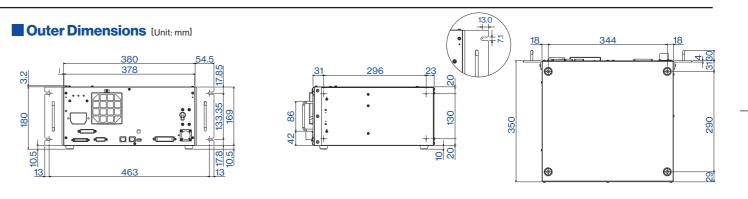
MRC700DU-A

Controller for Multi-Effector Control

■Connected to RC700-A controllers for multi-robot control.

RC700DU-	A software/Ma	nipulator sup	port
		G series	•
	SCARA robots	LS series	_
	SCARA TODOIS	RS series	•
Manipulator		T series	_
		C series	•
	6-axis robots	N series	•
		VT series	_





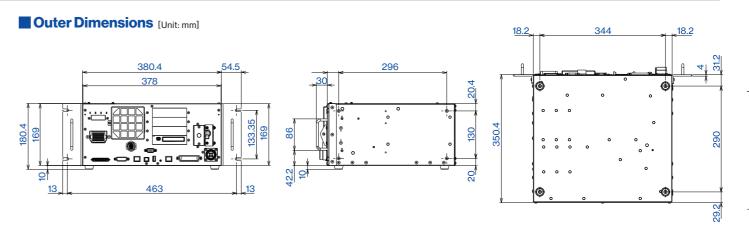
01RC700-E

Multi-function Controller with Enhanced Safety

■Safety board for flexible machine design

RC700-E software/Manipulator support					
Software		Epson RC+7.0	•		
		GX series	•		
	SCARA robots	LS series	_		
	COAMATOBOLS	RS series	_		
Manipulator		T series	_		
		C series	_		
	6-axis robots	N series	_		
		VT series	_		





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Specifications

	RC700-A	RC90-B	Drive units RC700DU-A	RC700-E		
Controllable axes			norosso x			
	Max. 6 AC servo motors	Max. 4 AC servo motors	Max. 6 AC servo motors	Max. 4 AC servo motors		
Robot manipulator cont	rol					
Programming language and Robot control software						
Joint control	Max. 6 axes simultaneous	Max. 4 axes simultaneous	Max. 6 axes simultaneous	Max. 4 axes simultaneous		
		Software AC	servo control			
Speed control		PTP control: 1-100% / CP c	control: real speed setting			
		PTP control: 1-100% (auto accelerat	tion) / CP control: real speed setting			
Positioning control						
			-Point control) is Path control)			
Storage capacity						
	Max. object size: 4 MB Point data area: 1000 points/f Backup variable area: Max. 10 (incl. control table) Approx. 1,000 variables are av The number varies depending	0 KB vailable.	_	Max. 100 kB (including management table area) About 1,000 variables can be used However, this varies depending of the size of array variables and oth factors		
External input/output si	ignals (standard)					
Standard I/O		Inpu Outp	ut: 24 ut: 16			
Communication interfac	ce (standard)					
Ethernet		1 channel	_	1 channel		
RS-232C		1 port	_	1 port		
Safety function	STO / Emergency Stop / Safeguard(SG)/Safety Door(Protective Stop) / Enable / "Speed monitoring in low-speed program verification function(T1 test mode) (250mm/sec or less)"					
Protective function						
	CPU error detection / Speed devia	ng / Overload detection / Torque error detection overflow detection / Overheat detection overflow detection / Temperature error / Temperature / Temperature / Temperature / Temperature / Temperature / Temper	n /Memory error detection / Fan error det			
Power source						
		AC200-240 V Single phase 50/60 Hz				
Weight (max.)*1						
	11 kg	7.5 kg or 10 kg (depending on effector in use)	9 kg	12 kg		
Mounting method	<u>'</u>					
	Flat, Vertical, Rack, Wall (option)	Flat, Vertical, Rack	Flat, Vertical, Rack, Wall (option)	Flat, Vertical, Rack		
			I.	l		

*1: The Controller body is labeled with the weight. When transporting or relocating the Controller, check the weight and be careful not to hurt your back when lifting it.

Taking Robot Performance to the Next Level

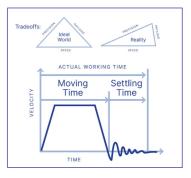
GYROPLUS Technology



Innovations in robotic automation have allowed manufacturers in countless industries to achieve higher throughput, improved quality, and safer working environments. But choosing a robot for an automation task often involves balancing tradeoffs between three key performance criteria: speed, payload, and precision.

The underlying cause of these performance tradeoffs is vibration of the robot arm. Manufacturing processes increasingly demand shorter cycle times for improved throughput, which in turn, requires higher speed and acceleration rates from the robot.

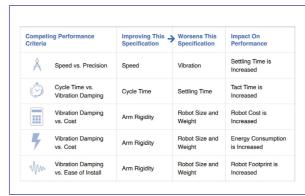
But as speed and acceleration increase, so does vibration in the robot arm.

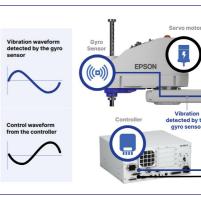


As a result, the ratio of settling time to the overall cycle time increases, reducing throughput and precision. And the common workarounds to these problems, such as increasing the rigidity of the robot arm, result in different performance tradeoffs.

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But as speed and acceleration increase, so does vibration in the robot arm. As a result, the ratio of settling time to the overall cycle time increases, reducing throughput and precision. And the common workarounds to these problems, such as increasing the rigidity of the robot arm, result in different performance tradeoffs.





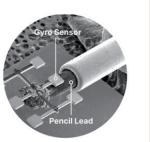
For decades, these performance tradeoffs have been accepted as an inevitable part of robot selection and operation — the laws of physics haven't changed. But thanks to GYROPLUS Technology from Epson, the compromises between a robot's speed, payload, and precision are finally being addressed.

Epson's GYROPLUS Technology was born out of the company's experience as a leading manufacturer of high-quality quartz crystal materials.

We've applied this guartz crystal technology - along with proprietary MEMS (microelectromechanical systems) processing technology - to sensing devices, producing an extremely compact, high-performance, quartz-based

The gyro sensor is configured as a "double-T" type crystal oscillator, which provides a very high signal-to-noise

ratio, excellent resistance to vibration and shock, and high-temperature stability. Traditional robot controls use angular velocity feedback located on the robot's motor. But the true angular velocity at the end of the robot arm often differs from the motor's angular velocity, due to mechanical tolerances, friction, and the influence of the attached load and peripherals such as end effectors and wiring. Now, with Epson's GYROPLUS Technology mounted at the end of the robot arm, the robot controller receives information about the behavior directly at the end of the arm, so it can deliver motion commands to address the exact movement and position of the arm, rather than an estimate based on the motor's angle and velocity. This means more precise control of positioning, along with significant vibration reduction.



Mitigating Tradeoffs in Robot Performance - GYROPLUS Technology -

SCARA Robots

6-axis Robots

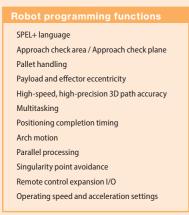
Controllers

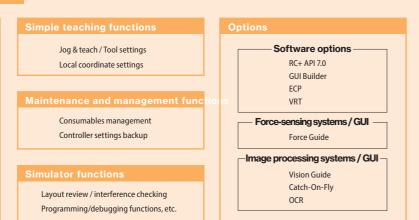
Epson RC+ software makes it easy to develop control programs for setup, operation, and regular maintenance. With an easy-to-understand graphic user interface, it helps you achieve maximum productivity with minimum programming overhead.

Epson RC+

For all-in-one management of program development, teaching, machine vision, force-sensing, simulation, and the graphic user interface.

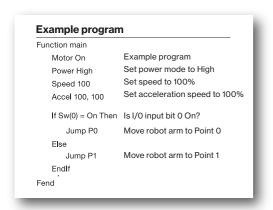
Epson RC+ 7.0 functions





SPEL+ language

Easy-to-learn SPEL+ programming is similar to BASIC, and provides full support for multitasking, motion control, I/O control, and a wide range of other functions.



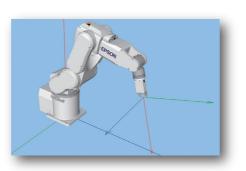
Jog & teach

All teaching commands are accessible from a single window for efficient programming.



Tool settings

The offset from the rotational axis to the effector tip can be preset to move the toolhead to a specified point without complex programming.



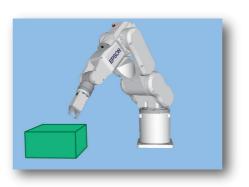
Local coordinate settings

A local coordinate system can be defined relative to the base coordinate system, enabling you to define workspaces based on angled coordinate systems or CAD point data.



Approach check area / Approach check plane settings

Enables you to check effector approach within an arbitrarily defined area or plane to prevent interference with other robots or peripheral equipment, and to restore effector position after an error occurs.



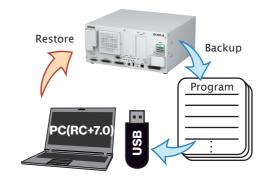
Consumables management

Enables you to set recommended maintenance alarms based on operating time or distance for batteries, grease, timing belts motors, brakes, and ball screw splines.



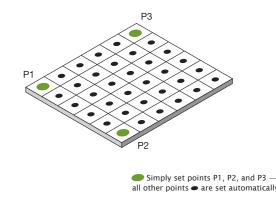
Controller settings backup

Controller settings and programs can be backed up to a PC or USB memory to facilitate offline analysis and enable quick restoration when needed.



Easy alignment with palletized parts

If parts are arranged in a square layout, spaced at regular intervals, the PALLET command can be used to quickly and precisely position the end effector.



High repeatability with varying payloads and effector orientation

Once the operator has set workpiece and effector weight, weight range, and effector orientation, acceleration is automatically adjusted to reduce residual vibration and ensure high repeatability.

High-speed, high-precision, 3D continuous path control

All Epson robot systems offer the fast, precise, three-dimensional continuous path (CP) control needed for high-productivity coating and sealant application processes. Advanced linear interpolation, arch interpolation, and free curve motion enable precise effector control, and simple PASS commands can be used to evade obstacles within the workcell space. Programmed paths can reference either a tool-centered control point or an external control point.

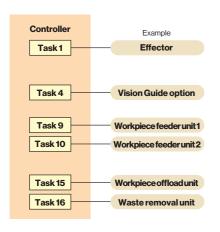
Continuous path (CP) control

Positioning completion time control for maximum efficiency

A time limit can be set for the completion of effector positioning to enable the next instruction to be executed even if the target point has not been reached. This allows you to maximize your yield by prioritizing takt (cycle) time over precision, or vice versa, according to the nature of the work to be done.

Multitasking function

With Epson's programming language, even complex multitask processes can be automated with ease. Up to 32 individual tasks can be seamlessly executed and controlled by a single program. Vision Guide machine vision, and pulse generator control of peripheral equipment can all be utilized to achieve full process automation.

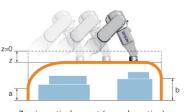


3D jump with variable arch for ultra-precise short-distance movement

EPSON SCARA and ProSix robots all support JUMP command movements in three-dimensional space, and the arch described by the approaching and departing effector can be set to suit the work environment.

Deceleration/acceleration of the approaching or departing head can be regulated without interrupting operation,

ensuring smooth, precise, short-distance motion that helps improve takt time and product quality stability.



a: Z-axis vertical ascent (mm; departing) b: Z-axis vertical descent (mm; approaching) z: Horizontal travel (mm)

Parallel processing for higher speed and efficiency

Parallel processing enables you to control peripheral devices while the robot arm is in motion. Commands can be sent via RS-232C or any other

supported I/O interface to ensure synchronized control of multi-device processes for maximum throughput efficiency.

to ensure

Material supply start signal

Configuration singularity avoidance function

Continuous path operations that contain robot arm configuration singularities can cause joint-speed overrun. If the arm approaches such a configuration, the singularity avoidance function prevents overrun errors by maintaining joint speed until the arm has moved past the point of singularity.



Remote control expansion I/O

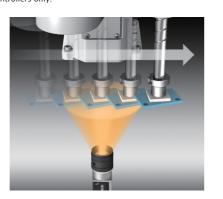
Using the remote control expansion I/O, the robot can be controlled simply by entering I/O commands — there's no need for complex program development.

On-the-fly pickup

Workpiece pickup, alignment, and kitting can be carried out on-the-fly without pausing robot movement.

Combined with an imaging system, it makes an ideal solution for high-speed alignment and handling of randomly arranged workpieces.

* RC700 controllers only.



Operating speed and acceleration/deceleration settings

Operating speed and acceleration/deceleration of the arm can be set in 100 steps.

PTP motion

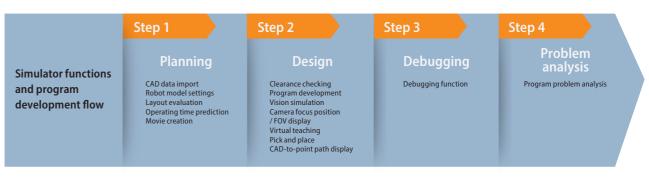
Maximum point-to-point speed is set as a percentage relative to the maximum acceleration speed. Ascent and descent speeds can also be set.

CP motion

For continuous path motion, maximum effector speed and acceleration/deceleration speed can be set in mm/sec² increments.

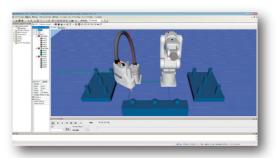
Simulator

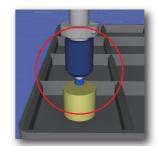
The simulator displays a 3D view of the robot that enables you to thoroughly test programs and confirm robot motion and operating clearances in a virtual environment before putting them into use on the factory floor.



Layout evaluation

3D simulation of robot operation enables you to determine workcell space requirements and necessary clearances.





Enlarged view of effector

CAD data import

CAD data points for peripheral equipment and the effector can be imported directly to the simulator.



Supported CAD data formats for 3D display

■ VRMI 2.0

- VRML 2.0
 Limitations: VRML 2.0 prototypes are not
- STEP (AP203/AP214)
 Limitations: Only ASCII code files are supported. Secolors can be displayed only when specified in the imported data.
- IGES ■ DXF

AutoCAD® DXF formats (DXF R13, DXF R14, DXF 2000/2000i, DXF 2002)

Robot model settings

Workcell layout are easy because 3D data is built into the software.



Robot operating time prediction

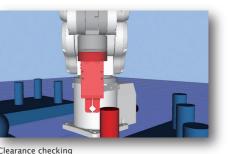
Robot operating time can be predicted based on motion speed and acceleration settings.

Still image / movie creation

Simulation results can be displayed as movies or still images that can be used as tools for evaluation, debugging, and information sharing.

Clearance checking

Clearances can be checked to ensure that the effector and arm do not interfere with the robot body or nearby equipment.



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SCARA Robots

6-axis Robots

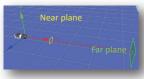
Controllers

Easy to Use Software Epson RC+ Express Edition

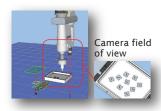
Program development

Programs can be written in SPEL+ and executed within the simulator.

Camera and field of view positioning



The simulator displays the position and angle of view for the selected camera and lens, making it easy to check camera positioning.

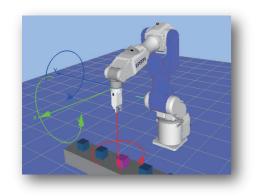


An image of the camera's field of view can also be displayed to facilitate positioning of workpieces and nearby equipment.

*Please note that live camera image display and Vision Guide connectivity are not supported, and displayed images cannot be image processed.

Virtual teaching

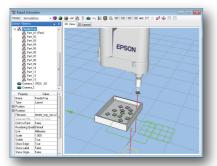
Teaching can be carried out within the simulator by positioning the robot with CAD data.



Pick and place

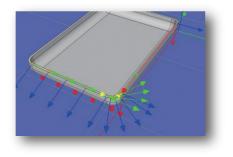
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Pick and place program CAD data can be evaluated in the simulator to ensure nearby equipment does not interfere with arm movement.



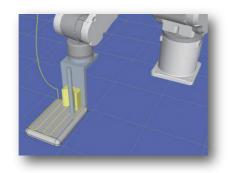
CAD-to-Point teaching

Teaching points can be set using imported CAD data.



Path display

Robot motion paths can be displayed to confirm teaching points and programs.



Debugging function

Programs can be run within the simulator, allowing full debugging without a robot. Virtual I/O control can be effected by entering values from a PC via RS-232C or TCP/IP.







Program problem analysis

Saved robot position data can be imported into the simulator to enable problem analysis and program revision.

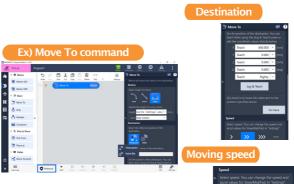
Program Template

- Premade template to create the simple program quickly. Pick-and-place, Palletizing, Depalletizing
- Complete the program simply by adding the location information for each command.



User Guidance

- When selecting a command, required setting items are displayed automatically
- Optimal preset parameters to minimize the items to set.



Gripper Setting

- Template and guidance for setting gripper motion in a short time.
 - Suction pad, mechanical chuck
- Gripper operation is available from the program without being aware of I/O control



Visual Programing

- Block-style low code programming language. User friendly GUI operatable from the tablet PC with
- No need to program with SPEL+, Epson's standard robot programming command.



Pallet Wizard

- Possible to create a pallet in 3 steps.
- Easy to understand start point and direction.



Visualized Jog & Teach

Intuitive GUI helps to reduce teaching difficulty and time. Visual jog buttons

Gripper control

Motion direction guidance







Epson's new RC700-E controller enhanced the safety of Epson robots. (1) By activating Safety Function 7.0 License (SLS/SLP), it becomes possible to utilize the optional safety functions which can contribute to realize more flexible layout system which allows robot and human to work in the shared space."

Safety Limited Speed (SLS)

Safety Limited Speed(SLS) is a function to monitor the speed of the robot to prevent the robot from exceeding the preset speed limitation.

By using this function together with external safety devices like safety mat, It is possible to decrease the speed and keep in motion when the human's approach is detected.



Safety Limited Position (SLP)

Safety Limited Position(SLP) is a function to monitor the robot's position and the joint angles to prevent the robot from entering in the preset restricted area.

By using this function together with external safety devices like light curtain, it is possible to set the area where the human exists as a restricted area for the robot.



Example of Productivity Improvement and Cost Reduction by utilizing SLS and SLP

Make the manual work in the robot's motion area possible while the robot is kept operating

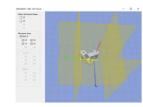
In the application that robot assembles the parts in the robot cell and human sometimes enter in the cell to load or unload the parts, if you used the robot without SLS and SLP function, the productivity of the system would be low because the robot must stop its operation during the human is working in the cell to keep his or her safety. It is possible to improve the productivity by adding

load/unload unit, but the cost of the system becomes higher, and the system size becomes bigger, By utilizing SLS and SLP, it is possible to keep the productivity and safety at the same time without using special load/unload unit. When a human come close to the cell, the SLS is activated to slow down the robot speed. And when the human enters in the cell to do load/unload work, SLP is activated to set the human's working area as a restricted area for the robot.

Software Tool for Safety Function

Safety function setting tool called "Safety Function Manager" is provided as a standard tool of Epson RC+ It is possible to assign safety I/O port and set SLS/SLP parameters with this tool.





Certification Provided by 3rd Party Testing Institute

Epson's GX-B series manipulators and RC700-E controller acquire the 3rd party certification by TÜV SÜD, international certification authority, for international standards of product safety such as ISO10218-1 and ISO13849-1(PLd, Cat3) and NRTL certification, which is the safety standard in North America.





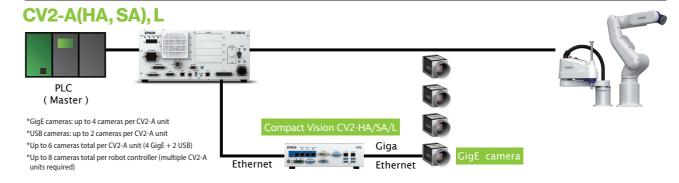
- *1 The supported model: SCARA robot "GX-B series"
- *2 Epson's safety function is not "collaborative" function When building the system, please implement the risk assessment for your system, and consider the necessary safety measures

Vision Guide

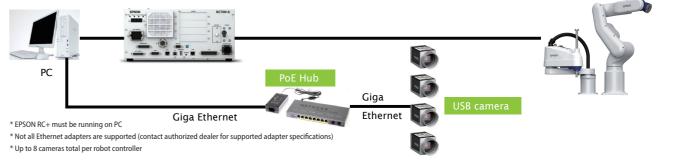
Get advanced machine vision and image processing systems up and running fast with easy-to-use Epson Vision Guide software

- making it easy to align the robot's coordinate system with the camera's field of view.
- Workpiece position can be determined relative to robot coordinates without complex calculations.
- Built-in image processing engine assists vision-to-robot calibration, Image processing sequences can be created simply by entering a few parameters and pointing and clicking with a mouse.
 - Advanced pattern matching and geometric search tools enable easy solution program development without writing a single line of code.

System configuration examples



PV₁

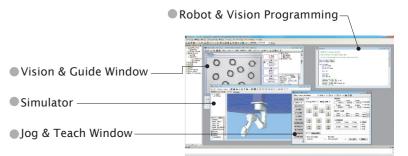


Features

Convenience

EPSON RC+ software can be used for both robot and machine vision program development.

■ Other machine vision systems are more complicated to set up because different software must be used for machine vision and robot program development.



Ease of use

Easy registration of vision objects (positioning coordinates, etc.) enables rapid system setup and deployment.

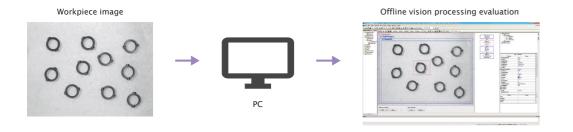
- Vision objects can be registered via simple drag & drop operation.
- Intuitive interface makes operation easy even for first-time users.



Vision simulation

Epson Vision software includes a simulator that lets you visualize robot operation and workflow before equipment is actually installed. This makes it easy to plan and configure the system for maximum productivity, and allow program development to proceed while the system is being constructed.

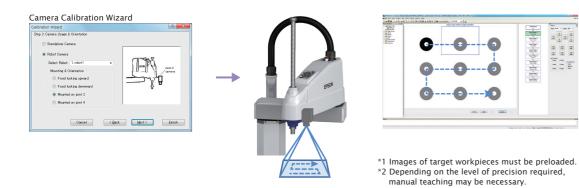
- Vision and process sequencing can be prepared in advance, before system is installed.
- Programs that include image processing sequences can be tested off line.
- If workpiece images are available. image processing can be tested off line.



Easy calibration

A built-in image processing engine makes it easy to align the camera's field of view with the robot's coordinate system, eliminating the need for complex programming when performing vision-to-robot calibration.

The robot automatically*1 follows the steps in the Calibration Wizard to complete the calibra-tion.*2



One-stop service

Whether you need help with initial setup or active production lines, Epson gives you one-stop service convenience for both robot and machine vision systems. With only one service call instead of two to coordinate, your production line will be back up and running in no time.

Item	CV2-L	CV2-SA	CV2-HA	
Image processing speed	Entry	Standard	High speed	
Connected cameras	up to 4 GigE cameras and 2 USB cameras (6 cameras total per CV2 unit) (all cameras must be compatible with Vision Guide)			
Interface	Ethernet (for robot controller: 2 RJ45 selectable ports [10 / 100 / 1000 Mbps]) (for GigE cameras: 4 RJ45 selectable ports [1000 Mbps])			
Dimensions (mm)	232 (W) x 175 (D) x 70 (H) (excluding rubber feet)			
Operating environment	5~40°C, 20~80%RH (no condensation)			
Installation direction	horizontal or vertical			
Voltage	DC 19~24 V			
Current	11.57 A (at DC 19 V) ~ 9.16 A (at 24 V)			
Weight	2.1 kg			

GigE cameras							
Camera resolution	1.3 megapixels	2 megapixels	5 megapixels	10 megapixels	20 megapixels		
Vision Guide resolution	1280 x 1080	1600 x 1200	2560 x 1920	3664 x 2748	5472 x 3648		
B&W / Color	B&W	B&W / Color	B&W / Color	B&W / Color	B&W / Color		
Dimensions (mm)	housing dimensions: 29 x 29 x 42 (total dimensions: 29 x 29 x 60.3)						
Weight	90 g (excluding lens)						
Ambient temperature	0~40°C (external surface temperature below 50°C)						
Ambient humidity		20~80% (no condensation)					
Lens mount	C mount						
Interface	PoE (Power Over Ethernet)						
Camera cable length	5 m /10 m						

Camera performance by CV2 system							
Item	Resolution	CV2-L CV2-HA, CV2-SA PV					
	1.3 megapixels	ixels B&W					
GigE cameras	2 megapixels	B&W / Color					
oige cuiterus	5 megapixels	B&W / Color*1					
	10 megapixels	- B&W / Color*1					
	20 megapixels* ²		- B&W / Color				

- *1: CV2-L 5M camera supports rolling shutter only (no global shutter)
 *2 Requires RC+ 7.4.5 or later and CV2 firmware 3.1.1.0 or later
- *2 Requires RC+ 7.4.5 or later and CV2 firmware 3.1.1.0 or later
 *3 10M color imaging requires RC+ 7.4.4 or later and CV2 firmware 3.1.0.5 or later

	Megapixel lenses			Megapixel lenses (HF)												
Focal length (mm)	8	12	16	25	50	8	12	16	25	35	8	12	16	25	35	50
Minimum focus distance (mm)	0.1	0.15	0	.3	0.5		C).1		0.2	0.2		0	.3		0.5
Mass (g)	62.6	61.9	60	71.2	85	95	85	90	8	5	164.8	102.8	94.4	78.6	103.0	107.0
Filter diameter (mm)		N	/130.5 × P0.5			M30.5 × P0.5			;		-	M40.5 × P0.5		M34.0	× P0.5	
External dimensions* (mm)		ø 33.5 × 28.2	2	ø 33.5 × 36.0	ø 33.5 × 38.2	ø 33.0 × 48.5	ø 33.0	× 52.5	ø 33.0	× 53.1	ø 57.5 × 53.2	ø 42.0 × 36.1	ø 39.5 × 35.2	ø 39.5 × 34.0	ø 39.5	× 45.2

- * As lenses are larger than camera bodies, protrusions on camera attachment surface may interfere with lens operation. In such case,
- use the optional camera bracket to ensure that protrusions do not affect lens operation.

 * Lens support varies according to camera type. Contact your local Epson dealer for details.

Other Options				
Extension tube set	Can be inserted between the camera and lens to adjust focusing distance and field of view. Set includes 0.5, 1, 5, 10, 20, and 40 mm tubes (1 each). Tubes can be used singly or in combination to obtain the desired focusing distance. Lenses Extension tube			
High-flex GigE camera cable (5 m / 10m)	Cable for connecting GigE cameras to CV2, GigE camera POE injector, or switching hub.			
High-flex GigE camera trigger cable (5 m / 10 m)	Camera triggering cable for connecting GigE cameras to robot controller.			
CAT5e Ethernet cable (5 m / 10 m)	Cable for connecting robot controller to CV2, GigE camera PoE injector, or switching hub.			
GigE camera PoE injector	Power supply unit to provide power to 1 GigE camera via LAN port.			
GigE camera PoE switching hub	Power supply switching hub to provide power to multiple GigE cameras via LAN port.			
Power cable (for PoE injector or switching hub)	Power supply cable for GigE camera PoE injector and switching hub.			
GigE camera tripod adapter	1/4-inch threaded adapter for attaching a GigE camera to a tripod.			

SCARA Robots

6-axis Robots

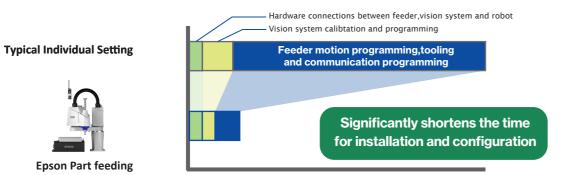
Controllers

Epson part feeding delivers a powerful solution to accommodate a wide variety of parts. Simply setup, improve flexibility.

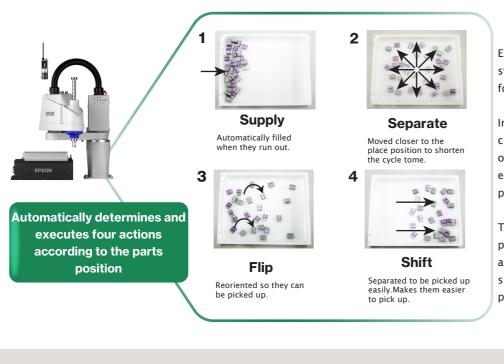


Reduce Installation and Configulation Time

The high-performance feeder and Epson RC+ offers easy setup and configuration.



Easy optimize for complete parts control

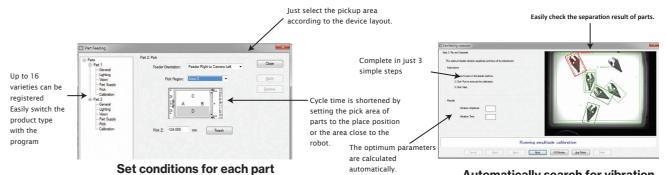


Epson Part Feeding uses a vision system and feeder to control parts for efficient picking by the robot.

In the past, skilled robot engineers created programs to select the optimum operation through trial and error according to the image processing results.

This solution performs the four preset actions on the left as appropriate according to the situation, enabling highly efficient pick-and-place work.

Epson RC+ makes it easy to set and adjust the optimum pick conditions



Automatically search for vibration parameters according to parts

With an easy-to-use wizard and GUI, you can intuitively and automatically set and change parameter settings for efficiently picking and placing parts.

In the past, skilled robot engineers searched for vibration parameters by trial and error for individual workpieces.

Epson part feeding allows you to register a large number of parts and easily switch settings, so you can respond smartly to variable production.

*Specifications are subject to change without notice for the purpose of improving functions.

Supports a wide variety of parts up to 16 types can be registered

Epson part feeding can precisely control the amplitude, time, and timing of vibration, and can handle parts of a wide range of materials and shapes. In the past, it was necessary to prepare a dedicated feeder for each part or to perform special processing on the feeder container.



This solution can handle various parts without modifying the hardware, improving model switching and reducing running costs.



Parts feeding system configuration list					
Item	Specification				
Applicable robot controller	RC700, RC700-A, RC700-E, RC90, RC90-B (Depends on the manipulator)				
Applicable manipulator	RS series, G series, GX series, LS series , T series, C series, N series, VT series				
Applicable vision	PV1, CV2				
Applicable feeder	IF-80, IF-240, IF-380, IF-530 (See table below)				
Safety standard	CE				

Feeder specification						
Item/Specification	IF-80	IF-240	IF-380	IF-530		
Part size	3~8 mm	5~40 mm	15~60 mm	30~150 mm		
Vibration surface (LxW)	65 x 52 mm	195 x 150 mm	325 x 254 mm	427x370mm		
Footprint (LxWxH)	320 x 65 x 140 mm	300 x 171 x132 mm	499 x 257 x 308 mm	600 x 374 x 328 mm		
Power	DC24V, 6A DC24V、8A DC24V、20A					
Communication	Ethernet (100Base-T)、TCP/IP					
External device control	Hopper control terminal					
Backlight (selected when ordering and built into the main unit)	None, white, red, blue, green, infrared					
Vibration plate	Anti-rolling(Lattice groove, rolling prevention)、Anti-stick(Circular groove, rolling prevention)					
	Plane+ESD (anti-static measures) 、Anti-rolling+ESD (Lattice groove, anti-static measures)					









High-rigidity, high-sensitivity S250 Series force sensors are specifically designed for use with Epson robots, enabling extremely precise force control for high-precision assembly tasks.

03 force sensors

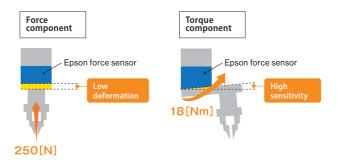
S250 Series force sensors incorporate exclusive Epson crystal piezoelectric technology that ensures a higher level of rigidity and sensitivity than conventional force sensors.

Advantage 1 high rigidity

S250 Series sensors are extremely rigid and resistant to deformation under heavy loads. They have a rated load of 250[N] on the X, Y, and Z axes, and a moment of force of 18[Nm] that makes them particularly sensitive to axial stress.

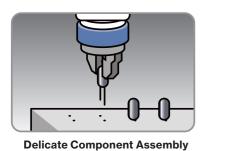
Advantage 2 high sensitivity

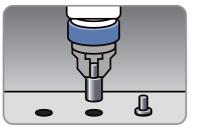
S250 Series sensors also ensure excellent sensitivity and quick response with high resolution of 0.1[N] and a low noise level of 0.035[N] on the X, Y, and Z axes.

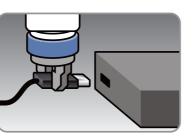


Force-sensing system applications

Robots equipped with an Epson S250 Series force sensing system can handle high-precision tasks that cannot be safely automated with teaching or machine vision systems alone. As a result, even production processes that previously required experienced workers to handle delicate and easily damaged workpieces can be fully automated.





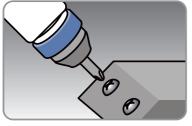


Precision Mating

Connector Insertion

STEP 3

•Maintenance & repair





Screw Tightening

/ Tightening

One-stop Epson support

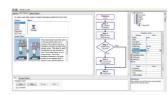
From initial planning and procurement, to setup, adjustment, ongoing maintenance and re-pair, Epson provides one-stop support for all your force-sensing system and automation needs.



Easy force sensing program development

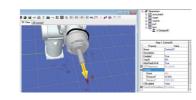
The new Force Guide interface makes it easy to develop force sensor operating programs simply by dragging Force Guide object icons into a flow chart. In addition, simulator motion display and force waveform monitoring make debugging easier than ever before.

High-rigidity, high-sensitivity S250 Series force sensors are specifically designed for use with Epson



Force Guide GUI

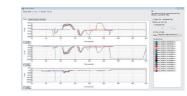
The Force Guide interface provides a clear explanation of what each programming object does, as well as a flow chart view for easy confirmation of program sequence ordering.



Simulator

robots, enabling extremely precise force control for high-precision assembly tasks.

The simulator enables quick confirmation of the direction of robot arm movement and axis coordinates.



Force waveform display & recording

The force waveform display allows realtime waveforms to be compared with previously recorded waveforms, enabling users to identify operating anomalies and understand how various conditions affect performance.

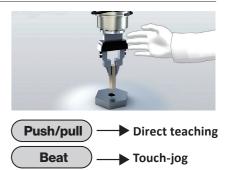
Direct teaching function

6-axis robots equipped with force sensors can be taught using the Epson TP2/TP3 teaching pendant. Operators can manually move the robot arm and manipulator to the desired position and use the teaching pendant to confirm hardness/softness of the workpiece and the force to be applied.*

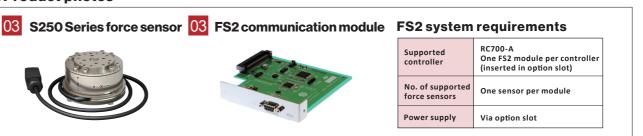
Touch-jog function*

In addition to the standard button-operated jog and teaching modes, the TP2 teaching pendant now has a direct teaching mode with a touch-jog function that makes 6-axis robot teaching much easier. During direct teaching operations, you can simply tap the effector to make small, incremental adjustments to the effector's position. There's no need to manually switch input modes because the system can automatically recognize the amount of force being applied to the effector.

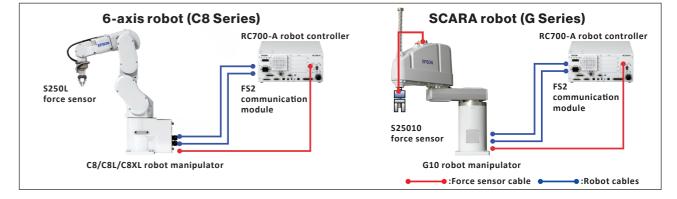
* Supported by TP2 teaching pendant and C4, C8, N2, and N6 robots (controller firmware v7.4.6 or newer required)



■ Product photos



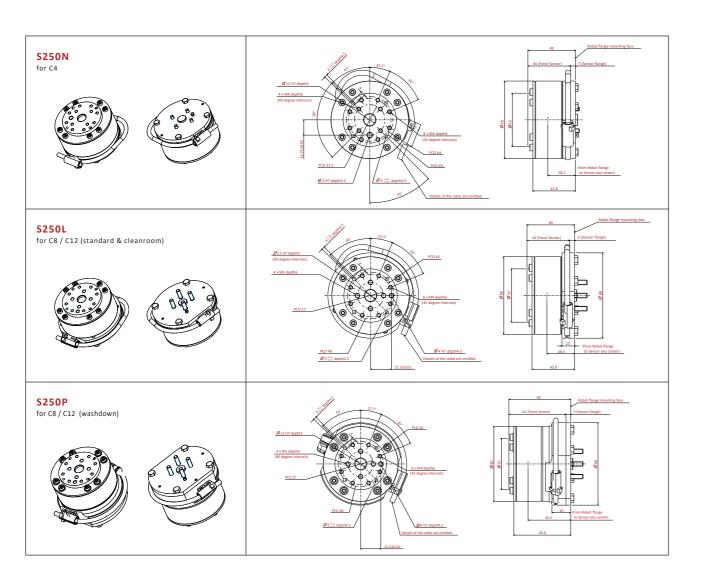
■ System setup examples

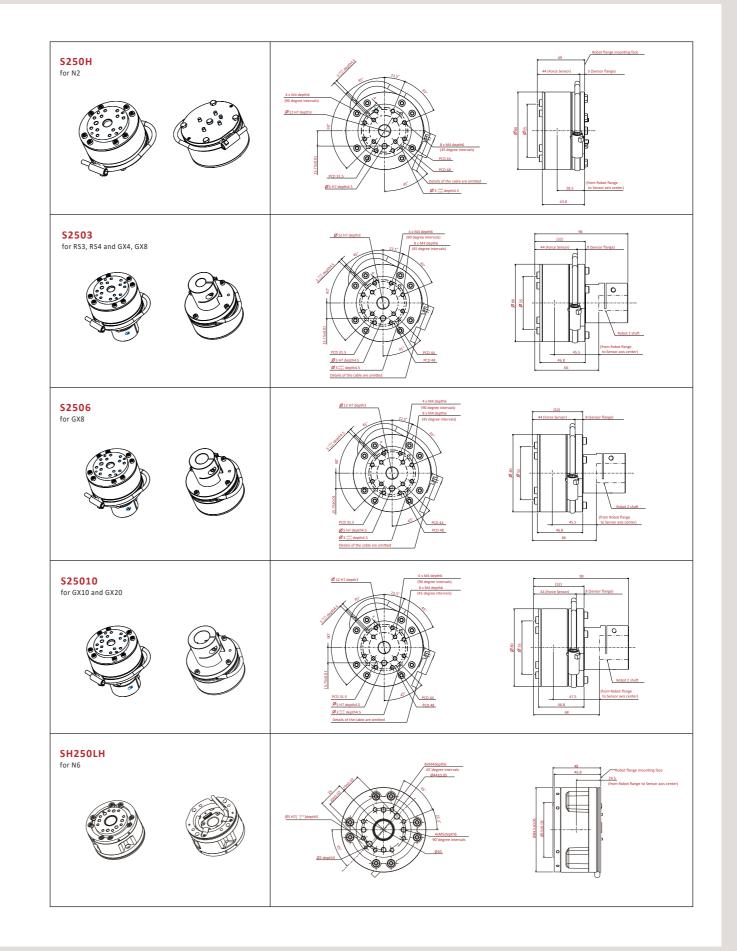


■ Force sensor specifications

Sensor	model	S250N	S250L S250P		S250H	S2503/S2506/S25010	SH250LH*4		
Applicable robot		C4	C8 / C12*1		N2	GX / G Series*3	N6		
Applicable robo		C4	Standard/Cleanroom*2	Protection	IN Z	RS Series	NO		
Dimensions		Ø80 x H49mm	Ø88 x H49mm Ø88 x H66mm		Ø80 x H49mm	Ø80 x H52mm	Ø84.5 x H48mm		
Weight*5		460g	520g	680g	460g	640g	460g		
Supported cont	roller		RC700-A / RC700-D / RC700-E						
Measurement f	reedom	6-axis: Force Fx, Fy, Fz; Moment Tx, Ty, Tz							
Rated load		Fx, Fy, Fz: 250N, Tx, Ty, Tz: 18 N·m							
Static load capa	city	Fx, Fy, Fz: 1000N, Tx, Ty, Tz: 36N·m							
Measurement r	esolution	Fx, Fy, Fz: ±0.1N less, Tx, Ty, Tz: ±0.003N·m							
Measurement p	recision	less than ±5% R.O.							
Operating	Temperature	-10 to 40 °C							
environment	Humidity	10 to 80%Rh (no condensation)							
Cable length (between robot and ca	able box)	3m/5m/10m/20m 3m/5m/10m 3m/5m/10m/2							
Protection class		IP67 (S250P), IP20 (S250N, S250L, S2503, S2506, S2510) IP20							
Included items		FS2 communication module, communication cable, mounting flange							

*1: After Epson RC+ 7.0 Ver.7.5.2 *2Dimensions/weight exclude vertical clearance for user-installed cabling *3: Except shielded and G1 robots *4: Supports pass-through cable connection *5: Including sensor and mounting flange, but excluding cable





Epson's long experience in the development of industrial robots and control technologies enables us to offer a wide range of software options.

RC+ API 7.0

RC700-E RC700-A RC90-B T series VT series

Program and execute robot applications in a familiar Windows® OS environment

■ Robots can be controlled using Visual Basic®, Visual C®, LabVIEW™, and other third-party programming

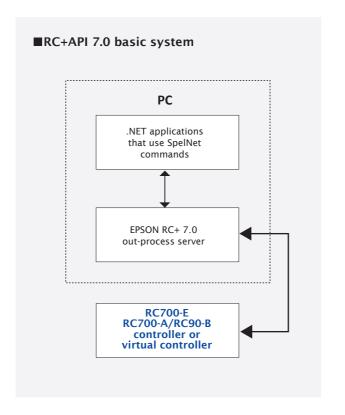
Robot status and variable values can be captured.

Third-party Visual Basic interface and database design tools can also be used for program development.

The following EPSON RC+ windows and dialogs can be called from within a Visual

Basic application:

- Robot Manager
- •I/O Monitor
- •Task Manager
- Maintenance Dialog
- Simulator
- Pressure Monitor

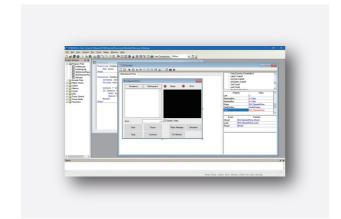


GUI Builder

RC700-E RC700-A RC90-B T series VT series

Easily create custom interfaces for your control programs at the leading edge of industrial robot design

- Quickly and easily create control program custom interfaces that can take the place of dedicated PLCs and display devices.
- Full-featured toolset is easy to understand and use.
- Enables simple GUI creation without using Visual Studio® or other third-party software tools.
- Makes it easy to build a graphical user interface. even if you've never built one before.



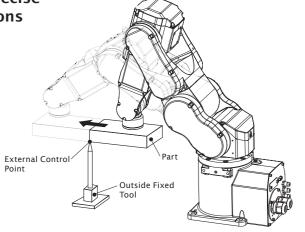
ECP

RC700-E RC700-A RC90-B T series VT series

External control point operation for precise positioning without complex calculations

■ For processes requiring the workpiece to be moved against a fixed tool, external control points can be used to ensure precise positioning.

■ Up to 15 external control points can be set.



OCR

RC700-E RC700-A RC90-B T series VT series

Optical character recognition of text on parts and labels

■ For use with optional Vision Guide software.

■ Recognizes characters in images and converts them to text data.

■ Images of characters can be registered as text target models.

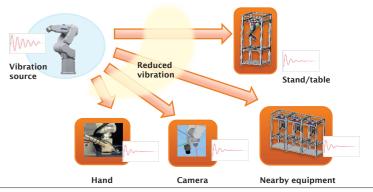
VRT

RC700-E RC700-A RC90-B T series VT series

Reduced residual vibration for higher productivity

■ Advanced vibration reduction technology (VRT) helps reduce residual vibration* in the robot hand and mounting stand that is generated by robot motion, enabling faster acceleration for reduced cycle time and higher yield.

Residual vibration must be pre-measured using the optional VR unit



OPC UA

RC700-E RC700-A RC90-B T series VT series

Easy configuration using the dedicated software "OPC UA Configurator" reduces the total cost of building a core system.

- Easily create a system for analyzing communication data.
- It becomes possible to accurately reproduce defects that occur in remote locations on the IT system.
- Traceability data can be obtained from the robot's serial number.



SCARA Robots

6-axis Robots

Controllers

Software

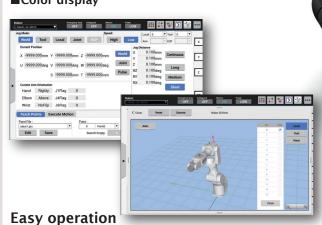
Vision System Part Feeding

Force Sensing

Tablet-type teach pendant with 10.1-inch color touchscreen for intuitive operation, also fast and easier teaching 6-axis robot

Easy-to-view screen

- ■10.1-inch TFT LCD (w/ LED backlight)
- ■1280 x 800 resolution
- **■**Color display



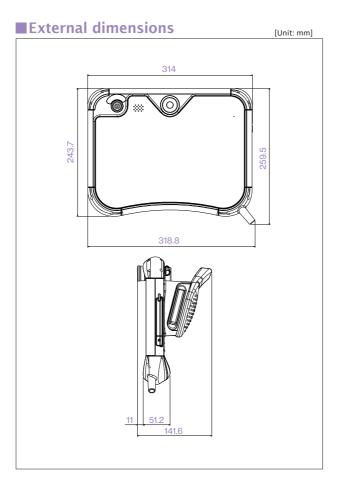
- ■Simple screen layout, fast response
- ■Standard RC+ program interface

Advanced features

- ■3D robot graphics, programming functions and parameter settings
- ■High-speed test mode Programs can be started/stopped from oparation panel

■ Main specifications

Dimensions (mm)	314(W) x 244(H) x 142(D)
Weight	1.5kg (excluding cable)
Body color	Black
Connectivity	Wired
Display	10.1-inch TFT LCD (w/ LED backlight)
	Resolution: 1280 x 800
Controls	Touchscreen controls
	Emergency stop button
	Enable switch
	Mode switch
	Control keys (JOG, EXE buttons)
	USB port
Cable length	5m (10m, 15m extension cables available)
Interface languages	English, Japanese, German, French, Chinese (simplified, traditional)
Ingress protection	IP65
Operating temperature range	0–40°C (stable temperature)
Operating humidity range	5–95% (relative humidity)
Operating environment	Low levels of dust, oil mist, salt, iron particles and other contaminants
	No flammable or caustic liquids or gases nearby



04 Teach Pendant (TP2)

Compatible controllers

RC700-E RC700-A RC90-B T series VT series

Easy-to-use pendant for teaching

- Universal design ensures ease of use for both right-handed and left-handed operators.
- Connects directly to operator unit or controller interface card.

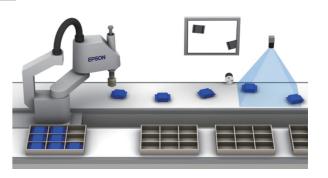


05 Conveyor tracking



Precision tracking for high-productivity pick-and-place operation

- Enables pick-and-place handling of items on a high-speed conveyor.
- Uses machine vision/sensors to detect workpiece and effect robot handling.
- Can automate manual kitting/packaging tasks and help maintain productivity regardless of continuous/intermittent conveyor operation. Can also be used for workpiece assembly.
- Simple start/stop program execution.



05 PG motion system

RC700-E RC700-A RC90-B

Control peripheral robots for fully integrated process automation

- EPSON RC+ software and pulse generator (PG) cards enable control of multiple third-party drives and motors.
- PG robots and standard EPSON RC+ system robots can be operated simultaneously, and controlled using the same commands.
- PG cards can be used to control X/Y tables, sliders,
- turrets, and a wide range of other production/inspection line peripherals.
- Each PG card has 4 channels, and can support from 1 to 4 robots. Up to 4 cards can be mounted.

*PG motion system requires optional EPSON RC+ software and at least one optional PG output board. Drivers and motors for third-party devices are not included.

06 Emergency stop switch

Helps prevent injuries and damage

■ Immediately stops robot operation in emergency situations.





07 RS-232C cards

RC700-E RC700-A RC90-B

Expanded serial port connectivity

■ 2-port RS-232C cards to connect serial interface devices.



Manipulator options

Epson robot manipulator options provide the enhanced functionality and configuration flexibility you need for full-process automation.

08 I/O expansion cards

Expanded input/output flexibility

■ 24-input/16-output expansion cards.



12 EUROMAP 67 card

RC700-E RC700-A RC90-B

For use with thermoplastic injection molding machines

■ EUROMAP 67 compliant electrical interface with 15-point input and 16-point output.



09 Fieldbus I/O (slave)

High-speed peripheral connectivity

■ 2048-point I/O support for DeviceNet[™], Ethernet/IP[™], PROFIBUS®, and PROFINET® networked peripherals, and 384-point I/O support for CC-Link® networked peripherals.

13 I/O cable kit

RC700-E RC700-A RC90-B

Cables and connectors for easy connectivity with no soldering required

■ A wide range of I/O cables and connectors are available.



10 Fieldbus I/O (master)

Bidirectional high-speed peripheral connectivity

■ Support for DeviceNet[™], PROFIBUS[®], and Ethernet/IP[™] networked peripherals (1024-point I/O).

14 Hot plug kit



Easy Teach Pendant connection/ disconnection

■ Allows Teach Pendant to be connected or disconnected without an emergency stop.

*Conversion cable required for use with TP2.



11 Analog I/O card

RC700-E RC700-A RC90-B

For analog control of voltage and current I/O

Analog control of input and output current and voltage allows regulation of secondary equipment such as paint sprayers to match the speed of robot arm motion. Available in 1 channel and 4 channel models



15 Wall mount option

RC700-E RC700-A

Optional wall mounting box

■ Allows controller to be mounted on a wall



16 External wiring units

GX8 GX10 GX20 LS3 LS6 LS10 LS20 T3 T6

Simplifies wiring when mounting manipulator options

- Enables easy, on-site connection of external wiring by users.
- Ideal for connecting Vision Guide system camera cables or other wiring.





VT6 RS3 RS4 C4 C8 C12 N2 N6

17 Internal wiring unit

Compatible manipulators RS3 RS4

Enables wiring and conduits for the hand to be enclosed within the

robot arm assembly. 18 SCARA tool adapters



Enhances handling/processing versatility and simplifies effector changes



19 ISO flanges

Compatible manipulators C8 C12 N2 N6



For easy attachment of effectors to 6-axis robot arms

* Flange configuration varies according to robot model. Please specify model when ordering flanges

20 Brake release units

LS3 LS6 LS10 LS20 T3 T6 VT6 RS3 R

Enables brake release so robot arm can be moved by hand when power is switched off at the leading edge of industrial robot design



RS3 RS4 C4 C8 C12 N2 N6

Standard 3m cables, or optional 5m and 10m cables for greater freedom in controller and robot placement

Power cable connectors 61 6x4 6x8 6x10 6x20 LS3 LS6 LS10 LS20 T3 T6 VT

L-shaped angle connectors*



Power cables are available with straight or

* Controller-end connectors only





23 Camera mounting bracket

GX4 GX8 GX10 GX20 LS3 LS6 LS10 LS20 T3 T6 VT6 RS3 RS4 C4 C8 C12 N2 N6

Securely mount machine vision system camera to robot arm



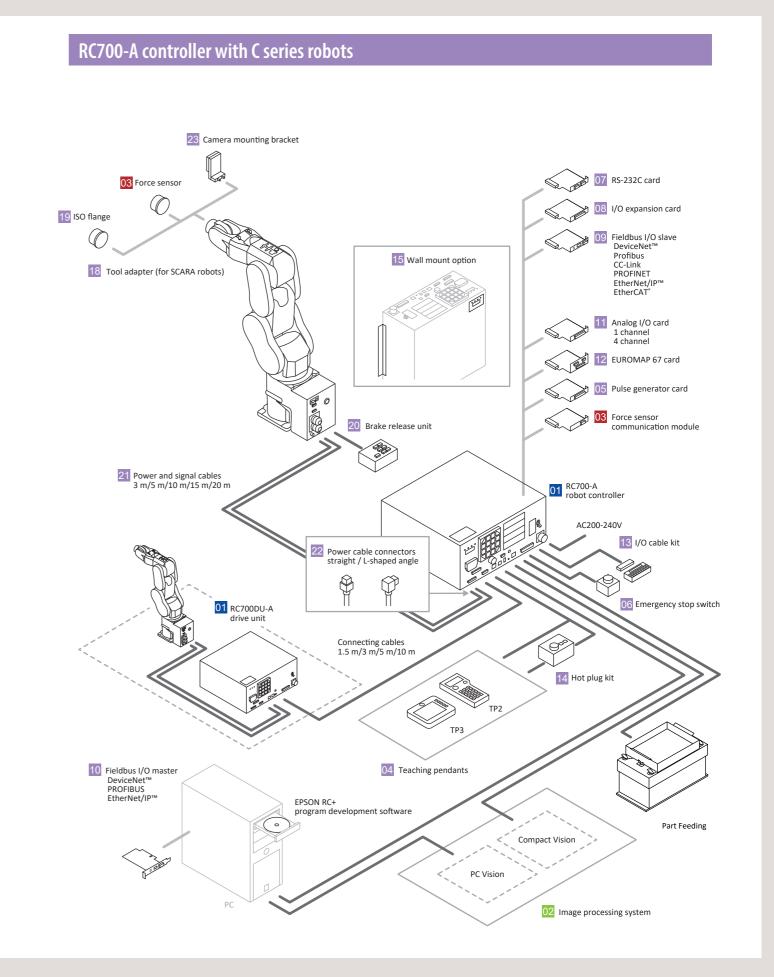


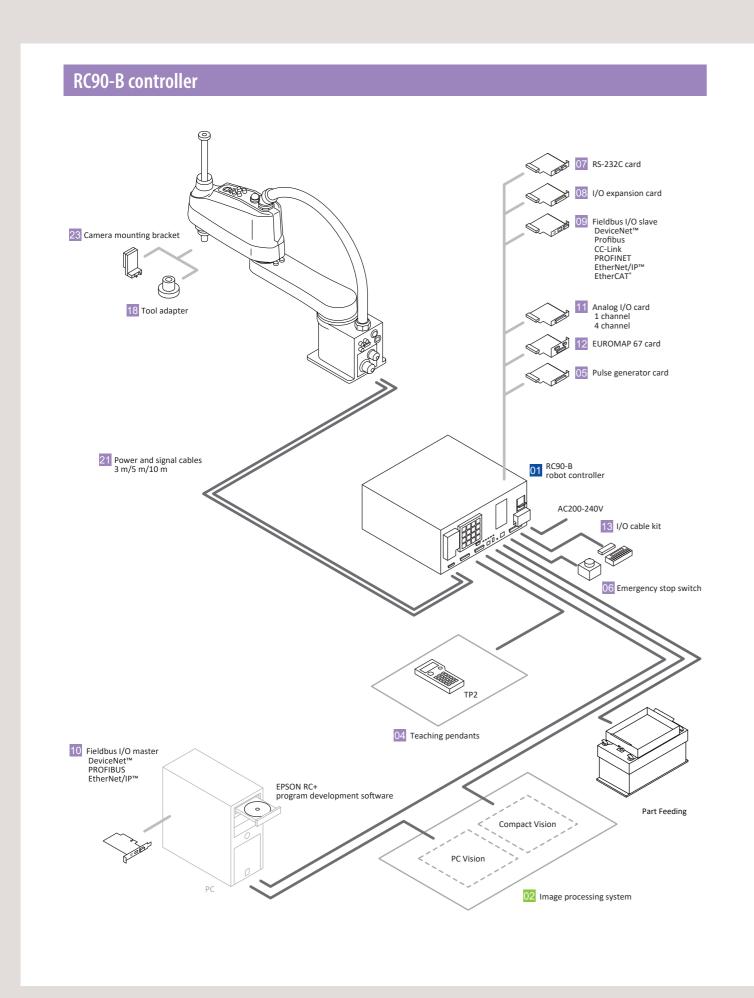
Bracket design varies according to robot. Please specify model when ordering.

Software options					
	RC700-A	RC700-E	RC90-B	T series	VT
02 Vision Guide 7.0	•	•	•	•	•
03 Force Guide 7.0	•	-	-	_	_
RC+ API 7.0	•	•	•	•	•
ECP	•	•	•	•	•
GUI Builder 7.0	•	•	•	•	•
OCR	•	•	•	•	•
VRT	•	•	•	•	•

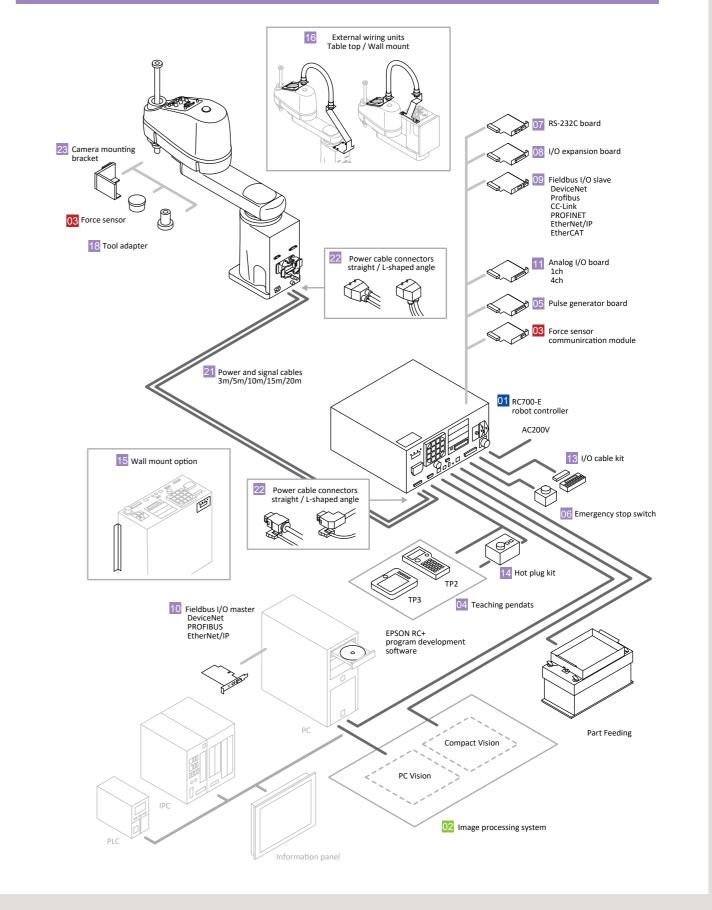
Controller options					
	RC700-A	RC700-E	RC90-B	T series	VT
04 Teaching Pendant (TP2)	•	•	•	•	•
04 Teaching Pendant (TP3)	•	_	_	•	•
05 Conveyor tracking	•	•	•	_	_
05 PG motion system	•	•	•	_	_
06 Emergency stop switch	•	•	•	•	•
07 RS-232C cards	•	•	•	_	_
08 I/O expansion cards	•	•	•	-	-
09 Fieldbus I/O (Slave)	•	•	•	•	•
10 Fieldbus I/O (Master)	•	•	•	•	•
11 Analog I/O card	•	•	•	_	_
12 EUROMAP 67 card	•	•	•	_	_
13 I/O cable kit	•	•	•	_	_
14 Hot plug kit	•	_	-	•	•
15 Wall mount option	•	_	_	_	_

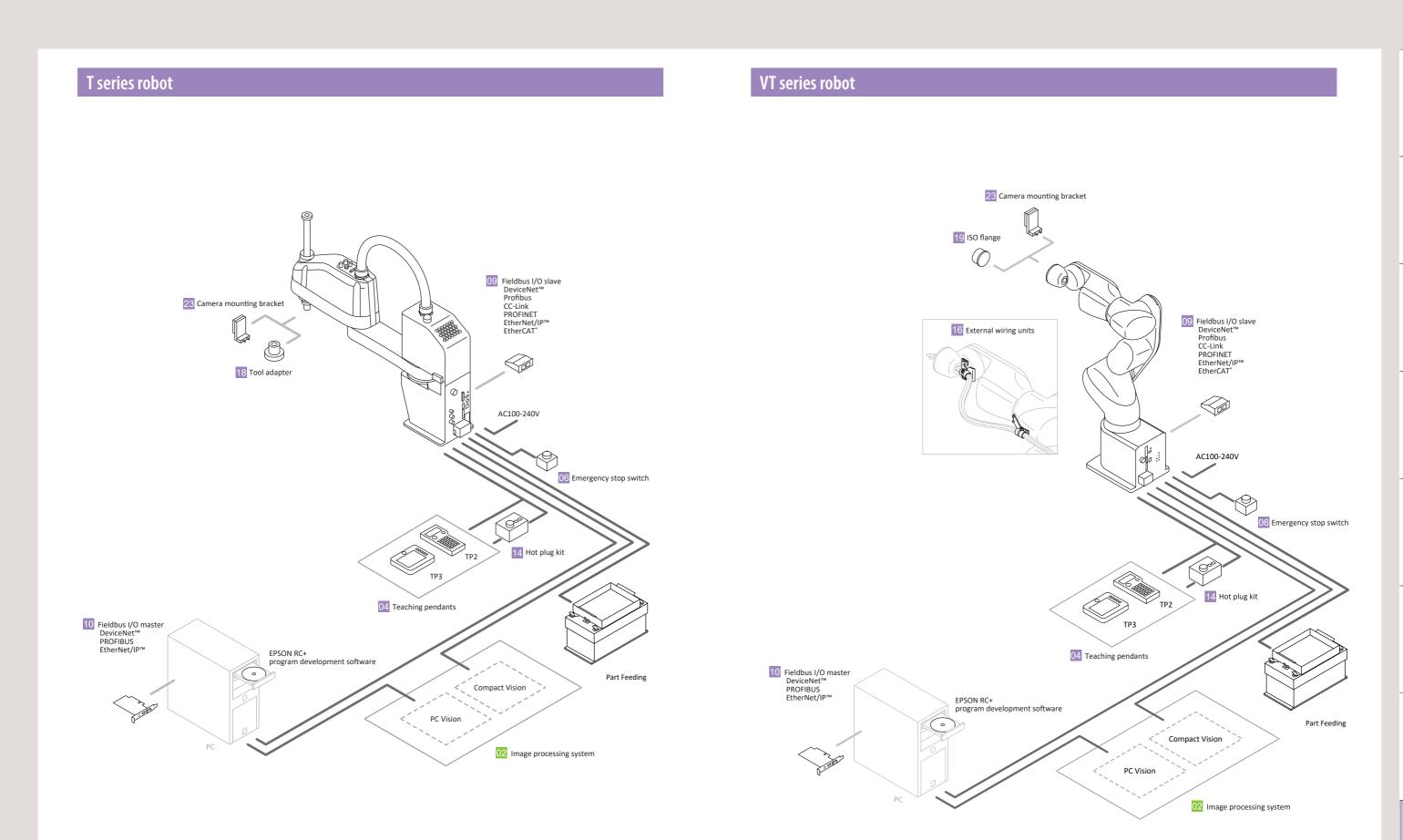
	G1	GX4	GX8 GX10/GX20	LS3/LS6 LS10/LS20	T3/T6	RS3 RS4	C4	C8	C12	N2	N6	VT6
16 External wiring units	_	_	•	-	_	_	-	_	-	_	_	•
17 Internal wiring unit	_	_	_	-	_	•	-	_	-	_	_	_
18 19 Tool adapters/ISO flanges	_	•	•	•	•	•	-	•	•	•	•	•
20 Brake release units	_	_	-	-	_	_	•	•	•	•	•	_
21 Power and signal cables	•	•	•	•		•	•	•	•	•	•	
Cable length (m)		3,5,10,15,20 3,5,10			(built-in	(built-in			3,5,10,15,20			
Cable type (Standard/High-flex)	Standard		Standard		controller)	Standard Standard/High-flex Standard		Standard	Standard/ High-flex	controller)		
22 Power cable connectors (Straight/L-type)	Straight/L-type			Standard			Straight/L-type					
23 Camera mounting bracket	_	•	•	•	•	•	•	•	•	•	•	•
RC700DU-A (Drive unit)	•	•	•	_	_	•	•	•	_	_	•	_





RC700-E controller







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*1 Standard warranty limitations appl

*2 Contact local sales and service representatives for details.

■ Epson Global Support Network

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Japan	Epson Sales Japan Corporation
Japan	EPSON TcFORM CORPORATION
North America	Epson America, Inc.
South America	Epson Do Brasil Industria e Comercio LTDA.
Europe	Epson Deutschland GmbH
Mainland China	Epson (China) Co., Ltd
Taiwan region	Epson Taiwan Technology & Trading Ltd.
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India	Epson India Pvt. Ltd.

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