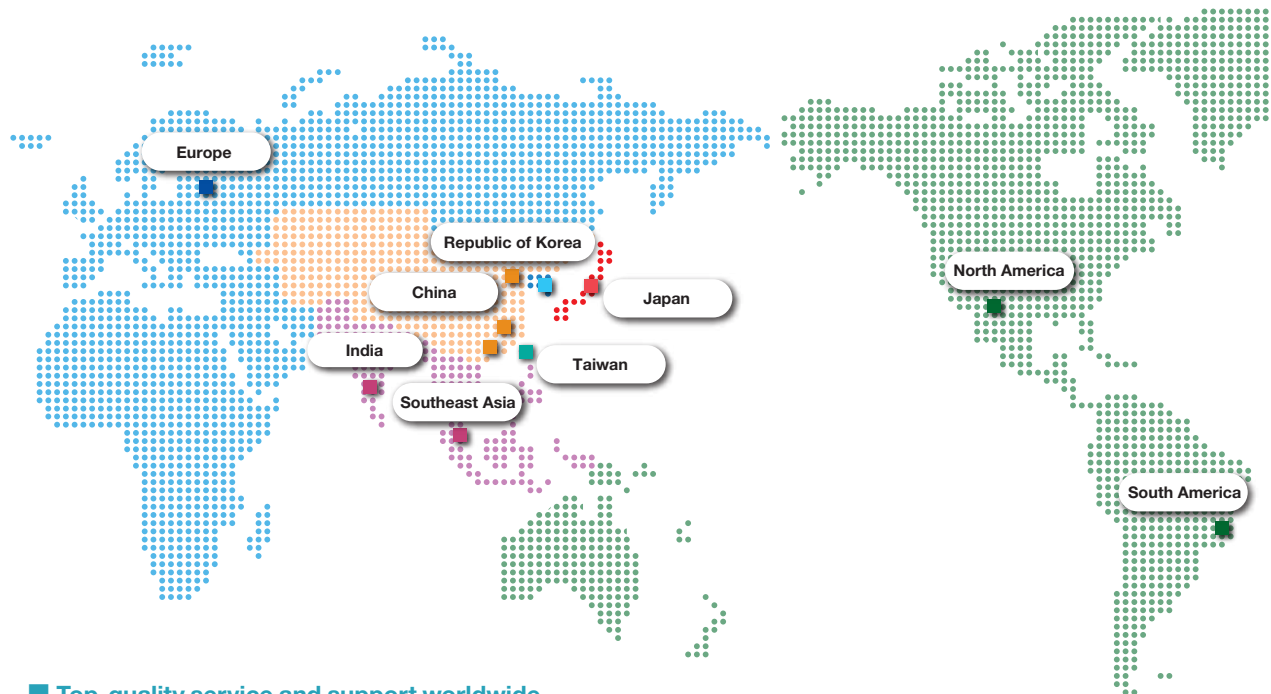


With Epson industrial robots, you get the highest standards of safety and reliability and the support of a global sales and service network.



■ Top-quality service and support worldwide

Our global network of sales and service centres are firmly dedicated to maintaining a consistently high level of product and service quality in every region. For products under warranty, we offer on-site assistance to deal with any malfunctions or problems^{*1}, and through our authorised sales and service representatives we offer warranty coverage for

machines that are later moved to other locations^{*2}, assuring top-quality support wherever you are.

^{*1} Standard warranty limitations apply.
^{*2} Contact local sales and service representatives for details.


■ Epson Global Support Network

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Japan / Epson Sales Japan Corporation 24F, Nishi-shinjuku Mitsui Bldg. 6-24-1, Nishishinjuku, Shinjuku-ku, Tokyo 160-8324 JAPAN
North America / Epson America, Inc. 18300 Central Avenue Carson, CA 90746 USA
South America / Epson do Brasil Industria e Comercio, Ltda. Av. Tucunare, 720 Tambore Barueri, Sao Paulo, SP-0646-0020 Brazil
Europe / Deutschland GmbH Ott-Hahn-Str. 4 D-40670 Meerbusch Germany
China-Hong Kong / Epson China Co., Ltd 4F Tower 1, China Central Place, 81 Jianguo Road, Chaoyang District, Beijing, 100025, PRC
Taiwan / Epson Taiwan Technology & Trading Ltd. 14F, No.7, Song-Ren Road, Taipei 110, Taiwan R.O.C.
Southeast Asia / Epson Singapore Pte Ltd. 1 HarbourFront Place, #03-02 HarbourFront Tower one, Singapore 098633
Korea / Epson Korea Co, Ltd. 27F DaeSung D-Polis A, 606, Seobusaet-gil, Geumcheon-gu, Seoul, 153-803 Korea
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Better Products for a Better Future™

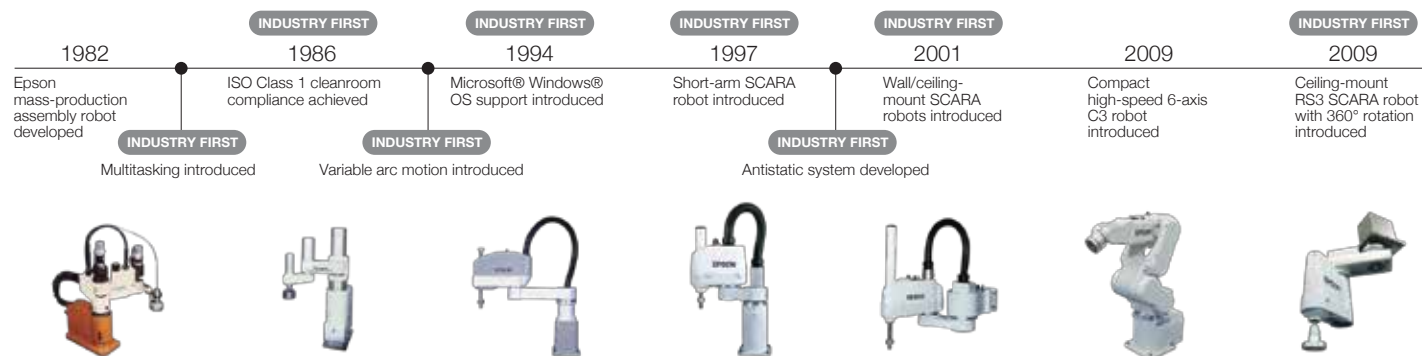
At Epson, we know that planning for the future requires a strong commitment to the environment. That is why we strive to create innovative products that are reliable, recyclable, and energy efficient. Better products that use fewer resources help ensure a better future for us all.

- Product specifications and appearance are subject to change without notice.
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 Safety Precautions | Please read associated manuals carefully before installing or using our robot products. Always use products properly per guidelines in the manuals.



Starts smart, stops smart.
The new gold standard
in precision automation.



A proven reputation for precision and reliability at the leading edge of industrial robot design

Epson has been a leader in industrial robot technology for over 30 years. Our robotic systems reflect decades of experience in high-precision micro-component assembly, and are globally recognised for their speed, accuracy, and ease of use. Now, we've taken productivity to the next level with Smart Motion Control Technology—a powerful new advance for even greater precision and efficiency. Whatever manufacturing challenges you face, Epson industrial robots stand ready to meet your needs with the gold standard in precision automation.

Epson Robot

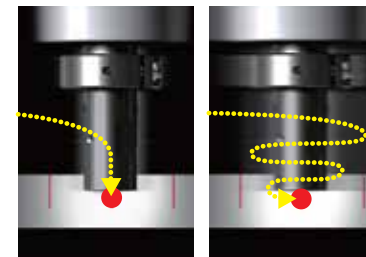
Why Epson Robots?

Epson, the global leader in robotics technology, offers you an unrivalled combination of high performance and operating ease. Backed by a worldwide reputation for reliability and outstanding customer support, Epson robots are bringing high-productivity automated manufacturing to an ever-expanding range of industries worldwide.

Low TCO and high reliability for the ultimate in automated productivity

High productivity

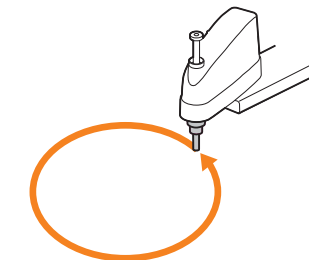
- Proprietary Epson technology reduces residual vibration to ensure high speed and precision for reduced takt time.
- Slim, lightweight body design reduces work cell space requirements while enabling higher productivity.



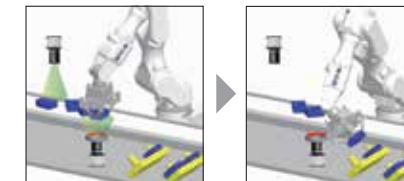
Epson robot Conventional robot

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 programme testing to full production, improved operating ease helps reduce cost and manpower requirements.



3D simulator for workcell layout and toolpath program testing

Software Integration

Smart Motion Control Technology

Robot

Machine Vision Technology

Vibration Reduction Technology

Global Support

Epson supports its robotics customers through an international network of sales and service offices. There, experts provide information about equipment configuration options, and perform 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.

G Series

Top-class speed and repeatability

Epson G Series robots offer an unbeatable combination of speed, precision, and low residual vibration. Available to meet virtually any application need, they include models that can be configured for multitasking, cleanroom, antistatic, or washdown process use.

G1

→ P.7

Payload (kg)

4-axis 1

3-axis 1.5

Arm length (mm)

• 175

• 225

Class 3

Correspondence controller

RC700-A RC180

G3

→ P.9

Payload (kg)

Max 3

Arm length (mm)

• 250

• 300

• 350

Class 3

Correspondence controller

RC700-A RC180

G6

→ P.13

Payload (kg)

Max 6

Arm length (mm)

• 450

• 550

• 650

Class 3 D P

Correspondence controller

RC700-A RC180

G10

→ P.17

Payload (kg)

Max 10

Arm length (mm)

• 650

• 850

Class 3 D P

Correspondence controller

RC700-A RC180

G20

→ P.17

Payload (kg)

Max 20

Arm length (mm)

• 850

• 1000

Class 3 D P

Correspondence controller

RC700-A RC180

LS Series

Outstanding cost-performance and reliability

With their small footprint and big feature set, LS Series robots are the cost-effective solution for all kinds of pick-and-place and assembly tasks. Ideal as replacements for older Cartesian units, they feature dedicated controllers for unrivalled operating ease.

LS3

→ P.21

Payload (kg)

Max 3

Arm length (mm)

• 400

Class 4

Correspondence controller

RC90

NEW LS6

→ P.23

Payload (kg)

Max 6

Arm length (mm)

• 500

• 600

• 700

Class 4

Correspondence controller

RC90

NEW LS20

→ P.25

Payload (kg)

Max 20

Arm length (mm)

• 800

• 1000

Class 4

Correspondence controller

RC90

RS Series

A new dimension in SCARA performance

The RS Series ceiling-mount design and rotating arm enable maximum productivity in minimum space. Innovative arm design eliminates work area dead space to enable greater freedom of movement and significantly faster cycle times.

RS3

→ P.27

Payload (kg)

Max 3

Arm length (mm)

• 350

Class 3

Correspondence controller

RC700-A RC180

RS4

→ P.29

Payload (kg)

Max 4

Arm length (mm)

• 550

Class 3

Correspondence controller

RC700-A RC180

C Series

Unrivalled speed and performance in tight quarters

Epson C Series 6-axis robots perform complex tasks with speed and precision. 6-axis effector agility, coupled with high-rigidity arms and ultra-precise path control, make these robots ideal for precision applications such as spraying and coating.

C4

→ P.31

Payload (kg)

Max 4

Arm length (mm)

• 600

• 900

Class 3

Correspondence controller

RC700-A

NEW C8

→ P.33

Payload (kg)

Max 8

Arm length (mm)

• 700

• 900

• 1400

Class 3 P

Correspondence controller

RC700-A

N2 Series

The ultimate in space-saving performance

Featuring an all-new folding arm, Epson N2 Series 6-axis robots are ideal for performing complex, high-precision assembly tasks in extremely limited spaces. With motion shortcuts and unlimited circular movement, they deliver faster cycle times for maximum performance.

N2

→ P.37

Payload (kg)

Max 2.5

Arm length (mm)

• 450

Correspondence controller

RC700-A

Software

Programme development software

EPSON RC+ → P.39

Options

Software options → P.42

Robot controller options → P.46

G1

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

- At only 8kg, our lightest G series robot
- Available with 175mm or 225mm arm
- Triple-axis model for heavier payloads

G1 specifications

Arm length		175 mm	225 mm
Payload		Rated 0.5 kg / Max 1 kg (4-axis), 1.5 kg (3-axis)	
Standard cycle time		0.29 sec	0.30 sec
Repeatability	Joint #1, #2	±0.005 mm	±0.008 mm
	Joint #4	±0.01°	



Specifications

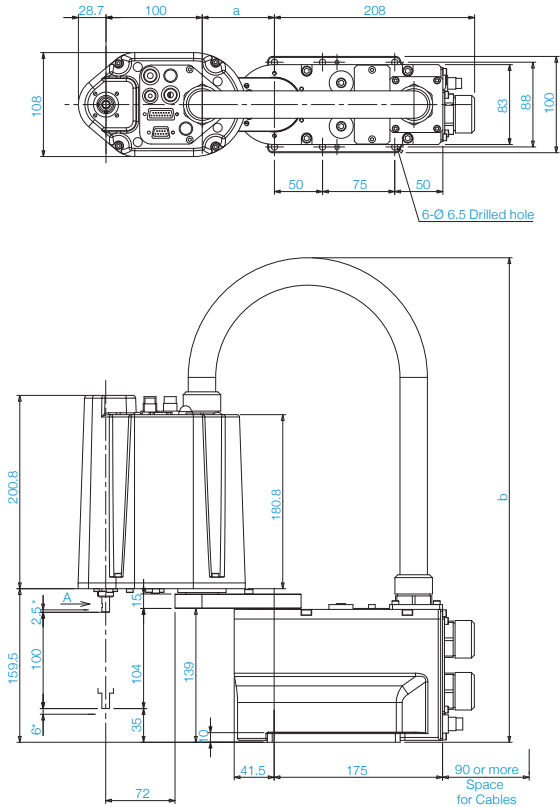
		4-axis		3-axis	
Mounting type		G1-171*	G1-221*	G1-171*Z	G1-221*Z
Arm length		Table Top		Table Top	
Max. operating speed	Arm #1, #2	175 mm	225 mm	175 mm	225 mm
	Joints #1, #2	2630 mm/s	3000 mm/s	2630 mm/s	3000 mm/s
	Joint #3	1200 mm/s		1200 mm/s	
	Joint #4	3000°		-	
Weight (cables not included)		8 kg		8 kg	
Repeatability	Joints #1, #2	±0.005 mm	±0.008 mm	±0.005 mm	±0.008 mm
	Joint #3	±0.01 mm		±0.01 mm	
	Joint #4	±0.01°		-	
	Joint #1	±125°		±125°	
Max. motion range	Joint #2	±140°	±152°	±135°	±135°
	(Cleanroom model)	(±140°)	(±149°)	(±123°)	(±132°)
	Z stroke	100 mm		100 mm	
	(Cleanroom model)	(80 mm)		(80 mm)	
Payload	Rated	0.5 kg		0.5 kg	
	Maximum	1 kg		1.5 kg	
Standard cycle time*1		0.29 sec	0.30 sec	0.29 sec	0.30 sec
Joint #4 allowable moment of inertia*2	Rated	0.0003 kg·m²		-	
	Maximum	0.004 kg·m²		-	
Motor power consumption	Joint #1	All joints: 50 W		-	
	Joint #2				
	Joint #3				
	Joint #4				
Joint #3 down force		50 N		-	
Home		Home-return-less		-	
Installed wire for customer use		24Pin (D-Sub 9+D-sub 15)		-	
Installed pneumatic tube for customer use		Φ4mm×1, Φ6mm×2		-	
Installation environment		Standard/Cleanroom*3 &ESD		-	
Applicable controller		RC180, RC620		-	
Safety standard		CE, KC, UL		-	

*1:Cycle time based on round-trip arch motion (100mm horizontal, 25mm vertical) with 0.5kg payload (path coordinates optimised 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 10 (less than 10 0.1µm particles per 28,317cm³:1cft) cleanroom standards.

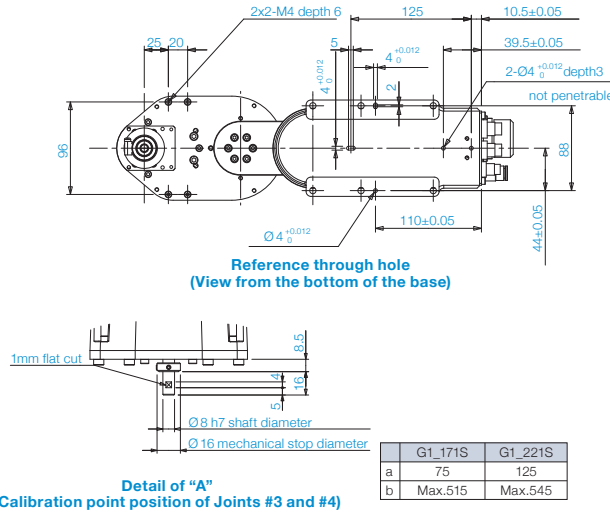
Outer Dimensions (Table Top Mounting)

[Unit: mm]

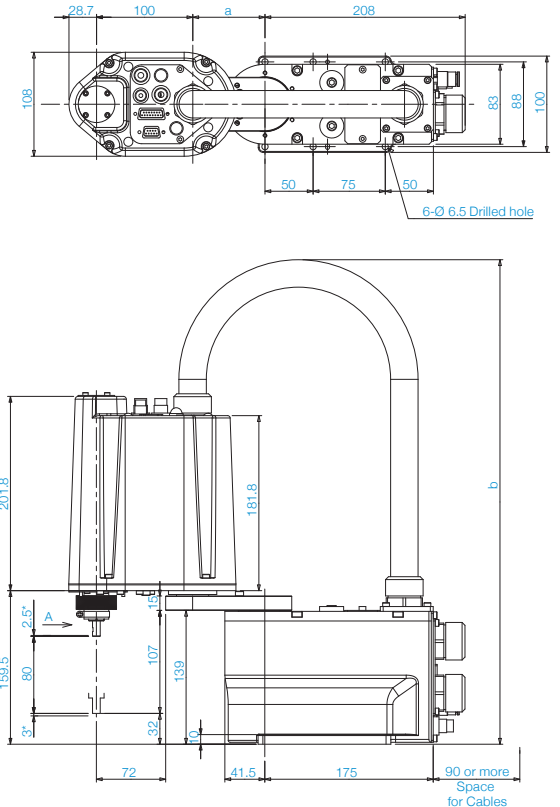
Standard-model



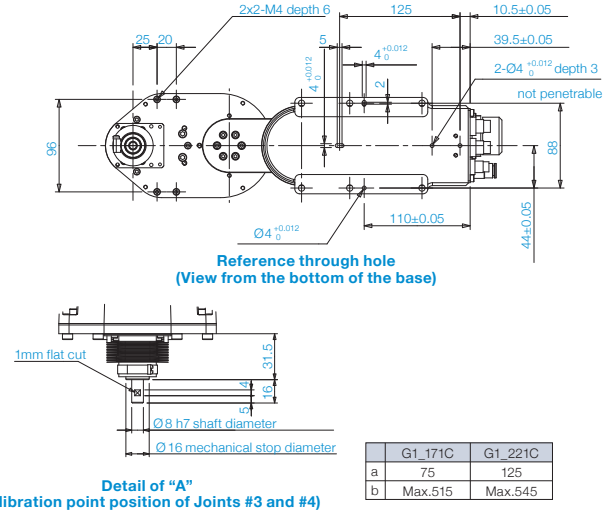
*indicates the stroke margin by mechanical stop.



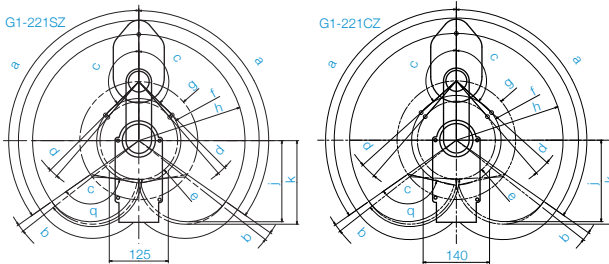
Cleanroom-model



*indicates the stroke margin by mechanical stop.



Motion Range (Table Top Mounting)



Model	4-axis				3-axis			
	G1-171S	G1-171C	G1-221S	G1-221C	G1-171SZ	G1-171CZ	G1-221SZ	G1-221CZ
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 (°)	140	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	4	5	1.3	3	4	7	

Compact, with high speed and low vibration for one-rank-up performance

- Handles small, heavy payloads up to 3kg
- Available with straight or curved arm
- Small footprint, yet has long reach

G3 specifications

Arm length		250 mm	300 mm	350 mm
Payload		Rated 1 kg / Max 3 kg		
Standard cycle time		0.41 sec	0.43 sec	0.41 sec
Repeatability	Joint#1, #2	±0.008 mm		±0.01 mm
	Joint#4	±0.005°		
Arm shape		Straight Curved (R)/Curved (L)		
		 Straight arm  Curved arm		



Specifications

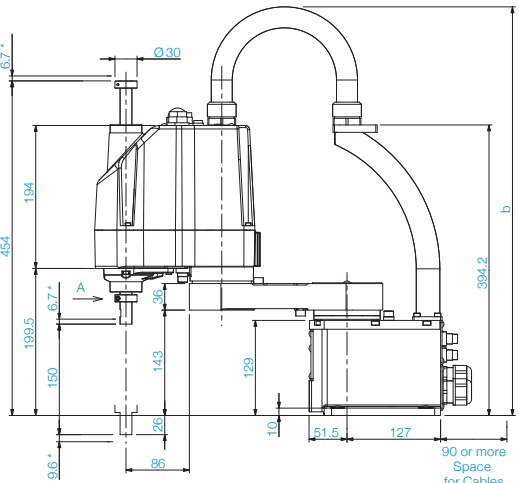
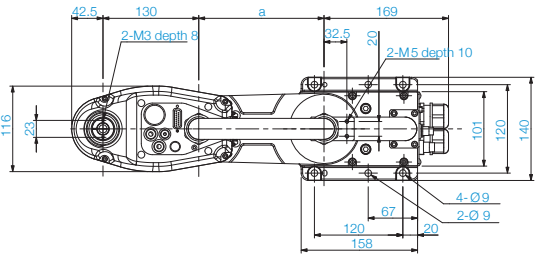
			G3-251*		G3-301***		G3-351***	
Mounting type			Table top		Table top		Multiple ¹⁾	
Arm length			250 mm		300 mm		350 mm	
Max. operating speed			Joints #1, #2		3950 mm/s		4350 mm/s	
			Joints #3		1100 mm/s			
			Joints #4		3000°/s			
Weight (cables not included)			14 kg					
Repeatability			Joints #1, #2		±0.008 mm		±0.01 mm	
			Joints #3				±0.01 mm	
			Joints #4				±0.005°	
Max. motion range	Straight	Joints #1	±140°		±140°		±115°	
		Joints #2 (Cleanroom model)	±141° (±137°)		±142° (±141°)		±135° (±135°)	
							±140° ±142° (±142°)	
	Curved	Joint #1 Right hand	—		-125~150°		—	
		Left hand	—		-150~125°		—	
		Joint #2 Right hand (Cleanroom model)	—		-135~150° (-135~145°)		—	
		Left hand (Cleanroom model)	—		-150~135° (-145~135°)		—	
	Common	Joint #3 (Cleanroom model)					150 mm (120 mm)	
		Joint #4					±360°	
	Payload			Rated				1 kg
Maximum						3 kg		
Standard cycle time ²⁾			0.41 sec		0.43 sec		0.41 sec	
Joint #4 allowable moment of inertia ³⁾			Rated		0.005 kg•m ²			
			Maximum		0.05 kg•m ²			
Motor power consumption			Joint #1		200 W			
			Joint #2		150 W			
			Joint #3		150 W			
			Joint #4		150 W			
Joint #3 down force					150 N			
Home					Home-return-less			
Installed wire for customer use			15Pin (D-Sub)					
Installed pneumatic tube for customer use			Φ4mm×1, Φ6mm×2					
Installation environment			Standard /Cleanroom ⁴⁾ & ESD					
Applicable controller			RC180, RC620					
Safety standard			CE, KC, UL					

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

Outer Dimensions (Table Top Mounting)

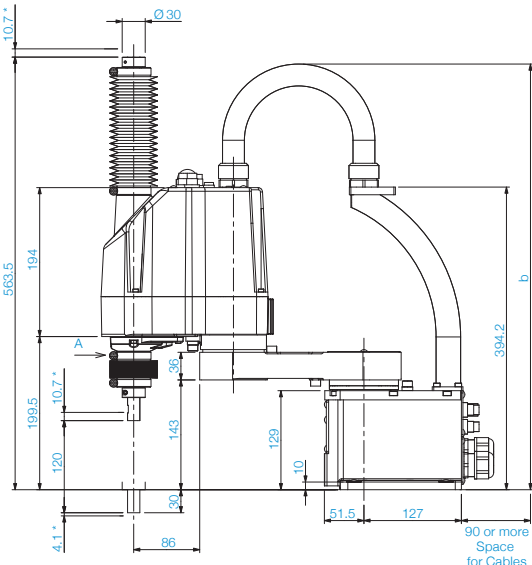
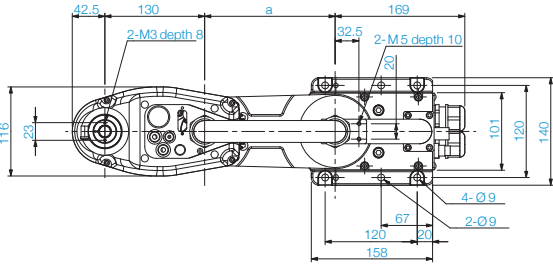
[Unit: mm]

Standard-model

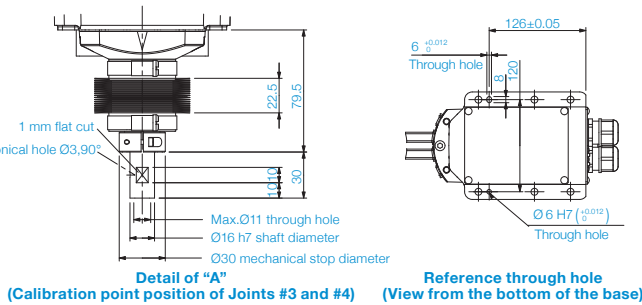
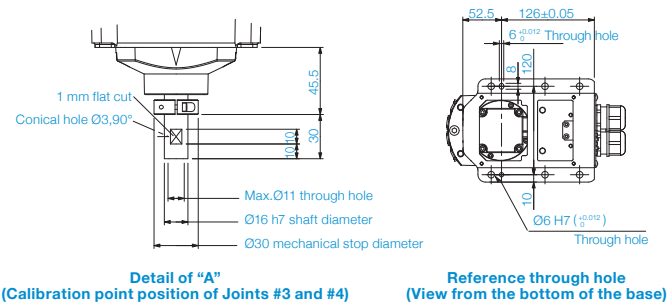


*indicates the stroke margin by mechanical stop.

Cleanroom-model



*indicates the stroke margin by mechanical stop.

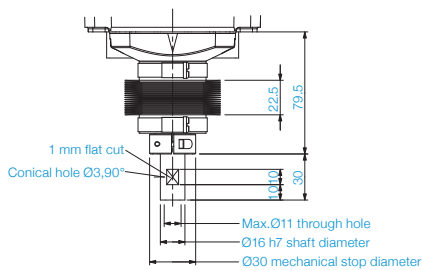
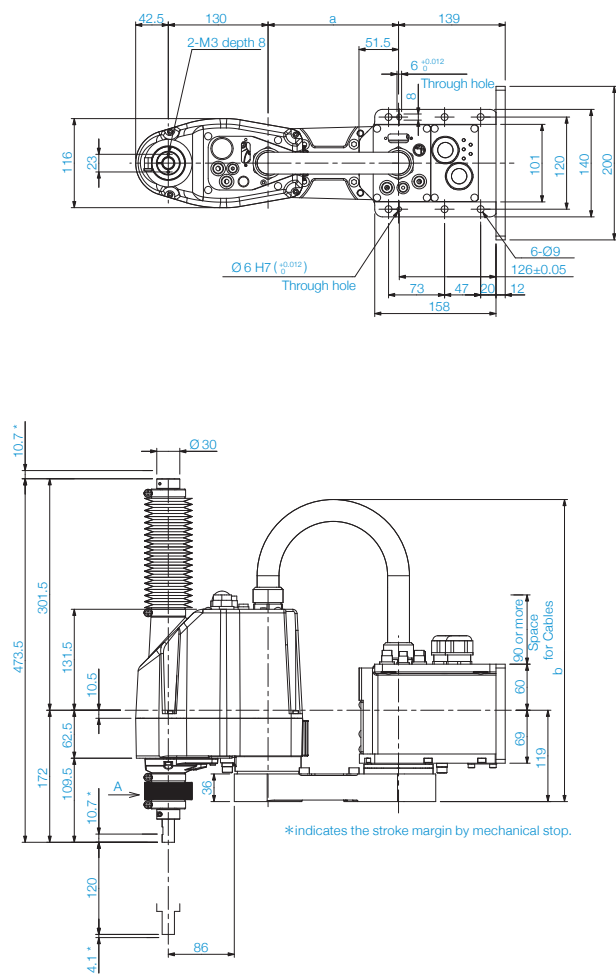


	G3_251S	G3_301S	G3_351S
a	120	170	220
b	Max.545	Max.575	Max.595

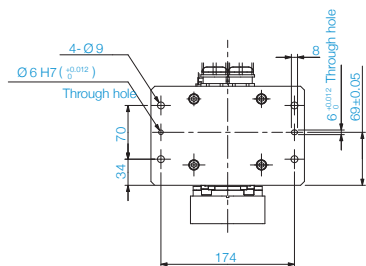
	G3_251C	G3_301C	G3_351C
a	120	170	220
b	Max.545	Max.575	Max.595

[Unit: mm]

[Unit: mm]



Detail of "A" (Calibration point position of Joints #3 and #4)

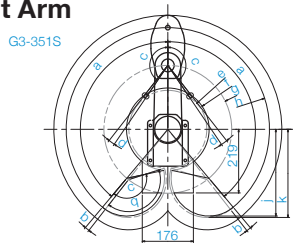


**Reference through hole
(View from the bottom of the base)**

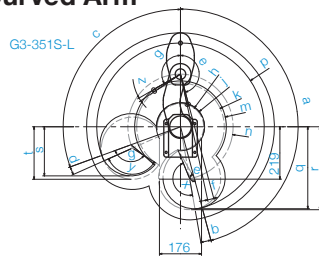
	G3_301CM	G3_351CM
a	170	220
b	Max.410	Max.450

[Unit: mm]

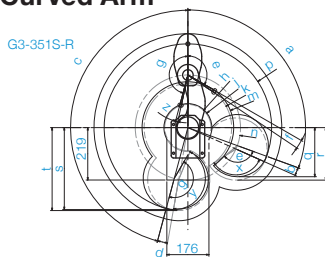
G3-351S



G3-351S-L



G3-351S-R

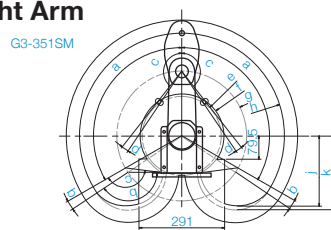


Model	Left-Curved Arm			
	G3-301S-L	G3-301C-L	G3-351S-L	G3-351C-L
n Length of Arm #1 (mm)	170		220	
p-n Length of Arm #2 (mm)	130		130	
m.j Motion range	120.7, 86.8		191.6, 100.3	191.6, 107.5
a.c Motion range of Joint #1 (°)	150, 125		165, 110	
e.g Motion range of Joint #2 (°)	150, 135	145, 135	165, 120	160, 120
h.k Mechanical stop area	79.5, 113.2		97.0, 183.0	97.0, 184.2
b,d Joint #1 angle to hit mechanical stop (°)	3, 6		5, 4	
f,z Joint #2 angle to hit mechanical stop (°)	3.3, -	8.3, 3.8	2.8, 3.8	7.8, 3.8

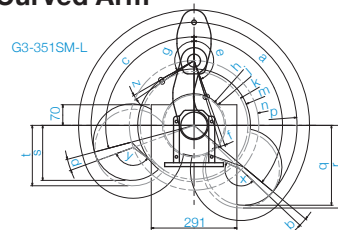
Model	Right-Curved Arm			
	G3-301S-R	G3-301C-R	G3-351S-R	G3-351C-R
n Length of Arm #1 (mm)	170		220	
p-n Length of Arm #2 (mm)	130		130	
m.j Motion range	120.7, 86.8		191.6, 100.3	191.6, 107.5
a.c Motion range of Joint #1 (°)	125, 150		110, 165	
e.g Motion range of Joint #2 (°)	135, 150	135, 145	120, 165	120, 160
h.k Mechanical stop area	79.5, 113.2		97.0, 183.0	97.0, 184.2
b.d Joint #1 angle to hit mechanical stop (°)	6, 3		4, 5	
f.z Joint #2 angle to hit mechanical stop (°)	3.3, -	3.3, 8.3	3.8, 2.8	3.8, 7.8

[Unit: mm]

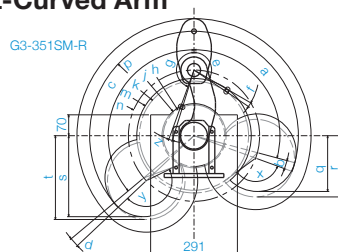
G3-351SM



G3-351SM-I



G3-351SM-R



Model	Left-Curved Arm	
	G3-351SM-L	G3-351CM-L
n Length of Arm #1 (mm)	220	
p-n Length of Arm #2 (mm)	130	
m,j Motion range	191.9, 107.5	191.9, 125.6
a,c Motion range of Joint #1 (°)	130, 105	
e,g Motion range of Joint #2 (°)	160, 120	150, 120
h,k Mechanical stop area	103.3, 183.0	
b,d Joint #1 angle to hit mechanical stop (°)	3.3, 5	2, 5
f,z Joint #2 angle to hit mechanical stop (°)	2.8, 3.8	12.8, 3.8

Model	Right-Curved Arm	
	G3-351SM-R	G3-351CM-R
n Length of Arm #1 (mm)	220	
p-n Length of Arm #2 (mm)	130	
m,j Motion range	191.9, 107.5	191.9, 125.6
a,c Motion range of Joint #1 (°)	105, 130	
e,g Motion range of Joint #2 (°)	120, 160	120, 150
h,k Mechanical stop area	103.3, 183.0	
b,d Joint #1 angle to hit mechanical stop (°)	5, 3.3	5, 2
f,z Joint #2 angle to hit mechanical stop (°)	3.8, 2.8	3.8, 12.8

G6

High speed and precision for small component assembly

- Handles payloads up to 6kg
- Available with 450mm, 550mm, or 650mm arm

■ G6 specifications

Arm length	450 mm	550 mm	650 mm
Payload	Rated 3 kg / Max 6 kg		
Standard cycle time	0.35 sec	0.36 sec	0.39 sec
Repeatability	Joint#1, #2	±0.015 mm	
	Joint#4	±0.005°	



■ Specifications

		G6-45**			G6-55***			G6-65***		
Mounting type		Table top	Ceiling	Wall	Table top	Ceiling	Wall	Table top	Ceiling	Wall
Arm length		450 mm			550 mm			650 mm		
Max. operating speed	Arm #1, #2	6440 mm/s			7170 mm/s			7900 mm/s		
	Joint #3				G6-***=1100 mm/s /G6-***=2350 mm/s					
	Joint #4				2400°/s					
Weight (cables not included)		27 kg		29 kg	27 kg		29 kg	28 kg		29.5 kg
Repeatability	Joint #1, #2				±0.015 mm					
	Joint #3				±0.01 mm					
	Joint #4				±0.005°					
Max. motion range	Joint #1	±152°		±120°	±105°	±152°		±135°	±152°	±148°
	Joint #2	Z:0~-270 mm±147.5° Z:-270~-330 mm ±145°		±130°		±147.5°				
	Joint #3	G6-***=150 mm / G6-***=330 mm (Environment specification is standard-model)								
	Joint #4	G6-***=180 mm / G6-***=300 mm (Environment specification is cleanroom or Protected-model)								
Payload	Joint #4				±360°					
	Rated				3 kg					
	Maximum				6 kg					
Standard cycle time*1		0.35 sec			0.36 sec			0.39 sec		
Joint #4 allowable moment of inertia*2	Rated				0.01 kg・m2					
	Maximum				0.12 kg・m2					
Motor power consumption	Joint #1				400 W					
	Joint #2				400 W					
	Joint #3				200 W					
	Joint #4				100 W					
Joint #3 down force					150 N					
Home					Home-return-less					
Installed wire for customer use					15Pin (D-Sub), 9Pin (D-sub)					
Installed pneumatic tube for customer use					Φ4mm×2, Φ6mm×2					
Installation environment					Standard/Cleanroom*3/Protection*4					
Applicable controller					RC180, RC620					
Safety standard					CE, KC, UL					

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

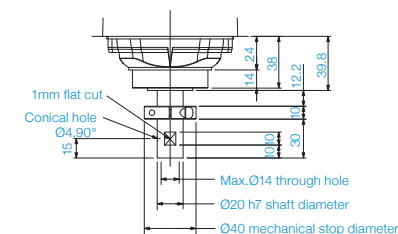
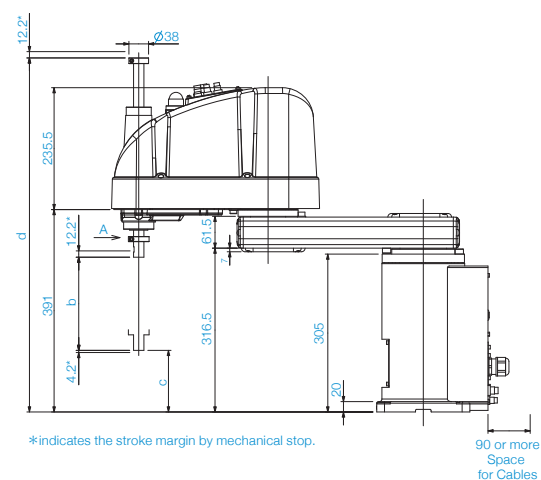
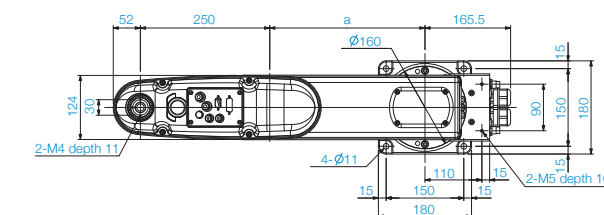
*3:Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10 0.1µm particles per 28,317cm³:1cft) cleanroom standards.

*4:G6-***D* protected type with optional bellows complies with IP54; G6-***P* complies with IP65.

■ Outer Dimensions (Table Top Mounting)

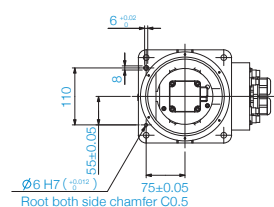
[Unit: mm]

Standard-model



Detail of "A"

(Calibration point position of Joints #3 and #4)

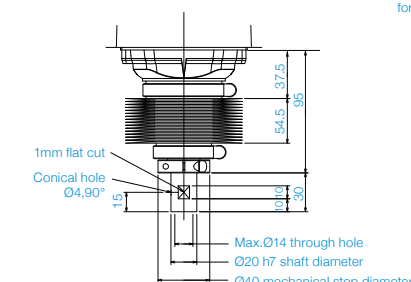
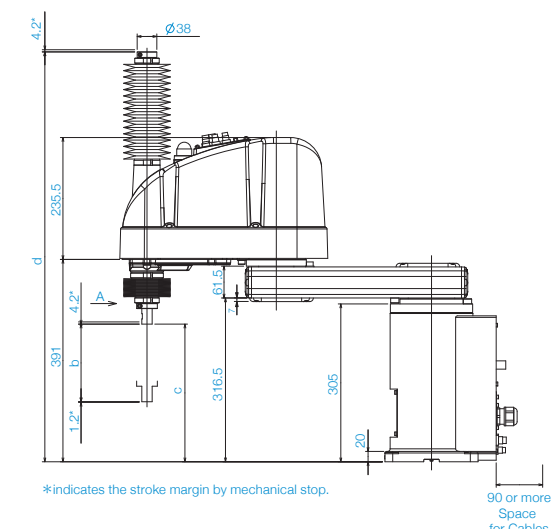
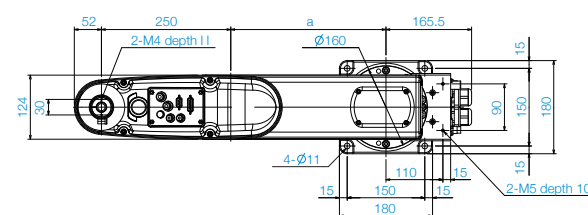


Reference through hole
(View from the bottom of the base)

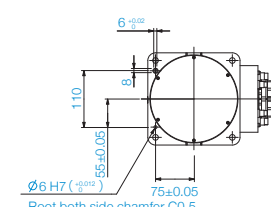
	G6-45°S	G6-55°S	G6-65°S
a	200	300	400

	G6- ²² S	G6- ³³ S
b	180	330
c	119	-31
d	684	834

Cleanroom-model



Detail of "A" (Calibration point position of Joints #3 and #4)

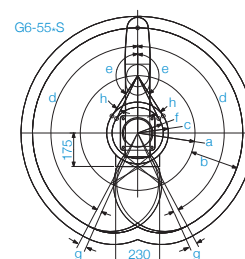


Reference through hole
(View from the bottom of the base)

	G6-45°C	G6-55°C	G6-65°C
a	200	300	400

	G6- ¹³ C	G6- ¹³ C
b	150	300
c	116	-34
d	792	942

■ Motion Range (Table Top Mounting)

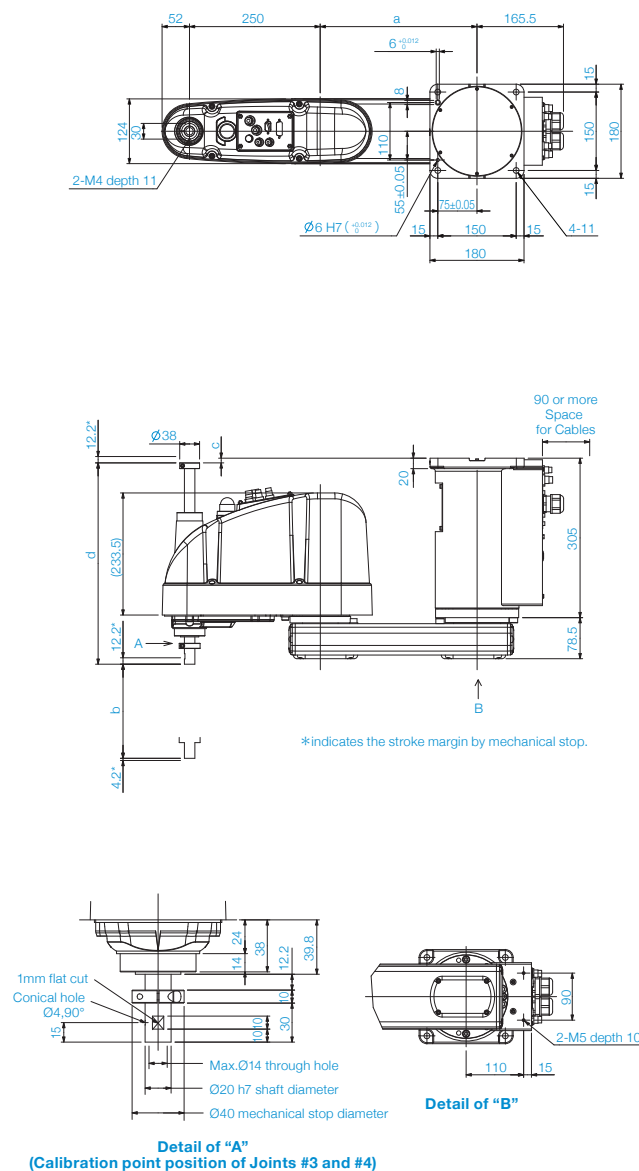


Model	Table Top Mounting					
	G6-45°S/D		G6-45°C/P/D bellows		G6-55**	G6-65*
a Length of Arm #1 (mm)	200				300	400
b Length of Arm #2 (mm)	250					
c Motion range	Z:0~~270 Z:270~~330	134.8 143.5	Z:0~~240 Z:240~~300	134.8 153.9	161.2	232
d Motion range of Joint #1 (°)	152					
e Motion range of Joint #2 (°)	Z:0~~270 Z:270~~330	147.5 145	Z:0~~240 Z:240~~300	147.5 142	147.5	
f Mechanical stop area	124.4				133.8	207.5
g Joint #1 angle to hit mechanical stop (°)	3.5					
h Joint #1 angle to hit mechanical stop (°)	Z:0~~270 Z:270~~330	3 5.5	Z:0~~240 Z:240~~300	3 8.5	6.3	

■ Outer Dimensions (Ceiling Mounting)

[Unit: mm]

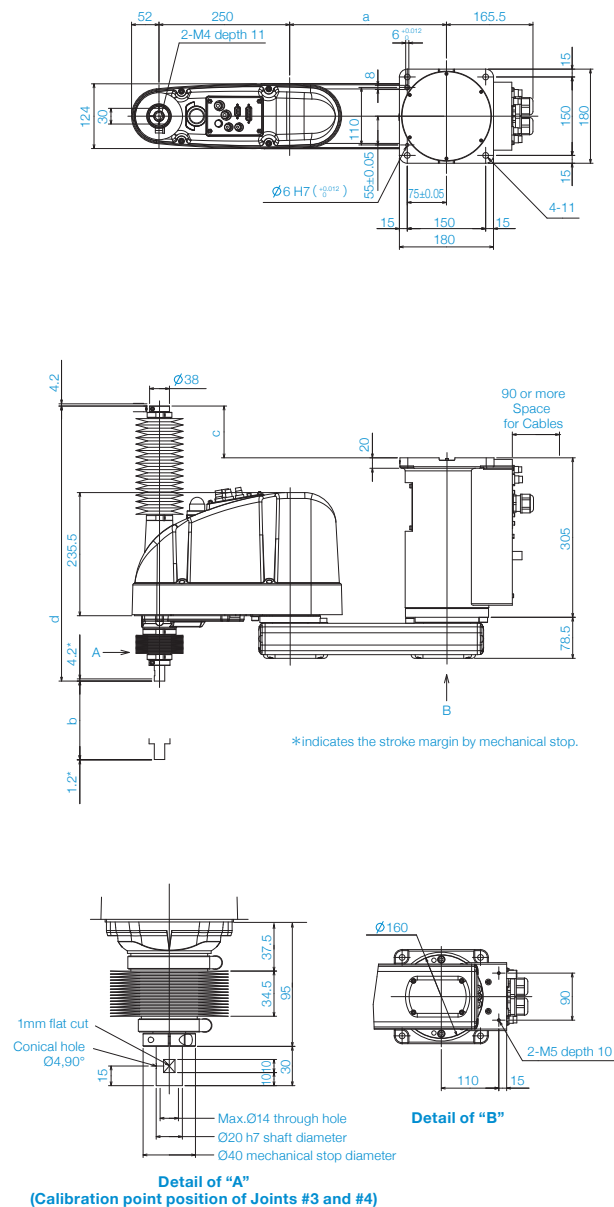
Standard-model



	G6-45*SR	G6-55*SR	G6-65*SR
a	200	300	400

	G6- ¹ SR	G6- ³ SR
b	180	330
c	-9	141
d	385	535

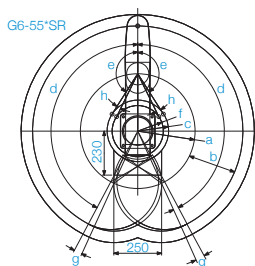
Cleanroom-model



	G6-45*CR	G6-55*CR	G6-65*CR
a	200	300	400

	G6- ¹ CR	G6- ³ CR
b	150	300
c	99	249
d	526	676

■ Motion Range (Ceiling Mounting)

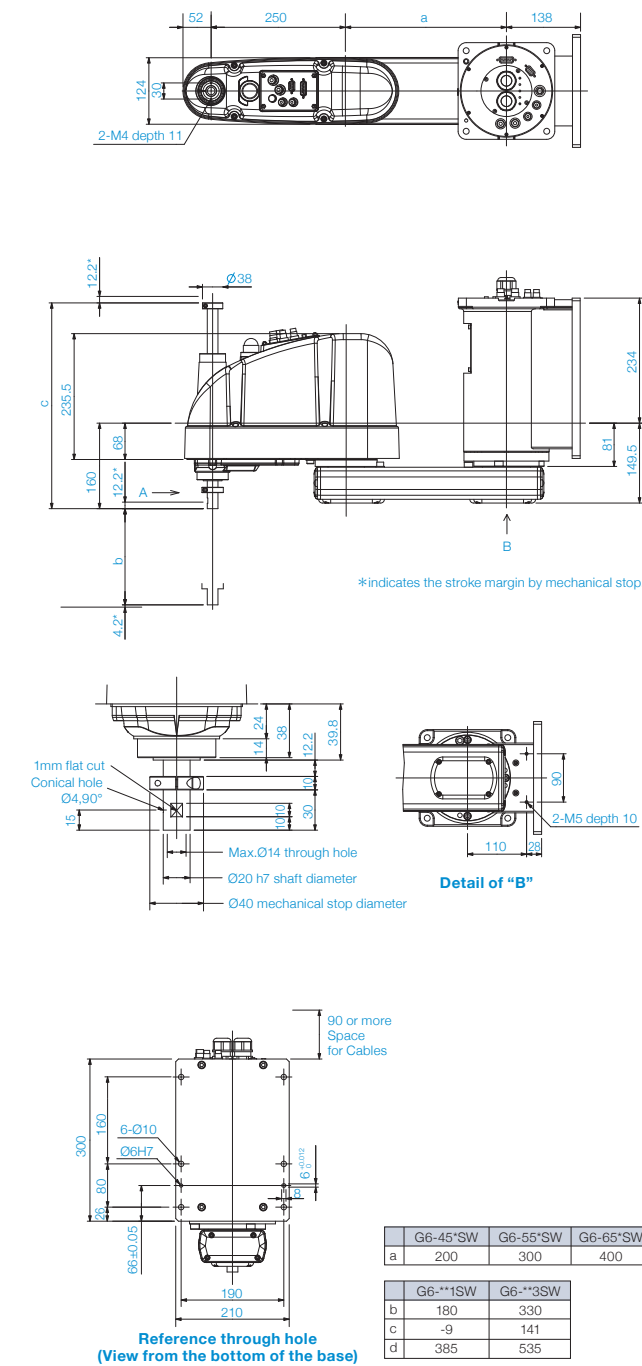


Model	Ceiling Mounting			
	G6-45**R	G6-55*SR/DR	G6-55*CR/PR/DR bellows	G6-65**R
a Length of Arm #1 (mm)	200	300		400
b Length of Arm #2 (mm)	250			
c Motion range	195.5	161.2	172.1	232
d Motion range of Joint #1 (°)	120	152		
e Motion range of Joint #2 (°)	130	147.5	145	147.5
f Mechanical stop area	182.4	146.8		207.5
g Joint #1 angle to hit mechanical stop (°)	5.5	3.5		
h Joint #2 angle to hit mechanical stop (°)	3.8	3.3	5.8	6.3

■ Outer Dimensions (Wall Mounting)

[Unit: mm]

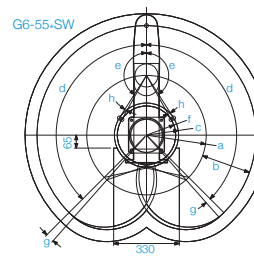
Standard-model



	G6-45*SW	G6-55*SW	G6-65*SW
a	200	300	400

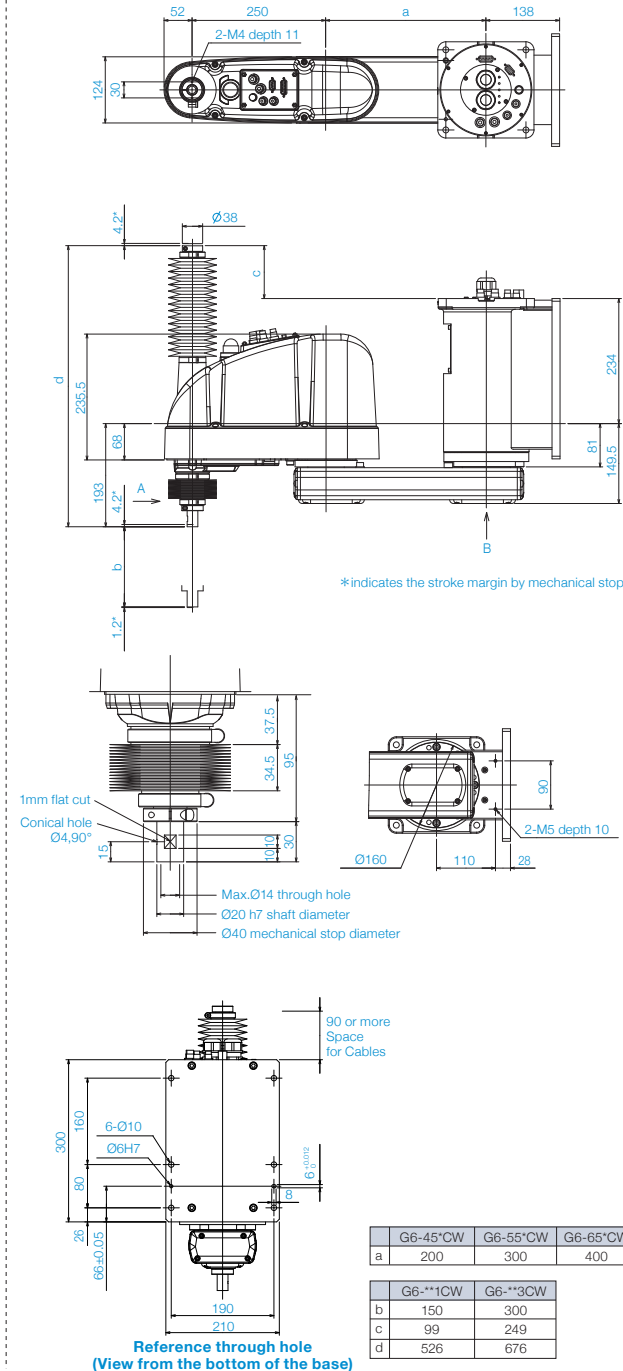
	G6-**1SW	G6-**3SW
b	180	330
c	-9	141
d	385	535

■ Motion Range (Wall Mounting)



Model	Wall Mounting			
	G6-45"W	G6-55"SW/DW	G6-55"CW/PW/DW bellows	G6-65"W
a Length of Arm #1 (mm)	200		300	400
b Length of Arm #2 (mm)		250		
c Motion range	195.5	161.2	172.1	232
d Motion range of Joint #1 (°)	105		135	148
e Motion range of Joint #2 (°)	130	147.5	145	147.5
f Mechanical stop area	182.4		146.8	207.5
g Joint #1 angle to hit mechanical stop (°)		3.5		7.5
h Joint #2 angle to hit mechanical stop (°)	3.8	3.3	5.8	6.3

Cleanroom-model



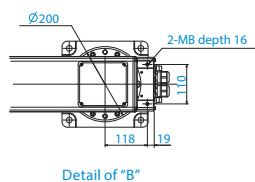
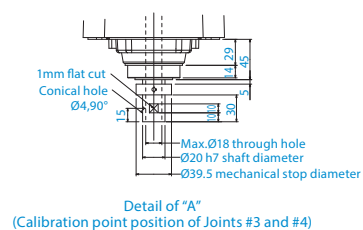
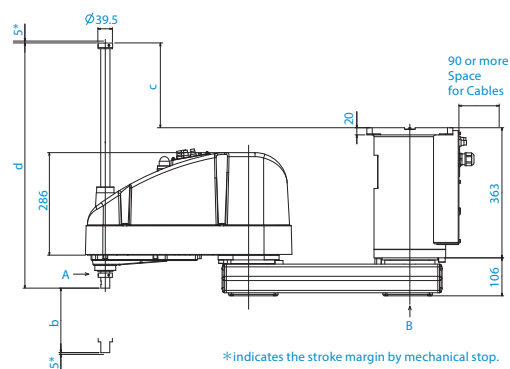
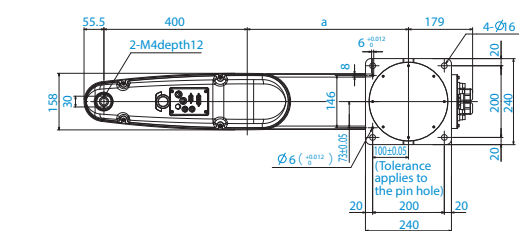
	G6-45°CW	G6-55°CW	G6-65°CW
a	200	300	400

	G6- ^{**} 1CW	G6- ^{**} 3CW
b	150	300
c	99	249
d	526	676

■ Outer Dimensions (Ceiling Mounting)

[Unit: mm]

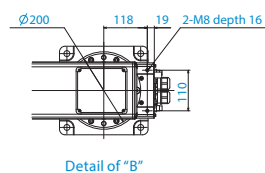
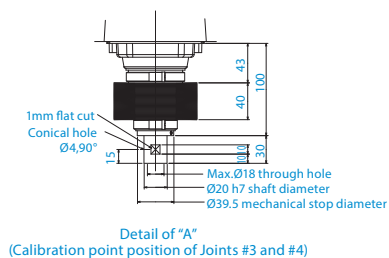
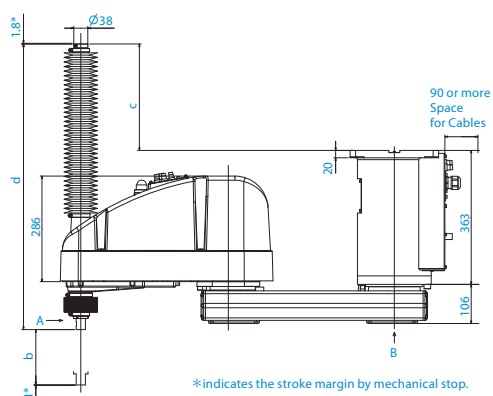
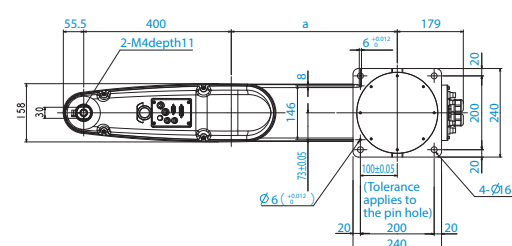
Standard-model



	G10-65*SR	G10/G20-85*SR	G20-A0*SR
a	250	450	600

	G10/G20-**1SR	G10/G20-**4SR
b	180	420
c	-27.5	212.5
d	420	660

Cleanroom-model



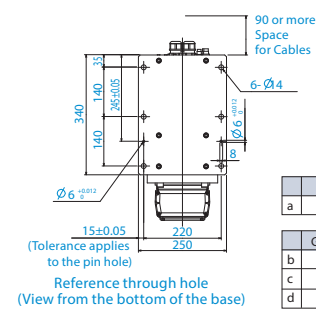
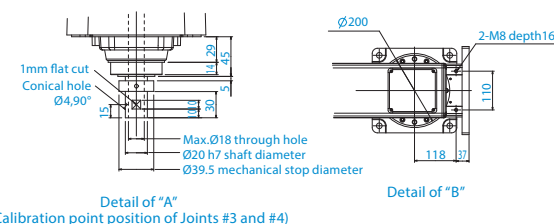
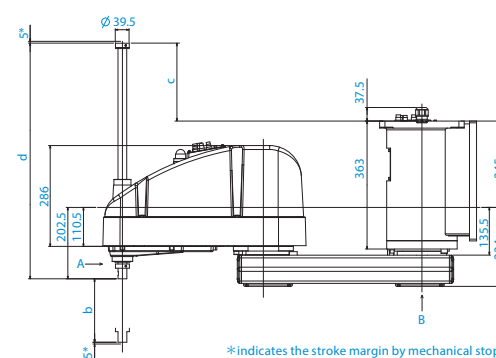
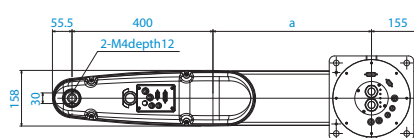
	G10-65°CIR	G10/G20-85°CIR	G20-A0°CIR
a	250	450	600

	G10/G20-**1CIR	G10/G20-**4CIR
b	150	390
c	29.5	288.5
d	515	774

■ Outer Dimensions (Wall Mounting)

[Unit: mm]

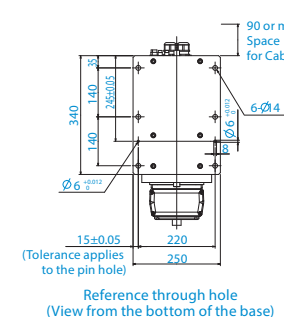
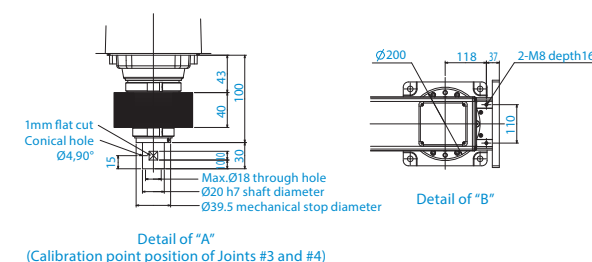
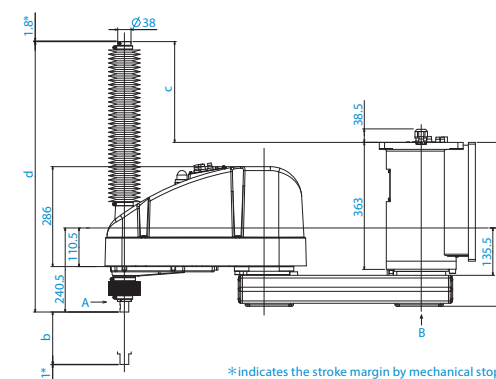
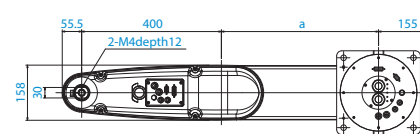
Standard-model



	G10-65°SW	G10/G20-85°SW	G20-A0°SW
a	250	450	600

	G10/G20-°15W	G10/G20-°45W
b	180	420
c	-27.5	212.5
d	420	660

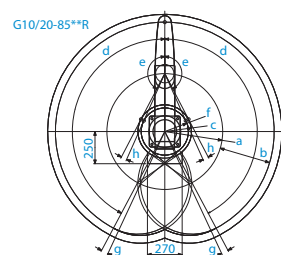
Cleanroom-model



	G10-65°CW	G10/G20-85°CW	G20-A0°CW
a	250	450	600

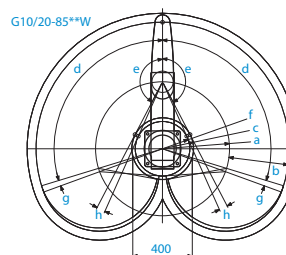
	G10/G20-**1CW	G10/G20-**4CW
b	150	390
c	29.5	288.5
d	515	774

■ Motion Range (Ceiling Mounting)



Model	Ceiling Mounting			
	G10-65**R	G10/20-85*		G20-A0**W
		SR/DR	CR/PR/DR bellows	
a Length of Arm #1 (mm)	250	450		600
b Length of Arm #2 (mm)	400	400		400
c Motion range	306.5	207.8	218.3	307
d Motion range of Joint #1 (°)	107	152		152
e Motion range of Joint #2 (°)	130	152.5	151	152.5
f Mechanical stop area	291.2	183.3		285.4
g Joint #1 angle to hit mechanical stop (°)	3	3		3
h Joint #2 angle to hit mechanical stop (°)	3.5	3.5	5	3.5

■ Motion Range (Wall Mounting)



Model	Wall Mounting			
	G10-65**W	G10-20-85*		G20-A0**W
		SW/DW	CW/PW/DW bellows	
a Length of Arm #1 (mm)	250	450		600
b Length of Arm #2 (mm)	400	400		400
c Motion range	306.5	207.8	218.3	307
d Motion range of Joint #1 (°)	107	107		107
e Motion range of Joint #2 (°)	130	152.5	151	152.5
f Mechanical stop area	291.2	183.3		285.4
g Joint #1 angle to hit mechanical stop (°)	3	3		3
h Joint #2 angle to hit mechanical stop (°)	3.5	3.5	5	3.5

LS3

Simplicity, reliability, and performance
for easy process automation

- Small footprint with a big working area
- 400mm arm length

■ LS3 specifications

Arm length		400 mm
Payload		Rated 1 kg / Max 3 kg
Standard cycle time		0.45 sec
Repeatability	Joint #1, #2	±0.01 mm
	Joint #4	±0.01°



■ Specifications

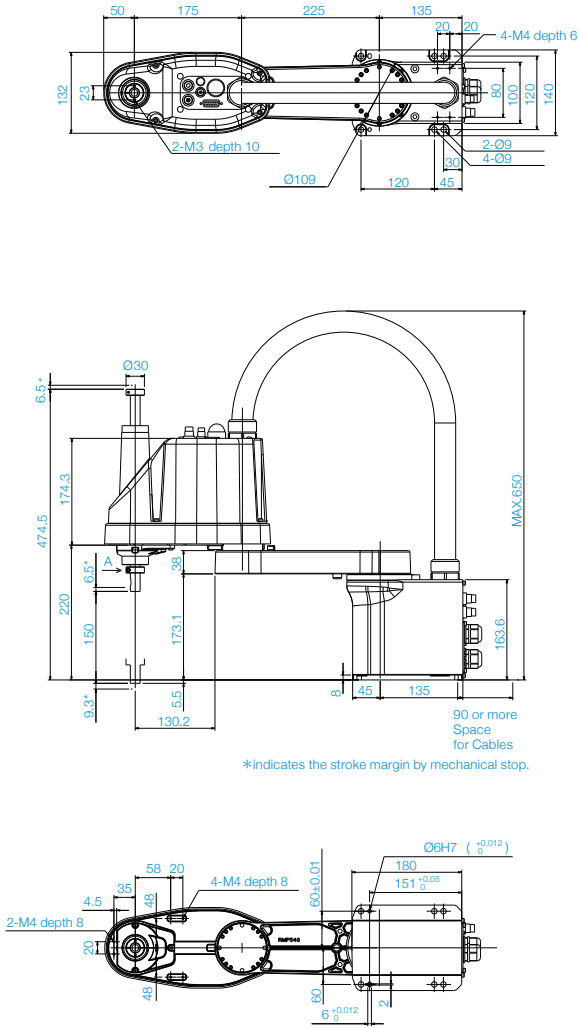
LS3-401*		
Mounting type	Table Top	
Arm length	Arm #1, #2	400 mm
Max. operating speed	Joints #1, #2	6000 mm/s
	Joint #3	1100 mm/s
	Joint #4	2600°/s
Weight (cables not included)		14 kg
Repeatability	Joints #1, #2	±0.01 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01°
Max. motion range	Joint #1	±132°
	Joint #2	±141°
	Joint #3 (Cleanroom model)	150 mm (120 mm)
	Joint #4	±360°
Payload	Rated	1 kg
	Maximum	3 kg
Standard cycle time ¹		0.45 sec
Joint #4 allowable moment of inertia ²	Rated	0.005 kg·m ²
	Maximum	0.05 kg·m ²
Motor power consumption	Joint #1	200 W
	Joint #2	100 W
	Joint #3	100 W
	Joint #4	100 W
Joint #3 down force		100 N
Home	Home-return-less	
Installed wire for customer use	15Pin (D-Sub)	
Installed pneumatic tube for customer use	Φ4mm×1, Φ6mm×2	
Installation environment	Standard /Cleanroom ³	
Applicable controller	RC90	
Safety standard	CE, KC	

*1:Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimised 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 4 cleanroom standards.

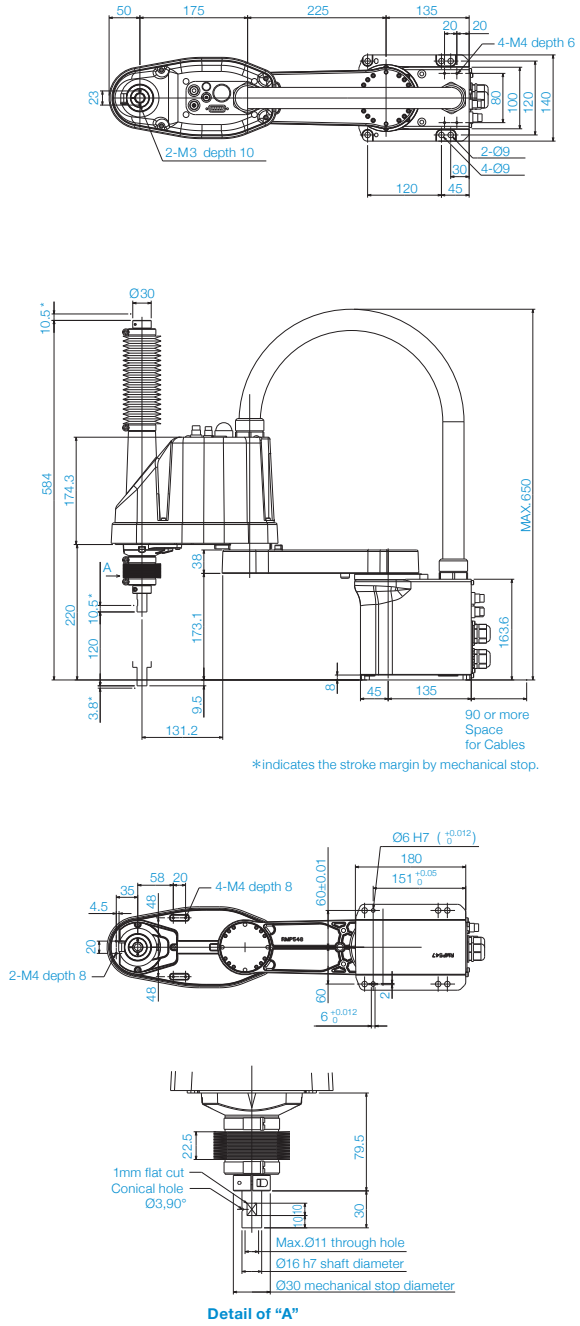
■ Outer Dimensions (Table Top Mounting)

[Unit: mm]

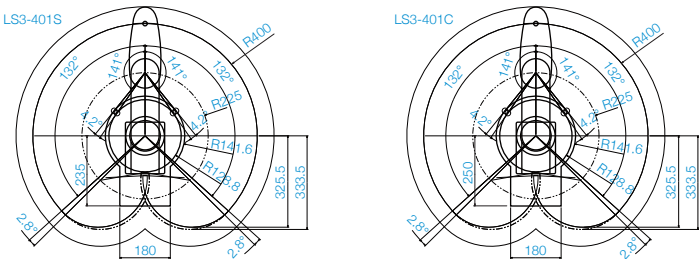
Standard-model



Cleanroom-model



■ Motion Range (Table Top Mounting)



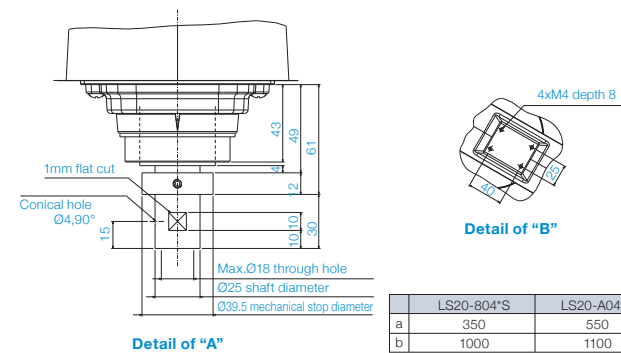
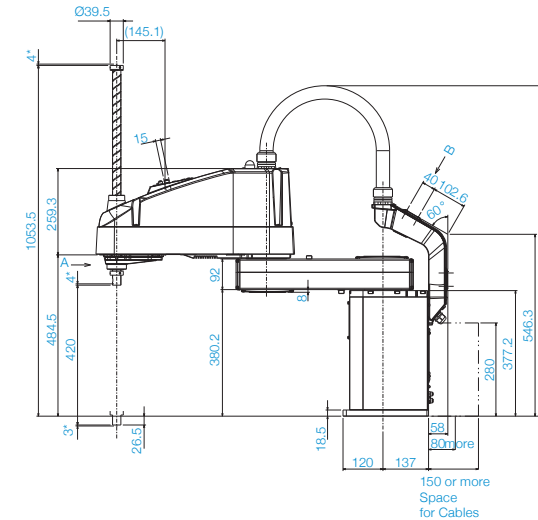
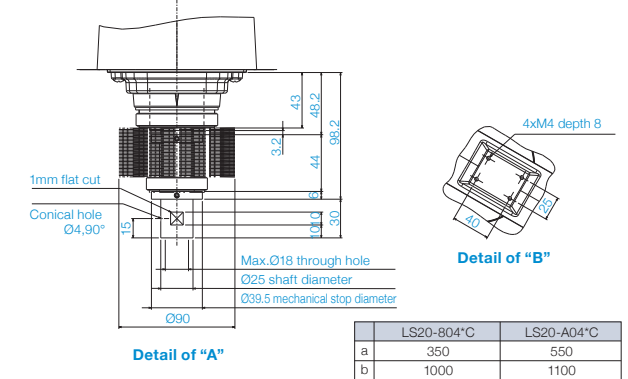
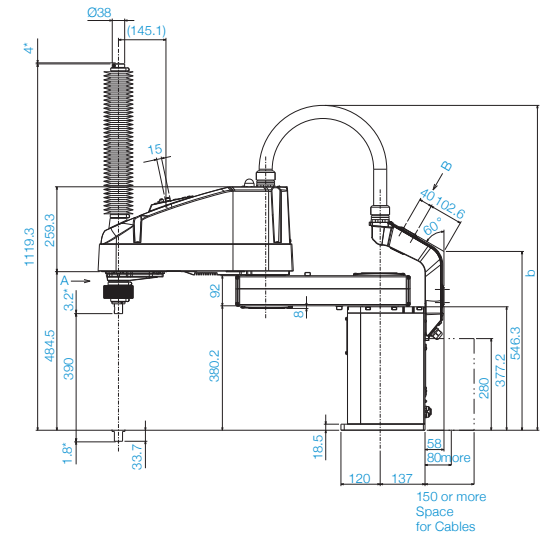


		LS20-804*	
Mounting type		Table Top	
Arm length	Arm #1, #2	800 mm	1000 mm
Max. operating speed	Joints #1, #2	9940 mm/s	11250 mm/s
	Joint #3	2020 mm/s	
	Joint #4	1400°/s	
Weight (cables not included)		47 kg	50 kg
Repeatability	Joints #1, #2	±0.025 mm	
	Joint #3	±0.01 mm	
	Joint #4	±0.01°	
Max. motion range	Joint #1	±132°	
	Joint #2	±152°	
	Joint #3 (Cleanroom model)	420 mm (390 mm)	
	Joint #4	±360°	
Payload	Rated	10 kg	
	Maximum	20 kg	
Standard cycle time ¹		0.42 sec	0.45 sec
Joint #4 allowable moment of inertia ²	Rated	0.05 kg•m2	
	Maximum	0.45 kg•m2	
Motor power consumption	Joint #1	750 W	
	Joint #2	600 W	
	Joint #3	400 W	
	Joint #4	150 W	
Joint #3 down force		250 N	
Home		Home-return-less	
Installed wire for customer use		15Pin: D-Sub, 9Pin: D-Sub	
Installed pneumatic tube for customer use		Φ4mm×2、Φ6mm×2	
Installation environment		Standard /Cleanroom ³	
Applicable controller		RC90	
Safety standard		CE, KC	

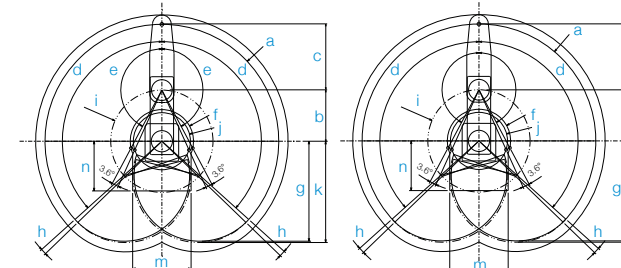
*3:Complies with ISO Class 4 cleanroom standards.

[Unit: mm]

Technical drawing of the rear view of the motor housing. Dimensions include: 62.3, 450, 15, 43, 137, 58, 12, 2xM8 depth 1, 166.3, 30, 50, 50, 4xM16, 20, 200, 120, 170, 200, 230, 47. Callouts include: 2xM4 through hole 12, 4xM3, 4xM3, and 'a'.

[illegible]

LS20-804C/A04C



Model	Standard		Cleanroom	
	LS20-A04S	LS20-804S	LS20-A04C	LS20-804C
a Length of Arm #1 +Arm #2 (mm)	1000	800	1000	800
b Length of Arm #1 (mm)	560	360	560	360
c Length of Arm #2 (mm)	450		450	
d Motion range of Joint #1 (°)	132		132	
e Motion range of Joint #2 (°)	152		152	
f Motion range	260.7	216.5	260.7	216.5
g Motion range at the rear	818	684.2	818	684.2
h Joint #1 angle to hit mechanical stop (°)	2		2	
i Joint #2 angle to hit mechanical stop (°)	3.6		3.6	
j Mechanical stop area	232.8	195.3	232.8	195.3
k Mechanical stop area at the rear	832.1	693.1	832.1	693.1
m Motion range	290	400	330	400
n Motion range	265	340	265	340

RS3

A unique rotating arm mechanism for unparalleled freedom of movement

- Outstanding productivity in limited space
- Ceiling mount and rotating arm enable workpiece to be accessed from any direction

■ RS3 specifications

Arm length		350 mm
Payload		Rated 1 kg / Max 3 kg
Standard cycle time		0.34 sec
Repeatability	Joint #1, #2	±0.01 mm
	Joint #4	±0.01°

■ Specifications

		RS3-351*
Mounting type		Ceiling
Arm length		Arm #1, #2 350 mm
Max. operating speed	Joints #1, #2	6237 mm/s
	Joint #3	1100 mm/s
	Joint #4	2600°/s
Weight (cables not included)		17 kg
Repeatability	Joints #1, #2	±0.01 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01°
Max. motion range	Joint #1	±225°
	Joint #2	±225°
	Joint #3 (Cleanroom model)	130 mm (100 mm)
	Joint #4	±720°
Payload	Rated	1 kg
	Maximum	3 kg
Standard cycle time ¹		0.34 sec
Joint #4 allowable moment of inertia ²	Rated	0.005 kg·m ²
	Maximum	0.05 kg·m ²
Motor power consumption	Joint #1	400 W
	Joint #2	200 W
	Joint #3	150 W
	Joint #4	100 W
Joint #3 down force		150 N
Home		Home-return-less
Installed wire for customer use		15Pin (D-Sub)
Installed pneumatic tube for customer use		Φ4mm×1, Φ6mm×2
Installation environment		Standard/Cleanroom ³ &ESD
Applicable controller		RC180, RC620
Safety standard		CE, UL

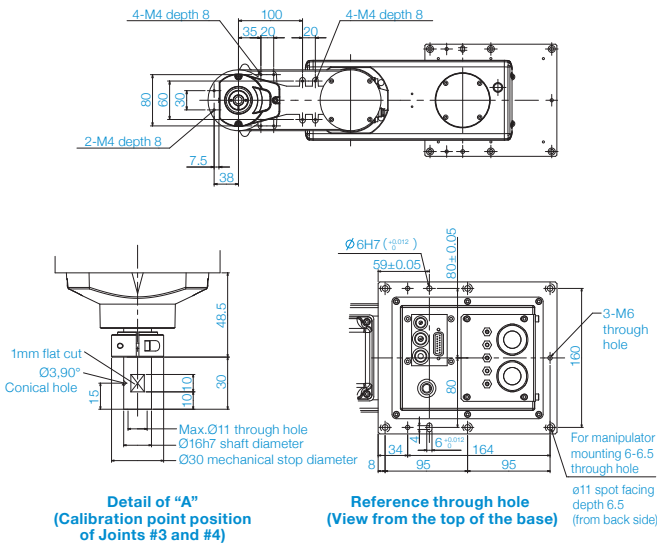
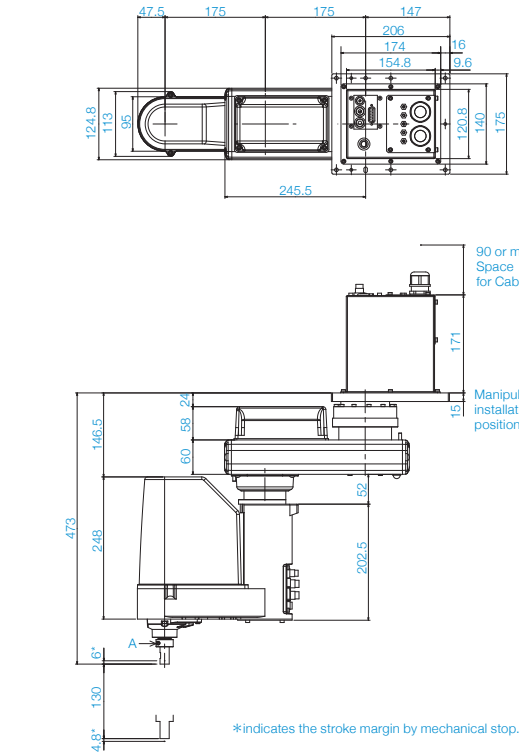
*1:Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1kg payload (path coordinates optimised for maximum speed).
*2:When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4, set parameters using INERTIA command.
*3:Complies with ISO Class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



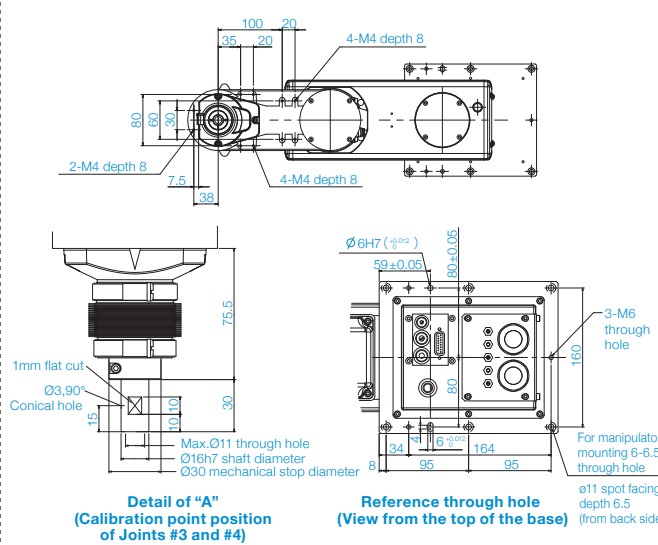
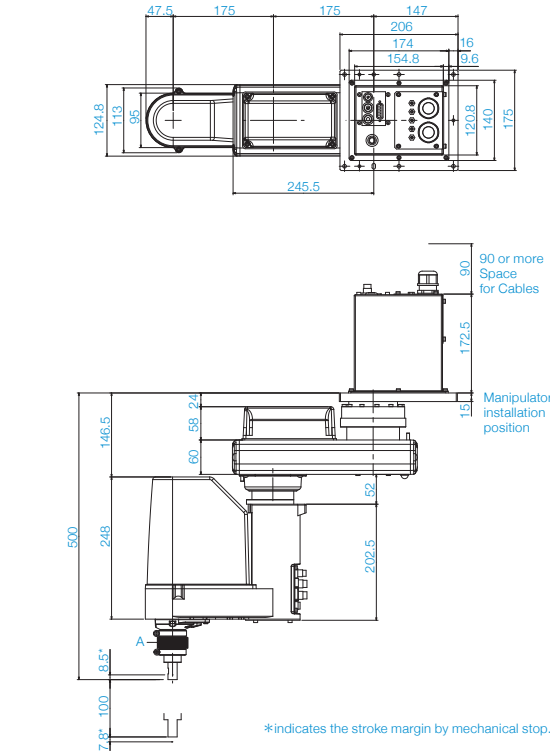
■ Outer Dimensions (Ceiling Mounting)

[Unit: mm]

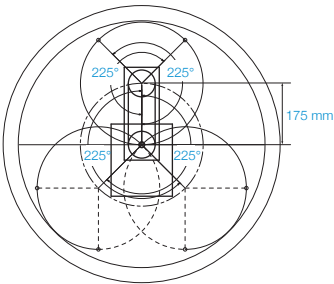
Standard-model



Cleanroom-model



■ Motion Range (Ceiling Mounting)



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

- Outstanding productivity in limited space
- Ceiling mount and rotating arm enable workpiece to be accessed from any direction

Arm length		550 mm
Payload		Rated 1 kg / Max 4 kg
Standard cycle time		0.39 sec
Repeatability	Joint #1,#2	±0.015 mm
	Joint #4	±0.01°

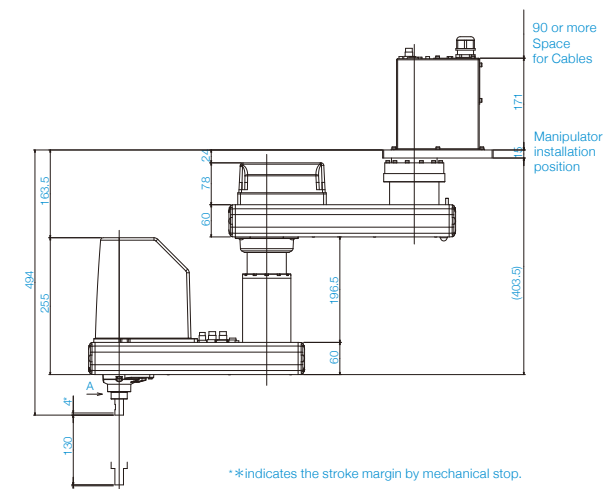


		RS4-551*
Mounting type		Ceiling
Arm length	Arm #1, #2	550 mm
Max. operating speed	Joints #1, #2	7400 mm/s
	Joint #3	1100 mm/s
	Joint #4	2600°/s
Weight (cables not included)		19 kg
Repeatability	Joints #1, #2	±0.015 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01°
Max. motion range	Joint #1	±225°
	Joint #2	±225°
	Joint #3 (Cleanroom model)	130 mm (100 mm)
	Joint #4	±720°
Payload	Rated	1 kg
	Maximum	4 kg
Standard cycle time ¹⁾		0.39 sec
Joint #4 allowable moment of inertia ²⁾	Rated	0.005 kg·m ²
	Maximum	0.05 kg·m ²
Motor power consumption	Joint #1	400 W
	Joint #2	400 W
	Joint #3	150 W
	Joint #4	100 W
Joint #3 down force		150 N
Home		Home-return-less
Installed wire for customer use		15Pin (D-Sub)
Installed pneumatic tube for customer use		Φ4mm×1, Φ6mm×2
Installation environment		Standard/Cleanroom ³⁾ & ESD
Applicable controller		RC180, RC620
Safety standard		CE

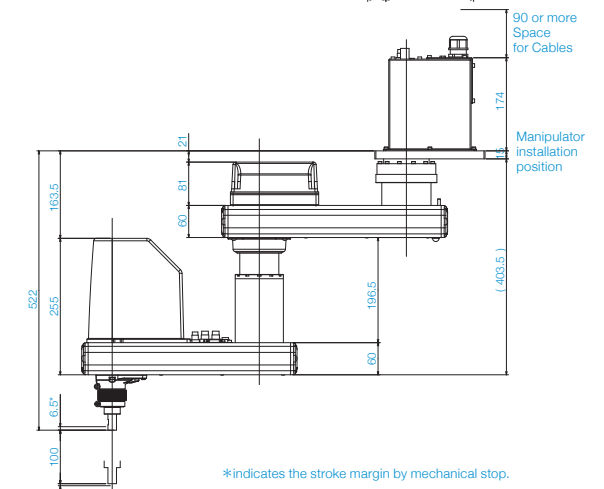
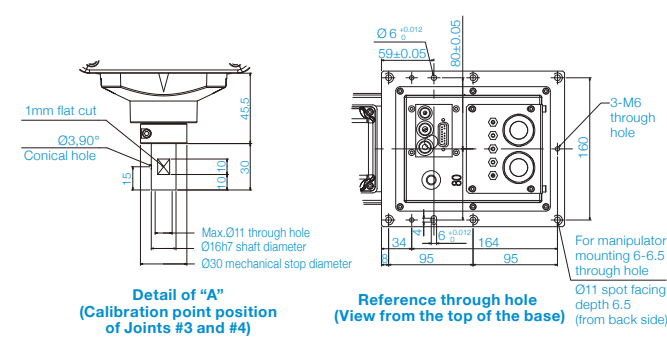
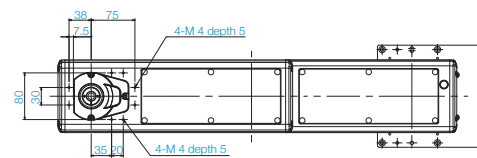
*3:Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10 0.1µm particles per 28,317cm³:1cft) cleanroom standards.

[Unit: mm]

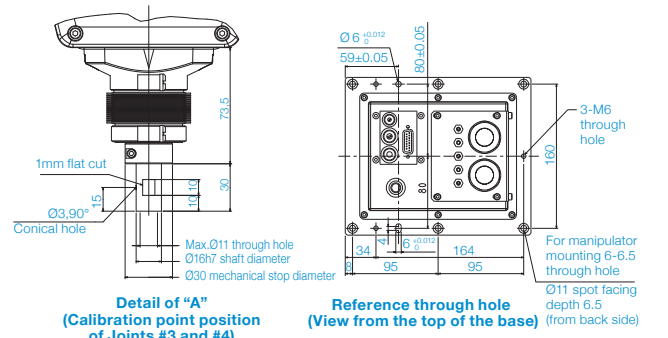
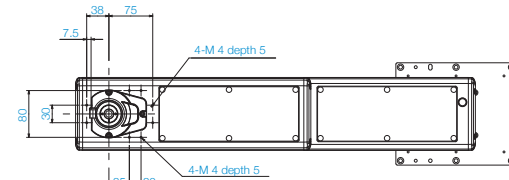
Technical drawing of the front view of the 1000mm x 600mm x 200mm cabinet. The drawing shows a long, narrow cabinet with a control panel on the right side. Dimensions are provided in millimeters. The overall width is 1000mm, and the depth is 600mm. The control panel features two large circular knobs, several smaller buttons, and a digital display. The cabinet is shown in a perspective view.



* * indicates the stroke margin by mechanical stop.



*indicates the stroke margin by mechanical stop.



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

C4

Speed and flexibility for machine tending operation in confined workspaces

- 4kg maximum payload
- High speed and repeatability for maximum productivity
- Compact design for enhanced configuration flexibility
- C4-A901 long arm model also available

C4 specifications

Payload	Rated 1 kg / Max 4 kg
Standard cycle time	0.37 sec [C4-A601] 0.47 sec [C4-A901]
Repeatability	±0.02 mm [C4-A601] ±0.03 mm [C4-A901]

Specifications

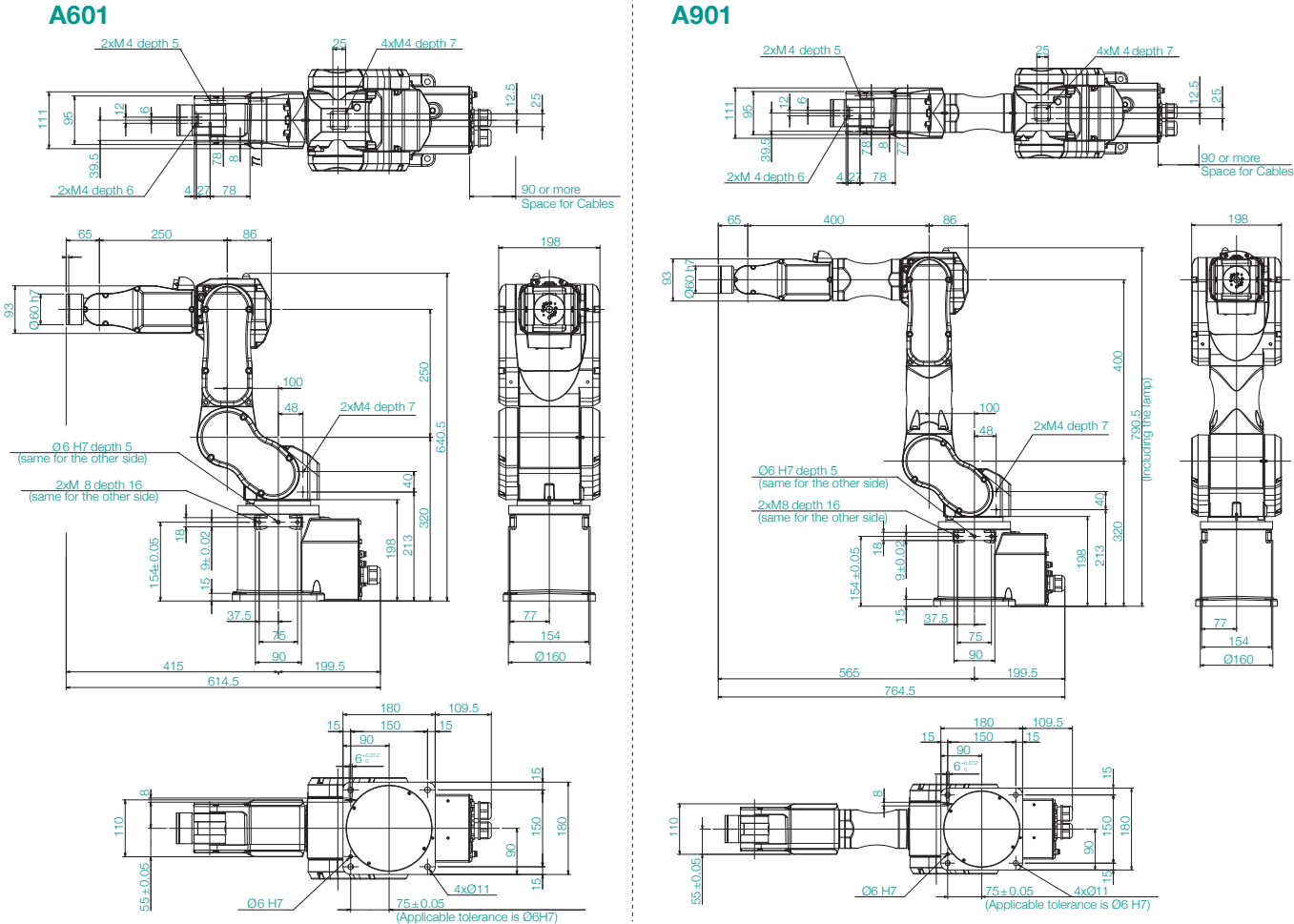
		C4-A601	C4-A901
Mounting type		Table Top	Table Top
Degree of freedom		6	6
Max. motion range		600 mm	900 mm
Wrist flange surface		665 mm	965 mm
Max. operating speed	Joint #1	450°/s	275°/s
	Joint #2	450°/s	275°/s
	Joint #3	514°/s	289°/s
	Joint #4	555°/s	
	Joint #5	555°/s	
	Joint #6	720°/s	
Weight (cables not included)		27 kg	29 kg
Repeatability		±0.02 mm	±0.03 mm
Max. motion range	Joint #1	±170°	
	Joint #2	-160°~+65°	
	Joint #3	-51°~+225°	
	Joint #4	±200°	
	Joint #5	±135°	
	Joint #6	±360°	
Payload	Rated	1 kg	
	Maximum	4 kg (5 kg with arm downward positioning)	
Standard cycle time ¹		0.37 sec	0.47 sec
Allowable moment of inertia ²	Joint #4	0.15 kg·m2	
	Joint #5	0.15 kg·m2	
	Joint #6	0.1 kg·m2	
Motor power consumption	Joint #1	400 W	
	Joint #2	400 W	
	Joint #3	150 W	
	Joint #4	50 W	
	Joint #5	50 W	
	Joint #6	50 W	
Home		Home-return-less	
Installed wire for customer use		9Pin D-Sub	
Installed pneumatic tube for customer use		Φ4mm×4	
Installation environment		Standard /Cleanroom ³ & ESD	
Applicable controller		RC700	
Safety standard		CE, KC	

¹1:Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1kg payload (path coordinates optimised for maximum speed).
²2:When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4 , set parameters using INERTIA command.
³3:Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10 0.1µm particles per 28,317cm³:1cft) cleanroom standards.
*Ceiling-mounted robots should be programmed using the EPSON RC+ software ceiling-mount settings.

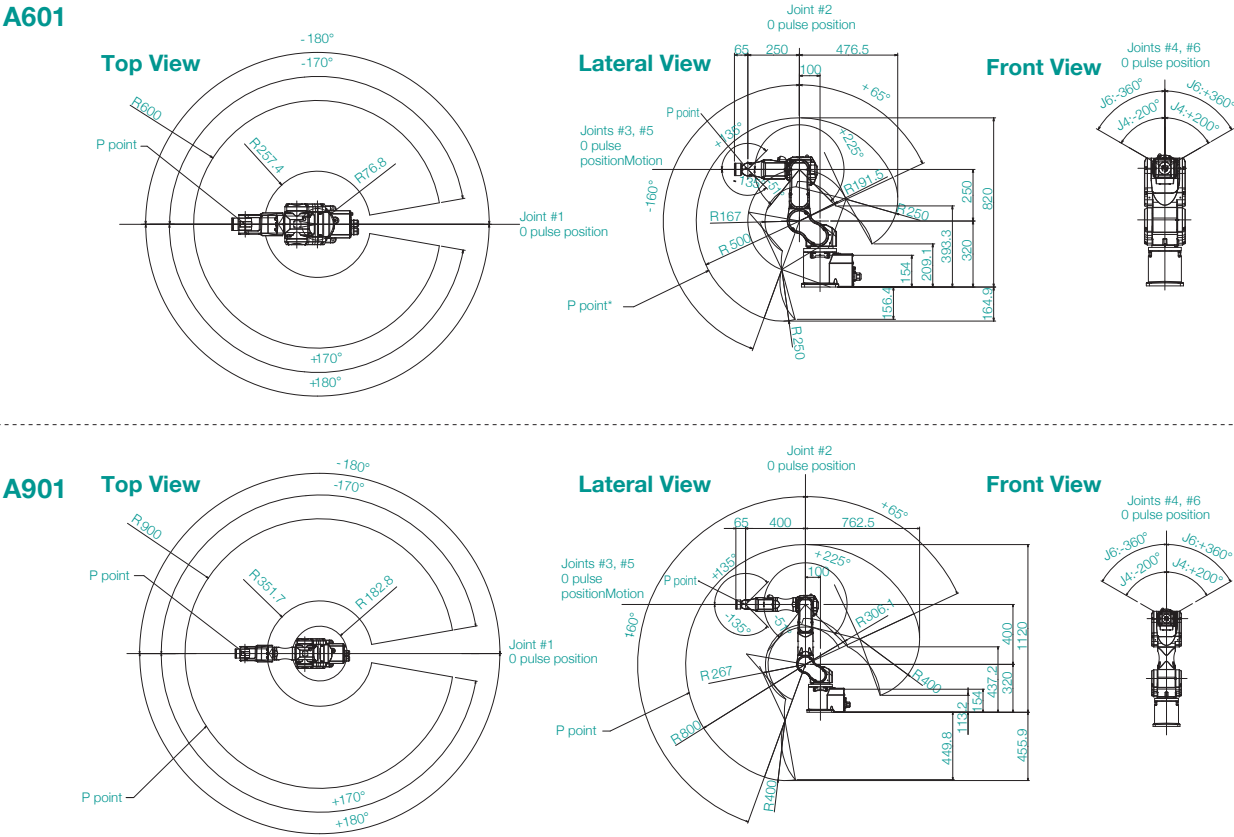


Outer Dimensions

[Unit: mm]



Motion Range



C8

C8/C8L

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

- Ideal for multi-effector, multi-workpiece and heavy workpiece handling and assembly tasks
- Handles payloads up to 8kg, double the capacity of the C4 series
- Enhances productivity with superior speed and precision

C8XL

Long, slim 1400mm arm gives added reach for machine tending operations

- Slim arm design minimises interference with other machines while enabling longer reach
- Light, compact body is easy to mount in a wide range of configurations

C8 Series specifications

		C8	C8L	C8XL
Payload		Rated 3 kg / Max 8 kg		
Standard cycle time	1 kg	0.31 sec	0.35 sec	0.53 sec
	5 kg	0.39 sec	0.43 sec	0.62 sec
	8 kg	0.48 sec	0.50 sec	0.72 sec
Repeatability	Joint #1~#6	±0.02 mm	±0.03 mm	±0.05 mm



Specifications

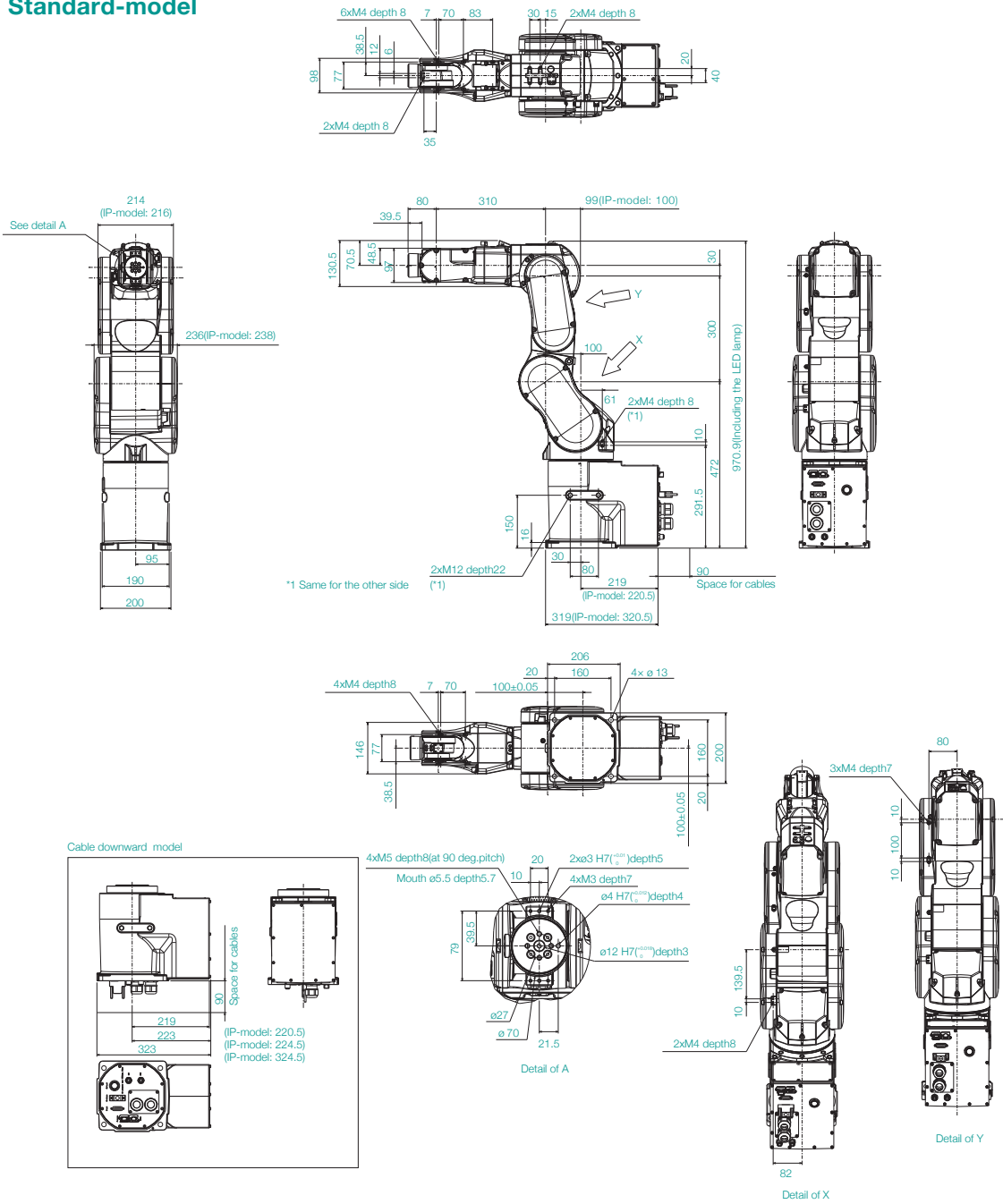
Model name		C8	C8L	C8XL
Model number		C8-A701*	C8-A901*	C8-A1401*
Mounting type		Table Top		
Degree of freedom		6		
Max. motion range	P point: through the center of J4/J5/J6	711 mm	901 mm	1400 mm
Wrist flange surface		791 mm	981 mm	1480 mm
Max. operating speed	Joint #1	331°/s	294°/s	200°/s
	Joint #2	332°/s	300°/s	167°/s
	Joint #3	450°/s	360°/s	200°/s
	Joint #4		450°/s	
	Joint #5		450°/s	
	Joint #6		720°/s	
Weight (cables not included)		49 kg (IP:53 kg)	52 kg (IP:56 kg)	62 kg (IP:66 kg)
Repeatability	Joint #1~#6	±0.02 mm	±0.03 mm	±0.05 mm
Max. motion range	Joint #1		±240°	
	Joint #2	-158°~+65°		-135°~+55°
	Joint #3		-61°~+202°	
	Joint #4		±200°	
	Joint #5		±135°	
	Joint #6		±360°	
Payload	Rated		3 kg	
	Maximum		8 kg	
Standard cycle time*1	1 kg	0.31 sec	0.35 sec	0.53 sec
	5 kg	0.39 sec	0.43 sec	0.62 sec
	8 kg	0.48 sec	0.50 sec	0.72 sec
Allowable moment of inertia*2	Joint #4		0.47 kg·m ²	
	Joint #5		0.47 kg·m ²	
	Joint #6		0.15 kg·m ²	
Motor power consumption	Joint #1		1000 W	
	Joint #2		750 W	
	Joint #3		400 W	
	Joint #4		100 W	
	Joint #5		100 W	
	Joint #6		100 W	
Home		Home-return-less		
Installed wire for customer use		15pin (D-sub), 8pin (RJ45), 6pin (for force sensor)		
Installed pneumatic tube for customer use		Ø6mm x 2		
Installation environment		Standard (IP40)/ Cleanroom* & ESD/ IP67		
Applicable controller		RC700-A		
Safety standard		CE, KC		

*1: Cycle time based on round-trip arch motion (300 mm horizontal, 25 mm vertical) with each payload setting (path coordinates optimised for maximum speed).
*2: C8 and C8L comply with ISO Class 3 (ISO14644-1) cleanroom standards, and C8XL complies with ISO Class 4 (ISO14644-1) cleanroom standards.
*To use ceiling mounting and wall mounting types, select ceiling or wall mounting type on the EPSON RC+ software.

Outer Dimensions

[Unit: mm]

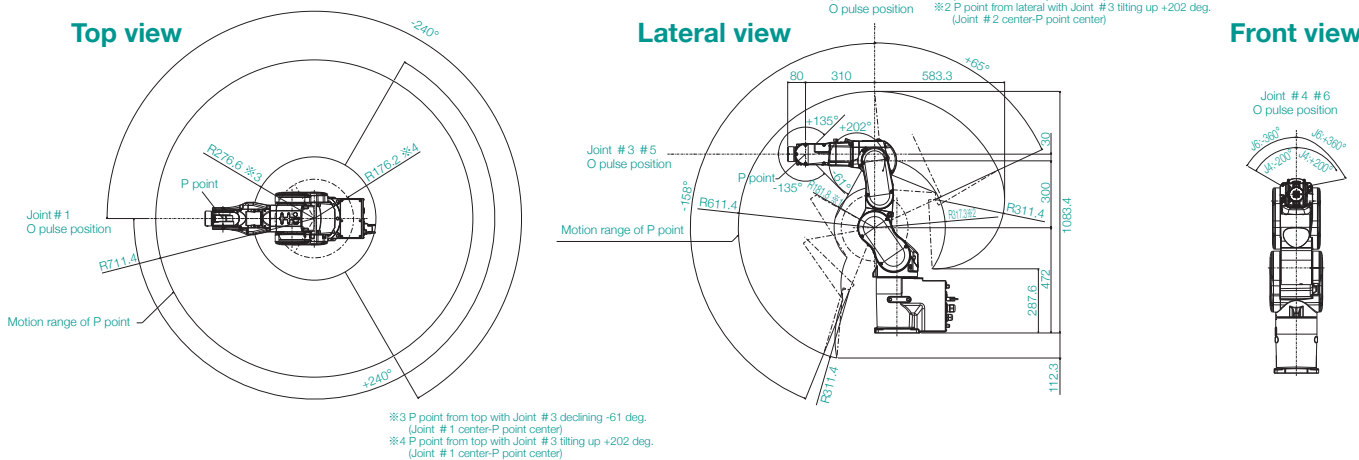
A701 Standard-model



Motion Range

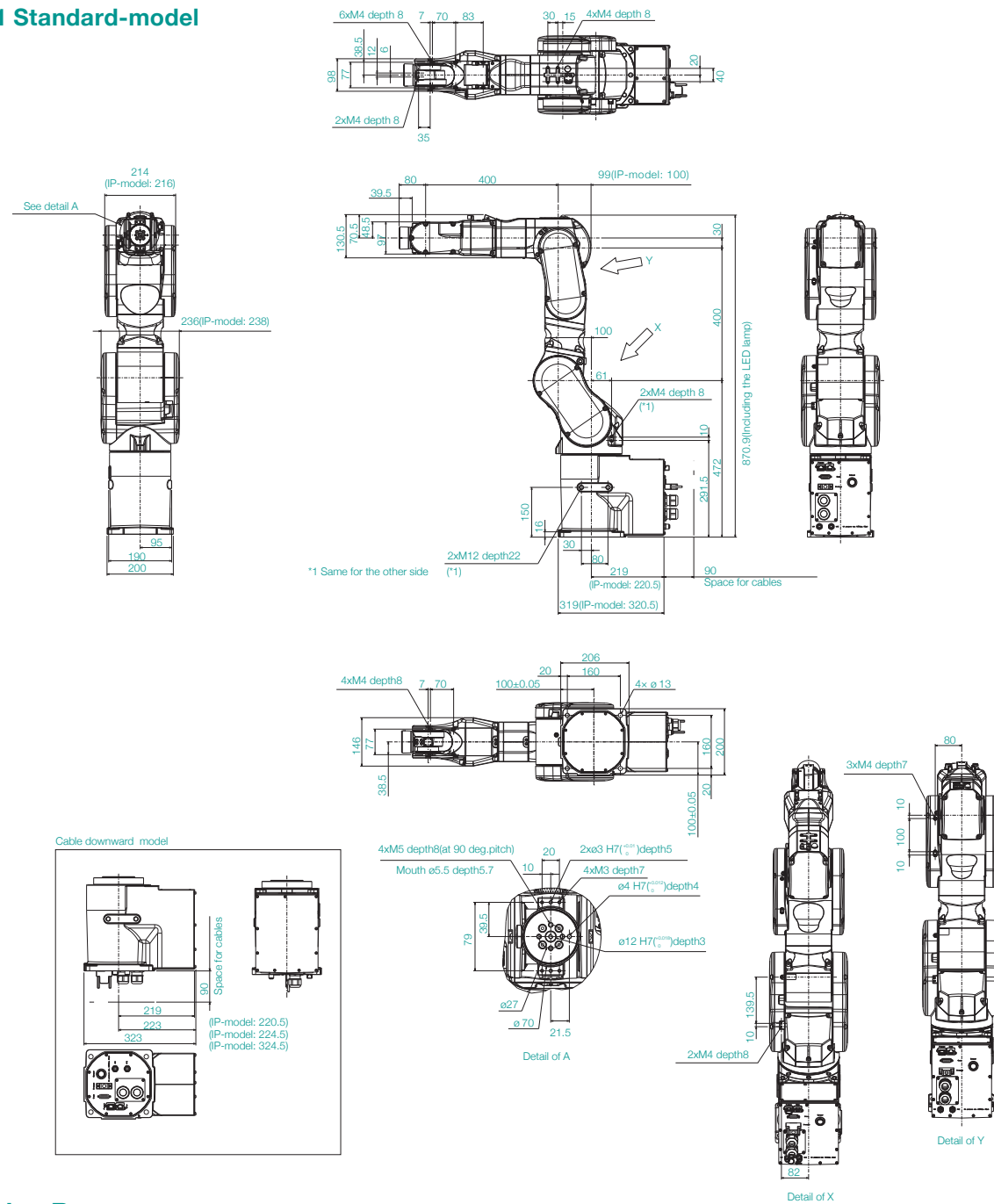
[Unit: mm]

A701 Standard-model



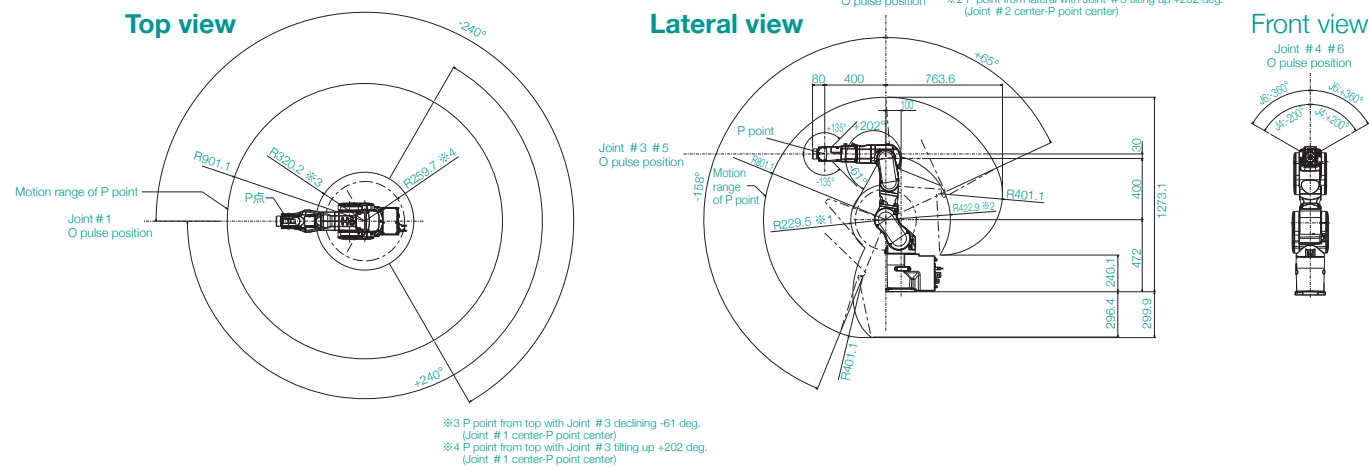
A901 Standard-model

[Unit: mm]



■ Motion Range

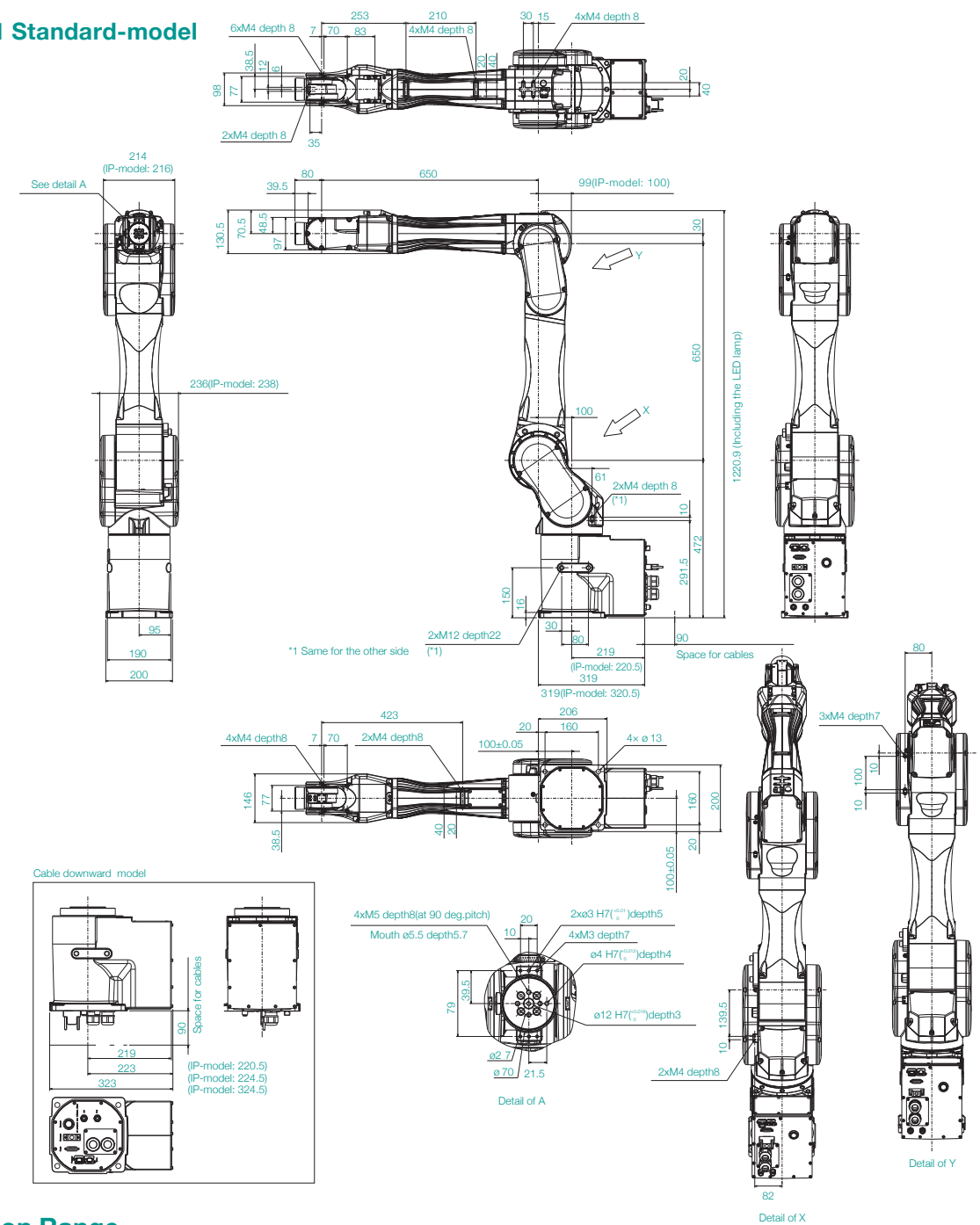
A901 Standard-model



■ Outer Dimensions

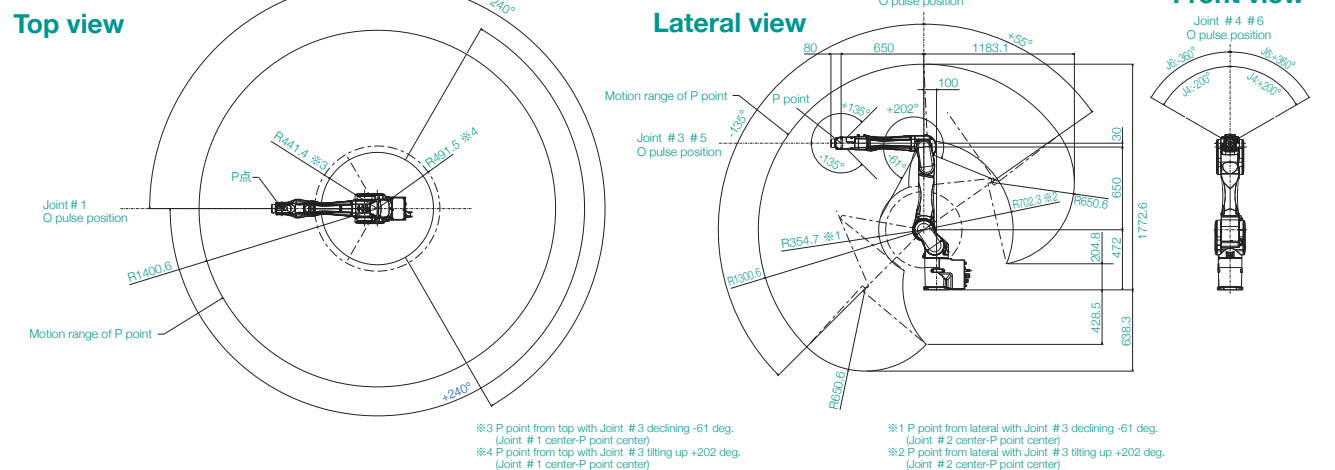
[Unit: mm]

A1401 Standard-model



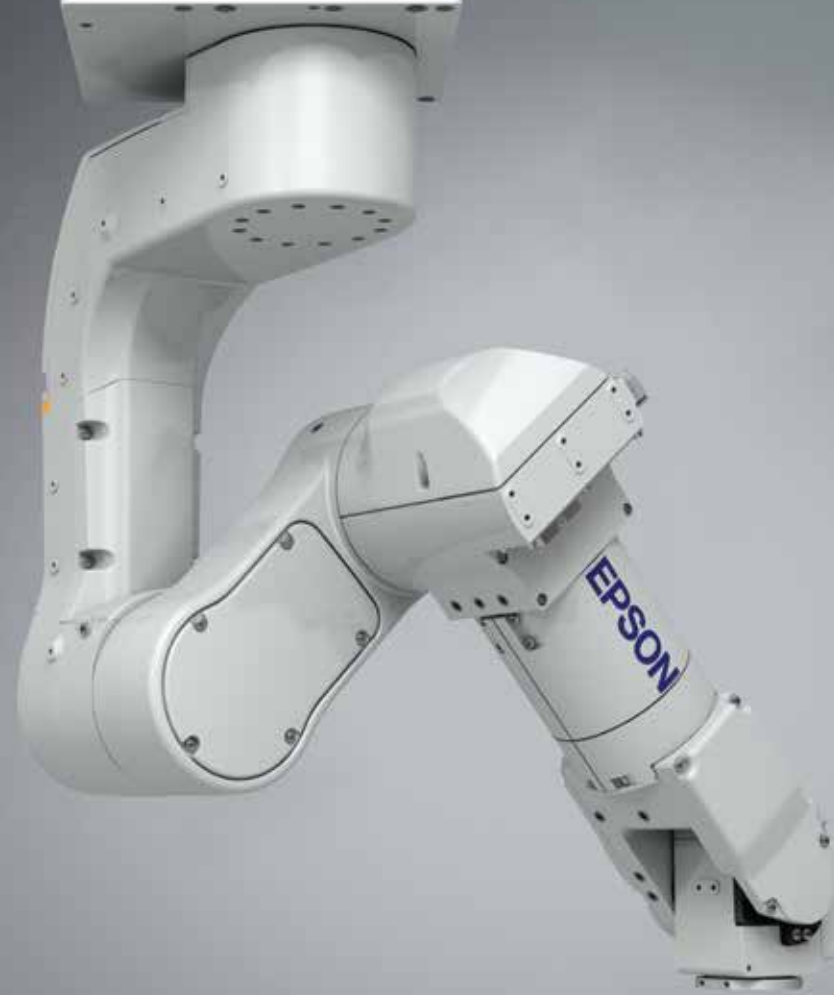
■ Motion Range

A1401 Standard-model



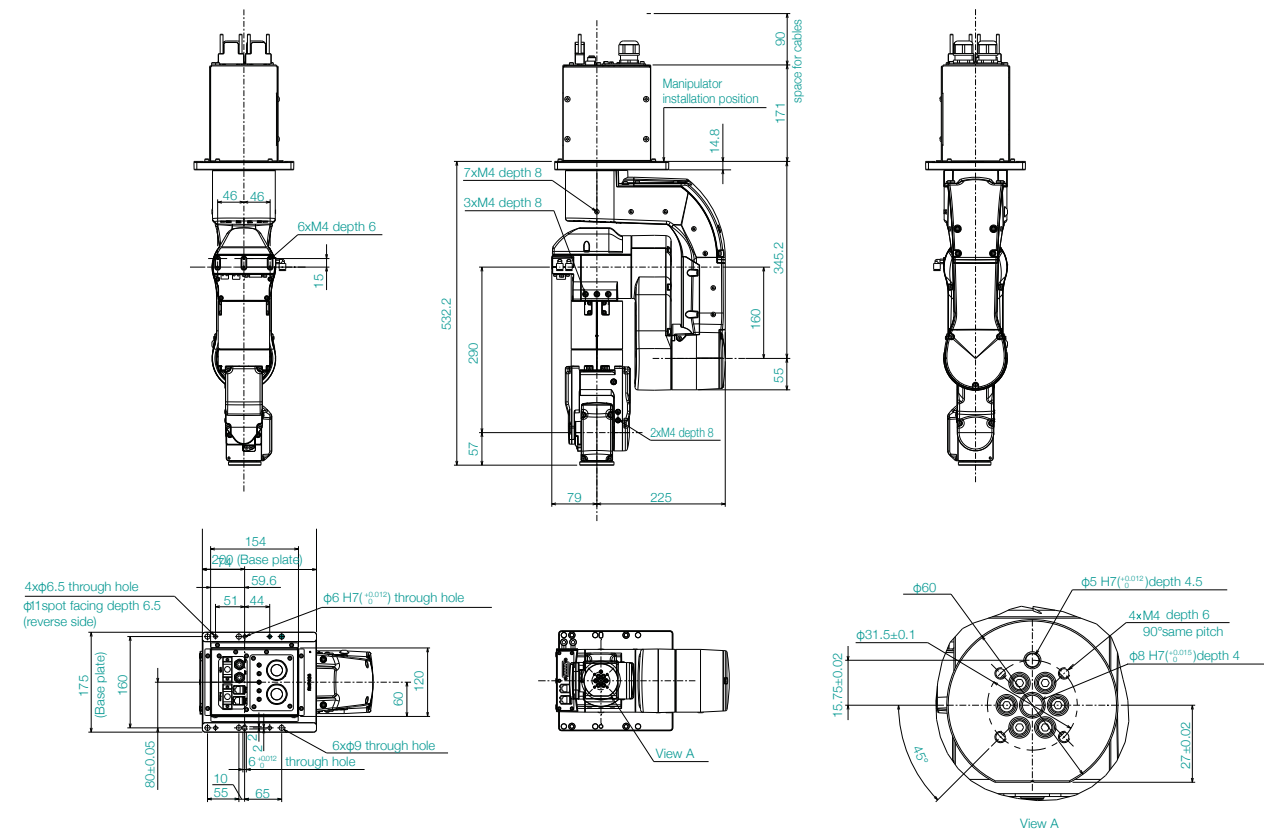
- Installs in 40% less space
- Motion shortcuts for faster cycle times
- Unlimited circular movements for greater flexibility

Payload		Rated 1 kg / Max 2.5 kg
Repeatability	Joint #1~#6	±0.02 mm

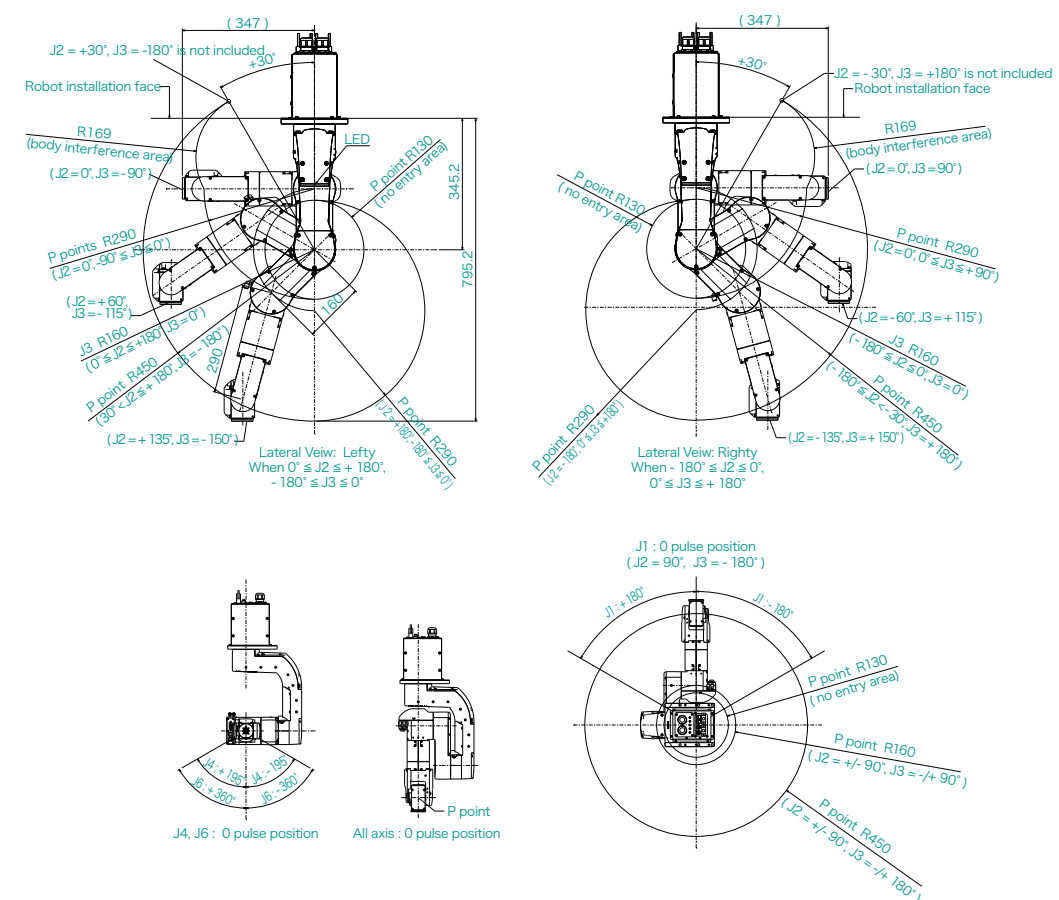


Model name		N2-A450SR	N2-A450S
Mounting type		Ceiling	Table top ¹⁾
Degree of freedom	P point: through the center of J4/J5/J6		6
Max. motion range			450 mm
Wrist flange surface			532.2 mm
Max. operating speed	Joint #1		297°/s
	Joint #2		297°/s
	Joint #3		356°/s
	Joint #4		356°/s
	Joint #5		360°/s
	Joint #6		360°/s
Weight (cable not included)			19 kg
Repeatability	Joint #1-#6		±0.02 mm
Max. motion range	Joint #1		±180°
	Joint #2		±180°
	Joint #3		±180°
	Joint #4		±195°
	Joint #5		±130°
	Joint #6		±360°
Payload ²⁾	Rated		1 kg
	Maximum		2.5 kg
Allowable moment of inertia ³⁾	Joint #4		0.2 kg•m2
	Joint #5		0.2 kg•m2
	Joint #6		0.08 kg•m2
Motor power consumption	Joint #1		100 W
	Joint #2		100 W
	Joint #3		100 W
	Joint #4		30 W
	Joint #5		30 W
	Joint #6		15 W
Installed wire for customer use		15 wires (D-sub) 8 pin (RJ45) Cat 5e or equivalent (2 cables)(also used for Force Sensor)	
Installed pneumatic tube for customer use		6 mm pneumatic tubes (2 tubes), Allowable pressure: 0.59 Mpa (6 kgf/cm2) (89 psi)	
Installation environment		Standard	
Applicable Controller		RC700-A	
Safety standard		CE Marking / KC Marking / KCs Marking	

[Unit: mm]



[Unit: mm]



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

SPEL+ language support

Epson industrial robots use an easy-to-learn programming language that makes it simple to set up complex, multitask workflows.

	Epson RC+5.0	Epson RC+6.0	Epson RC+7.0	Command
Pallet	●	●	●	Pallet
Handling weight & inertia	●	●	●	Weight, Inertia
High-speed continuous path accuracy	●	●	●	CP
Multitasking	●	●	●	Xqt
Positioning completion	●	●	●	Fine
Arch motion	●	●	●	Arch
Parallel processing	●	●	●	!...!
Singularity avoidance	●	●	●	AvoidSingularity
Remote control expansion I/O	●	—	●	
On-the-fly pickup	—	●	●	

Example program

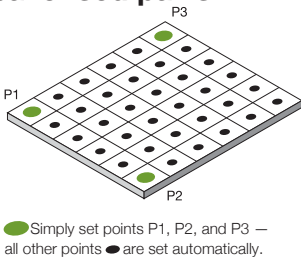
```
Function main
  Motor On:      Motor power on
  Power High:    Power mode high
  Speed 100:     Speed 100%
  Accel 100, 100: Acceleration 100%

  If Sw(o) = On Then:
    Jump P0 :    Move the effector to point 0
  Else
    Jump P1      Move the effector to point 1
  EndIf

Fend
```

Easy alignment with palletised 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.

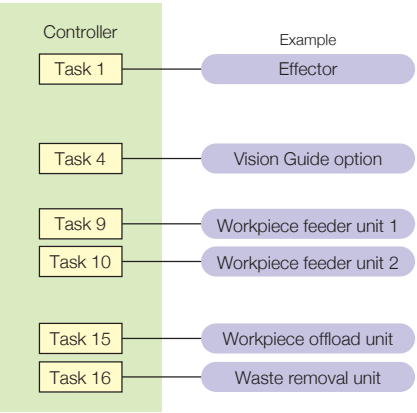


High repeatability with varying payloads and effector orientation

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.

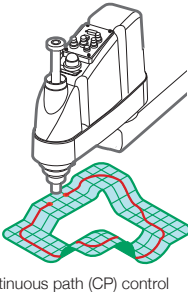
Multitasking function

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 programme. 512-channel input/output expandability, Vision Guide machine vision, and pulse generator control of peripheral equipment can all be utilised to achieve full process automation.



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-centred control point or an external control point.

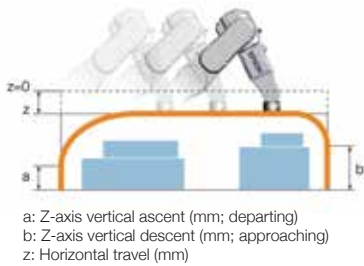


Positioning completion time control for maximum efficiency

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 maximise your yield by prioritising takt (cycle) time over precision, or vice versa, according to the nature of the work to be done.

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.



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 synchronised control of multi-device processes for maximum throughput efficiency.

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.

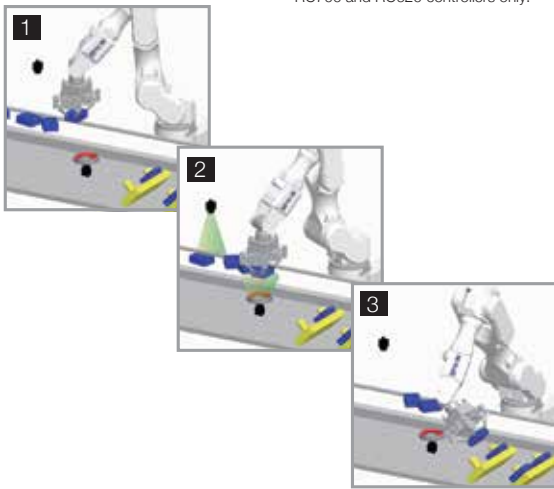


Remote control expansion I/O

With the remote control expansion I/O, there's no need for prior programme development. SPEL+ commands can be entered directly, enabling personnel with no programming experience to quickly assemble the commands needed to control robot operation.

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.



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 end effector speed ranges up to 1120mm/s, and maximum acceleration/deceleration speed ranges up to 5000mm/s.

Teaching Methods

- Remote Teaching** Points are taught using the jog keys on the teaching unit to move the effector to the target. This method is especially useful for operations that require very high precision because the jog keys allow adjustment in units as small as the resolution of each axis.
- Direct Teaching** Points are taught by disengaging the motor of each axis and moving the effector to the target by hand. (Direct teaching is not supported by ProSix 6-axis robots.)
- MDI Teaching** Points are taught by inputting predetermined coordinate values without moving the arm.
- CAD-to-Point Teaching** CAD data can also be used to set coordinate values for each teaching point.

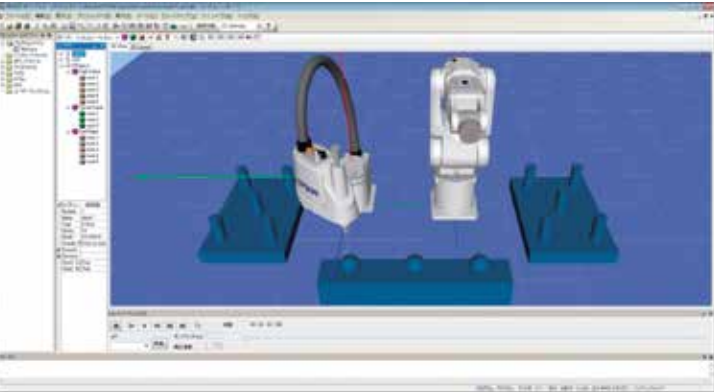
Epson's long experience in the development of industrial robots and control technologies enables us to offer a wide range of software options.

Simulator

The EPSON RC+ software simulator displays a 3D view of the workcell, enabling you to thoroughly test programmes and operating clearances to optimise the workcell layout.

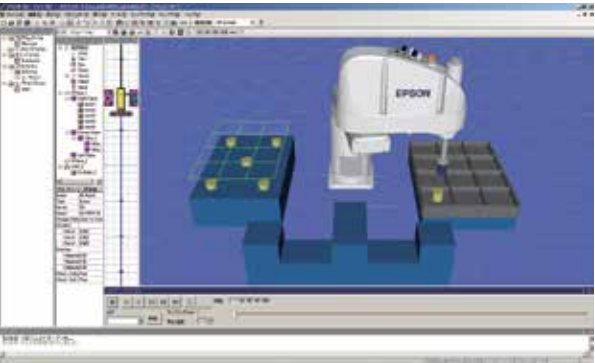
Layout evaluation

- 3D simulation of actual operation enables you to optimise the workcell layout and determine necessary clearances before rollout.
- Multi-effector simulations are also possible.

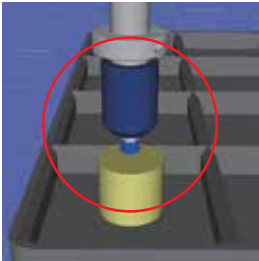


* Not supported when using EPSON RC+5.0 or EPSON RC+6.0

- Palette, hand, and other CAD data can be included in simulations.



Palette/hand display from CAD data.



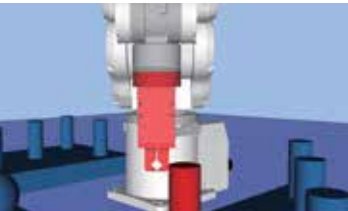
Enlarged view of hand.

Record and playback functions

- Recording and playback functions make it easy to include still images and movies in presentations.

Clearance checking

- Choosing the right robot is easy because you can check all necessary workcell and peripheral equipment clearances in advance on a PC.



Productivity forecasting

- Takt times can be measured in advance and used to generate throughput and productivity forecasts before actual setup.

Debugging function

- I/O data exchange with virtual peripheral devices can be monitored to assist debugging.
- Debugged programmes can be rolled out directly to existing workcell setups.

Machine vision simulation

- Machine vision image processing input can also be linked to setup simulations.

* Not supported when using EPSON RC+5.0 or EPSON RC+6.0

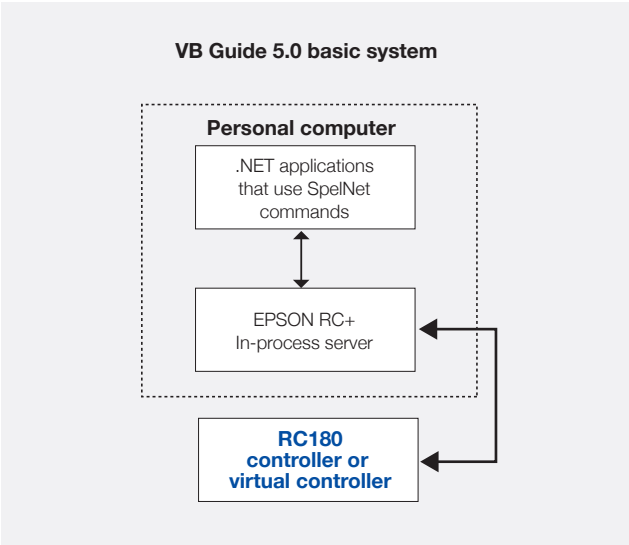
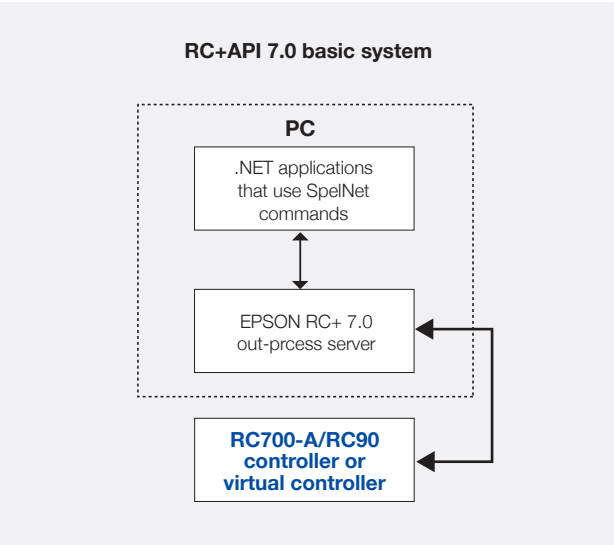
RC+ API 7.0

VB Guide 5.0

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 languages.
- Robot status and variable values can be captured.
- Third-party Visual Basic interface and database design tools can also be used for programme development.
- The following EPSON RC+ windows and dialogs can be called from within a Visual

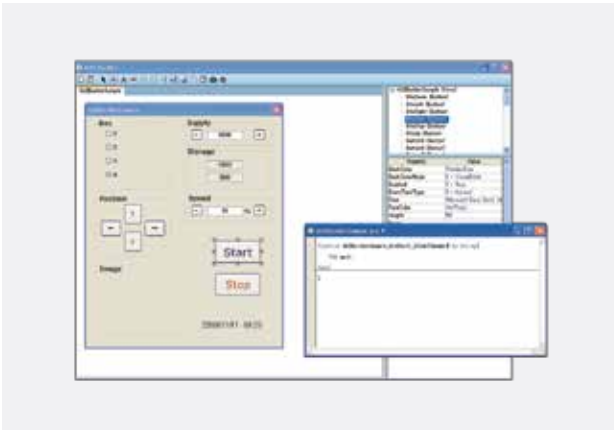
- Basic application:
- Robot Manager
 - I/O Monitor
 - Task Manager
 - Maintenance Dialog
 - Simulator (RC+API 7.0)
 - Pressure Monitor (RC+API 7.0)



GUI Builder

Easily create custom interfaces for your control programmes

- 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.



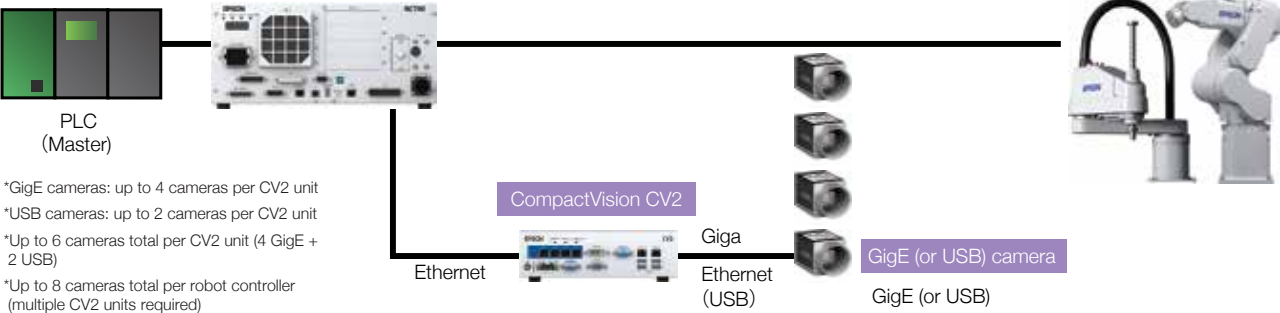
Vision Guide

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

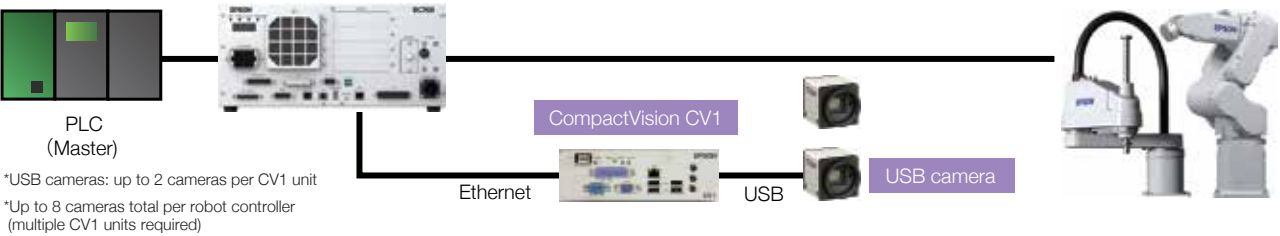
- Built-in image processing engine assists vision-to-robot calibration, making it easy to align the robot's coordinate system with the camera's field of view.
- Workpiece position can be determined relative to robot coordinates without complex calculations.
- Image processing sequences can be created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

System configuration examples

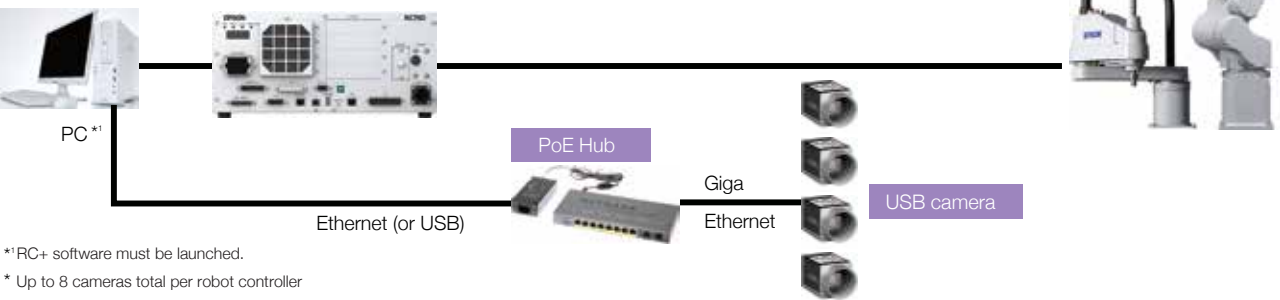
CV2



CV1



PV1



Features

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 and drop operation.
 - Intuitive interface makes operation easy even for first-time users.



Convenience

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

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

- Robot and Vision Programming
- Jog and Teach Window
- Vision and Guide Window



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.

Vision simulation

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

- Vision and process sequencing can be prepared in advance, before system is installed.
- Programmes that include image processing sequences 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.

CV1	
Item	Specifications
Connectivity	Ethernet (10M, 100M, 1000Mbps)
Max no. of cameras	2 (Epson camera cable required)
Interfaces Ethernet	Ethernet 1 RJ45 port (10M, 100M, 1000Mbps)
	USB (2.0) 2 ports (for cameras) + 2 ports (for mouse & keyboard)
	Analog RGB D-SUB 15-pin port (XGA only)
Power supply	DC 24V
Supported cameras	Dedicated USB cameras
Operating environment	5–40°C, 20–80% humidity (no condensation)
Dimensions (mm)	190(W) x 191(D) x 63(H)
Weight	1.5kg

USB cameras			
Supported cameras	300K pixels	1.3M pixels	5M pixels
Colour / B/W	B/W	Colour & B/W	
Resolution	640 x 480	1280 x 1024	2560 x 1920
Lens mount	C mount		
Cable length	5m (USB repeaters not supported)		
Power supply	5V (USB bus power)		
Operating environment	5–40°C, 20–80% humidity (no condensation)		
Size (mm)	30 x 30.5 x 33		
Weight	50g (excluding lens)		

*5 megapixel camera supported by RC700 and RC90 controllers.

CV2		
Item	Specifications	
Model	CV2-S	CV2-H
CPU	Standard	High-speed
Connectivity	Ethernet (10M, 100M, 1000Mbps)	
Max no. of cameras	6 (4 GigE, 2 USB, Epson cameras & cables required)	
Interfaces Ethernet	Ethernet	2 RJ45 ports (10M, 100M, 1000Mbps; for robot controllers) 4 RJ45 ports (1000Mbps; for GigE cameras)
	USB (2.0)	4 ports (camera, mouse, keyboard & USB memory)
	Analog RGB	1 VGA port, 1 DVI-D port (SXGA only)
Power supply	DC 19–24V	
Supported cameras	Dedicated GigE and USB cameras	
Operating environment	5–40°C, 20–80% humidity (no condensation)	
Dimensions (mm)	232(W) x 175(D) x 70(H)	
Weight	2.1kg	

GigE cameras			
Supported cameras	300K pixels	2M pixels	5M pixels
Connectivity	B/W	Colour & B/W	
Max no. of cameras	640 x 480	1600 x 1200	2560 x 1920
Interfaces Ethernet	C mount		
Power supply	5m/10m		
Supported cameras	PoE or DC 12V		
Operating environment	5–40°C, 20–80% humidity (no condensation)		
Dimensions (mm)	29 x 29 x 42		
Weight	90g (excluding lens)		

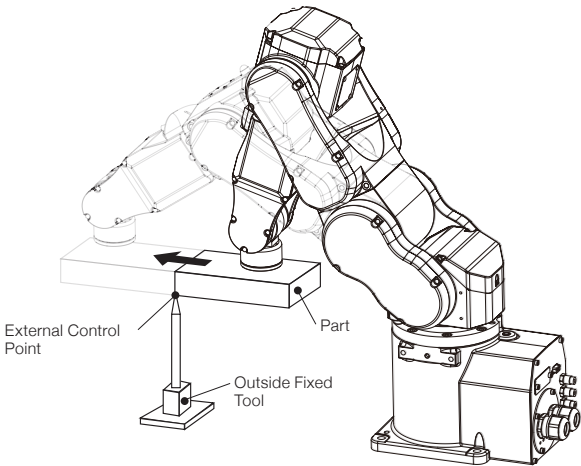
*A full range of accessories (including lenses, extension tubes, trigger cables, Ethernet hubs, and camera mounting brackets) is available to suit specific needs.

A wide range of controller options are offered to expand the range of tasks and processes that can be automated.

ECP

External control point operation for precise positioning without complex calculations

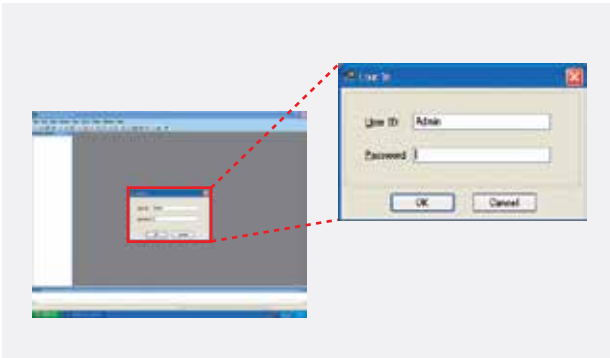
- For processes requiring the workpiece to be moved against a fixed tool, external control points can be used to ensure precise positioning.
- Up to 15 external control points can be set.



Security

Restrict user access to programming functions for greater safety and security

- Password-based protection levels can be set to restrict access to some parts of the EPSON RC+ system.
- Helps prevent accidental or unauthorised alteration of control programmes when multiple operators need to have access to basic controls.



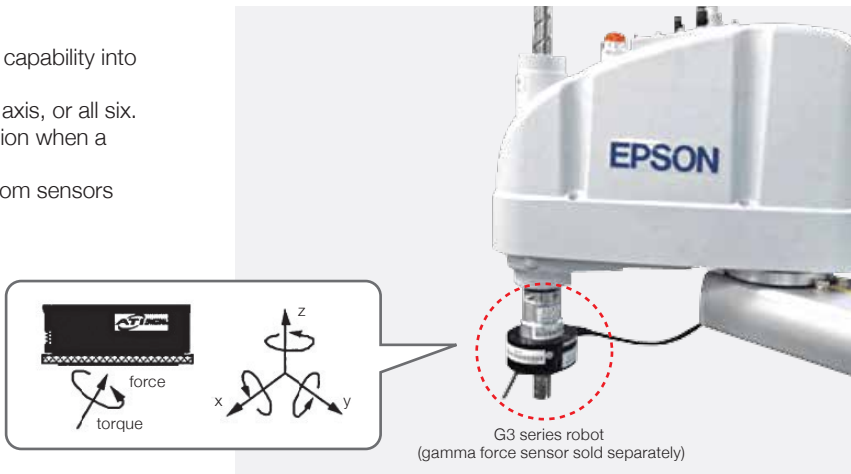
* Standard on RC700 and RC90 controllers.

Force-sensing

Integrated force-sensing technology for realtime force control

- Allows you to easily integrate force-sensing capability into your control programmes.*
- Force/torque values can be set for just one axis, or all six.
- Trigger values can be set to stop robot motion when a specific force level is reached.
- Up to two sensors can be mounted; data from sensors can be shared by multiple programmes.

*ATI Industrial Automation, Inc. force/torque components must be purchased separately.



OCR

Optical character recognition of text on parts and labels

- For use with optional Vision Guide software.
- Enables you to specify the font, font size, and number of characters of text that you want to read from an image.
- A font creation function lets you create SEMI fonts and user-defined fonts from imaged characters or ASCII conversion files*.

* RC620 controller (Vision Guide 6.0) required.

Teaching Pendant (TP3)

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

Easy-to-view screen

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



Easy operation

- Simple screen layout, fast response
- Standard RC+ programme interface

Advanced features

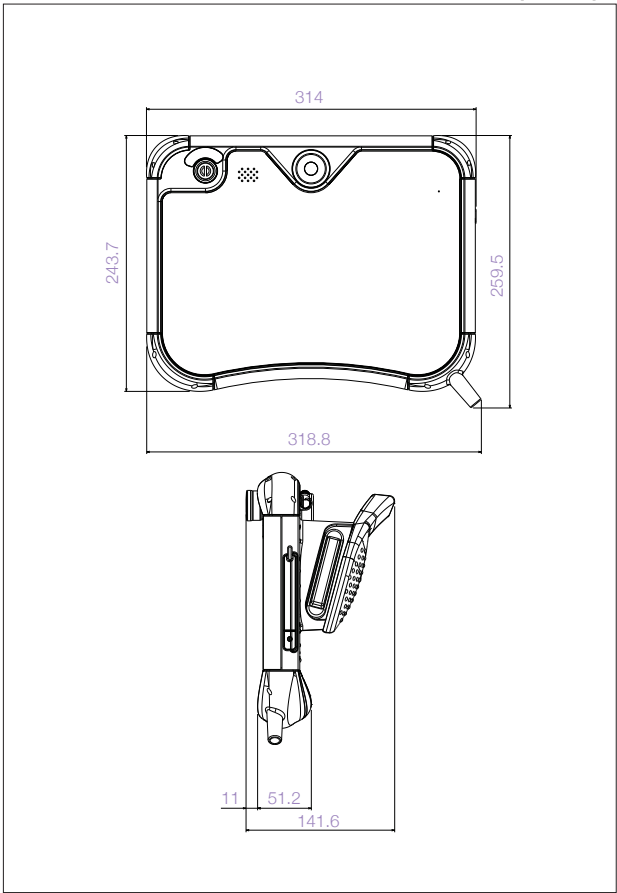
- 3D robot graphics, programming functions and parameter settings
- High-speed test mode
- Programmes can be started/stopped from operating panel

Main specifications

TP3	
Dimensions (mm)	314(W) x 244(H) x 142(D)
Weight	1.5kg (excluding cable)
Body colour	Black
Supported controller	RC700-A
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

External dimensions

[Unit: mm]

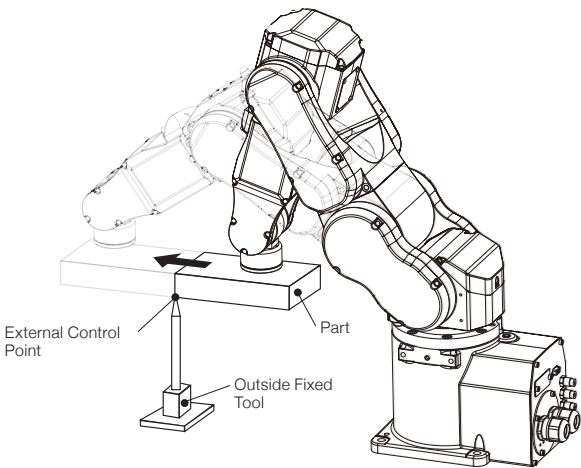


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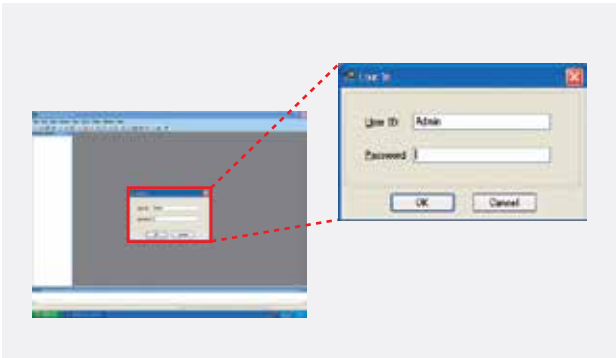
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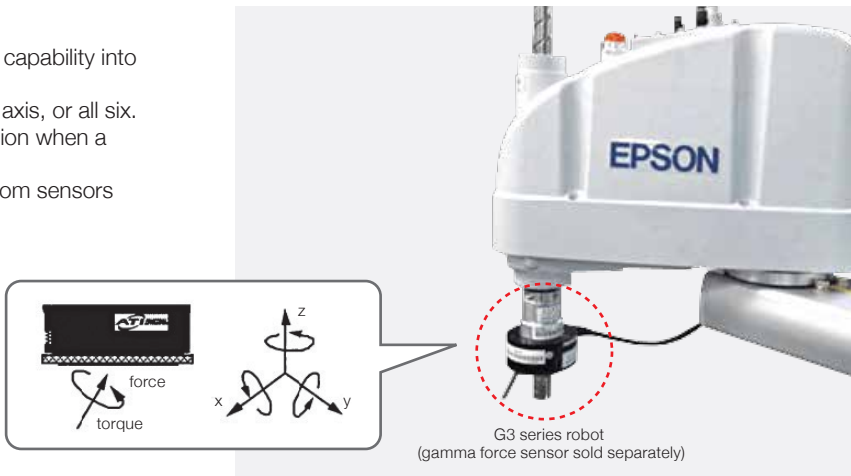
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G3 series robot (gamma force sensor sold separately)

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