EPSON
EXCEED YOUR VISION

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EPSON ROBOTS
RANGE CATALOGUE 2020

EPSON
EXCEED YOUR VISION

BRINGING AUTOMATION TO THE NEXT LEVEL.

Epson Robots are built for greater efficiency and precision while fusing form and function. Equipped with an optional complementary force sensor that is both sensitive and versatile, the robots are capable of executing a wide range of high precision tasks. Details make all the difference in the world of automation. Experience lower production costs, enhanced quality and increased productivity with Epson's highly reliable robots, while increasing businesses' bottom line.

WORLD'S NO. 1 SCARA ROBOT
9 Years Running 2011-2019

IT'S IN THE DETAILS.

A global leader in precision robotics,
Epson robots redefine reliability,
accuracy and speed

Epson Robot

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

Ever since we developed our first SCARA robots for wristwatch assembly over 35 years ago, Epson has been a leader in advanced robotics technology. Today, our long experience in energy-efficient, compact, high-precision technologies enables us to offer a wide range of slim, compact, and lightweight robots. And with the addition of original Epson force sensing and image processing technologies, we are achieving even higher levels of reliability, speed, precision, and productivity in process automation. Whatever challenges you face, Epson industrial robots are continuously evolving to meet the diversifying needs of manufacturers worldwide.

1982
Epson mass-production assembly robot developed

INDUSTRY FIRST
1986
ISO Class 1 cleanroom compliance achieved

INDUSTRY FIRST
1994
Microsoft® Windows® OS support introduced

INDUSTRY FIRST
1997
Short-arm SCARA robot introduced

2001
Wall/ceiling mount SCARA robots introduced

2009
Compact high-speed 6-axis C3 robot introduced

INDUSTRY FIRST
2009
Ceiling-mount RS3 SCARA robot with 360° rotation introduced

INDUSTRY FIRST
2016
N2 6-axis robot with slim folding arm introduced

2017
T3 SCARA robot with built-in controller

2017
VT6 6-axis robot with built-in controller

INDUSTRY FIRST
Multitasking introduced

INDUSTRY FIRST
Variable arc motion introduced

INDUSTRY FIRST
Antistatic system developed

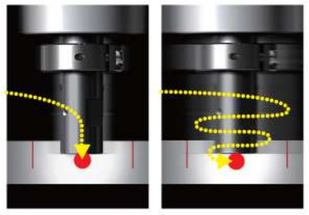
Why Epson Robots?

Epson, the global leader in robotics technology, offers you animpressive 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

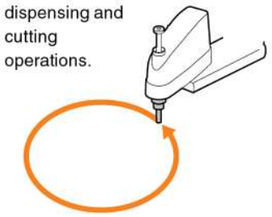
- Proprietary Epson technology reduces residual vibration to ensure high speed and precision for reduced takt time.
- Slim, lightweight body design reduces work cell space requirements while enabling higher productivity.



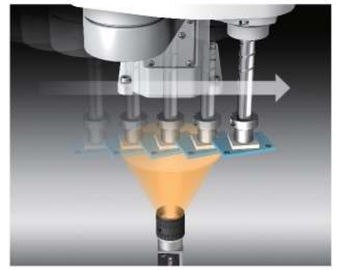
Epson robot　Conventional robot

High quality

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



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

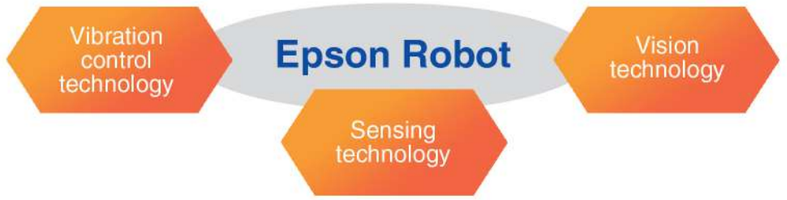


Easy operation

- Intuitive graphical interface makes programming easy even for first-time users.
- From 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



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.

Product lineup

Epson Robot

SCARA robots

G Series

Top-class speed, repeatability, and low residual vibration

LS Series

Proven reliability and functionality

	G1	G3	G6	G10	G20	LS3	LS6	LS10	LS20
Publication page	▶P.9	▶P.11	▶P.15	▶P.19	▶P.19	▶P.23	▶P.25	▶P.27	▶P.29
Model name	G1	G3	G6	G10	G20	NEW LS3	NEW LS6	NEW LS10	NEW LS20
Payload (kg)	4-axis 1 / 3-axis 1.5	Max 3	Max 6	Max 10	Max 20	Max 3	Max 6	Max 10	Max 20
Arm length (mm)	175 / 225	250 / 300 / 350	450 / 550 / 650	650 / 850	850 / 1000	400	500 / 600 / 700	600 / 700 / 800	800 / 1000
Environmental specifications	STD Class 3	STD Class 3	STD Class 3 IP54 *1 IP65	STD Class 3 IP54 *1 IP65	STD Class 3 IP54 *1 IP65	STD Class 4	STD Class 4	STD Class 4	STD Class 4
Installation specifications									
Compatible controller	RC700-A	RC700-A	RC700-A	RC700-A	RC700-A	RC90-B	RC90-B	RC90-B	RC90-B

SCARA robots

T Series

Built-in controller for cost-efficient automation

RS Series

Original space-saving design for high productivity

	T3	T6	RS3	RS4
Publication page	▶P.31	▶P.33	▶P.35	▶P.37
Model name	T3	T6	RS3	RS4
Payload (kg)	Max 3	Max 6	Max 3	Max 4
Arm length (mm)	400	600	350	550
Environmental specifications	STD *2	STD *2	STD Class 3	STD Class 3
Installation specifications				
Compatible controller	Built-in controller	Built-in controller	RC700-A	RC700-A

STD Standard

Class 3 Cleanroom model ISO 03 (Class 10 equiv.) ESD suppression

Class 4 Cleanroom model ISO 04 (Class 100 equiv.)

Class 5 Cleanroom model ISO 05 (Class 100 equiv.)

IP54 Protection model IP54

IP65 Protection model IP65

IP67 Protection model IP67

Table Top mount

Wall mount

Ceiling mount

Wall/ceiling multi-layout mount

*1: See product page for details

*2: IP20 *3: Standard model only

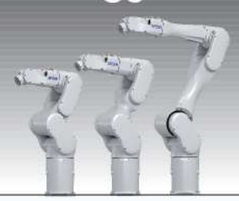
Product lineup

Epson Robot

6-axis robots

C Series

Slim, lightweight body for greater installation flexibility

	C4	C8	C12
Publication page	▶P.39	▶P.41	▶P.45
Model name			
Payload (kg)	Max 4	Max 8	Max 12
Arm length (mm)	600 900	700 900 1400	1400
Environmental specifications	STD Class 3	STD Class 3 *C8, C8L Class 4 *C8XL IP67	STD Class 5
Installation specifications			
Compatible controller	RC700-A	RC700-A	RC700-A

6-axis robots

N Series

Original compact design for greater freedom of movement in tight quarters

VT

Compact, easy setup, low TCO

	N2	N6-A850	N6-A1000	VT6L
Publication page	▶P.47	▶P.49	▶P.51	▶P.53
Model name				 NEW
Payload (kg)	Max 2.5	Max 6	Max 6	Max 6
Arm length (mm)	450	850	1000	900
Environmental specifications	STD	STD Class 5	STD Class 5	STD Class 4 IP67
Installation specifications				 *3 *3
Compatible controller	RC700-A	RC700-A	RC700-A	Built-in controller

STD Standard

Class 3 Cleanroom model ISO 03 (Class 10 equiv.) ESD suppression

Class 4 Cleanroom model ISO 04 (Class 100 equiv.)

Class 5 Cleanroom model ISO 05 (Class 100 equiv.)

IP54 Protection model IP54

IP65 Protection model IP65

IP67 Protection model IP67

Table Top mount

Wall mount

Ceiling mount

Wall/ceiling multi-layout mount

*1: See product page for details

*2: IP20 *3: Standard model only

G series SCARA robot

G1

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

- Our lightest G series robot (8kg)
- Available with 175mm or 225mm arm
- 3-axis model available for screw-in, press-fit with hand offset, and dispensing tasks

Model Number: **G1 - 17 1 S □ -UL**

- Payload: 1 : 1kg
- Arm length: 17 : 175mm; 22 : 225mm
- Joint #3 stroke: 1 : 80mm: Cleanroom-model
- Axis: □ : 4-axis spec; Z : 3-axis spec
- Environment: S : Standard; C : Cleanroom & ESD
- UL specification: □ : Non UL compliant; -UL : UL compliant

Specifications

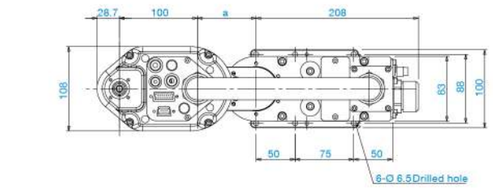
Model name		G1			
		4-axis		3- axis	
Model number		G1-171□	G1-221□	G1-171□Z	G1-221□Z
Arm length	Arm #1, #2	175 mm	225 mm	175 mm	225 mm
Payload	Rated	0.5 kg		0.5 kg	
	Maximum	1 kg		1.5 kg	
Repeatability	Joints #1, #2	±0.005 mm	±0.008 mm	±0.005 mm	±0.008 mm
	Joint #3	±0.01 mm		±0.01 mm	
	Joint #4	±0.01 deg		–	
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 mm/sec		1200 mm/sec	
	Joint #4	3000 deg/sec		–	
Joint #4 allowable moment of inertia*2	Rated	0.0003 kg·m²		–	
	Maximum	0.004 kg·m²		–	
Joint #3 down force		50 N			
Installation environment		Standard/Cleanroom*3 &ESD			
Mounting type		Table Top		Table Top	
Weight (cables not included)		8 kg		8 kg	
Applicable Controller		RC700-A			
Installed wire for customer use		15 Pin D-Sub, 9 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		0.5 kVA			
Cable length		3 m/5 m/10 m/15 m/20 m			
Safety standard		CE, KC, UL			

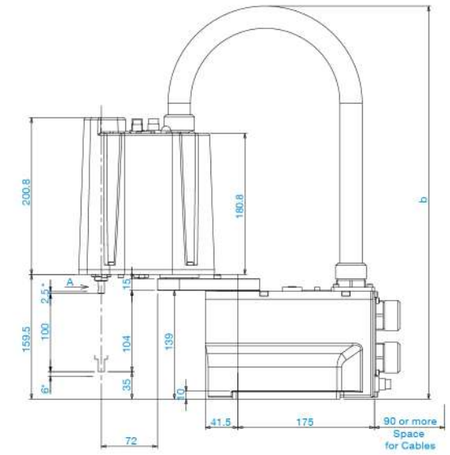
*1:Cycle time based on round-trip arch motion (100mm horizontal, 25mm vertical) with 0.5kg payload (path coordinates optimized for maximum speed) .
*2:When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4, set parameters using INERTIA command.
*3:Complies with ISO Class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

Outer Dimensions (Table Top Mounting)

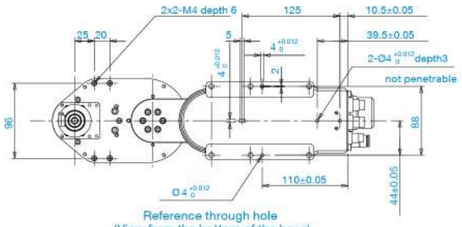
[Unit: mm]

Standard-model

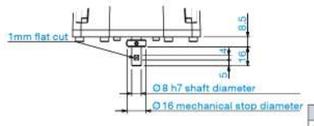




*indicates the stroke margin by mechanical stop.



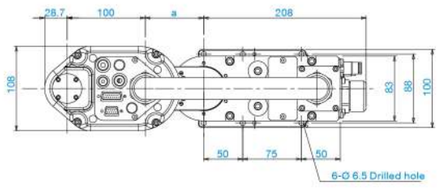
Reference through hole
(View from the bottom of the base)

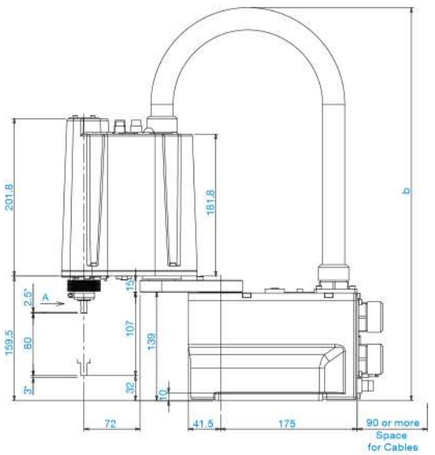


Detail of "A"
(Calibration point position of Joints #3 and #4)

	G1_171S	G1_221S
a	75	125
b	Max.515	Max.545

Cleanroom-model





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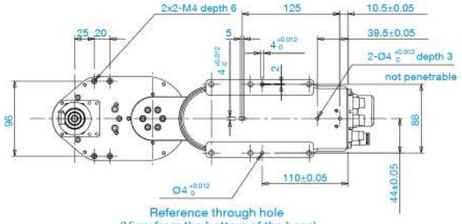
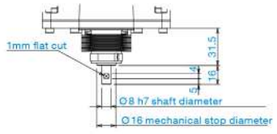


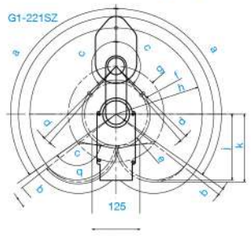
Reference through hole
(View from the bottom of the base)

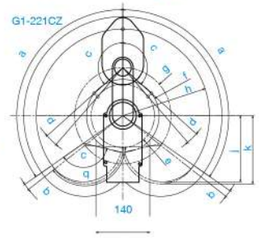


Detail of "A"
(Calibration point position of Joints #3 and #4)

	G1_171C	G1_221C
a	75	125
b	Max.515	Max.55

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

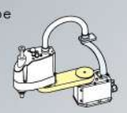
G series SCARA robot

G3

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

- Handles small, heavy components and payloads up to 3kg
- Available with left- or right-curved arm for greater operating versatility
- A small robot with a long reach

Arm type



Straight arm

Curved arm

Model Number **G3 - 25 1 S □ -R -UL**

Payload
- 3 : 3kg

Arm length
- 25 : 250mm
- 30 : 300mm
- 35 : 350mm

Joint #3 stroke
- 1 : 150mm
- : 120mm: Cleanroom-model

Environment
- S : Standard
- C : Cleanroom & ESD

Mounting type
- □ : Table Top Mounting
- M : Multiple Mounting

Type
- □ : Standard
- R : Right-Curved
- L : Left-Curved

UL specification
- □ : Non UL compliant
- -UL : UL compliant

Specifications

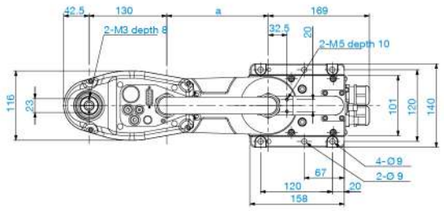
Model name		G3				
Model number		G3-251□	G3-301□□-□		G3-351□□-□	
Arm length	Arm #1, #2	250 mm	300 mm		350 mm	
Payload	Rated	1 kg				
	Maximum	3 kg				
Repeatability	Joints #1, #2	±0.008 mm	±0.01 mm		±0.01 mm	
	Joint #3	±0.01 mm				
	Joint #4	±0.005 deg				
Standard cycle time*1		0.41 sec	0.43 sec		0.41 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*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		Table top	Table top	Multiple	Table top	Multiple
Weight (cables not included)		14 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		1.1 kVA				
Cable length		3 m/5 m/10 m/15 m/20 m				
Safety standard		CE, KC, UL				

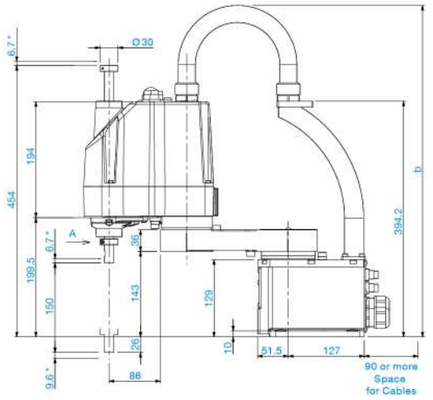
*1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed) .
*2: When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4, set parameters using INERTIA command.
*3: Complies with ISO Class 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 (Table Top Mounting)

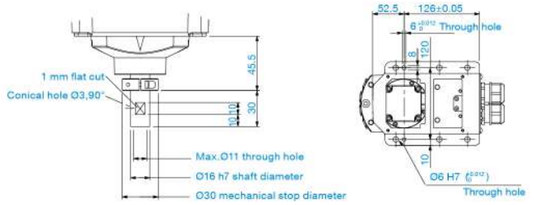
[Unit: mm]

Standard-model





*indicates the stroke margin by mechanical stop.

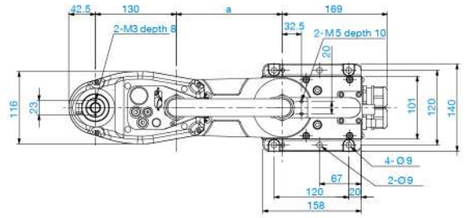


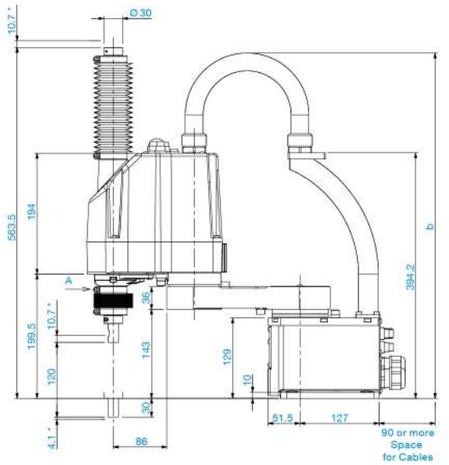
Detail of "A"
(Calibration point position of Joints #3 and #4)

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

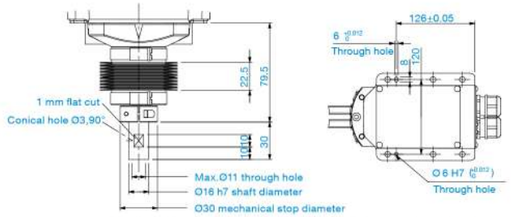
	G3_251S	G3_301S	G3_351S
a	120	170	220
b	Max.545	Max.575	Max.595

Cleanroom-model





*indicates the stroke margin by mechanical stop.



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

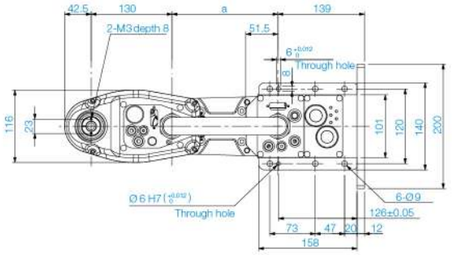
Reference through hole
(View from the bottom of the base)

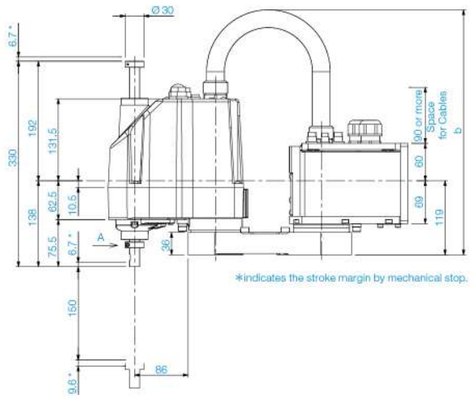
	G3_251C	G3_301C	G3_351C
a	120	170	220
b	Max.545	Max.575	Max.595

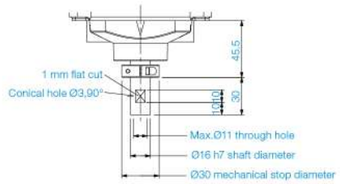
Outer Dimensions (Multiple Mounting)

[Unit: mm]

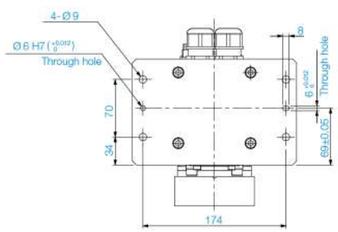
Standard-model







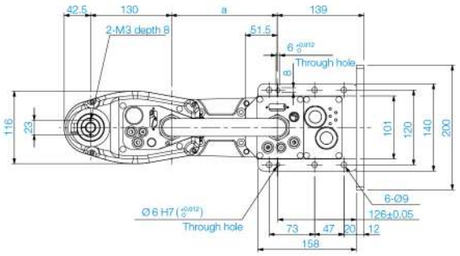
Detail of "A"
(Calibration point position of Joints #3 and #4)

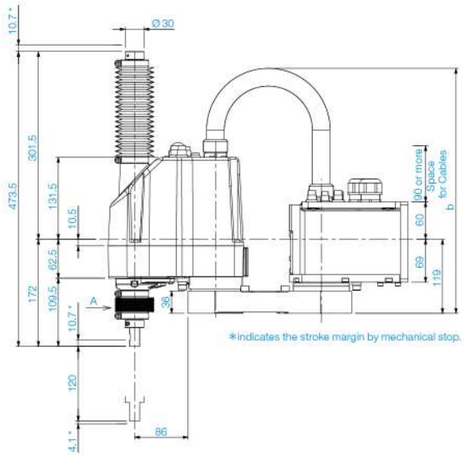


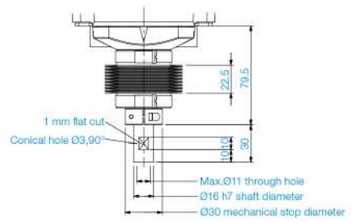
Reference through hole
(View from the bottom of the base)

	G3_301SM	G3_351SM
a	170	220
b	Max.410	Max.450

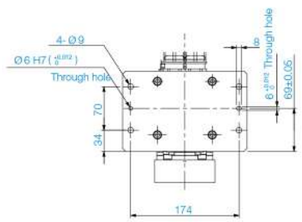
Cleanroom-model







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



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

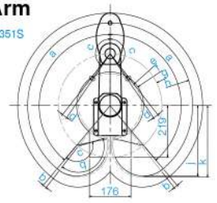
	G3_301CM	G3_351CM
a	170	220
b	Max.410	Max.450

Motion Range (Table Top Mounting)

[Unit: mm]

Straight Arm

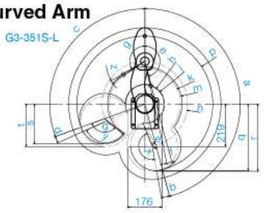
G3-351S



Model	Straight Arm					
	G3-251S	G3-251C	G3-301S	G3-301C	G3-351S	G3-351C
g Length of Arm #1 (mm)	120		170		220	
h-g Length of Arm #2 (mm)	130		130		130	
f Motion range	84	92	104.8	107.1	142.3	146.6
a Motion range of Joint #1 (°)	140					
c Motion range of Joint #2 (°)	141	137	142	141	142	
e Mechanical stop area	79.3		96.2		134.2	
b Joint #1 angle to hit mechanical stop (°)	2					
d Joint #2 angle to hit mechanical stop (°)	2.3	6.3	3.8	4.8	3.8	

Left-Curved Arm

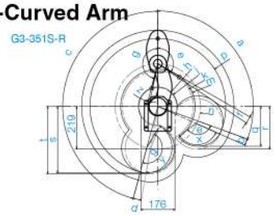
G3-351S-L



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, 3.3	8.3, 3.8	2.8, 3.8	7.8, 3.8

Right-Curved Arm

G3-351S-R



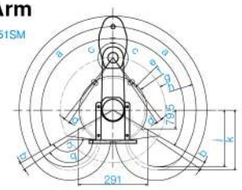
Model	Right-Curved Arm			
	G3-301S-R	G3-301C-R	G3-351S-R	G3-351C-R
n Length of Arm #1 (mm)	170		220	
p-n Length of Arm #2 (mm)	130		130	
m,j Motion range	120.7, 86.8		191.6, 100.3	191.6, 107.5
a,c Motion range of Joint #1 (°)	125, 150		110, 165	
e,g Motion range of Joint #2 (°)	135, 150	135, 145	120, 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	3.3, 8.3	3.8, 2.8	3.8, 7.8

Motion Range (Multiple Mounting)

[Unit: mm]

Straight Arm

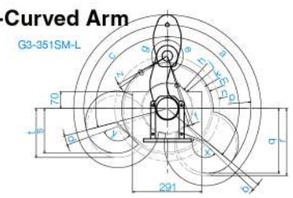
G3-351SM



Model	Straight Arm	
	G3-301SM/CM	G3-351SM/CM
g Length of Arm #1 (mm)	170	220
h-g Length of Arm #2 (mm)	130	130
f Motion range	120.7	142.3
a Motion range of Joint #1 (°)	115	120
c Motion range of Joint #2 (°)	135	142
e Mechanical stop area	112	134.2
b Joint #1 angle to hit mechanical stop (°)	4	
d Joint #2 angle to hit mechanical stop (°)	3.8	

Left-Curved Arm

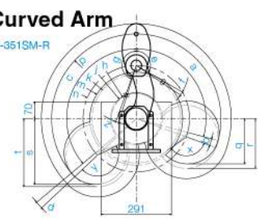
G3-351SM-L



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

Right-Curved Arm

G3-351SM-R



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

G series SCARA robot

G6

High speed and precision for small component assembly

- Handles payloads up to 6kg
- Available with 450mm, 550mm, or 650mm arm
- Internal cabling and ducting minimizes interference worries
- IP54/65 dust and water-resistant cleanroom models available
- Tabletop, ceiling, and wall mounting models available

Model Number **G6 - 45 1 S □ - UL**

Payload
- 6 : 6kg

Arm length
- 45 : 450mm
- 55 : 550mm
- 65 : 650mm

Joint #3 stroke
- 1 : 180mm
- 1 : 150mm: (C, D w/ bellows, P)
- 3 : 330mm
- 3 : 300mm: (C, D w/ bellows, P)

Environment
- S : Standard
- C : Cleanroom & ESD
- D : Protected:IP54 (with bellows option)
- P : Protected:IP65

UL specification
- □ : Non UL compliant
- -UL : UL compliant

Mounting type
- □ : Table Top Mounting
- W : Wall Mounting
- R : Ceiling Mounting

Specifications

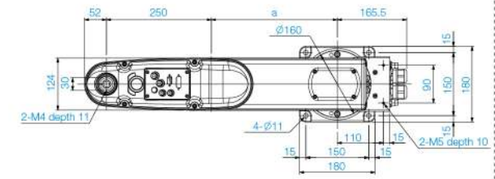
Model name		G6								
Model number		G6-45□□□			G6-55□□□			G6-65□□□		
Arm length	Arm #1, #2	450 mm			550 mm			650 mm		
Payload	Rated	3 kg								
	Maximum	6 kg								
Repeatability	Joints #1, #2	±0.015 mm								
	Joint #3	±0.01 mm								
	Joint #4	±0.005 deg								
Standard cycle time*1		0.35 sec			0.36 sec			0.39 sec		
Max. operating speed	Joints #1, #2	6440 mm/sec			7170 mm/sec			7900 mm/sec		
	Joint #3	G6-□□1□□=1100 mm/sec /G6-□□3□□=2350 mm/sec								
	Joint #4	2400 deg								
Joint #4 allowable moment of inertia*2	Rated	0.01 kg•m²								
	Maximum	0.12 kg•m²								
Joint #3 down force		150 N								
Installation environment		Standard/Cleanroom & ESD*3 /Protection*4								
Mounting type		Table top		Ceiling	Wall	Table top		Ceiling	Wall	Table top		Ceiling	Wall
Weight (cables not included)		27 kg			29 kg	27 kg			29 kg	28 kg			29.5 kg
Applicable Controller		RC700-A								
Installed wire for customer use		15 Pin D-Sub、 9 Pin D-sub								
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x2 : 0.59 MPa (6 kgf/cm²)								
Power		AC200-240 V Single phase								
Power Consumption*5		1.5 kVA								
Cable length		3 m/5 m/10 m/15 m/20 m								
Safety standard		CE, KC, UL								

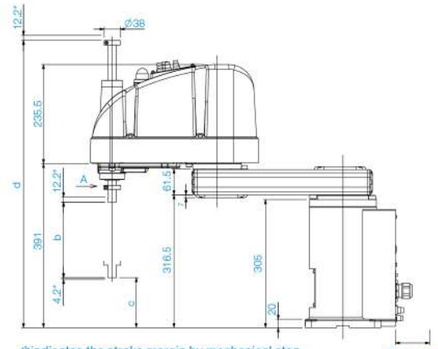
*1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed) .
*2: When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4, set parameters using INERTIA command.
*3: Complies with ISO Class 3 (ISO14644-1) and older Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.
*4: G6-□□□D□ protected type with optional bellows complies with IP54; G6-□□□P□ complies with IP65.
*5: t depends on operating environment and operation program.

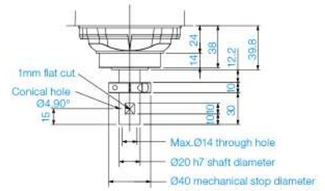
Outer Dimensions (Table Top Mounting)

[Unit: mm]

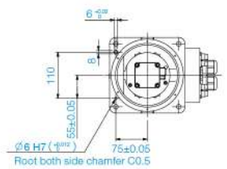
Standard-model







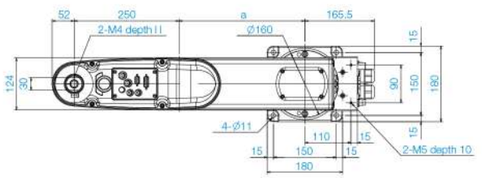
Detail of "A"
(Calibration point position of Joints #3 and #4)

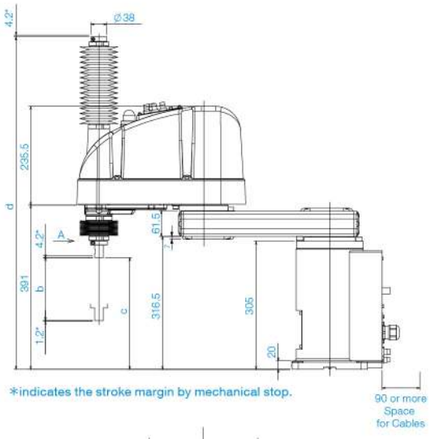


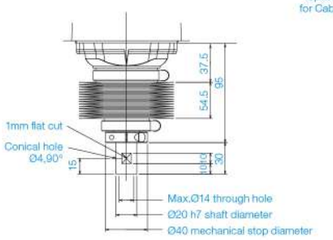
	G6-45□S	G6-55□S	G6-65□S
a	200	300	400

	G6-□□1S	G6-□□3S
b	180	330
c	119	-31
d	684	834

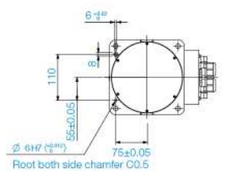
Cleanroom-model







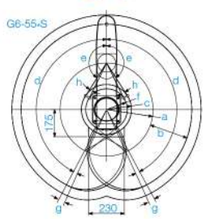
Detail of "A"
(Calibration point position of Joints #3 and #4)



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

	G6-□□1C	G6-□□3C
b	150	300
c	116	-34
d	792	942

Motion Range (Table Top Mounting)

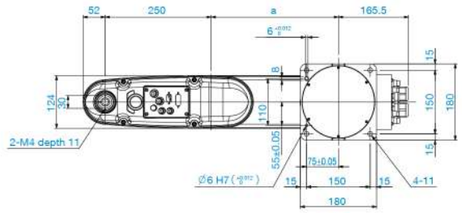


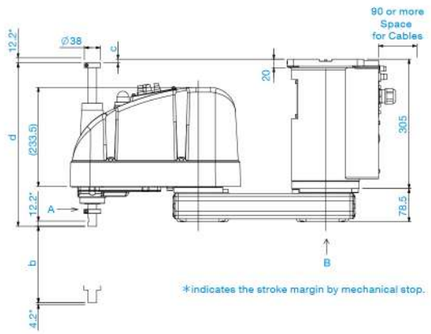
Model	Table Top Mounting					
	G6-45□S/D		G6-45□C/P/D bellows		G6-55□□	G6-65□
a Length of Arm #1 (mm)	200				300	400
b Length of Arm #2 (mm)	250					
c Motion range	Z:0～-270	134.8	Z:0～-240	134.8	161.2	232
	Z:-270～-330	143.5	Z:-240～-300	153.9		
d Motion range of Joint #1 (°)	152					
e Motion range of Joint #2 (°)	Z:0～-270	147.5	Z:0～-240	147.5	147.5	
	Z:-270～-330	145	Z:-240～-300	142		
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	3	Z:0～-240	3	6.3	
	Z:-270～-330	5.5	Z:-240～-300	8.5		

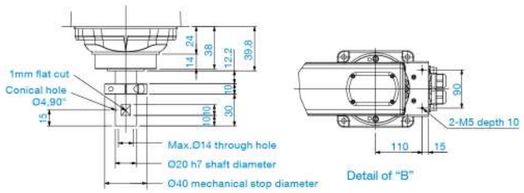
Outer Dimensions (Ceiling Mounting)

[Unit: mm]

Standard-model



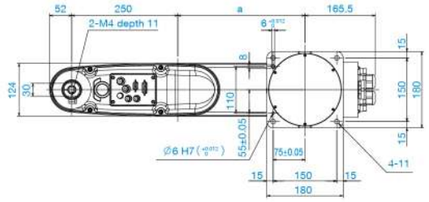


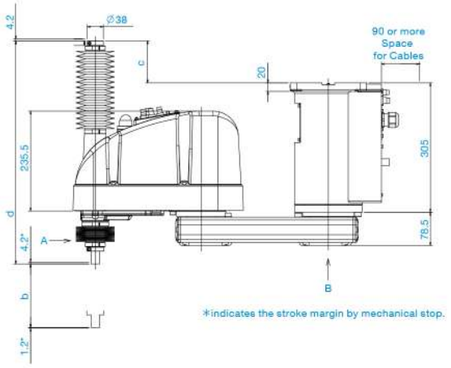


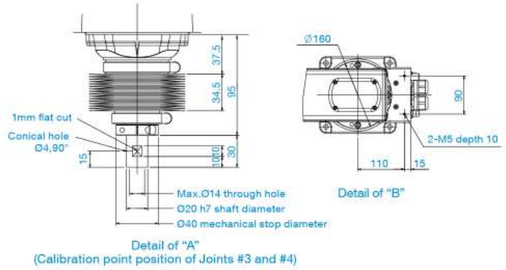
	G6-45□SR	G6-55□SR	G6-65□SR
a	200	300	400

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

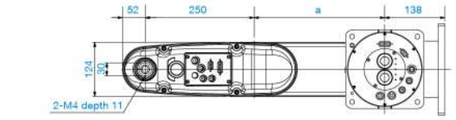
Motion Range (Ceiling Mounting)

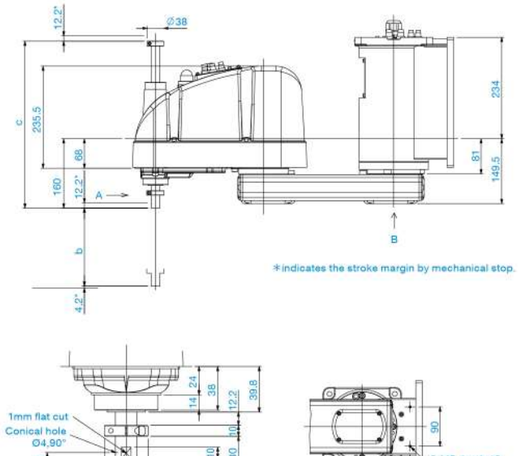
Model	Ceiling Mounting			
	G6-45□□R	G6-55□SR/DR	G6-55□CR/PR/DR bellows	G6-65□□R
a Length of Arm #1 (mm)	200	300		400
b Length of Arm #2 (mm)	250			
c Motion range	195.5	161.2	172.1	232
d Motion range of Joint #1 (°)	120	152		
e Motion range of Joint #2 (°)	130	147.5	145	147.5
f Mechanical stop area	182.4	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

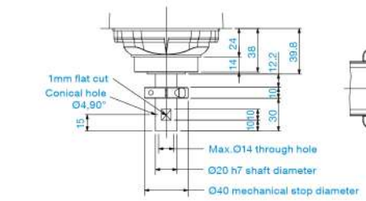
Outer Dimensions (Wall Mounting)

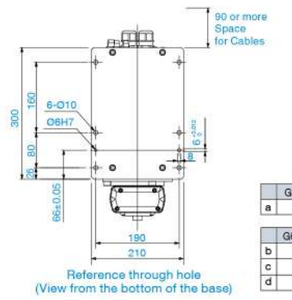
[Unit: mm]

Standard-model





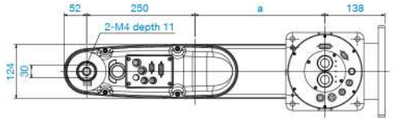


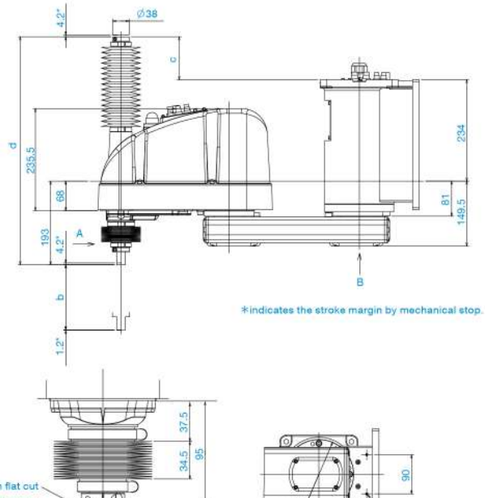


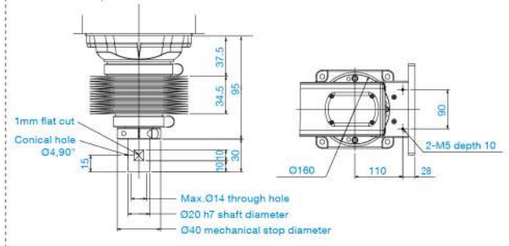
	G6-45□SW	G6-55□SW	G6-65□SW
a	200	300	400

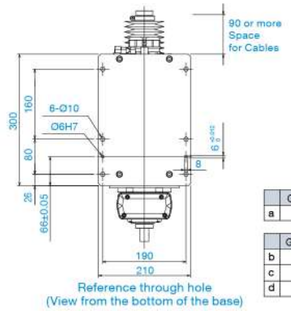
	G6-□□1SW	G6-□□3SW
b	180	330
c	-9	141
d	385	535

Cleanroom-model





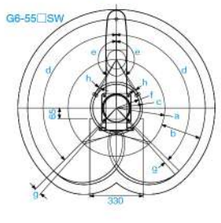




	G6-45□CW	G6-55□CW	G6-65□CW
a	200	300	400

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

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

G series SCARA robot

G10/G20

For high-speed, high-precision, multi-hand batch handling and packing of heavier loads

- Handles payloads of up to 10/20kg
- Choice of 650mm, 850mm, and 1000mm arm
- Internal cabling and ducting minimizes interference worries
- IP54/65 dust and water-resistant cleanroom models available
- Tabletop, ceiling, and wall mounting models available

Model Number G10 - 85 4 S □ - UL

Payload
- 10 : 10kg
- 20 : 20kg

Arm length
- 65 : 650mm (G10 series only)
- 85 : 850mm
- A0 : 1000mm (G20 series only)

Joint #3 stroke
- 1 : 180mm / : 150mm: (C, D w/ bellows, P)
- 4 : 420mm / : 390mm: (C, D w/ bellows, P)

Environment
- S : Standard
- C : Cleanroom & ESD
- D : Protected:IP54 (with bellows option)
- P : Protected:IP65

UL specification
- □ : Non UL compliant
- -UL : UL compliant

Mounting type
- □ : Table Top Mounting
- W : Wall Mounting
- R : Ceiling Mounting

Specifications

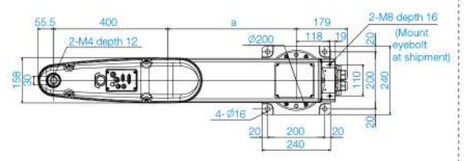
Model name		G10/20								
Model number		G10-65□□			G10/20-85□□□			G20-A0□□□		
Arm length	Arm #1, #2	650 mm			850 mm			1000 mm		
Payload	Rated	5 kg			G10=5 kg /G20=10kg			10 kg		
	Maximum	10 kg			G10=10 kg /G20=20kg			20 kg		
Repeatability	Joints #1, #2	±0.025 mm								
	Joint #3	±0.01 mm								
	Joint #4	±0.005 deg								
Standard cycle time*1		0.34 sec			0.37 sec			0.42 sec		
Max. operating speed	Joints #1, #2	8800 mm/sec			11000 mm/sec			11500 mm/sec		
	Joint #3	10/20-□□1□□=1100 mm/sec /G10/20-□□4□□=2350 mm/sec								
	Joint #4	G10=2400 deg/sec / G20=1700 deg/sec								
Joint #4 allowable moment of inertia*2	Rated	0.02 kg•m²			G10=0.02 kg•m² /G20=0.05 kg•m²			0.05 kg•m²		
	Maximum	0.25 kg•m²			G10=0.25 kg•m² /G20=0.45 kg•m²			0.45 kg•m²		
Joint #3 down force		250 N								
Installation environment		Standard/Cleanroom*3 & ESD /Protection*4								
Mounting type		Table top	Ceiling	Wall	Table top	Ceiling	Wall	Table top	Ceiling	Wall
Weight (cables not included)		46 kg		51 kg	48 kg		53 kg	50 kg		55 kg
Applicable Controller		RC700-A								
Installed wire for customer use		15 Pin D-Sub, 9 Pin D-Sub								
Installed pneumatic tube for customer use		Φ6 mm x 2, Φ4 mm x 2 : 0.59 MPa (6 kgf/cm²)								
Power		AC200-240 V Single phase								
Power Consumption*5		2.4 kVA								
Cable length		3 m/5 m/10 m/15 m/20 m								
Safety standard		CE, KC, UL								

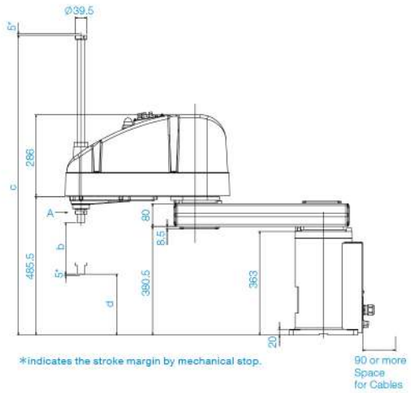
*1: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed) .
*2: When payload center of gravity is aligned with Joint #4 ; if not aligned with Joint #4, set parameters using INERTIA command.
*3: Complies with ISO Class 3 (ISO14644-1) and older Class 1 (less than 10 0.1 m particles per 28,317cm3:1cft) cleanroom standards.
*4: G10/20-□□□D□ with optional bellows complies with IP54; G10/20-□□□P□ complies with IP65.
*5: Varies according to operating environment and program.

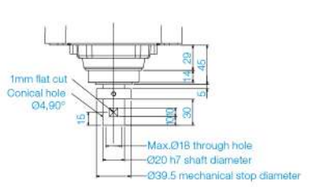
Outer Dimensions (Table Top Mounting)

[Unit: mm]

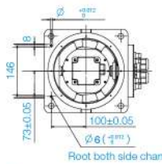
Standard-model







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

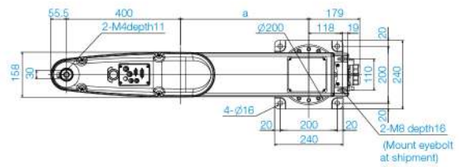


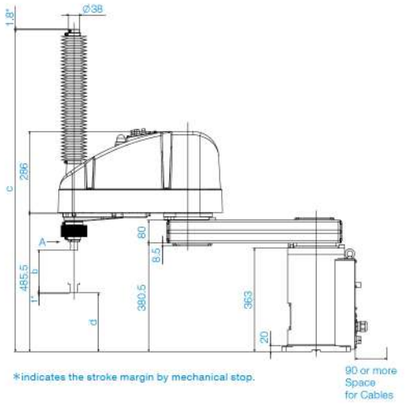
Reference through hole
(View from the bottom of the base)

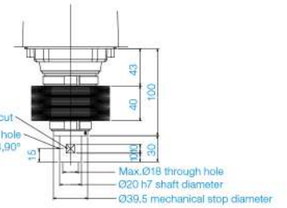
	G10-65□S	G10/G20-85□S	G20-A0□S
a	250	450	600

	G10/G20-□□1S	G10/G20-□□4S
b	180	420
c	813.5	1053.5
d	213.5	-26.5

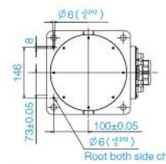
Cleanroom-model







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

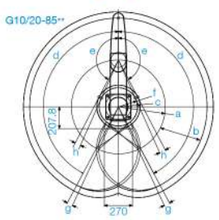


Reference through hole
(View from the bottom of the base)

	G10-65□C	G10/G20-85□C	G20-A0□C
a	250	450	600

	G10/G20-□□1C	G10/G20-□□4C
b	150	390
c	870.5	1129.5
d	205.5	-34.5

Motion Range (Table Top Mounting)

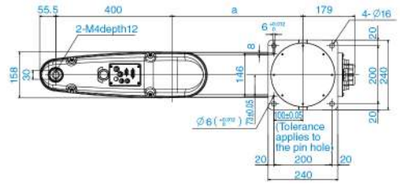


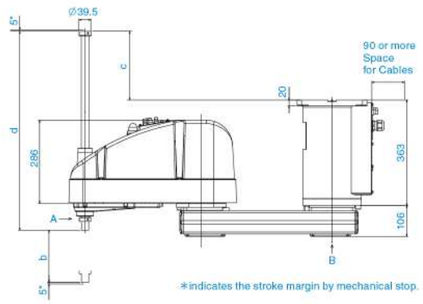
Model	Table Top Mounting				
	G10-65□□	G10/20-85□			G20-A0
		S/D	C/P/D bellows		
a Length of Arm #1 (mm)	250	450			600
b Length of Arm #2 (mm)	400	400			400
c Motion range	212.4	207.8	Z:0~-360	207.8	307
			Z:-360~-390	218.3	
d Motion range of Joint #1 (°)	152	152			152
e Motion range of Joint #2 (°)	152.5	152.5	Z:0~-360	152.5	152.5
			Z:-360~-390	151	
f Mechanical stop area	199.4	183.3			285.4
g Joint #1 angle to hit mechanical stop (°)	3	3			3
h Joint #1 angle to hit mechanical stop (°)	3.5	3.5	Z:0~-360	3.5	3.5
			Z:-360~-390	5	

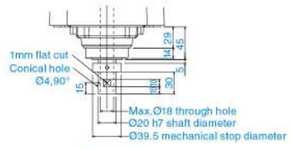
Outer Dimensions (Ceiling Mounting)

[Unit: mm]

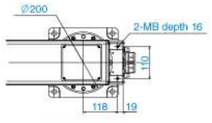
Standard-model







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

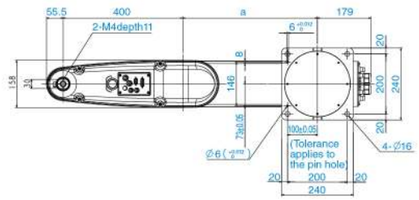


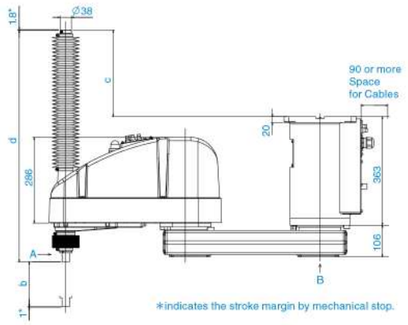
Detail of "B"

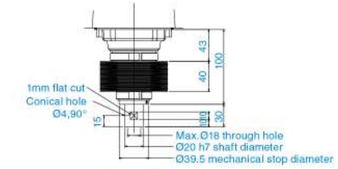
	G10-65□SR	G10/G20-85□SR	G20-A0□SR
a	250	450	600

	G10/G20-□□ISR	G10/G20-□□4SR
b	180	420
c	-27.5	212.5
d	420	660

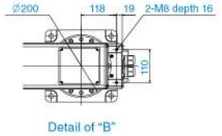
Cleanroom-model







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

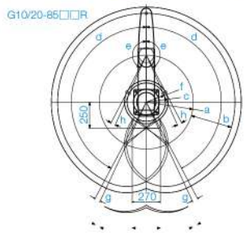


Detail of "B"

	G10-65□CR	G10/G20-85□CR	G20-A0□CR
a	250	450	600

	G10/G20-□□ICR	G10/G20-□□4CR
b	150	390
c	29.5	288.5
d	515	774

Motion Range (Ceiling Mounting)

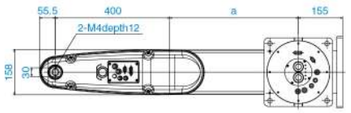


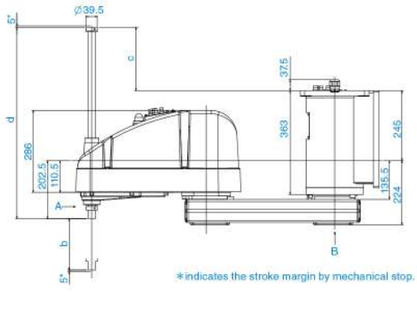
Model	Ceiling Mounting			
	G10-65□□R	G10/20-85□		G20-A0□□W
		SR/DR	CR/PR/DR bellows	
a Length of Arm #1 (mm)	250	450		600
b Length of Arm #2 (mm)	400	400		400
c Motion range	306.5	207.8	218.3	307
d Motion range of Joint #1 (°)	107	152		152
e Motion range of Joint #2 (°)	130	152.5	151	152.5
f Mechanical 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
		3.5	5	

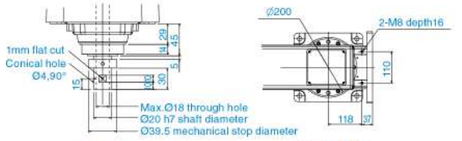
Outer Dimensions (Wall Mounting)

[Unit: mm]

Standard-model

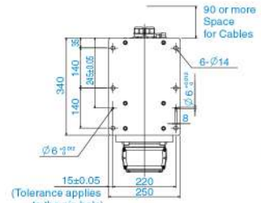






Detail of "A"
(Calibration point position of Joints #3 and #4)

Detail of "B"

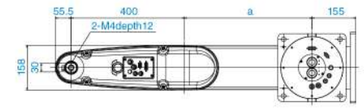


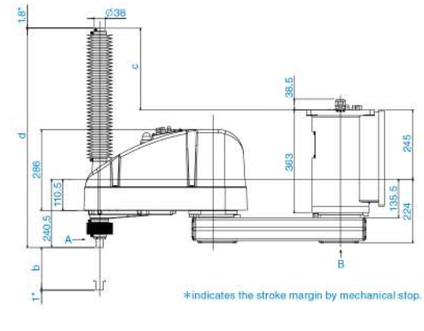
Reference through hole
(View from the bottom of the base)

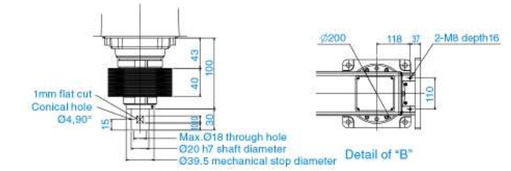
	G10-65□SW	G10/G20-85□SW	G20-A0□SW
a	250	450	600

	G10/G20-□□ISW	G10/G20-□□4SW
b	180	420
c	-27.5	212.5
d	420	660

Cleanroom-model

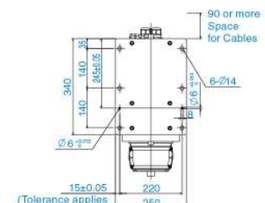






Detail of "A"
(Calibration point position of Joints #3 and #4)

Detail of "B"

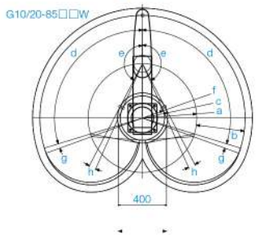


Reference through hole
(View from the bottom of the base)

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

	G10/G20-□□ICW	G10/G20-□□4CW
b	150	390
c	29.5	288.5
d	515	774

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
		3.5	5	

LS series SCARA robot

LS3 NEW

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

Model Number **LS3 - B 40 1 S**

- Payload: 3 : 3kg
- Arm length: 40 : 400mm
- Joint #3 stroke: 1 : 150mm: Standard-model / 120mm: Cleanroom-model (with bellows)
- Environment: S : Standard / C : Cleanroom

Specifications

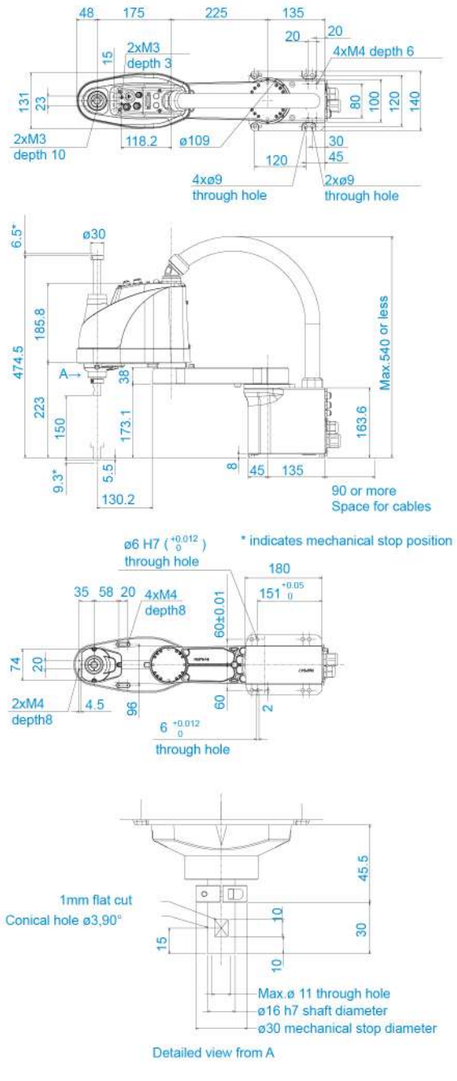
Model name		LS3-B
Model number		LS3-B401S/C
Arm length	Arm #1, #2	400 mm
Payload*1	Rated	1 kg
	Maximum	3 kg
Repeatability	Joints #1, #2	±0.01 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01 deg
Standard cycle time*2		0.42 sec
Max. operating speed	Joints #1, #2	7200 mm/sec
	Joint #3	1100 mm/sec
	Joint #4	2600 deg/sec
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)		14 kg
Applicable Controller		RC90-B
Installed wire for customer use		D-sub 15 pin x1 , RJ45 8 pin (CAT 5e) x1
Installed pneumatic tube for customer 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		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 (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 environment and motion program.

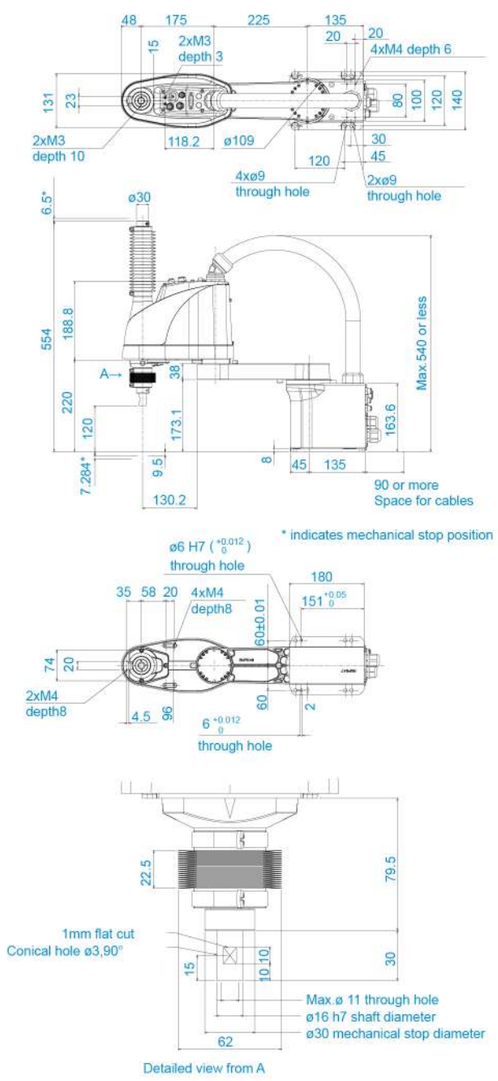
Outer Dimensions (Table Top Mounting)

[Unit: mm]

Standard-model

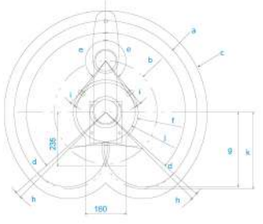


Cleanroom-model

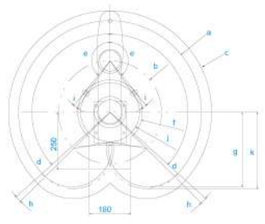


Motion Range (Table Top Mounting)

LS3-B401S



LS3-B401C



Model		LS3-B401□	
		Standard-model	Cleanroom-model
a	Arm #1 + Arm #2 length (mm)	400	
b	Arm #1 length (mm)	175	
c	Max. motion range (mm)	449	
d	Joint #1 motion angle (°)	132	
e	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)	128.8	
k	Mechanical stop area at the rear (mm)	333.5	

LS series SCARA robot

LS6 NEW

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

Model Number **LS6 - B60 2 S**

- Payload: 6 : 6kg
- Arm length: 50 : 500mm; 60 : 600mm; 70 : 700mm
- Joint #3 stroke: 2 : 200mm: Standard-model / 170mm: Cleanroom-model (with bellows)
- Environment: S : Standard; C : Cleanroom

Specifications

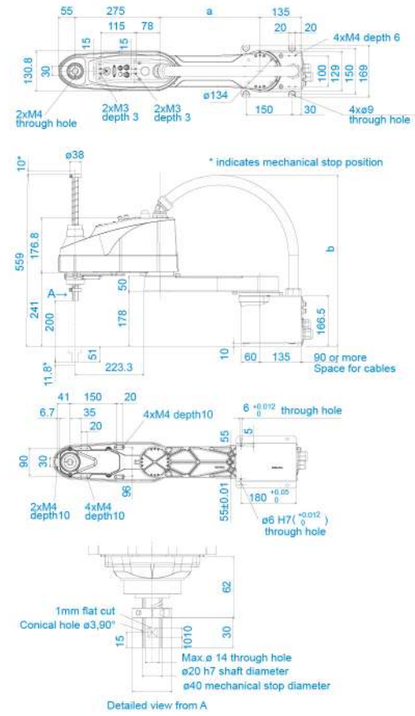
Model name		LS6-B		
Model number		LS6-B502S/C	LS6-B602S/C	LS6-B702S/C
Arm length	Arm #1, #2	500 mm	600 mm	700 mm
Payload*1	Rated	2 kg		
	Maximum	6 kg		
Repeatability	Joints #1, #2	±0.02 mm		
	Joint #3	±0.01 mm		
	Joint #4	±0.01 deg		
Standard cycle time*2		0.39 sec	0.40 sec	0.42 sec
Max. operating speed	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	0.01 kg•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-sub 15 pin x1 , RJ45 8 pin (Cat 5e Class) x1		
Installed pneumatic tube for customer use		Φ4 mm × 1、Φ6 mm × 2		
Power		AC200-240 V Single phase		
Power Consumption*5		1.1 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). 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.
*4 : Complies with ISO Class 4 cleanroom standards.
*5 : It depends on environment and motion program.

Outer Dimensions (Table Top Mounting)

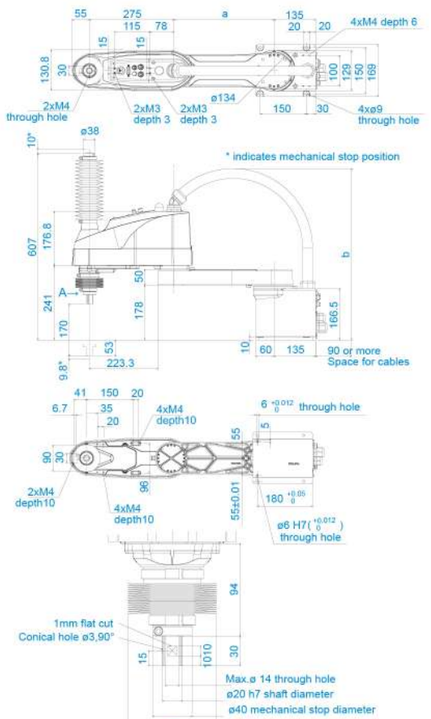
[Unit: mm]

Standard-model



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

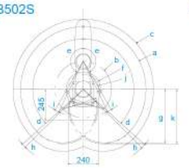
Cleanroom-model



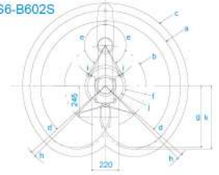
	LS6-B502C	LS6-B602C	LS6-B702C
a	225	325	425
b	529	559	589

Motion Range (Table Top Mounting)

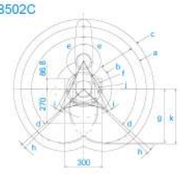
LS6-B502S



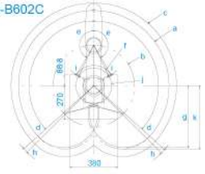
LS6-B602S



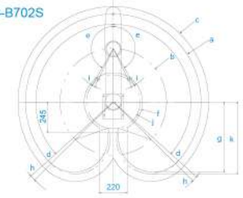
LS6-B502C



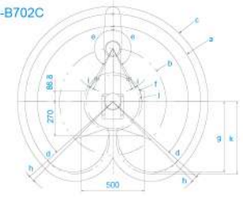
LS6-B602C



LS6-B702S



LS6-B702C



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

LS series SCARA robot

LS10 NEW

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

Model Number **LS10 - B□ □ □**

Payload
10 : 10kg

Arm length
60 : 600mm
70 : 700mm
80 : 800mm

Environment
S : Standard
C : Cleanroom

Joint #3 stroke
2 : 200mm: Standard-model
: 170mm: Cleanroom-model (with bellows)
3 : 300mm: Standard-model
: 270mm: Cleanroom-model (with bellows)

Specifications

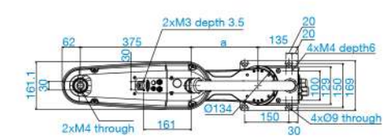
Model name		LS10		
Model number		LS10-B60□S/C	LS10-B70□S/C	LS10-B80□S/C
Arm length	Arm #1, #2	600 mm	700 mm	800 mm
Payload*1	Rated	5 kg		
	Maximum	10 kg		
Repeatability	Joints #1, #2	±0.02 mm		±0.025 mm
	Joint #3	±0.01 mm		
	Joint #4	±0.01 deg		
Standard cycle time*2		0.39 sec	0.41 sec	0.44sec
Max. operating 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 kg		23 kg
Applicable Controller		RC90-B		
Installed wire for customer use		D-sub 15 pin x1 , RJ45 8 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		

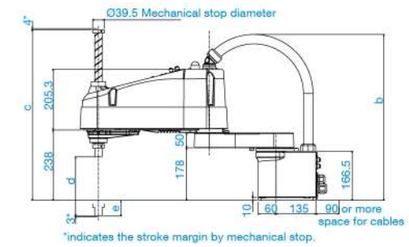
*1 : Do not apply the load exceeding the maximum payload.
*2 : Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with Accel 120% and 2 kg payload (path coordinates optimized for maximum speed).
*3 : If the center of gravity is at the center of each arm. If the center of gravity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

Outer Dimensions (Table Top Mounting)

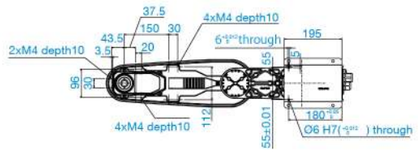
[単位:mm]

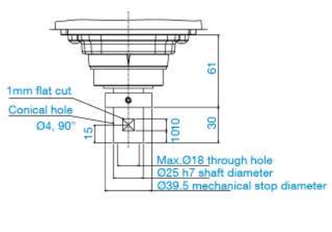
Standard-model





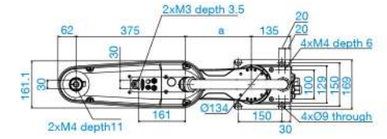
*indicates the stroke margin by mechanical stop.

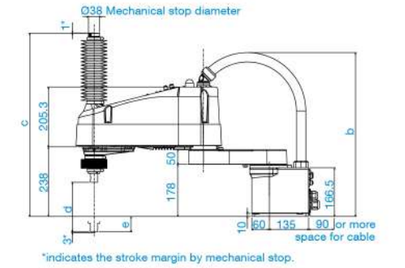




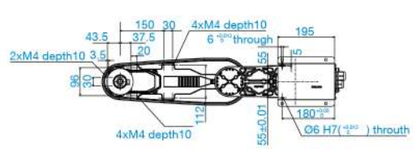
	LS10-B602S	LS10-B603S	LS10-B702S	LS10-B703S	LS10-B802S	LS10-B803S
a	225	225	325	325	425	425
b	Max.565	Max.565	Max.580	Max.580	Max.580	Max.580
c	577	677	577	677	577	677
d	200	300	200	300	200	300
e	53	153	53	153	53	153

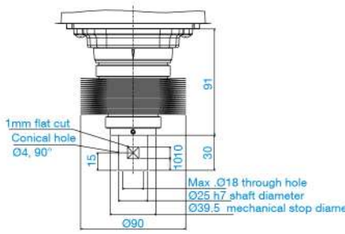
Cleanroom-model





*indicates the stroke margin by mechanical stop.

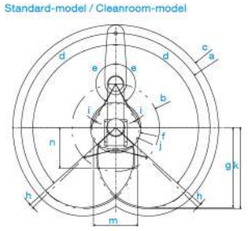




	LS10-B602C	LS10-B603C	LS10-B702C	LS10-B703C	LS10-B802C	LS10-B803C
a	225	225	325	325	425	425
b	Max.565	Max.565	Max.580	Max.580	Max.580	Max.580
c	627	727	627	727	627	727
d	170	270	170	270	170	270
e	53	153	53	153	53	153

Motion Range (Table Top Mounting)

Standard-model / Cleanroom-model



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 Motion range (mm)	300			320		

LS series SCARA robot

LS20 NEW

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

Model Number **LS20 - B80 4 S**

- Payload: 20 : 20kg
- Arm length: 80 : 800mm; A0 : 1000mm
- Joint #3 stroke: 4 : 420mm: Standard-model; 390mm: Cleanroom-model (with bellows)
- Environment: S : Standard; C : Cleanroom

Specifications

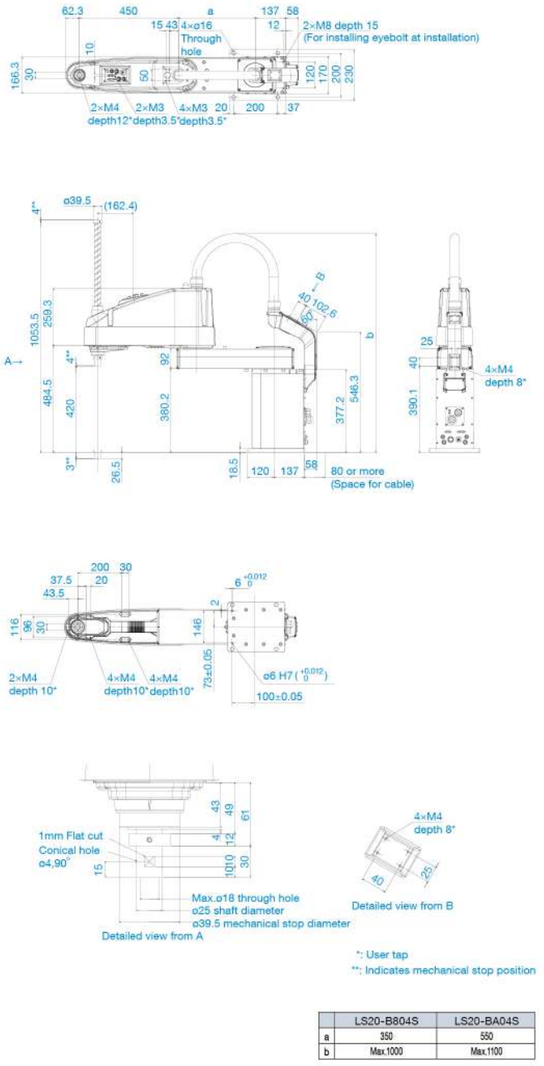
Model name		LS20	
Model number		LS20-B804S/C	LS20-BA04S/C
Arm length	Arm #1, #2	800 mm	1000 mm
Payload*1	Rated	10 kg	
	Maximum	20 kg	
Repeatability	Joints #1, #2	±0.025 mm	
	Joint #3	±0.01 mm	
	Joint #4	±0.01 deg	
Standard cycle time*2		0.39 sec	0.43 sec
Max. operating speed	Joints #1, #2	9940 mm/sec	11250 mm/sec
	Joint #3	2300 mm/sec	
	Joint #4	1400 deg/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	51 kg
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		2.4 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 (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 enviroment and operation program.

Outer Dimensions (Table Top Mounting)

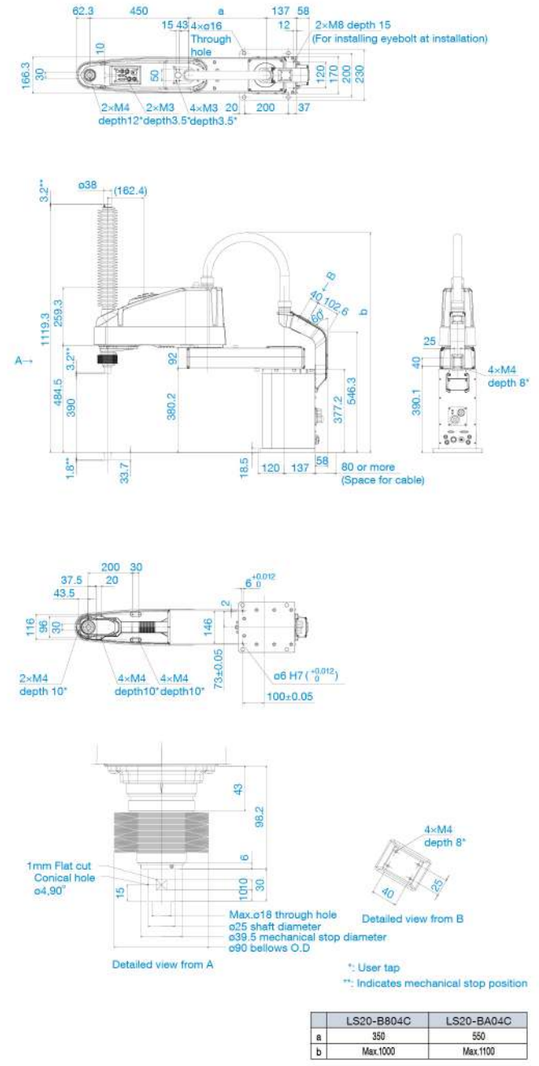
[Unit: mm]

Standard-model



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

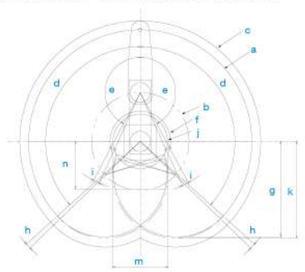
Cleanroom-model



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

Motion Range (Table Top Mounting)

Standard-model / Cleanroom-model



Model	Standard		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 (°)	132			
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

SCARA robot with built-in controller

T3

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 (over 50%* reduction in energy consumption) , max. electricity consumption 660VA

* In comparison to LS series (T3-401S vs. LS3-401S, T6-602S vs. LS6-602S) based on in-house testing as of January 2018. Actual electricity consumption will vary according to operating conditions and environment.

Model Number **T3 - 40 1 S**

Payload
3 : 3kg

Arm length
40 : 400mm

Joint #3 stroke
1 : 150mm

Environment
S : Standard

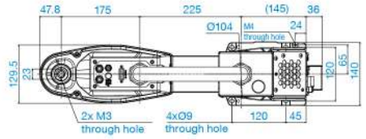
Specifications

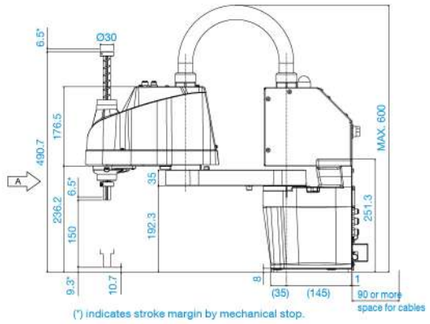
Model name		T3
Model number		T3-401S
Arm length	Arm #1, #2	400 mm
Payload (Load) *1	Rated	1 kg
	Max.	3 kg
Repeatability	Joints #1-2	± 0.02 mm
	Joint #3	± 0.02 mm
	Joint #4	± 0.02 deg
Standard cycle time*2		0.54 sec
Max. operating speed	Joints #1-2	3700 mm/sec
	Joint #3	1000 mm/sec
	Joint #4	2600 deg/sec
Joint #4 allowable moment of inertia*3	Rated	0.003 kg·m²
	Max.	0.01 kg·m²
Joint #3 down force		83 N
Installation Environment		Standard (IP20)
Mounting type		Table Top
Weight (cables not included)		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		0.66 kVA
Cable length		5 m
Safety standard		CE, KC

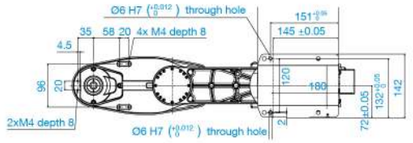
*1: Do not apply the load exceeding the maximum payload.
*2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 1 kg payload (path coordinates optimized for maximum speed) .
*3: If the center of gravity is at the center of each arm. If the center of gravity is not at the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

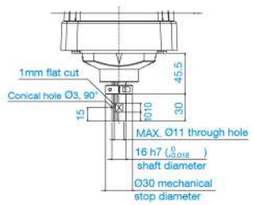
Outer Dimensions (Table Top Mounting)

[Unit: mm]





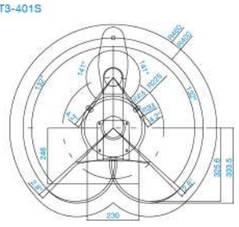




Detail view from "A"
(Calibration point position of joints #3 and #4)

Motion Range (Table Top Mounting)

T3-401S



SCARA robot with built-in controller

T6

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 - 60 2 S**

Payload		Environment	
6	: 6kg	S	: Standard
Arm length		Joint #3 stroke	
60	: 600mm	2	: 200mm

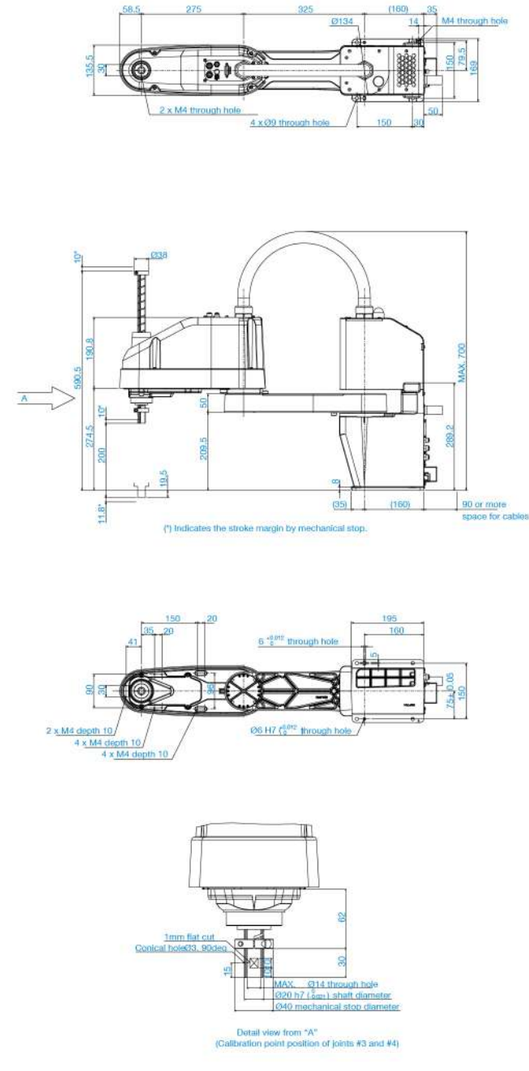
Specifications

Model name		T6
Model number		T6-602S
Arm length	Arm #1, #2	600 mm
Payload (Load) *1	Rated	2 kg
	Max.	6 kg
Repeatability	Joints #1-2	± 0.04 mm
	Joint #3	± 0.02 mm
	Joint #4	± 0.02 deg
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 moment of inertia*3	Rated	0.01 kg·m²
	Max.	0.08 kg·m²
Joint #3 down force		83 N
Installation Environment		Standard (IP20)
Mounting type		Table Top
Weight (cables not included)		22 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		1.2 kVA
Cable length		5 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 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: Varies according to operating environment and program.

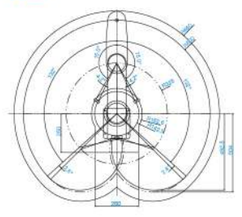
Outer Dimensions (Table Top Mounting)

[Unit: mm]



Motion Range (Table Top Mounting)

T6-602S



RS series SCARA robot

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

Model Number **RS3 - 35 1 S - UL**

- Payload: 3: 3kg
- Arm length: 35: 350mm
- Joint #3 stroke: 1: 130mm; : 100mm: Cleanroom-model
- Environment: S: Standard; C: Cleanroom & ESD (Anti-static)
- UL specification: □: Non UL compliant; -UL: UL compliant

Specifications

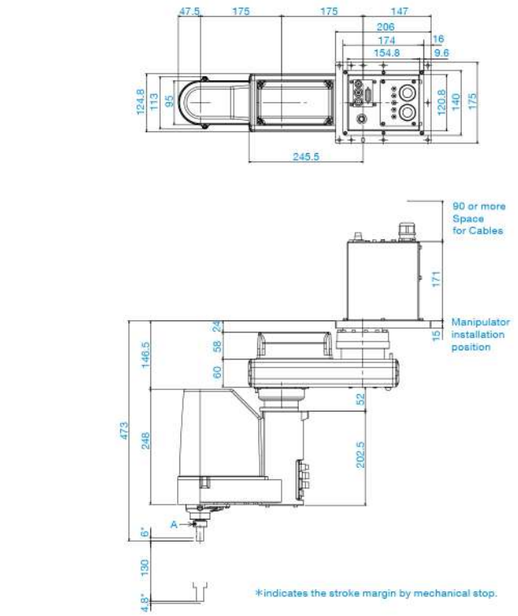
Model name		RS3
Model number		RS3-351□
Arm length	Arm #1, #2	350 mm
Payload	Rated	1 kg
	Maximum	3 kg
Repeatability	Joints #1, #2	±0.01 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01 deg
Standard cycle time*1		0.34 sec
Max. operating speed	Joints #1, #2	6237 mm/sec
	Joint #3	1100 mm/sec
	Joint #4	2600 deg/sec
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*3 &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		1.2 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.

Outer Dimensions (Ceiling Mounting)

[Unit: mm]

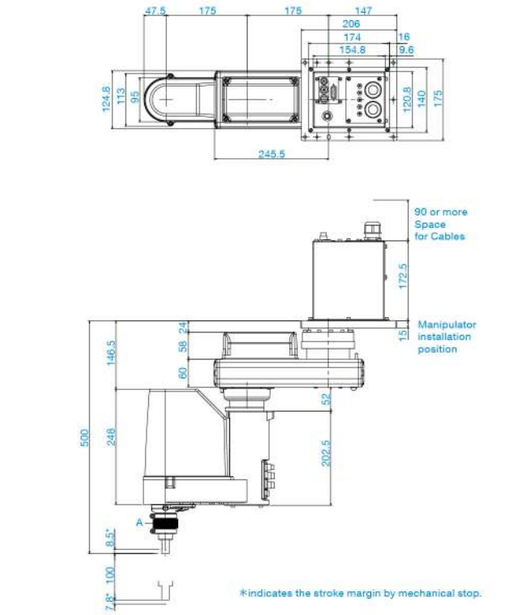
Standard-model



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

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

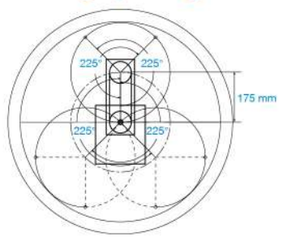
Cleanroom-model



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

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

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

RS series SCARA robot

RS4

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

Model Number **RS4 - 55 1 S - UL**

- Payload
  - 4 : 4kg
- Arm length
  - 55 : 550mm
- Joint #3 stroke
  - 1 : 130mm
  - : 100mm: Cleanroom-model
- Environment
  - S : Standard
  - C : Cleanroom & ESD (Anti-static)
- UL specification
  - □ : Non UL compliant
  - -UL : UL compliant

Specifications

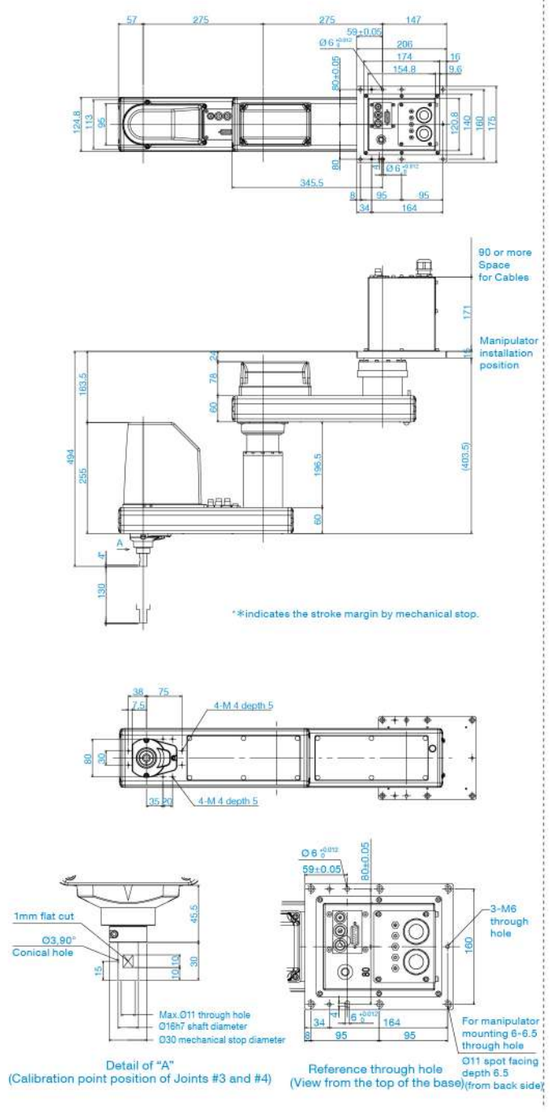
Model name		RS4
Model number		RS4-551□
Arm length	Arm #1, #2	550 mm
Payload	Rated	1 kg
	Maximum	4 kg
Repeatability	Joints #1, #2	±0.015 mm
	Joint #3	±0.01 mm
	Joint #4	±0.01 deg
Standard cycle time*1		0.39 sec
Max. operating speed	Joints #1, #2	7400 mm/sec
	Joint #3	1100 mm/sec
	Joint #4	2600 deg/sec
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.

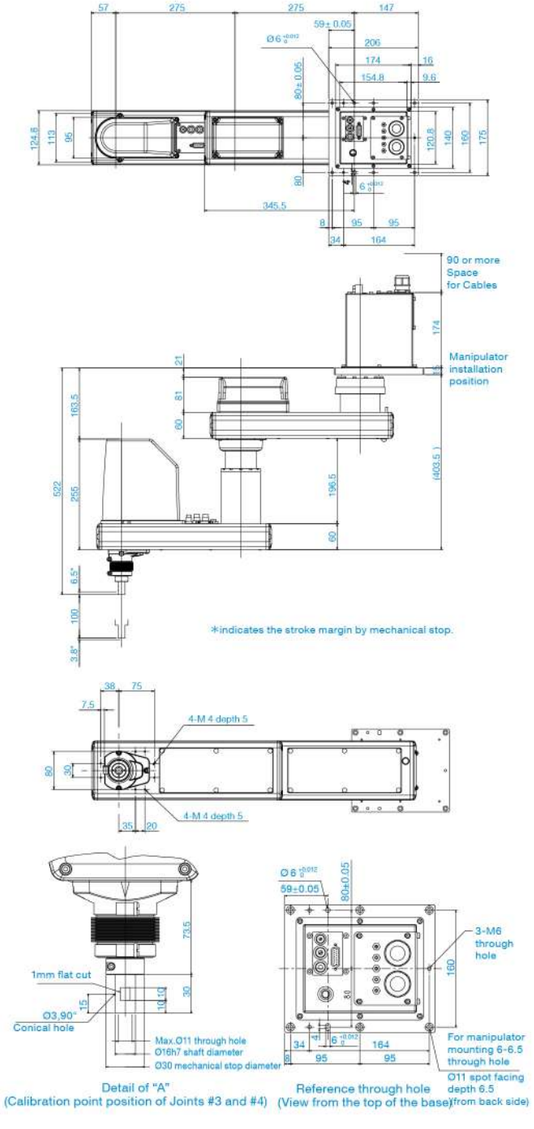
Outer Dimensions (Ceiling Mounting)

[Unit: mm]

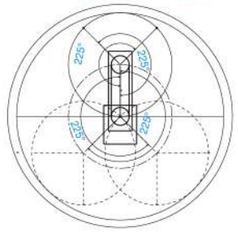
Standard-model



Cleanroom-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

6-axis robot

C4

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

Model Number C4 - A 60 1 S □ - UL

Payload
4 : 4kg

Arm length
6 : 600mm
9 : 900mm

Brake equipment
1 : Brakes on all joints

Environment
S : Standard model
C : Cleanroom & ESD (electrostatic discharge) model

UL specification
□ : Non UL compliant
-UL : UL compliant

Mounting type
□ : Table Top Mounting
R : Ceiling Mounting

Specifications

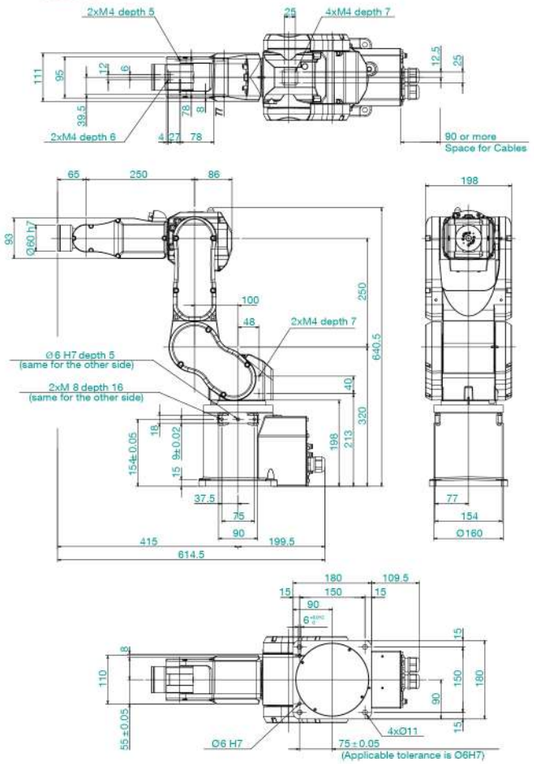
Model name		C4	C4L
Model number		C4-A601□	C4-A901□
Max. motion range	P point:through the center of J4/J5/J6	600 mm	900 mm
	Wrist flange surface	665 mm	965 mm
Payload	Rated	1 kg	
	Maximum	4 kg (5 kg with arm downward positioning)	
Repeatability	Joints #1-#6	±0.02 mm	±0.03 mm
Standard cycle time*1		0.37 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 deg/sec	
	Joint #5	555 deg/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	0.1 kg•m²	
Installation environment		Standard/Cleanroom*3 & ESD	
Mounting type		Table Top/Ceiling*4	
Weight (cable not included)		27 kg	29 kg
Applicable Controller		RC700-A	
Installed wire for customer use		9 Pin D-Sub	
Installed pneumatic tube for customer		Φ4mm x 4 : 0.59 MPa (6 kgf/cm²)	
Power		AC200-240 V Single phase	
Power Consumption*5		1.7 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, 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: 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: Ceiling-mounted robots should be programmed using the EPSON RC+ software ceiling-mount settings.
*5: Varies according to operating environment and program.

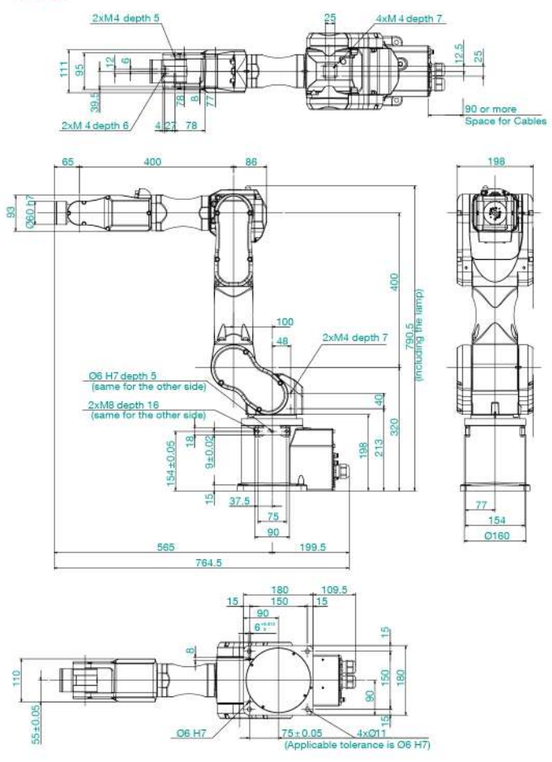
Outer Dimensions

[Unit: mm]

A601

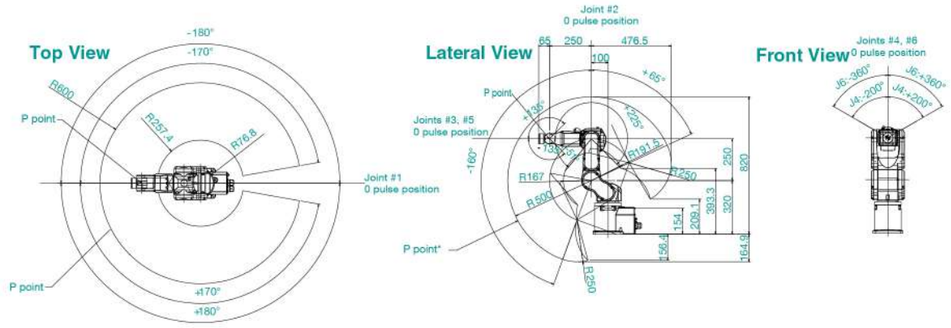


A901

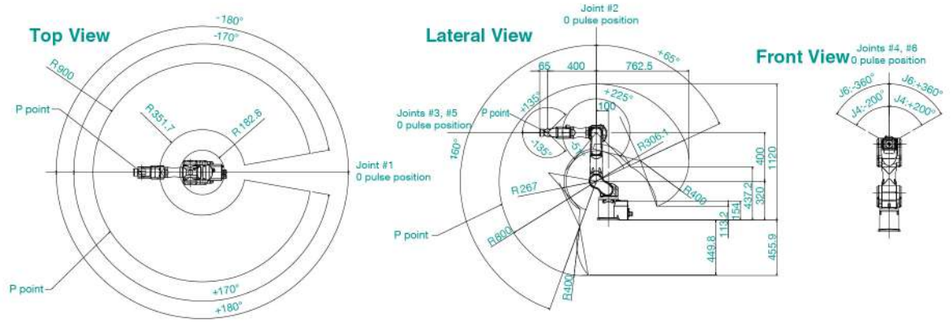


Motion Range

A601



A901



6-axis robot

C8 Series

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] [01] [S] [□] [□] - [UL]

Payload
[8] : 8kg

Arm length
[7] : 710mm
[9] : 900mm
[14] : 1400mm

Brake equipment
[1] : Brakes on all joints

Environment
[S] : Standard model
[C] : Cleanroom & ESD (electrostatic discharge) model
[P] : Protection model (IP67)

M/C cable exit direction
[□] : Rearward
[B] : Downward

Mounting type
[□] : Table Top Mounting
[R] : Ceiling Mounting
[W] : Wall Mounting

UL specification
[□] : Non UL compliant
[-UL] : UL compliant

Specifications

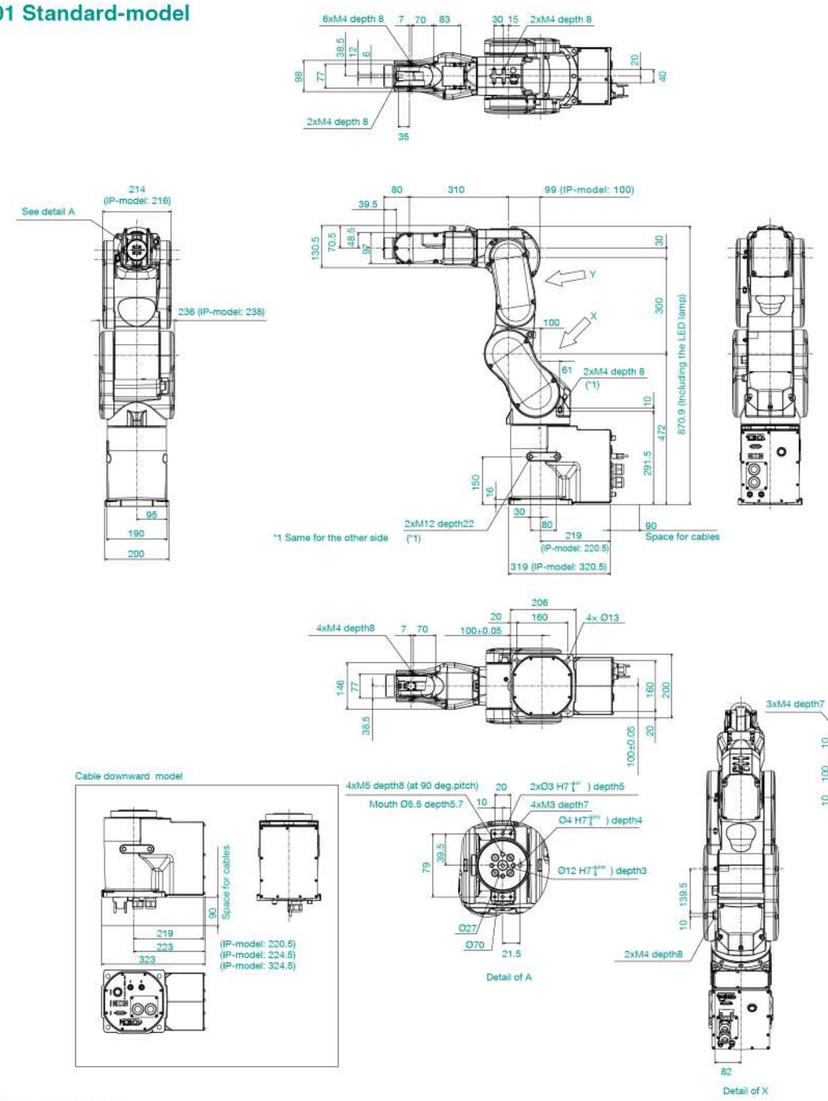
Model name		C8	C8L	C8XL
Model number		C8-A701□□□	C8-A901□□□	C8-A1401□□□
Max. motion range	P point:through the center of J4/J5/J6	711 mm	901 mm	1400 mm
	Wrist flange surface	791 mm	981 mm	1480 mm
Payload*1	Rated	3 kg		
	Maximum	8 kg		
Repeatability	Joints #1-#6	±0.02 mm	±0.03 mm	±0.05 mm
Standard cycle time*1		0.31 sec	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/Wall*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, 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 grea5ter than 0.1 µm per 28317cm3:1cft in operating area air sample)
C8XL complies with ISO Class 4 (ISO14644-1) cleanroom standards (comparable to previous Clean Class 10: fewer than 100 particles with a diameter greater than 0.1 µm per 28317cm3:1cft in operating area air sample)
*4: Ceiling- and wall-mounted robots should be programmed using the EPSON RC+ software ceiling- or wall-mount settings.
*5: Varies according to operating environment and program.

Outer Dimensions

[Unit: mm]

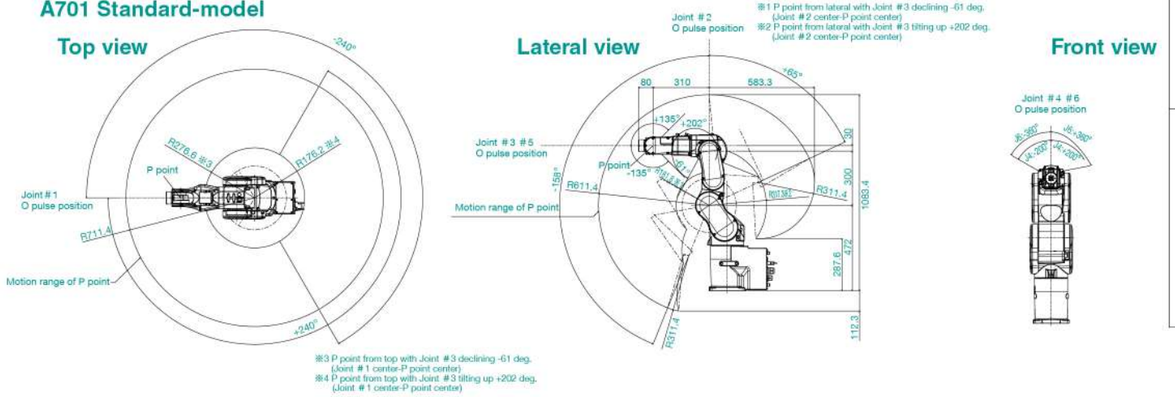
A701 Standard-model



Motion Range

[Unit: mm]

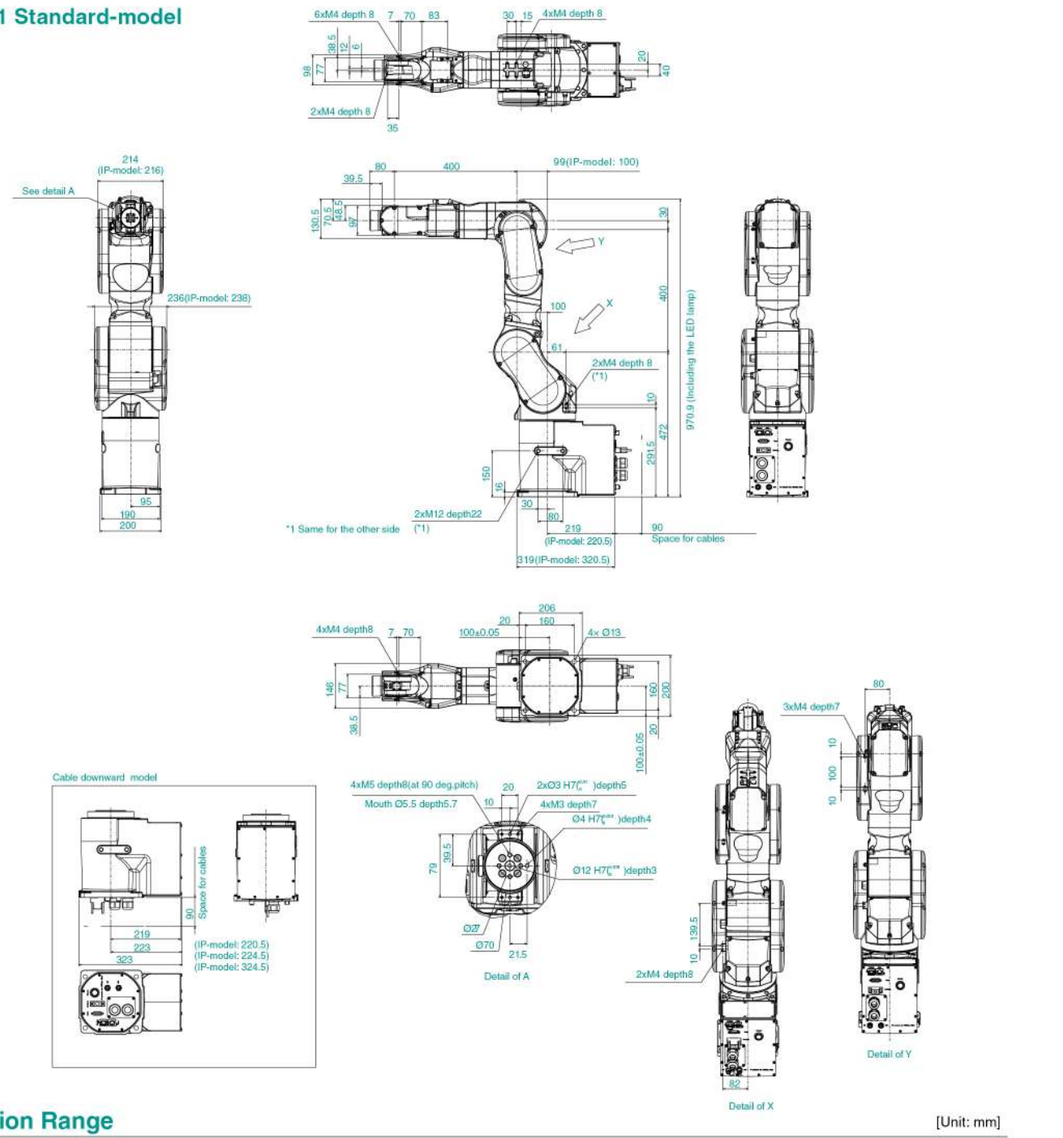
A701 Standard-model



Outer Dimensions

[Unit: mm]

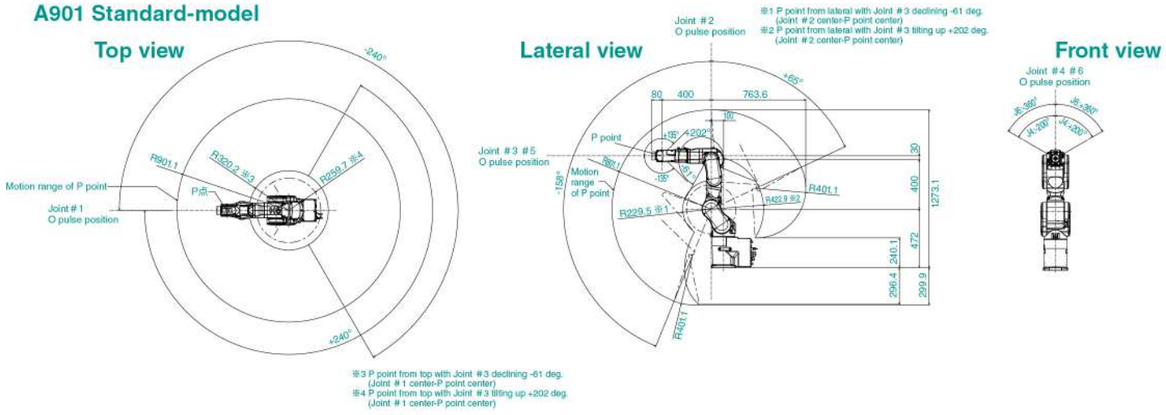
A901 Standard-model



Motion Range

[Unit: mm]

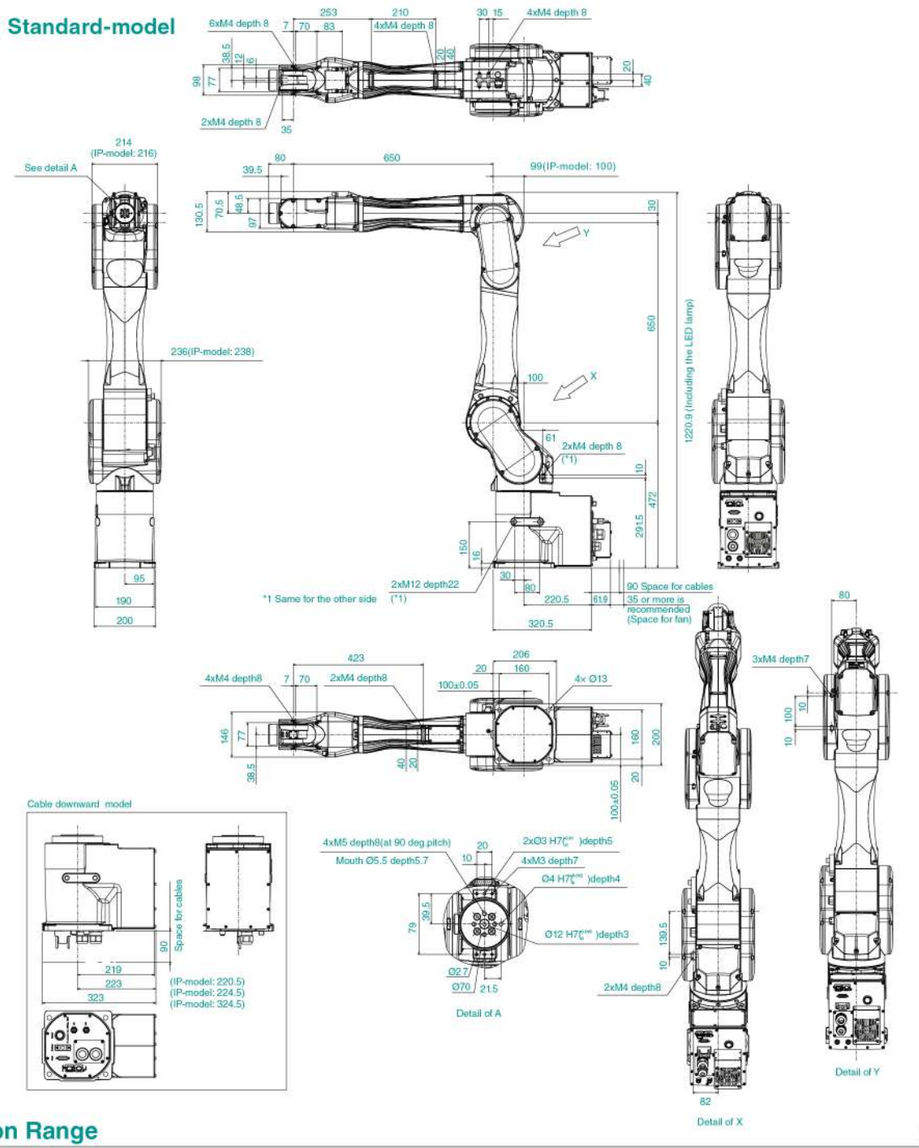
A901 Standard-model



Outer Dimensions

[Unit: mm]

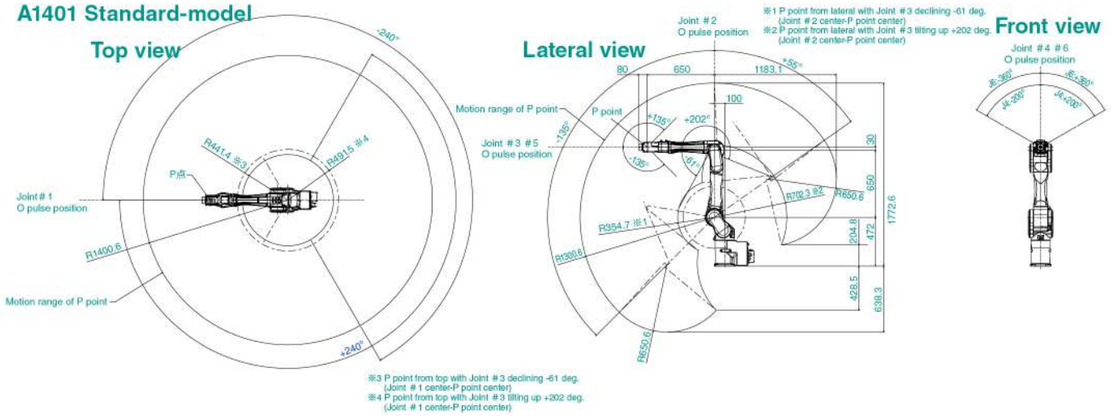
A1401 Standard-model



Motion Range

[Unit: mm]

A1401 Standard-model



6-Axis robot

C12

Space saving, slim but powerful

- Lightweight slim arm suitable for machine- tending
- Increase the load capacity to 12kg and expand the application area

Model number C 12 - A140 1 S □ □

Payload
12 : 12kg

Arm length
14 : 1400mm

Blake equipment
1 : Brakes on all joints

Mounting type
□□ : Table Top

M/C cable installation direction
□□ : Cable backward
B : Cable downward

Environment
S : Standard model
C : Cleanroom model

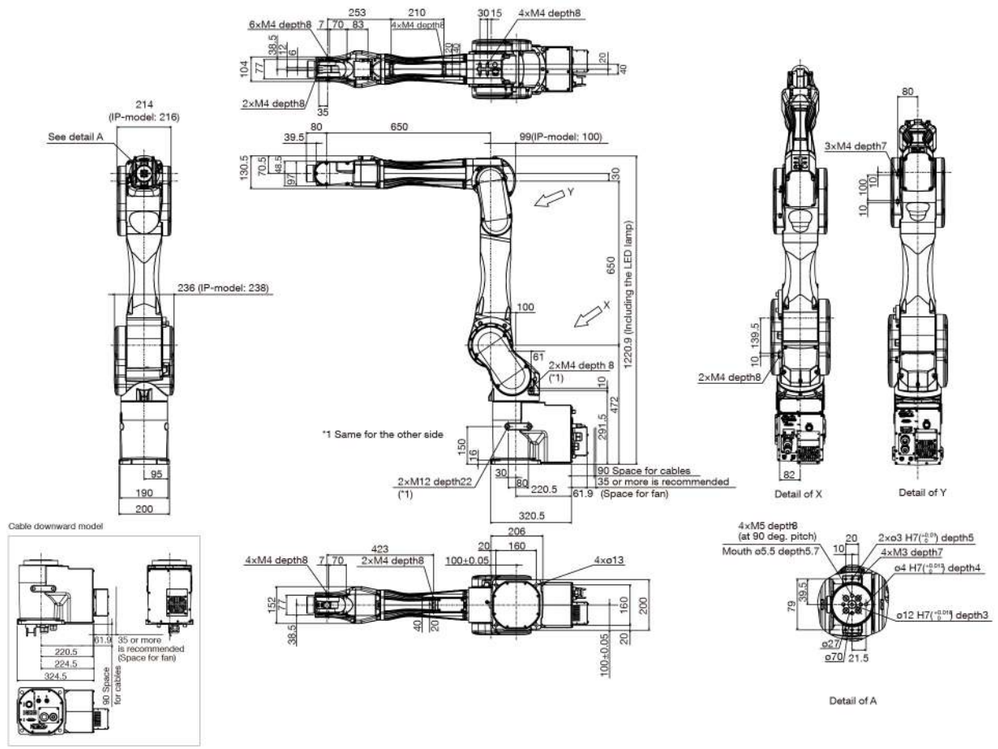
Specification

Model name		C12XL
Model number		C12-A1401□□□
Arm length	Point P : J1-J5 center	1400 mm
	J1-J6 Flange surface	1480 mm
Payload	Rated	3 kg
	Max.	12 kg
Repeatability	Joint#1-6	± 0.05 mm
Standard cycle time *1		0.50 sec
Max. operation speed	Joint#1	200 deg/sec
	Joint#2	167 deg/sec
	Joint#3	200 deg/sec
	Joint#4	300 deg/sec
	Joint#5	360 deg/sec
	Joint#6	720 deg/sec
Allowable moment of inertia *2	Joint#4	0.70 kg·m2
	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 included)		63 kg
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)
Power *5		AC200-240 V
Power Consumption		2.5 kVA
Cable length		3 / 5 / 10 / 15 / 20 m

*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 enviroment and operation program.

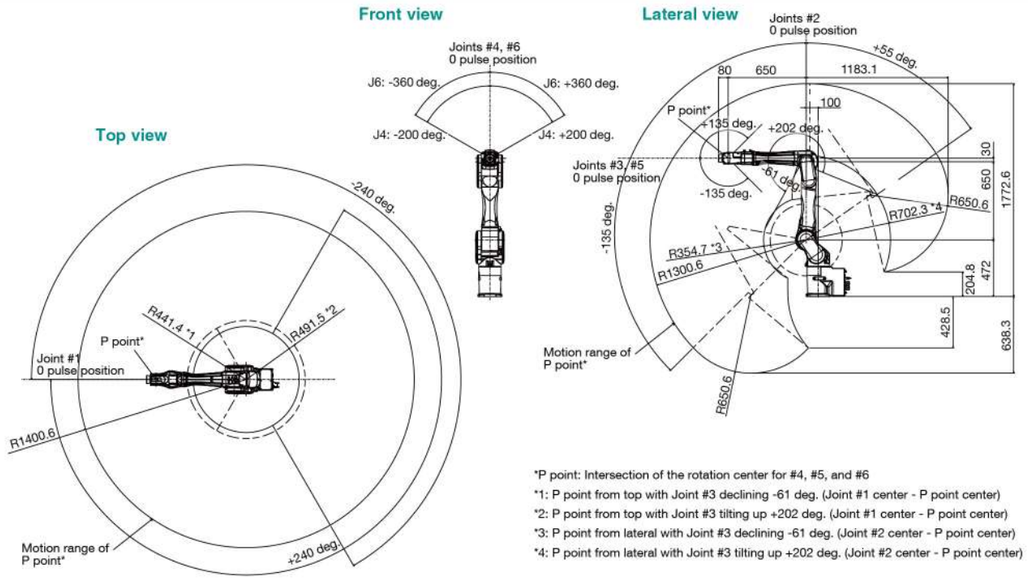
Outer Dimensions

[Unit:mm]



Motion Range

[Unit:mm]



*P point: Intersection of the rotation center for #4, #5, and #6
*1: P point from top with Joint #3 declining -61 deg. (Joint #1 center - P point center)
*2: P point from top with Joint #3 tilting up +202 deg. (Joint #1 center - P point center)
*3: P point from lateral with Joint #3 declining -61 deg. (Joint #2 center - P point center)
*4: P point from lateral with Joint #3 tilting up +202 deg. (Joint #2 center - P point center)

N series compact 6-axis robot

N2

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)

Model Number **N2 - A 45 0 S R**

Payload
2 : 2.5kg

Arm length
45 : 450mm

Brake equipment
0 : Brakes on the Joints #2 to #6

Environment
S : Standard model

Mounting type
□ : Table Top Mounting
R : Ceiling Mounting

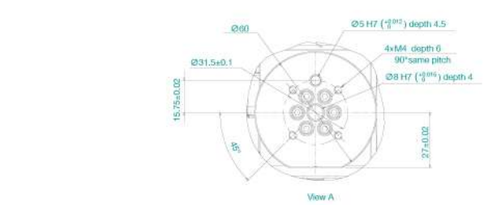
Specifications

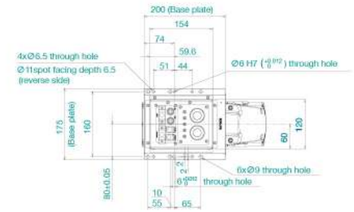
Model name		N2
Model number		N2-A450SR
Max. motion range	P point:through the center of J4/J5/J6	450mm
	Wrist flange surface	532.2mm
Payload*1	Rated	1.0kg
	Maximum	2.5kg
Repeatability		±0.02mm
Max. motion range	J1	297 deg/sec
	J2	297 deg/sec
	J3	356 deg/sec
	J4	356 deg/sec
	J5	360 deg/sec
	J6	360 deg/sec
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 *3
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*4		0.6 kVA
cable length		3 m/ 5 m/ 10 m/ 15 m/ 20 m
Safety standard		CE, KC

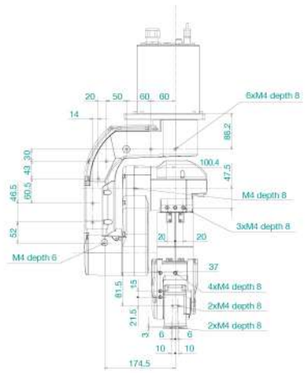
*1: Do not apply the load exceeding the maximum payload.
*2: If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
*3: Robots are set up for ceiling-mount use at shipment. For tabletop use, robots should be programmed using the EPSON RC+ software tabletop-mount settings.
*4: Varies according to operating environment and program.

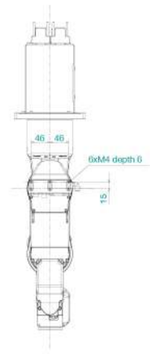
Outer Dimensions

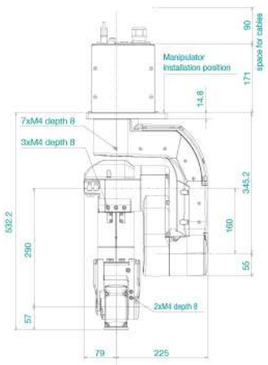
[Unit: mm]

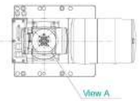






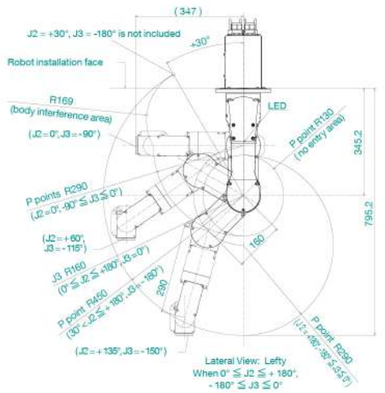


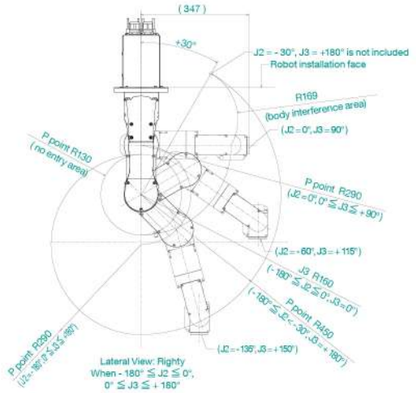


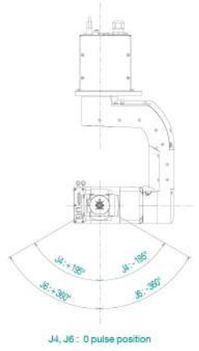


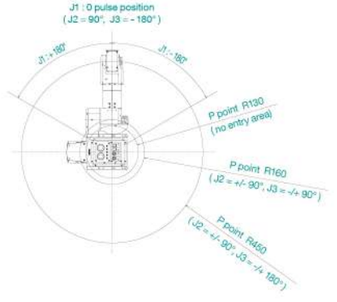
Motion Range

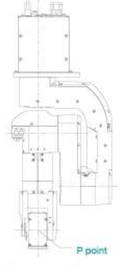
[Unit: mm]











N series compact 6-axis robot

N6-A850

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

Model Number **N6 - A 85 0 □ □ R**

Payload
6 : 6kg

Arm length
85 : 860mm

Brake equipment
0 : Brakes on the Joints #2 to #6

Mounting type
□□ : Table Top Mounting

Cable exit direction
□ : Standard (side)
B : Upward

Environment
S : Standard
C : Cleanroom & ESD (Anti-static)

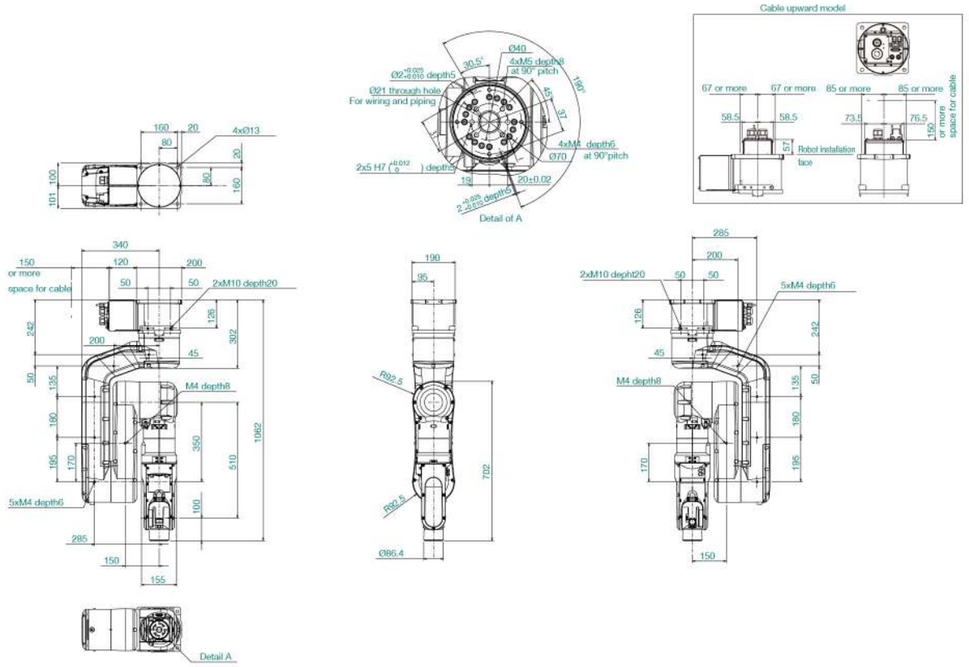
Specifications

Model name		N6
Model number		N6-A850□□R
Max. motion range	P point:through the center of J4/J5/J6	860 mm
	Wrist flange surface	960 mm
Payload*1	Rated	3.0 kg
	Maximum	6.0 kg
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)		64 kg
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*4		2.2 kVA
cable length		3 m/5 m/10 m/15 m/20 m
Safety standard		CE, KC

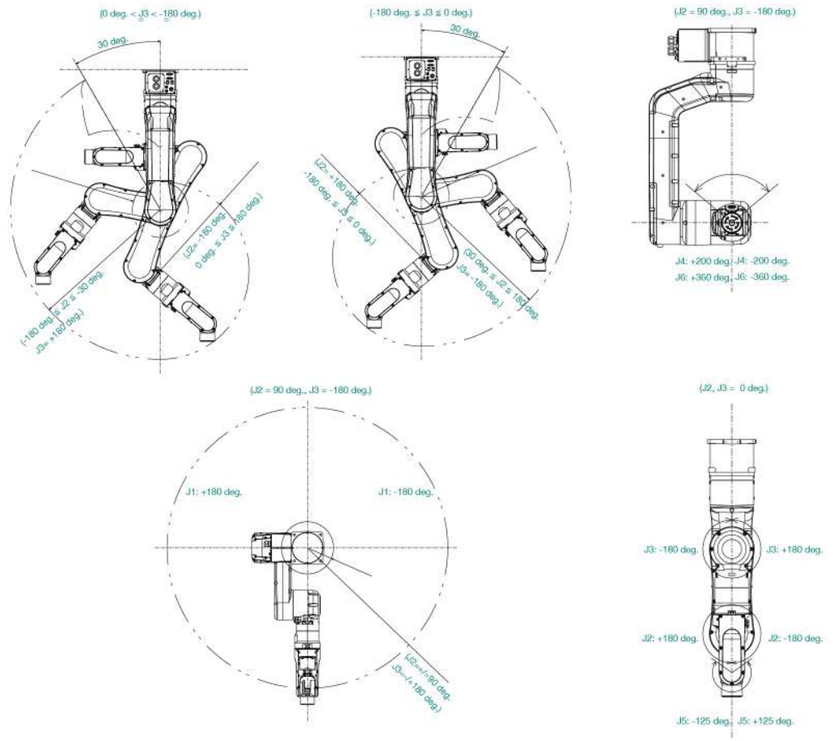
*1 : Do not apply the load exceeding the maximum payload.
*2 : If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
*3 : Complies with ISO Class 5 (ISO14644-1) and older Class 1 cleanroom standards.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

Outer Dimensions

[単位:mm]



Motion Range



N series compact 6-axis robot

N6-A1000

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 Number N6 - A 100 0 □ □ □

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

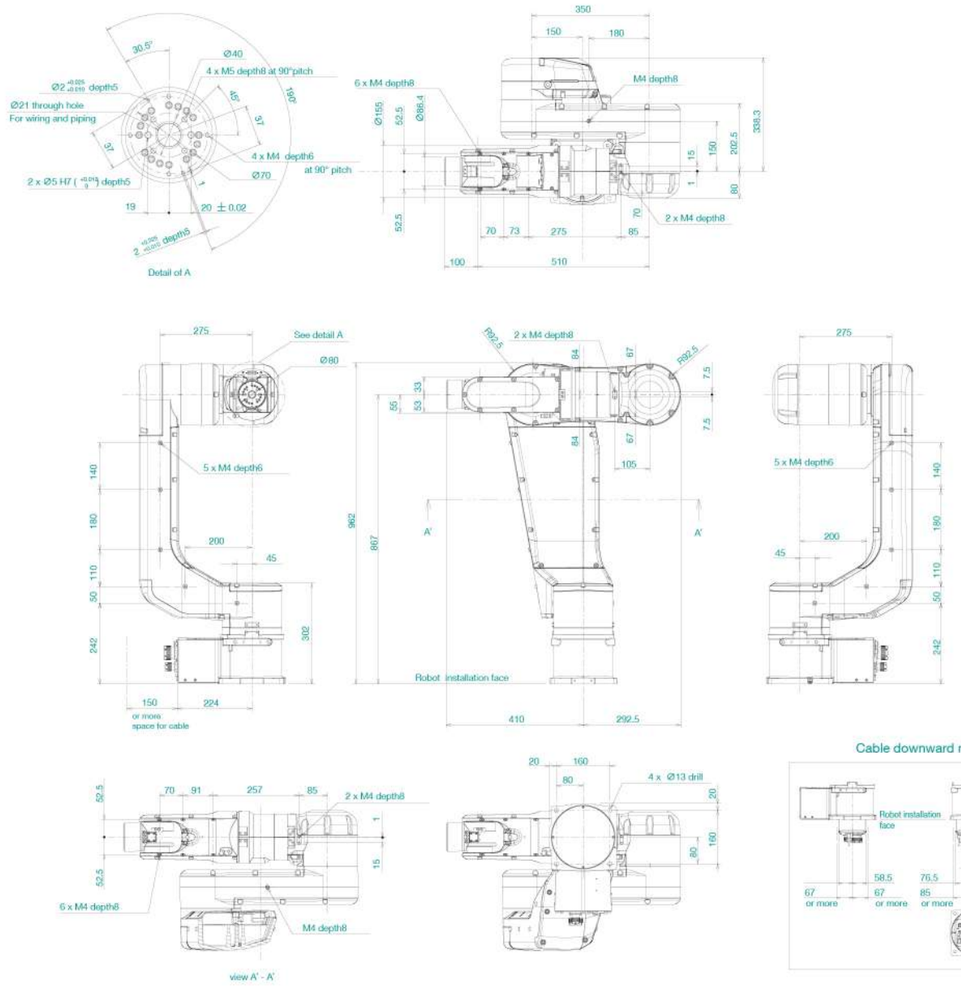
■Specifications

Model name		N6
Model number		N6-A1000□□□
Max. motion range	P point: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*3 &ESD
Mounting type		Table top / Ceiling *4
Weight (cable not included)		69 kg
Applicable Controller		RC-700A
Installed wire for customer use		D-sub 15 pin, RJ45 8 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		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.
*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 environment and program.

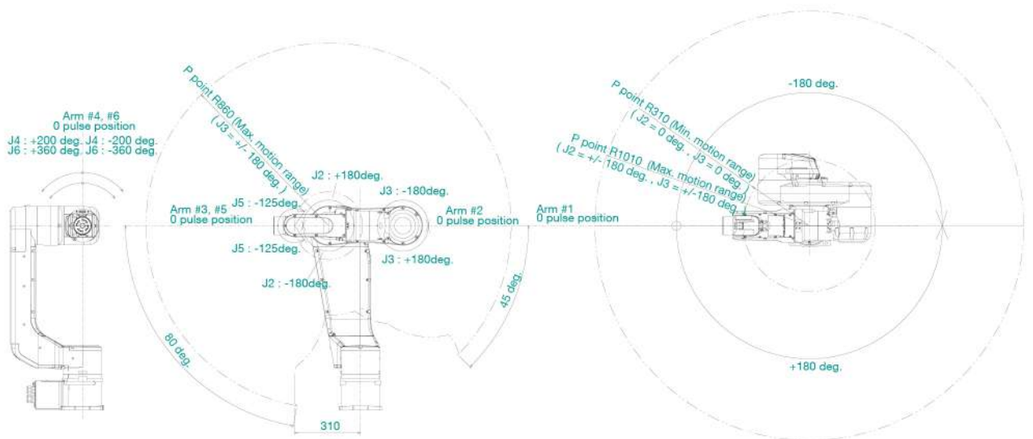
■Outer Dimensions

[Unit: mm]



■Motion Range

[Unit: mm]



Built-in controller 6-axis robot

VT6L NEW

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

Model Number **VT6 - A 90 1 □□**

Payload
6 : 6kg

Arm length
90 : 920mm

Brake equipment
1 : Brakes on all joints

Mounting type
□ : Table Top Mounting
R : Ceiling Mounting
W : Wall Mounting

Environment
S : Standard model
C : Cleanroom model
P : Protection model (IP67)

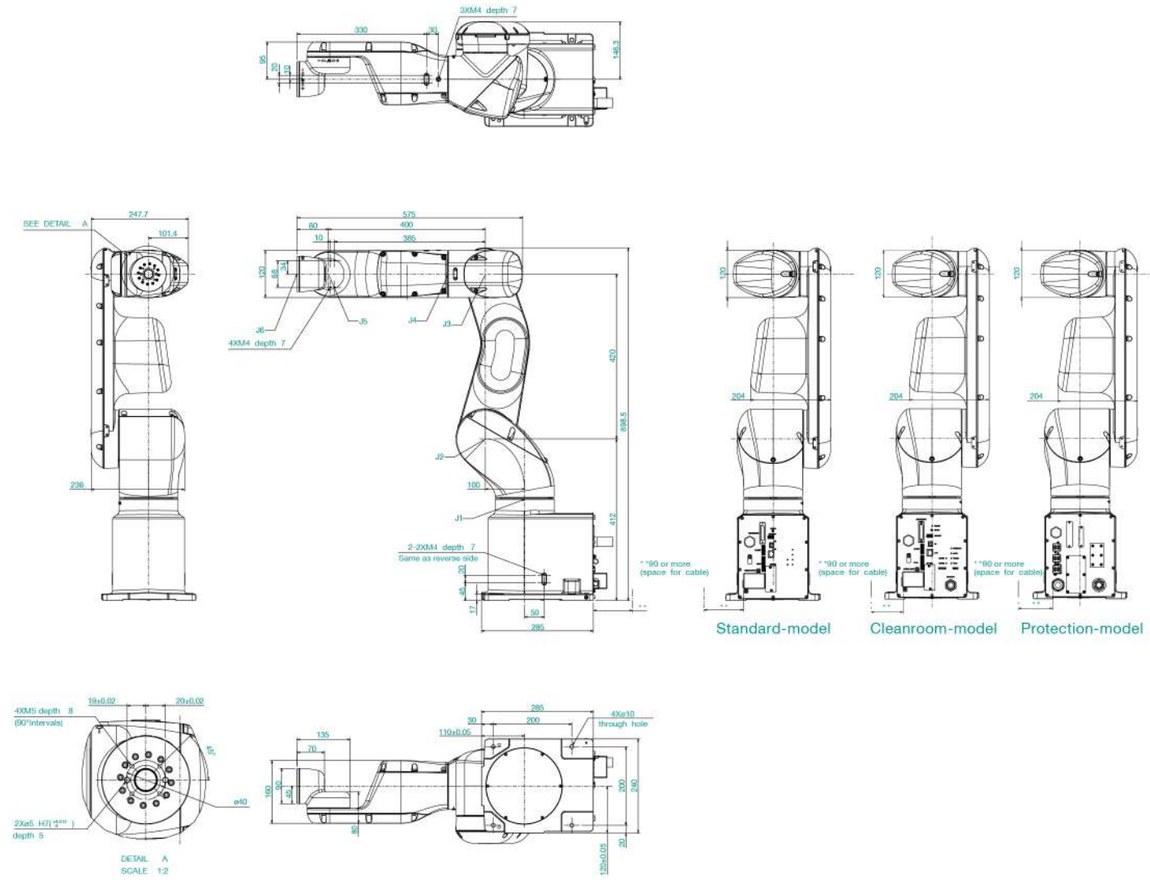
Specifications

Model name		VT6L
Model number		VT6-A901□□
Payload (Load)*1	Rated	3 kg
	Max.	6 kg
Max. reach	P point :Joint#1-5 center	920 mm
	Joint#1-5 flange surface	1000 mm
Repeatability	Joint#1-6	± 0.1 mm
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-model 188.1 deg/sec
	J5	296.8 deg/sec
	J6	293.2 deg/sec
Allowable moment of inertia*3	Joint#4	0.3 kg·m²
	Joint#5	0.3 kg·m²
	Joint#6	0.1 kg·m²
Mounting type*4		Table top / Ceiling/ Wall mount
Environment spec		Standard, Cleanroom*5 / Protection-model (IP67)
Weight (cables not included)		40 kg
Applicable Controller		Built-in controller
Installed wire for customer use		None (External Wiring Option availabe)
Installed pneumatic tube for customer use		None (External Wiring Option availabe)
Power		AC100-240 V single phase
Power Consumption*6		1.2 kVA
Cable length		5 m
I/O	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*7

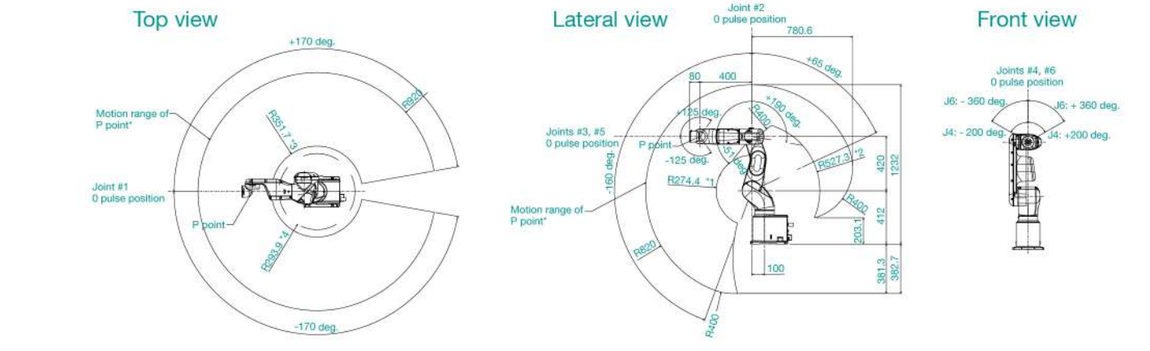
*1 : Do not apply the load exceeding the maximum payload.
*2 : In case of PTP control
*3 : If the center of gravity is at the center of each arm. If the center of gravity is not at the center of each arm, set the eccentric quantity using INERTIA command.
*4 : Manipulators are set to "Table Top mounting" 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 : It depends on operating environment and operation program.
*7 : Scheduled to be acquired in March 2020

Outer Dimensions (Table Top Mounting)

[Unit: mm]



Motion Range (Table Top Mounting)



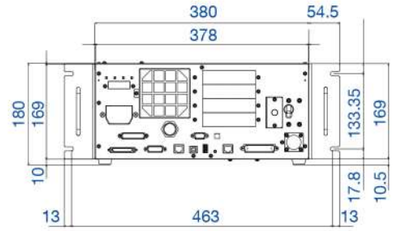
01 RC700-A multi-function controller

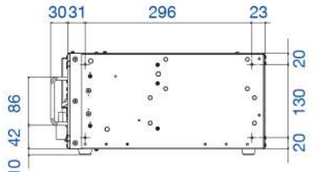
■USB connectivity; easy setup

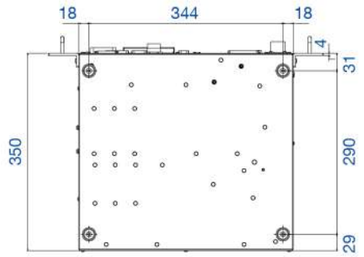
■Drive units can be added for multi-robot control

RC700-A software/Manipulator supp			
Software		EPSON RC+7.0	●
Manipulator	SCARA robots	G series	●
		LS series	–
		RS series	●
		T series	–
	6-axis robots	C series	●
		N series	●
		VT series	–

■Outer Dimensions [Unit: mm]







01 RC90-B dedicated LS series controller

■USB connectivity; easy setup

RC90-B software/Manipulator supp			
Software		EPSON RC+7.0	●
Manipulator	SCARA robots	G series	–
		LS series	●
		RS series	–
		T series	–
	6-axis robots	C series	–
		N series	–
		VT series	–

■Outer Dimensions [Unit: mm]

01 RC700DU-A controller for multi-effector control

■Can be connected to RC700-A controllers for multi-robot control.

RC700DU-A software/Manipulator sup			
Manipulator	SCARA robots	G series	●
		LS series	–
		RS series	●
		T series	–
	6-axis robots	C series	●
		N series	●
		VT series	–

■Outer Dimensions [Unit: mm]

Specifications

	RC700-A	RC90-B	Drive units RC700DU-A
Controllable axes			
	Max. 6 AC servo motors	Max. 4 AC servo motors	Max. 6 AC servo motors
Robot manipulator control			
Programming language and Robot control software	EPSON RC+7.0		
Joint control	Max. 6 axes simultaneous	Max. 4 axes simultaneous	Max. 6 axes simultaneous
	Software AC servo control		
Speed control	PTP control: 1-100% / CP control: real speed setting		
Speed control	PTP control: 1-100% (auto acceleration) / CP control: real speed setting		
Positioning control			
	PTP (Point-To-Point control) CP (Continuous Path control)		
Memory capacity			
	Max. object size: 4 MB Point data area: 1000 points/file Backup variable area: Max. 100 KB (incl. control table) Approx. 1,000 variables are available. The number varies depending on the size of array variables		—
External input/output signals (standard)			
Standard I/O	Input: 24 Output: 16		
Communication interface (standard)			
Ethernet	1 channel		—
RS-232C	1 port		—
Safety features			
	Emergency stop switch / Low power mode / Motor overload detection / Motor speed error detection / CPU irregularity detection / Overheat detection / Fan error detection / Over-voltage detection / Temperature error detection / Safety door input / Dynamic brake / Irregular motor torque detection / Positioning overflow detection / Speed overflow detection / Memory check-sum error detection / Relay welding detection / AC power supply voltage reduction detection		
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
Mounting method			
	horizontal, vertical, rack mount, wall mount (option)	horizontal, vertical, rack mount	horizontal, vertical, rack mount, wall mount (option)

*1: Weight of the unit is indicated on the Controller. Make sure to check the weight of the unit before transferring or relocating it, so that you do not strain your back when holding it. Also, make sure to keep your hands, fingers, and feet safe from being caught or serious injury.
*2: Including RS series.

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

Robot programming functions
- SPEL+ language
- Approach check area / Approach check plane
- Pallet handling
- Payload and effector eccentricity
- High-speed, high-precision 3D path accuracy
- Multitasking
- Positioning completion timing
- Arch motion
- Parallel processing
- Singularity point avoidance
- Remote control expansion I/O
- Operating speed and acceleration settings

Simple teaching functions
- Jog & teach / Tool settings
- Local coordinate settings

Maintenance and management functions
- Consumables management
- Controller settings backup

Simulator functions
- Layout review / interference checking
- Programming/debugging functions, etc.

Options

Software options
- RC+ API 7.0
- GUI Builder
- ECP
- VRT

Force-sensing systems / GUI
- Force Guide

Image processing systems / GUI
- Vision Guide
- Catch-On-Fly
- OCR

SPEL+ language

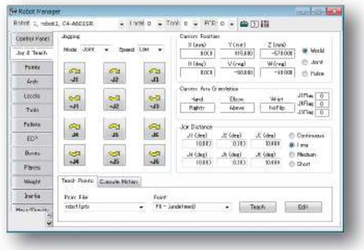
Easy-to-learn SPEL+ programming is similar to BASIC, and provides full support for multitasking, motion control, I/O control, and a wide range of other functions.

```
Example program
Function main
    Motor On          Example program
    Power High        Set power mode to High
    Speed 100         Set speed to 100%
    Accel 100, 100    Set acceleration speed to 100%

    If Sw(0) = On Then  Is I/O input bit 0 On?
        Jump P0         Move robot arm to Point 0
    Else
        Jump P1         Move robot arm to Point 1
    EndIf
Fend
```

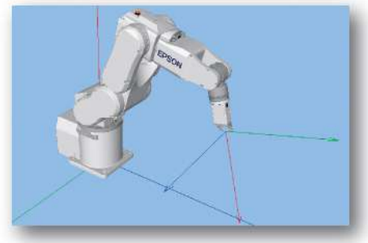
Jog & teach

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



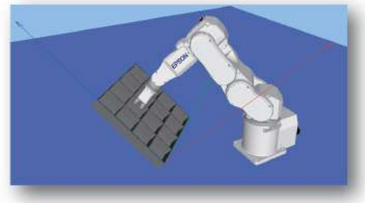
Tool settings

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



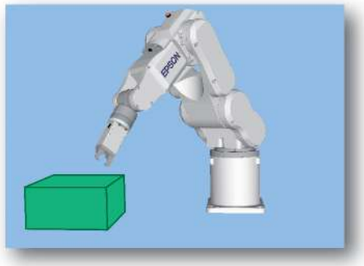
Local coordinate settings

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.

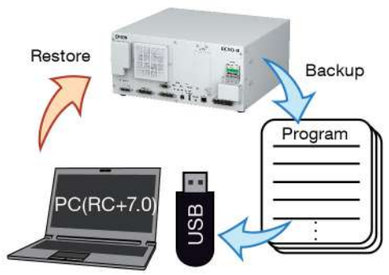


Consumables management

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

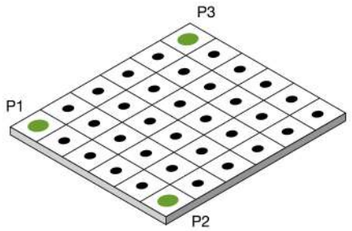
Controller settings backup

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.



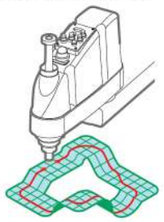
Simply set points P1, P2, and P3 — all other points are set automatically.

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.



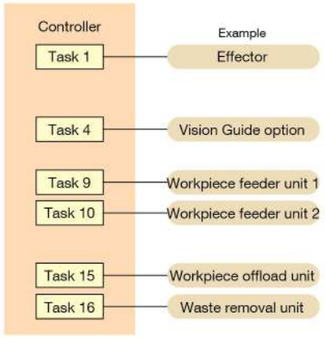
Continuous path (CP) control

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.



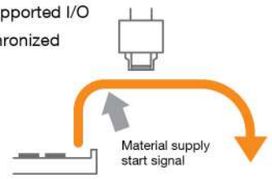
3D jump with variable arch for ultra-precise short-distance movement

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.



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.

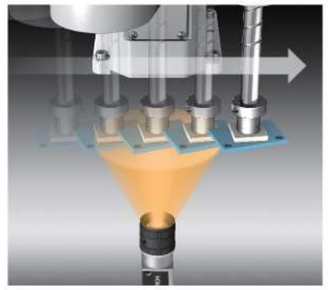
Remote control expansion I/O

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 and RC620 controllers only.



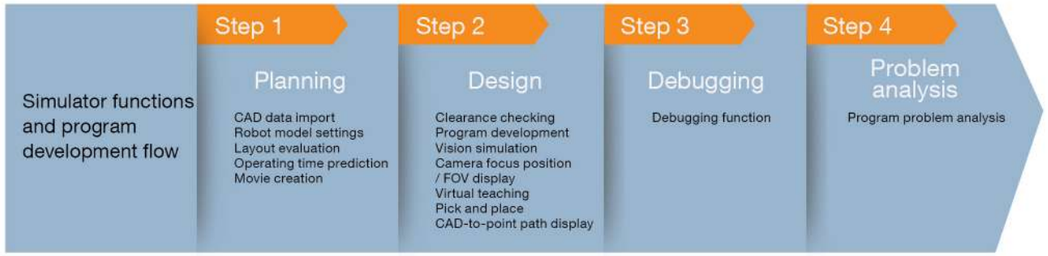
Operating speed and acceleration/deceleration settings

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.

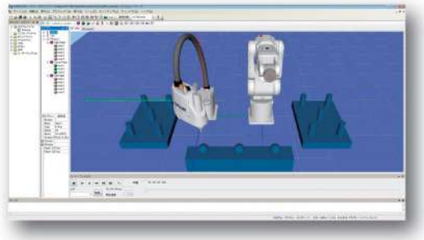
Simulator

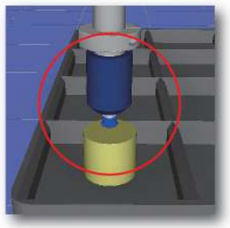
The simulator displays a 3D view of the robot that enables you to thoroughly test programs and confirm robot motion and operating clearances in a virtual environment before putting them into use on the factory floor.



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

- VRML 2.0
  Limitations: VRML 2.0 prototypes are not supported.
- STEP (AP203/AP214)
  Limitations: Only ASCII code files are supported. Face colors 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

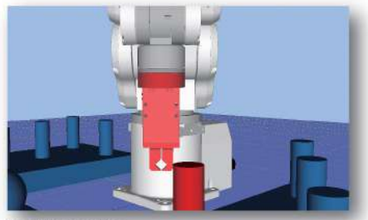
Robot operating time can be predicted based on motion speed and acceleration settings.

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.

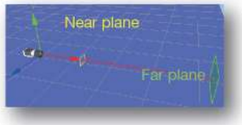


Clearance checking

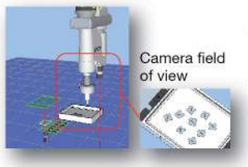
Program development

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.

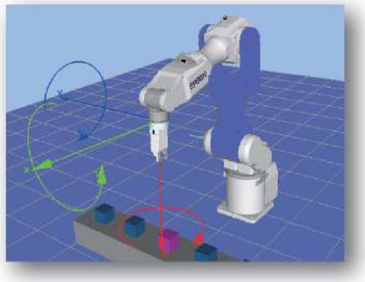


An image of the camera's field of view can also be displayed to facilitate positioning of workpieces and nearby equipment.

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

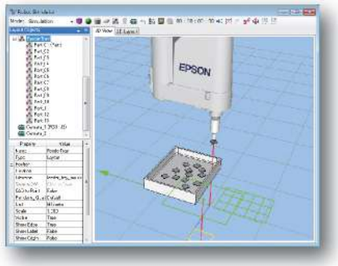
Virtual teaching

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



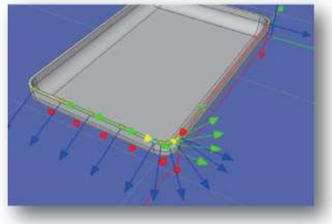
Pick and place

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



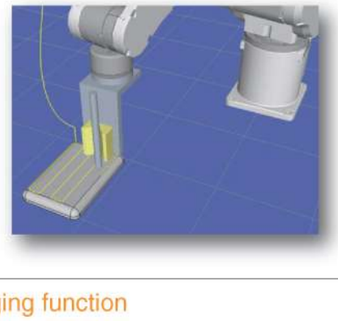
CAD-to-Point teaching

Teaching points can be set using imported CAD data.



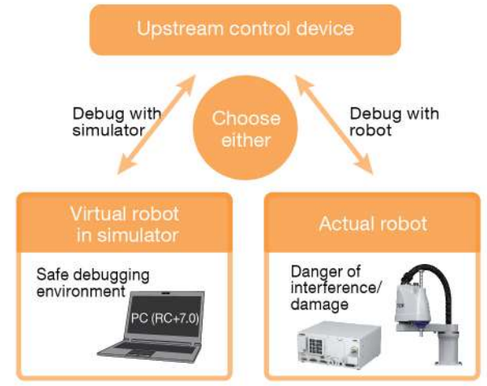
Path display

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.

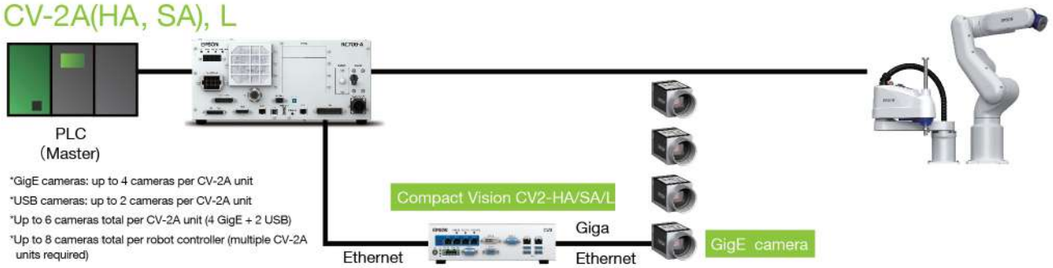
02 Vision Guide

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 program development without writing a single line of code.

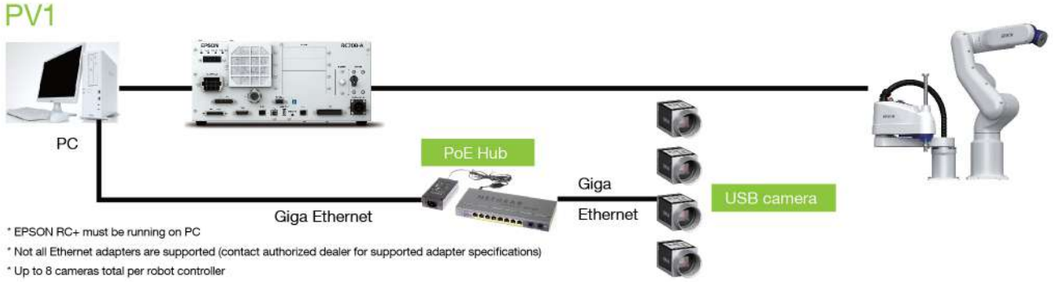
System configuration examples

CV-2A(HA, SA), L



*GigE cameras: up to 4 cameras per CV-2A unit
*USB cameras: up to 2 cameras per CV-2A unit
*Up to 6 cameras total per CV-2A unit (4 GigE + 2 USB)
*Up to 8 cameras total per robot controller (multiple CV-2A units required)

PV1



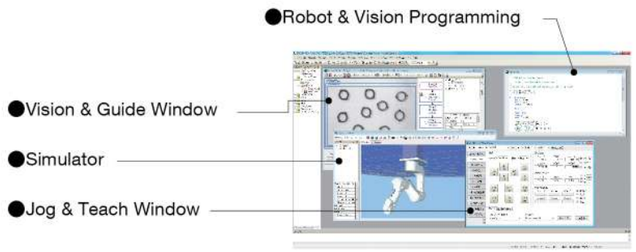
* EPSON RC+ must be running on PC
* Not all Ethernet adapters are supported (contact authorized dealer for supported adapter specifications)
* Up to 8 cameras total per robot controller

Features

Convenience

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

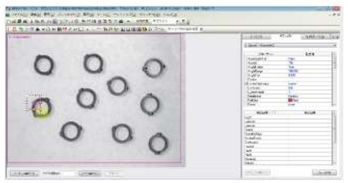
- Other machine vision systems are more complicated to set up because different software must be used for machine vision and robot program development.



Ease of use

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

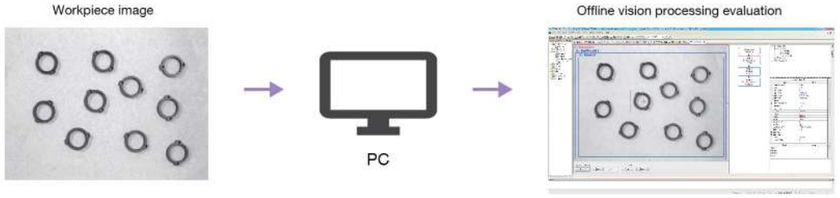
- Vision objects can be registered via simple drag & drop operation.
- Intuitive interface makes operation easy even for first-time users.



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.

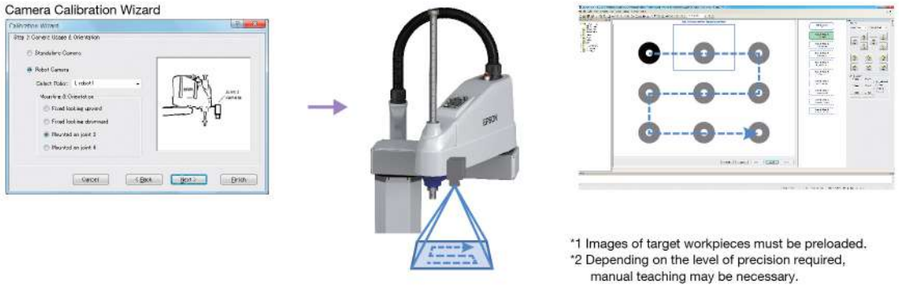
- Vision and process sequencing can be prepared in advance, before system is installed.
- Programs that include image processing sequences can be tested off line.
- If workpiece images are available. image processing can be tested off line.



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



*1 Images of target workpieces must be preloaded.
*2 Depending on the level of precision required, manual teaching may be necessary.

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.

CV2 series			
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	PV1
GigE cameras	1.3 megapixels	B&W		
	2 megapixels	B&W / Color		
	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
*3 10M color imaging requires RC+ 7.4.4 or later and CV2 firmware 3.1.0.5 or later

Megapixel lenses																
Item	Megapixel lenses					Megapixel lenses (HF)					1-inch lenses					
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	0.1				0.2	0.2	0.3				0.5
Mass (g)	62.6	61.9	60	71.2	85	95	85	90	85		164.8	102.8	94.4	78.6	103.0	107.0
Filter diameter (mm)	M30.5 × P0.5					M30.5 × P0.5					–	M40.5 × P0.5	M34.0 × P0.5			
External dimensions* (mm)	ø 33.5 × 28.2			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.
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.

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

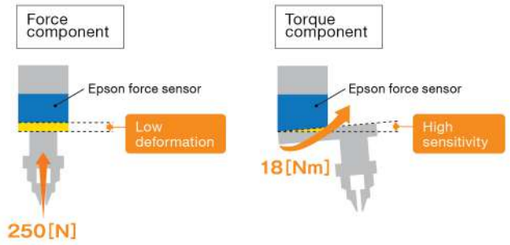
S250 Series force sensors incorporate exclusive Epson crystal piezoelectric technology that ensures a higher level of rigidity and sensitivity than conventional force sensors.

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.

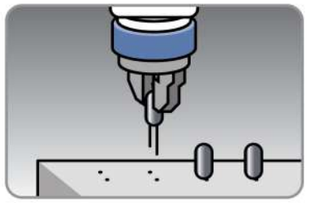
Advantage 2 high sensitivity

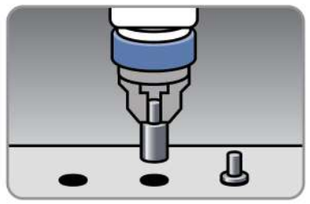
S250 Series sensors also ensure excellent sensitivity and quick response with high resolution of 0.1[N] and a low noise level of 0.035[N] on the X, Y, and Z axes.

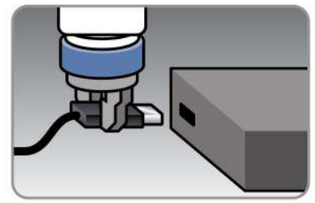


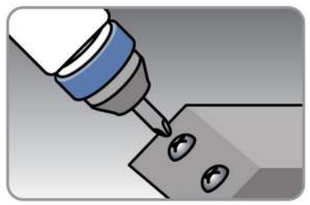
Force-sensing system applications

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.


Delicate component assembly


Precision mating


Connector insertion


Precision screw assembly


Fine polishing

One-stop Epson support

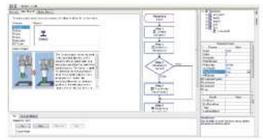
From initial planning and procurement, to setup, adjustment, ongoing maintenance and re-pair, Epson provides one-stop support for all your force-sensing system and automation needs.

Epson Support	STEP 1	STEP 2	STEP 3
	•Planning & procurement consulting	•Robot installation & setup •Force sensor adjustment training	•Maintenance & repair

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.

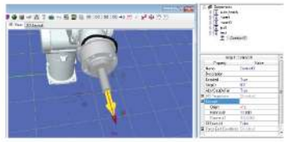
Easy force sensing program development

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.



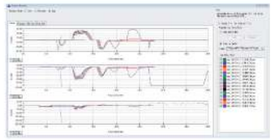
Force Guide GUI

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

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)

Push/pull → Direct teaching

Beat → Touch-jog

■Product photos

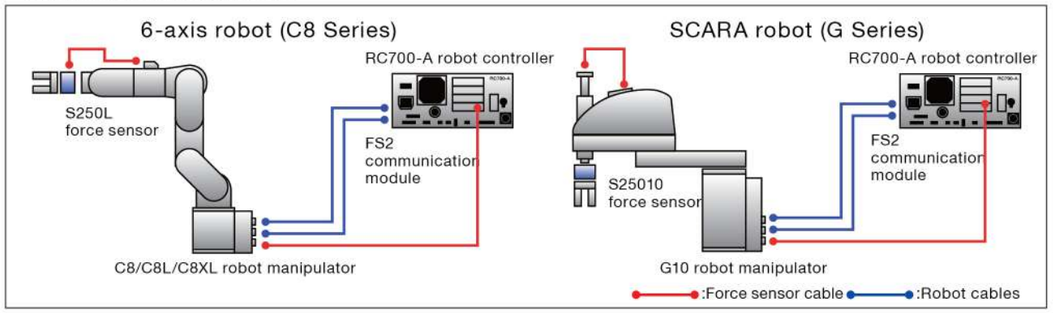
03 S250 Series force sensor

03 FS2 communication module

FS2 system requirements

Supported controller	RC700-A One FS2 module per controller (inserted in option slot)
No. of supported force sensors	One sensor per module
Power supply	Via option slot

■System setup examples

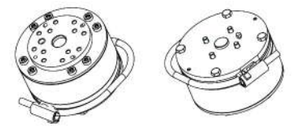


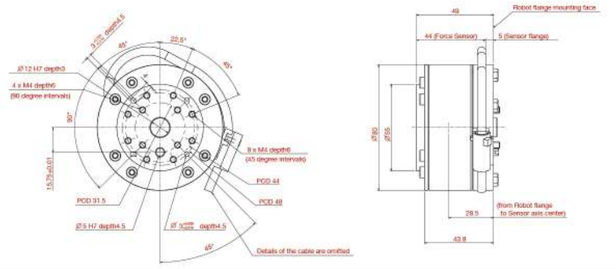
■Force sensor specifications

Sensor model		S250N	S250L	S250P	S250H	S2503/S2506/S25010	SH250LH※3
Applicable robot		C4 Series	C8 Series		N2 Series	G Series※2 RS Series	N6 Series
			Standard/Cleanroom※1	Protection			
Dimensions		Ø80 x H49mm	Ø88 x H49mm	Ø88 x H66mm	Ø80 x H49mm	Ø80 x H52mm	Ø84.5 x H48mm
Weight※4		460g	520g	680g	460g	640g	460g
Supported controller		RC700-A					
Measurement freedom		6-axis: Force Fx, Fy, Fz; Moment Tx, Ty, Tz					
Rated load		Fx, Fy, Fz: 250N、Tx, Ty, Tz: 18N•m					
Static load capacity		Fx, Fy, Fz: 1000N、Tx, Ty, Tz: 36N•m					
Measurement resolution		Fx, Fy, Fz: ±0.1N以下、Tx, Ty, Tz: ±0.003N•m					
Measurement precision		less than ±5% R.O.					
Operating environment	Temperature	—10 ～ 40 °C					
	Humidity	10～80%Rh (no condensation)					
Cable length (between robot and cable box)		3m/5m/10m/20m			3m/5m/10m		3m/5m/10m/20m
Protection class		IP67 (S250P), IP20 (S250N, S250L, S2503, S2506, S2510)					IP20
Included items		FS1 communication module, communication cable, mounting flange					

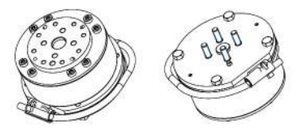
*1: Dimensions/weight exclude vertical clearance for user-installed cabling
*2: Except shielded and G1 robots
*3: Supports pass-through cable connection
*4: Including sensor and mounting flange, but excluding cable

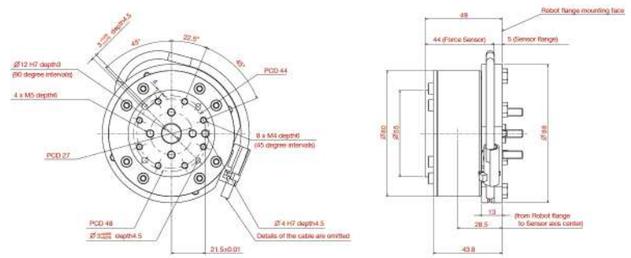
S250N
for C4 Series



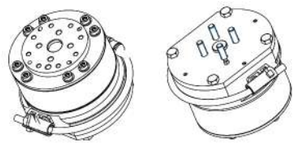


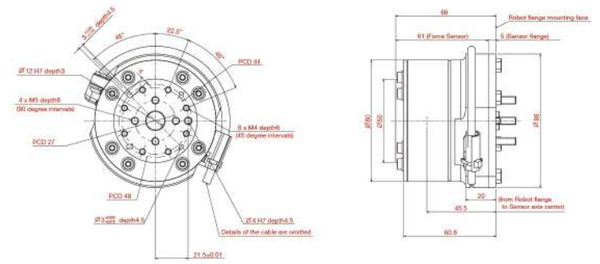
S250L
for C8 Series (standard & cleanroom)



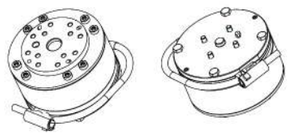


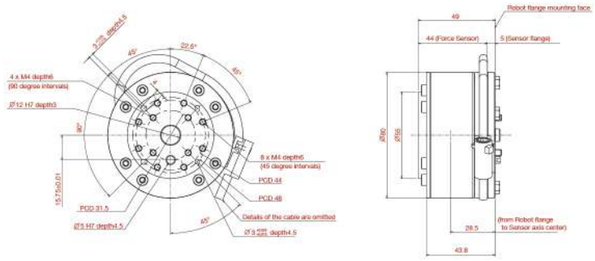
S250P
for C8 Series (washdown)



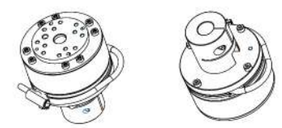


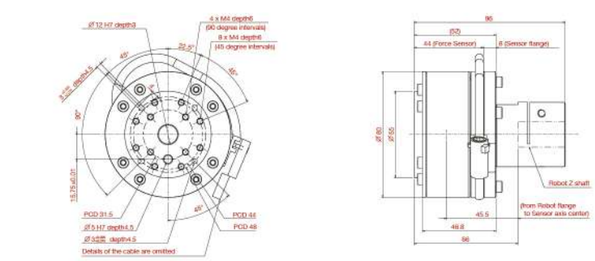
S250H
for N2 Series



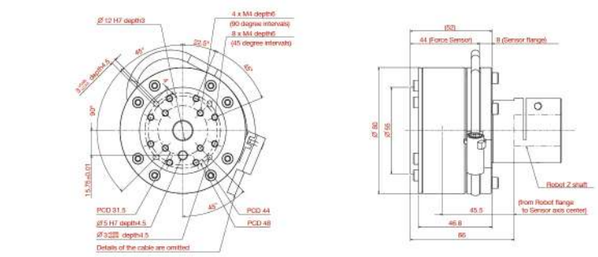


S2503
for RS3, RS4 and G3 robots

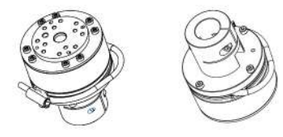


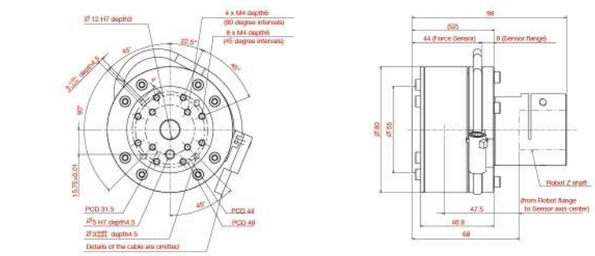


S2506
for G6 robots

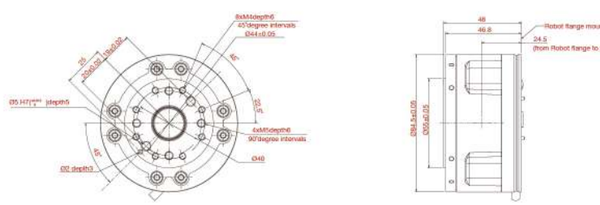


S25010
for G10 and G20 robots





SH250LH
for N6 Series



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

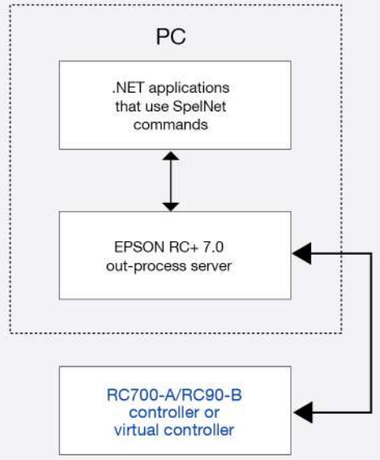
Compatible controllers
RC700-A | RC90-B | T series | VT series

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 languages.
- 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

■RC+API 7.0 basic system



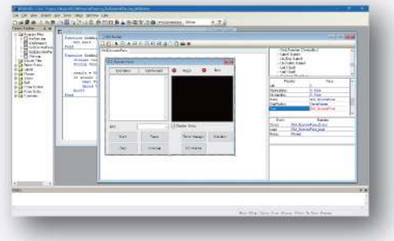
GUI Builder

Compatible controllers
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.

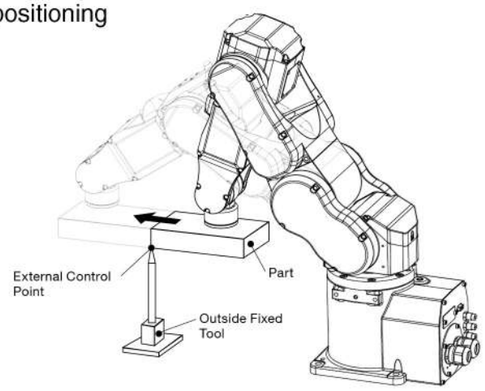


ECP

Compatible controllers: 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

Compatible controllers: 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.

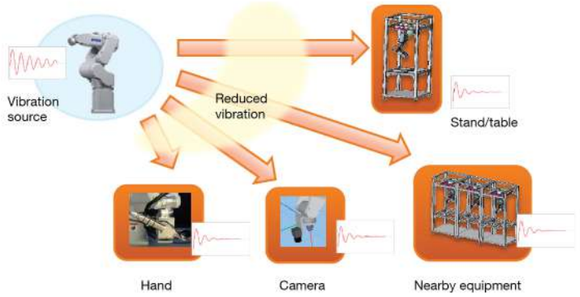
VRT

Compatible controllers: 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.



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

04 Teaching Pendant (TP3)

Compatible controllers: RC700-A | RC90-B | T series | VT series

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
- Color display

Easy operation

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

Advanced features

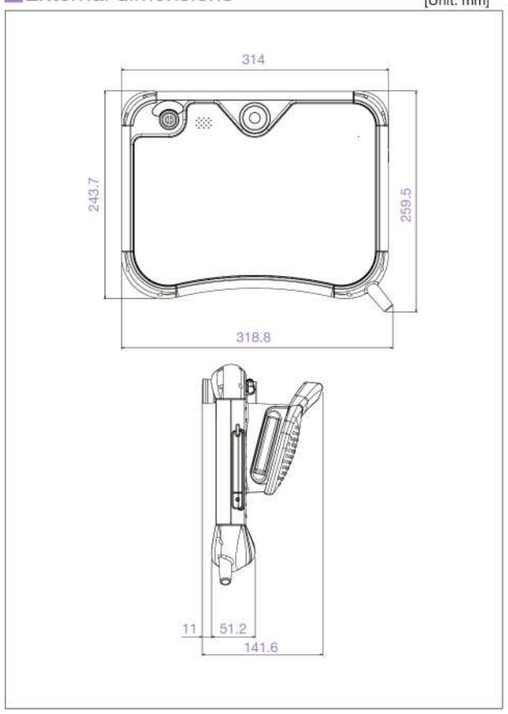
- 3D robot graphics, programming functions and parameter settings
- High-speed test mode
- Programs can be started/stopped from operating panel

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

External dimensions

[Unit: mm]



04 Teaching Pendant (TP1)

Compatible controllers: RC700-A, RC90-B

Versatile control with just a few keystrokes

- IP65-rated enclosure is sealed against oil and dust for reliable operation in adverse conditions.
- Shock-resistant construction helps protect unit from impact damage.
- Universal design ensures ease of use for both right-handed and left-handed operators.
- Menus can be displayed in English, German, French, or Japanese.
- Can step through programs even when safety door is open.

Features

● Point data save, edit, and load functions ● Keyword candidate display, search, and line jump functions ● I/O and task monitoring functions ● Project/system data backup and restore functions ● Reduced operating speed in teach mode for enhanced safety and programming ease

04 Teaching Pendant (TP2)

Compatible controllers: 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.

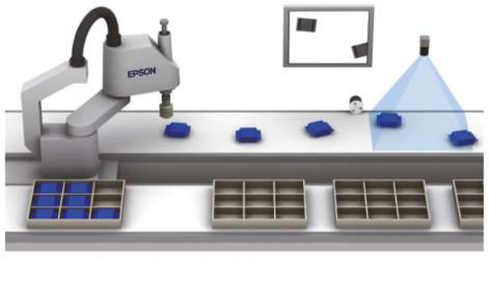
05 Conveyor tracking

Compatible controllers: RC700-A, RC90-B

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.

*Vision Guide software required.



05 PG motion system

Compatible controllers: 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

Compatible controllers: RC700-A, RC90-B, T series, VT series

Helps prevent injuries and damage

- Immediately stops robot operation in emergency situations.

07 RS-232C cards

Compatible controllers: RC700-A, RC90-B

Expanded serial port connectivity

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

08 I/O expansion cards

Compatible controllers: RC700-A, RC90-B

Expanded input/output flexibility

- 24-input/16-output expansion cards.

09 Fieldbus I/O (slave)

Compatible controllers: RC700-A, RC90-B, T series, VT series

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.

10 Fieldbus I/O (master)

Compatible controllers: RC700-A, RC90-B, T series, VT series

Bidirectional high-speed peripheral connectivity

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

11 Analog I/O card

Compatible controllers: 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.

12 EUROMAP 67 card

Compatible controllers: RC700-A, RC90-B

For use with thermoplastic injection molding machines

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

13 I/O cable kit

Compatible controllers: 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.

14 Hot plug kit

Compatible controllers: RC700-A, T series, VT series

Easy Teach Pendant connection/ disconnection

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

*Conversion cable required for use with TP1 or TP2.

15 Wall mount option

Compatible controllers: RC700-A

Optional wall mounting box

- Allows controller to be mounted on a wall.

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

16 External wiring units

Compatible manipulators: G6, G10, G20, VT6

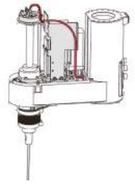
Simplifies wiring when mounting manipulator options

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

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

Compatible manipulators: G3, G6, G10, G20, LS3, LS6, LS10, LS20, T3, T6, RS3, RS4

Enhances handling/processing versatility and simplifies effector changes

19 ISO flanges

Compatible manipulators: VT6, C8, 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

Compatible manipulators: C4, C8, N2, N6

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

21 Power and signal cables

Compatible manipulators: G1, G3, G6, G10, G20, LS3, LS6, LS10, LS20, RS3, RS4, C4, C8, N2, N6

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

22 Power cable connectors

Compatible manipulators: G1, G3, G6, G10, G20, RS3, RS4, C4, C8, N2, N6

Power cables are available with straight or L-shaped angle connectors*

* Controller-end connectors only

23 Camera mounting bracket

Compatible manipulators: G3, G6, G10, G20, LS3, LS6, LS10, LS20, T3, T6, VT6, RS3, RS4, C4, C8, 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	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	●	●	●	●

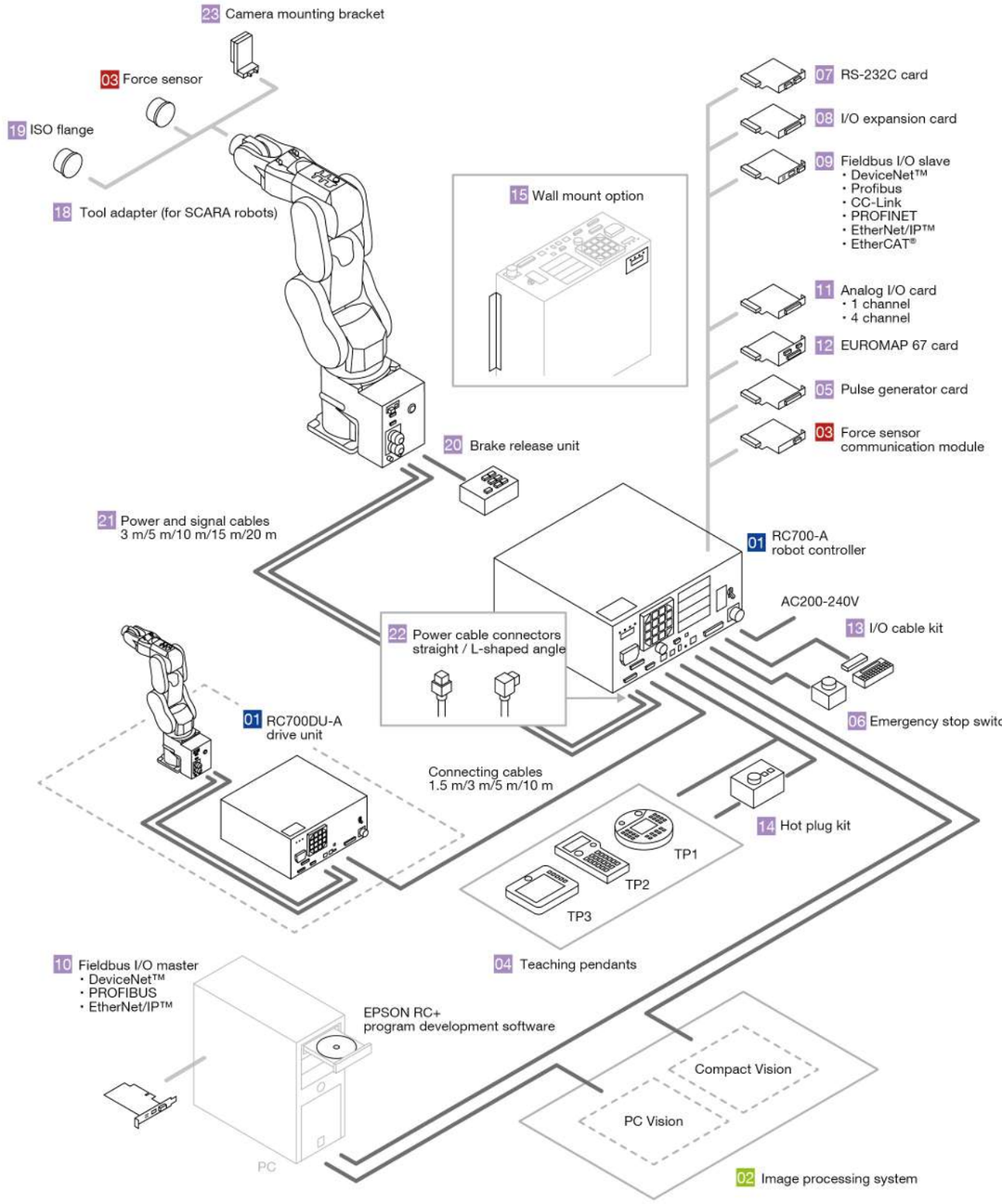
Controller options

	RC700-A	RC90-B	T series	VT
04 Teaching Pendant (TP1)	●	●	–	–
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	●	–	–	–

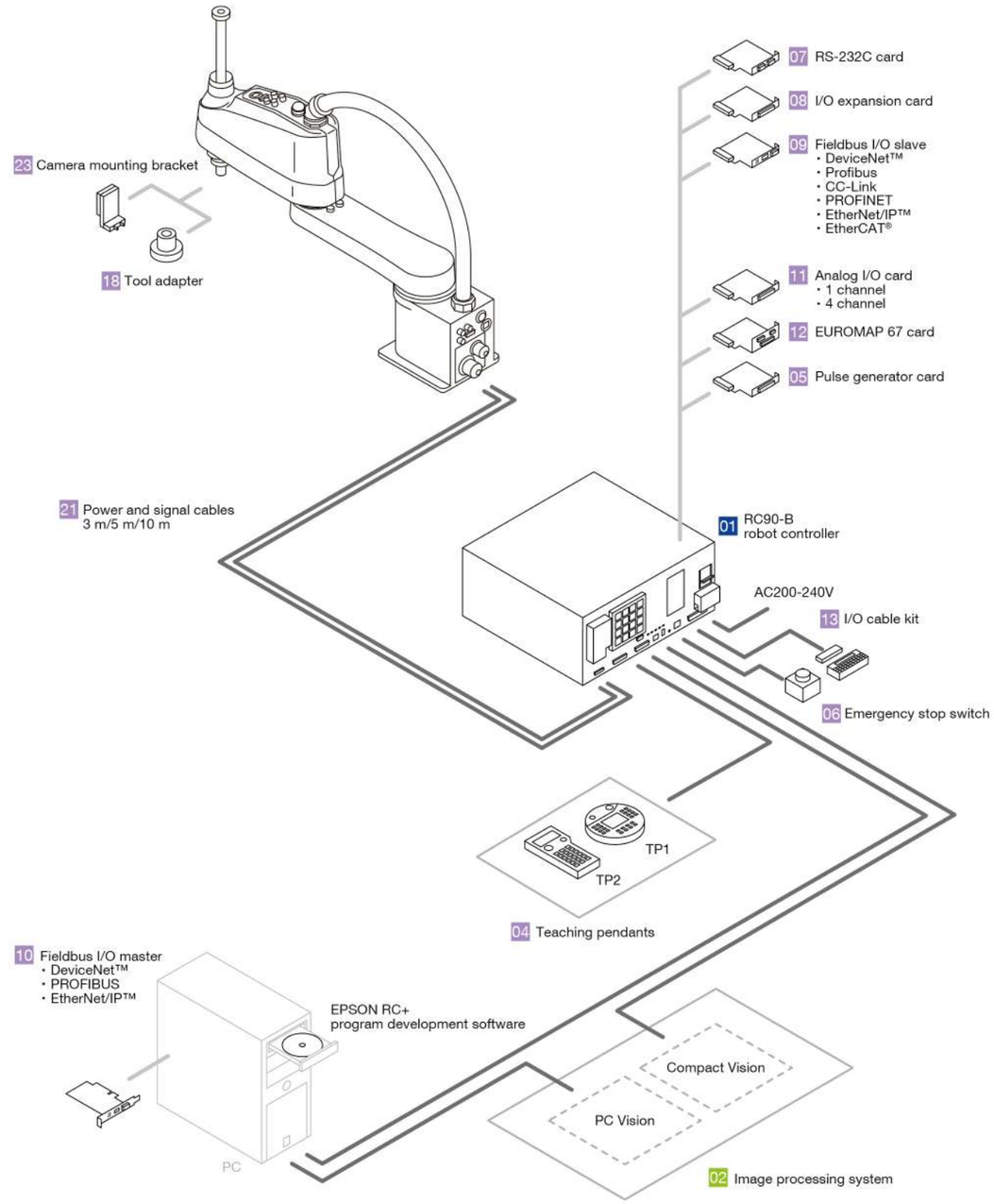
Manipulator options

	G1	G3	G6/G10/G20	LS3/LS6/LS10/LS20	T3/T6	RS3/RS4	C4	C8	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	●	●	●	●	(built-in controller)	●	●	●	●	●	(built-in controller)
Cable length (m)	3,5,10,15,20			3,5,10		3,5,10,15,20					
Cable type (Standard/High-flex)	Standard					Standard		Standard/ High-flex	Standard	Standard/ High-flex	
22 Power cable connectors (Straight/L-type)	Straight/L-type			Standard		Straight/L-type					
23 Camera mounting bracket	–	●	●	●	●	●	●	●	●	●	●
RC700DU-A (Drive unit)	●	●	●	–	–	●	●	●	–	●	–

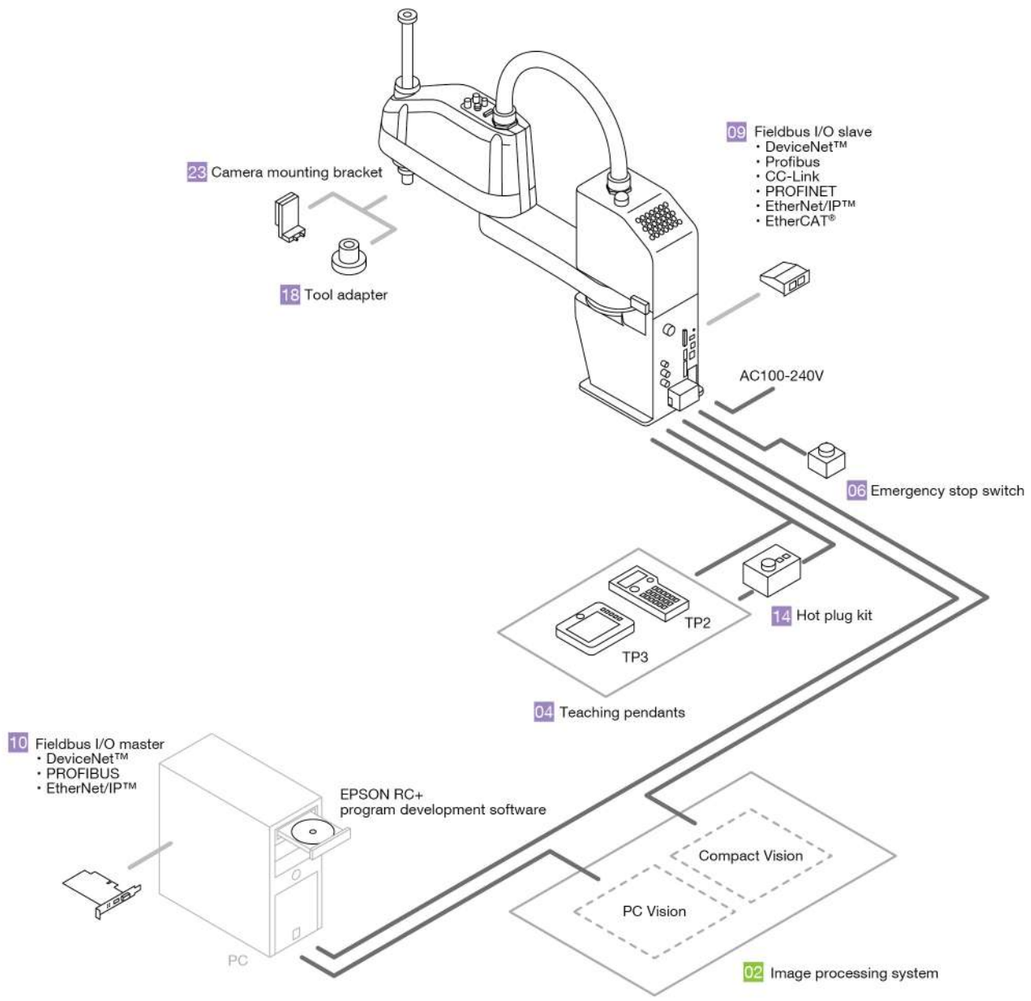
RC700-A controller with C series robots



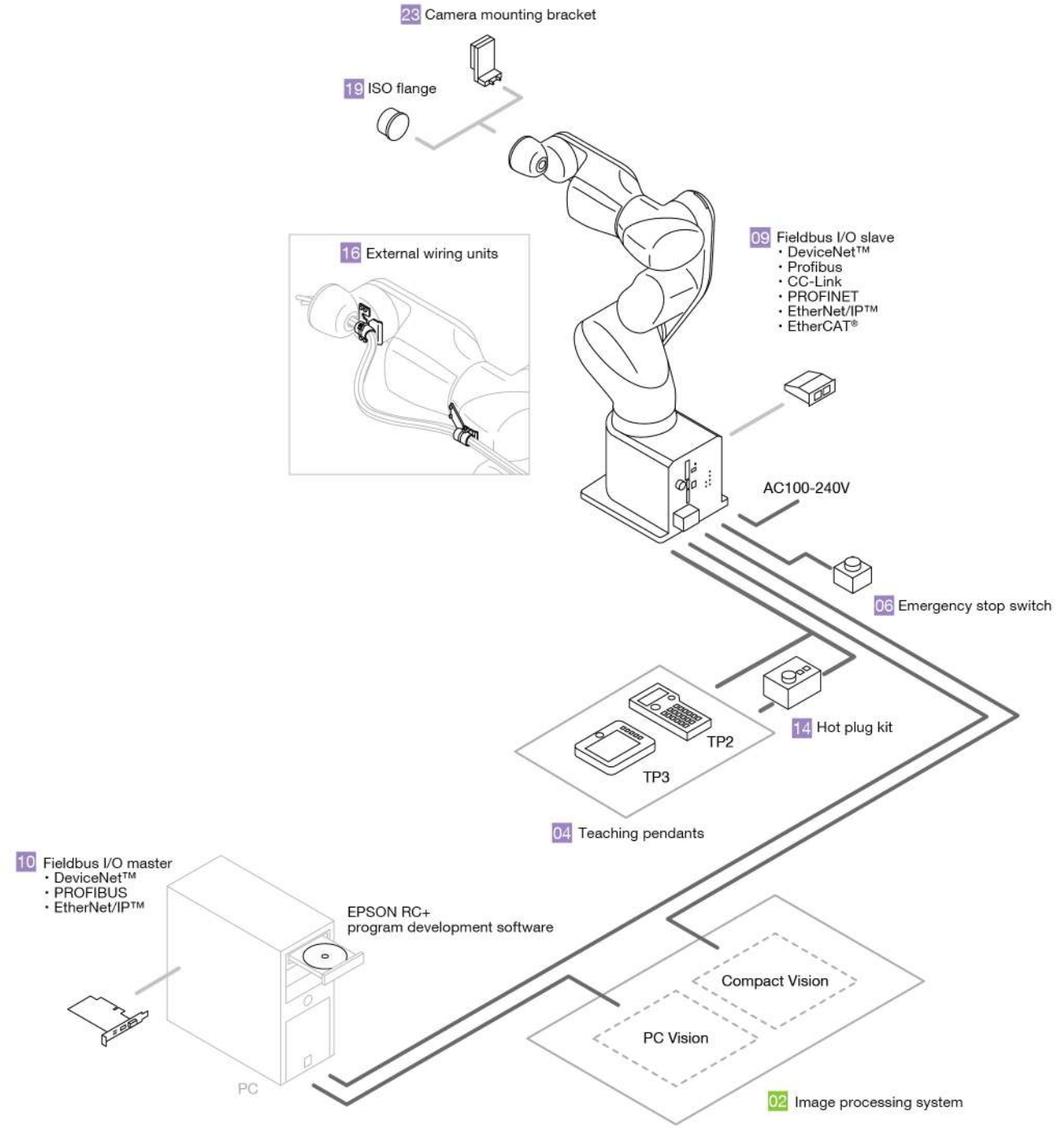
RC90-B controller



T series robot



VT series robot



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 centers is 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 authorized 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.

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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.

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