



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

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

■ G3 specifications

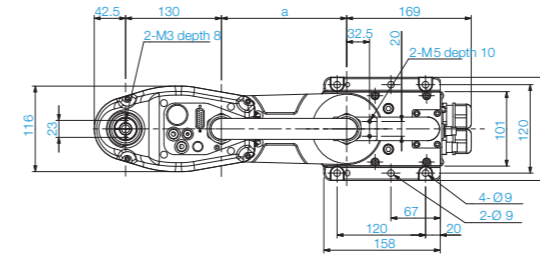
Arm length	250 mm	300 mm	350 mm
Payload	Rated 1 kg / Max 3 kg		
Standard cycle time	0.41 sec	0.43 sec	0.41 sec
Repeatability	Joint#1, #2	±0.008 mm	±0.01 mm
	Joint#4	±0.005°	
Arm shape	Straight Curved (R)/Curved (L)		
	 		



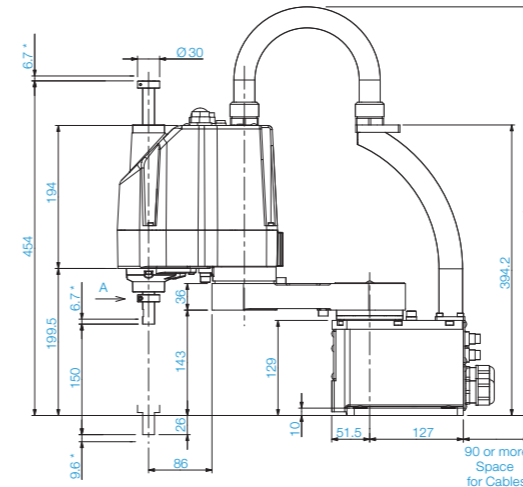
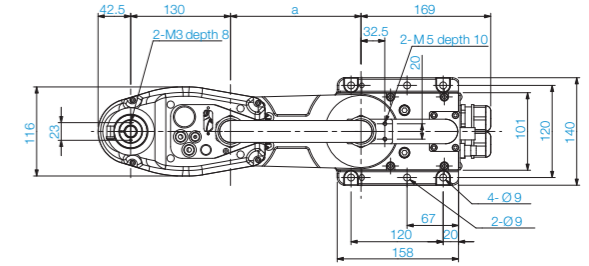
[Unit: mm]

■ Outer Dimensions (Table Top Mounting)

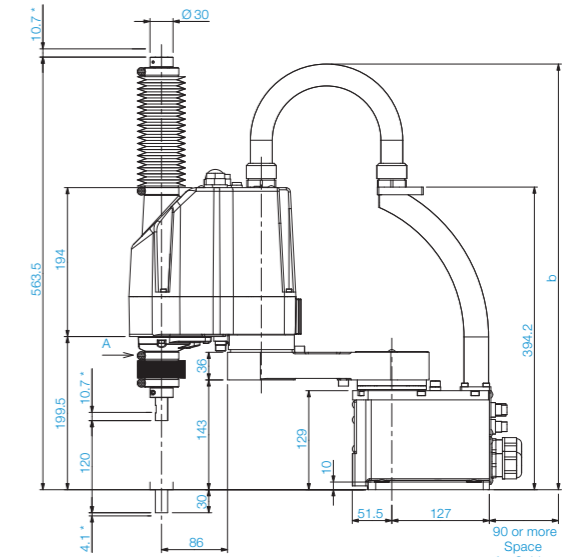
Standard-model



Cleanroom-model



*Indicates the stroke margin by mechanical stop.



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■ Specifications

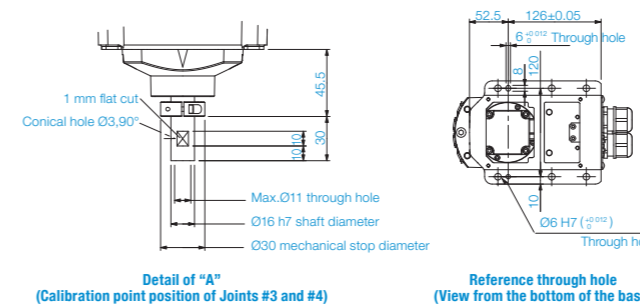
		G3-251*	G3-301***	G3-351***			
Mounting type		Table top	Table top	Table top			
Arm length	Arm #1, #2	250 mm	300 mm	350 mm			
Max. operating speed	Joints #1, #2	3550 mm/s	3950 mm/s	4350 mm/s			
	Joints #3		1100 mm/s				
	Joints #4		3000 deg/s				
Weight(cables not included)			14 kg				
Repeatability	Joints #1, #2	±0.008 mm	±0.01 mm	±0.01 mm			
	Joints #3		±0.01 mm				
	Joints #4		±0.005 deg				
Max. motion range	Straight	Joints #1	±140 deg	±115 deg	±140 deg	±120 deg	
		Joints #2	±141 deg	±142 deg	±135 deg	±142 deg	
		(Cleanroom model)	(±137 deg)	(±141 deg)	(±135 deg)	(±142 deg)	
	Curved	Joint #1 Right hand	—	-125~150 deg	—	-110~165 deg	-105~130 deg
		Left hand	—	-150~125 deg	—	-165~110 deg	-130~105 deg
		Joint #2 Right hand	—	-135~150 deg	—	-120~165 deg	-120~160 deg
		(Cleanroom model)	—	(-135~145 deg)	—	(-120~160 deg)	(-120~150 deg)
	Common	Left hand	—	-150~135 deg	—	-165~120 deg	-160~120 deg
		(Cleanroom model)	—	(-145~135 deg)	—	(-160~120 deg)	(-150~120 deg)
Payload	Rated	1 kg					
	Maximum	3 kg					
Standard cycle time ²		0.41 sec	0.43 sec	0.41 sec			
Joint #4 allowable moment of inertia ³	Rated		0.005 kg·m ²				
	Maximum		0.05 kg·m ²				
Motor power consumption	Joint #1		200 W				
	Joint #2		150 W				
	Joint #3		150 W				
	Joint #4		150 W				
Joint #3 down force			150 N				
Home			Home-return-less				
Installed wire for customer use			15Pin (D-Sub)				
Installed pneumatic tube for customer use			φ4mm×1, φ6mm×2				
Installation environment			Standard/Cleanroom ⁴ & ESD				
Applicable Controller			RC180, RC620				
Safety standard			CE compliant, ANSI/RIA15.06-1999				

*1:Can be mounted on wall or ceiling.

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

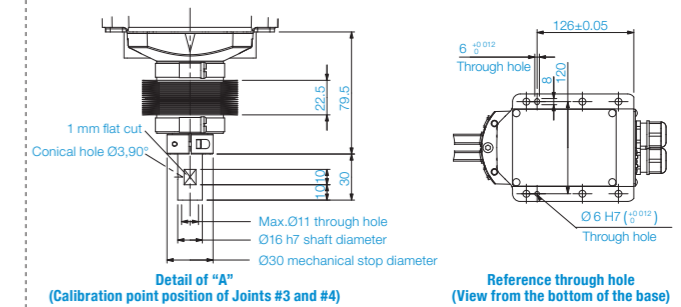
*3:When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.

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



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

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



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

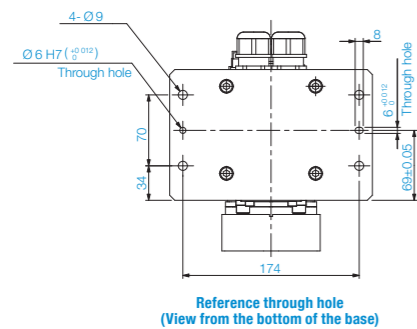
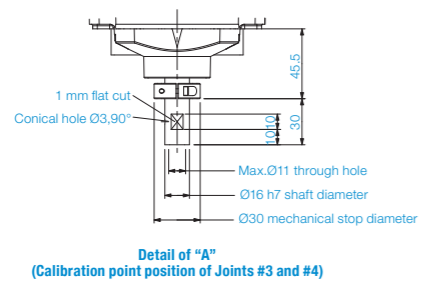
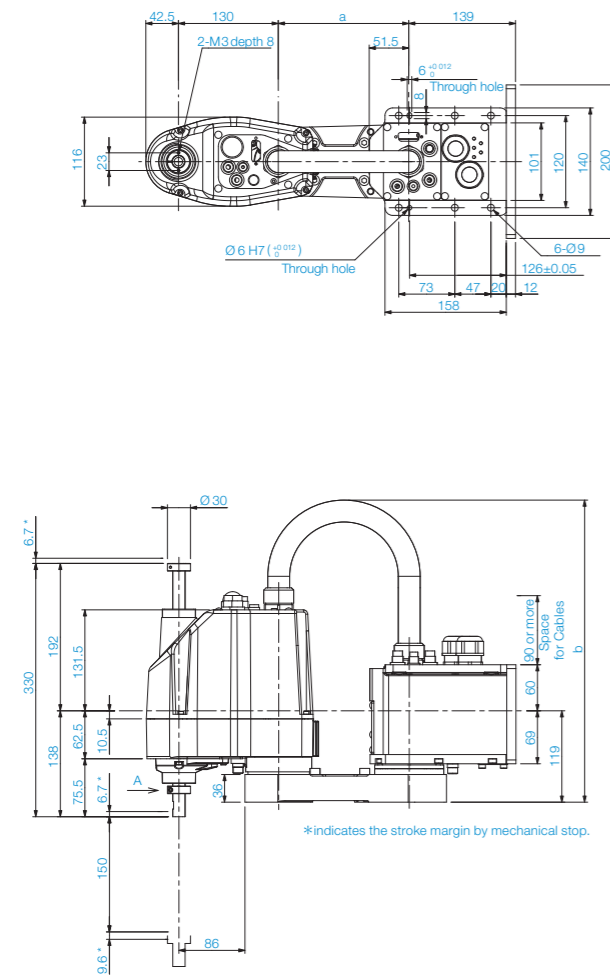
	G3_251S	G3_301S	G3_351S
a	120	170	220
b	Max.545	Max.575	Max.595

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

Outer Dimensions (Multiple Mounting)

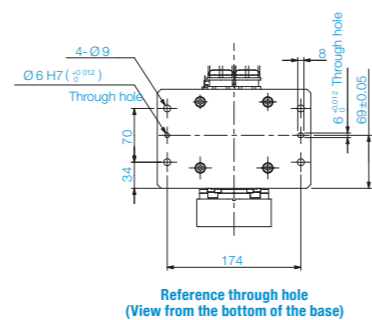
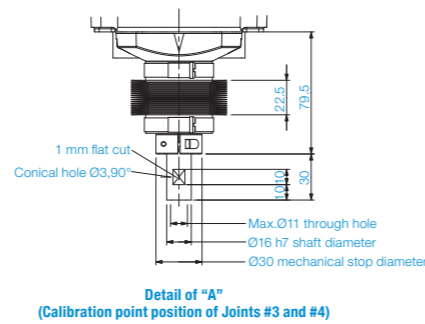
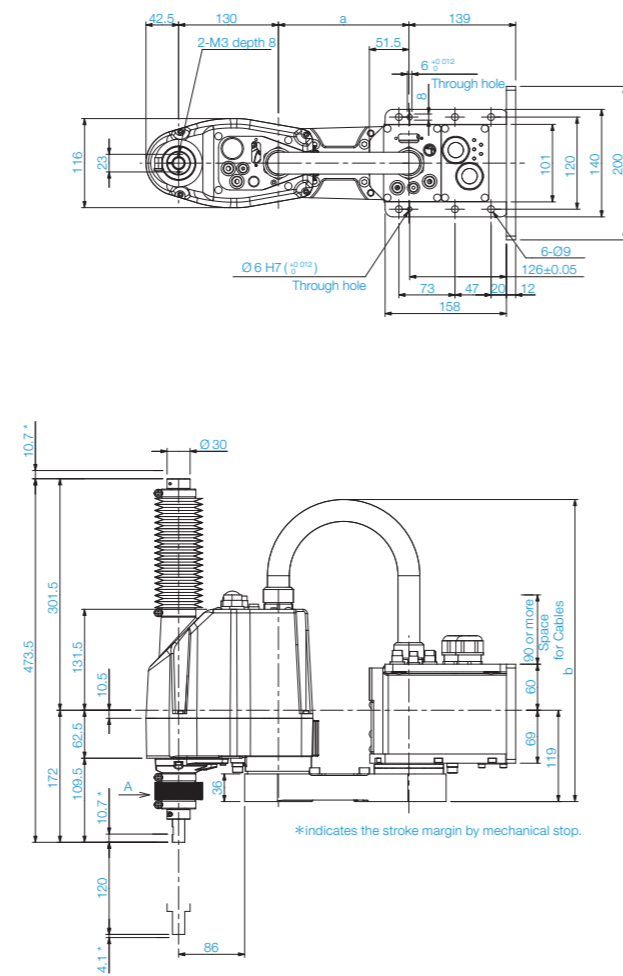
[Unit: mm]

Standard-model



	G3 301SM	G3 351SM
a	170	220
b	Max.410	Max.450

Cleanroom-model

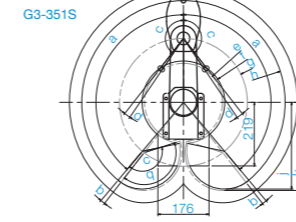


	G3 301CM	G3 351CM
a	170	220
b	Max.410	Max.450

Motion Range (Table Top Mounting)

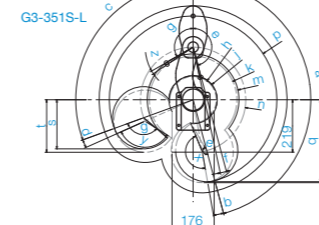
[Unit: mm]

Straight Arm



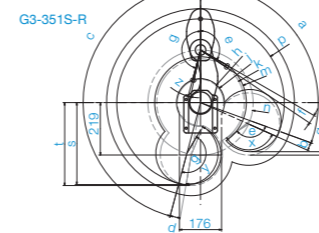
Model	Straight Arm					
	G3-251S	G3-251C	G3-301S	G3-301C	G3-351S	G3-351C
g Length of Arm #1 (mm)	120		170		220	
h-g Length of Arm #2 (mm)	130		130		130	
f Motion range	84	92	104.8	107.1	142.3	146.6
a Motion range of Joint #1 (degree)	140					
c Motion range of Joint #2 (degree)	141	137	142	141	142	
e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

Left-Curved Arm



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, 107.5	
a,c Motion range of Joint #1 (degree)	150, 125		165, 110	
e,g Motion range of Joint #2 (degree)	150, 135	145, 135	165, 120	160, 120
h,k Mechanical stop area	79.5, 113.2		97.0, 183.0	
b,d Joint #1 angle to hit mechanical stop (degree)	3, 6		5, 4	
f,z Joint #2 angle to hit mechanical stop (degree)	3.3, -	8.3, 3.8	2.8, 3.8	7.8, 3.8

Right-Curved Arm

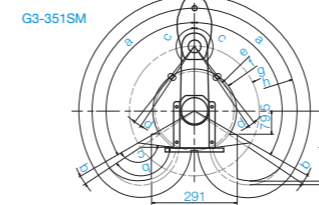


Model	Right-Curved Arm			
	G3-301S-R	G3-301C-R	G3-351S-R	G3-351C-R
n Length of Arm #1 (mm)	170		220	
p-n Length of Arm #2 (mm)	130		130	
m,j Motion range	120.7, 86.8		191.6, 107.5	
a,c Motion range of Joint #1 (degree)	125, 150		110, 165	
e,g Motion range of Joint #2 (degree)	135, 150	135, 145	120, 165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

Motion Range (Multiple Mounting)

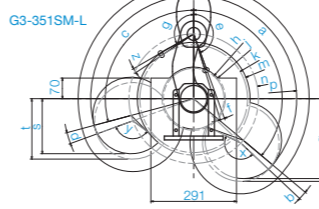
[Unit: mm]

Straight Arm



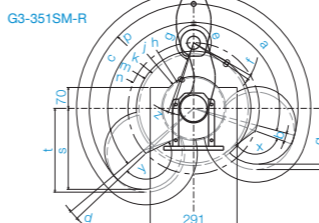
Model	Straight Arm	
	G3-301SM/CM	G3-351SM/CM
g Length of Arm #1 (mm)	170	220
h-g Length of Arm #2 (mm)	130	130
f Motion range	120.7	142.3
a Motion range of Joint #1 (degree)	115	120
c Motion range of Joint #2 (degree)	135	142
e Mechanical stop area	112	134.2
b Joint #1 angle to hit mechanical stop (degree)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

Left-Curved Arm



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 (degree)	130, 105	
e,g Motion range of Joint #2 (degree)	160, 120	150, 120
h,k Mechanical stop area	103.3, 183.0	
b,d Joint #1 angle to hit mechanical stop (degree)	3.3, 5	2, 5
f,z Joint #2 angle to hit mechanical stop (degree)	2.8, 3.8	12.8, 3.8

Right-Curved Arm



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 (degree)	105, 130	
e,g Motion range of Joint #2 (degree)	120, 160	120, 150
h,k Mechanical stop area	103.3, 183.0	
b,d Joint #1 angle to hit mechanical stop (degree)	5, 3.3	5, 2
f,z Joint #2 angle to hit mechanical stop (degree)	3.8, 2.8	3.8, 12.8