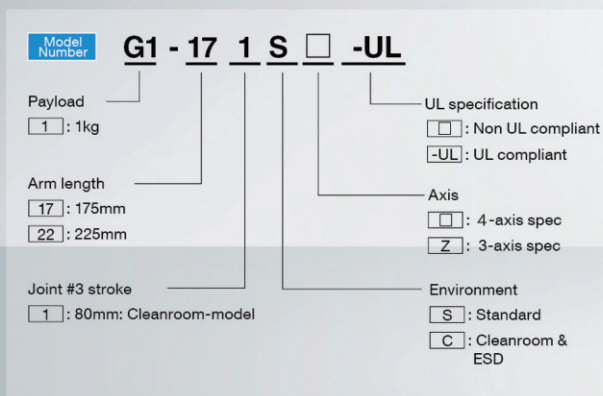


# G1

## 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



## 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 <sup>1</sup>		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 <sup>2</sup>	Rated	0.0003 kg·m <sup>2</sup>		-	
	Maximum	0.004 kg·m <sup>2</sup>		-	
Joint #3 down force		50 N			
Installation environment		Standard/Cleanroom <sup>3</sup> &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/cm <sup>2</sup> )			
Power		AC200-240 V Single phase			
Power Consumption <sup>4</sup>		0.5 kVA			
Cable length		3 m/5 m/10 m/15 m/20 m			
Safety standard		CE, KC, UL			

<sup>1</sup>: Cycle time based on round-trip arch motion (100mm horizontal, 25mm vertical) with 0.5kg payload (path coordinates optimized for maximum speed).

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

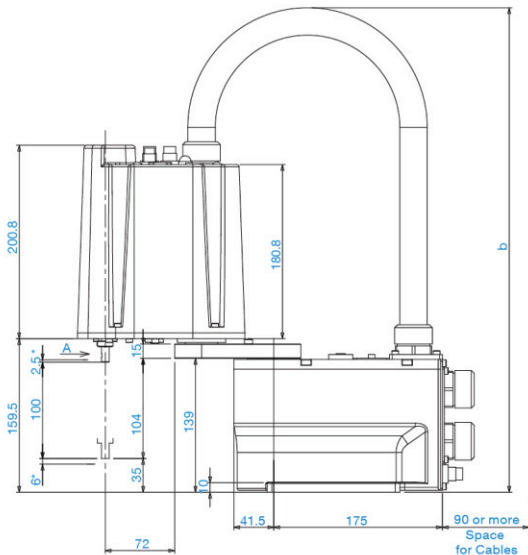
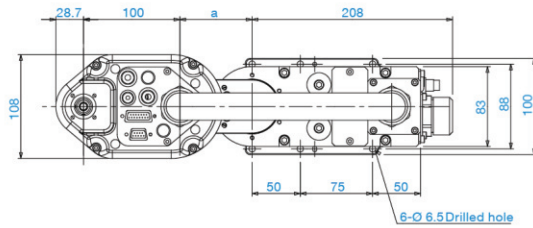
<sup>3</sup>: Complies with ISO Class 3 (ISO14644-1) and older Class 1 cleanroom standards.

<sup>4</sup>: Varies according to operating environment and program.

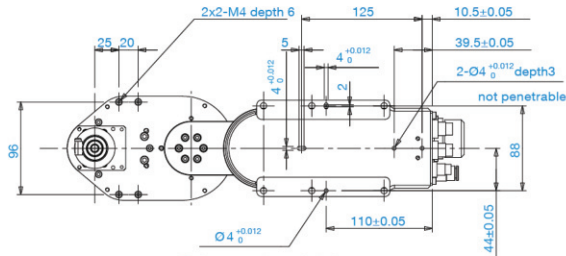
## Outer Dimensions (Table Top Mounting)

[Unit: mm]

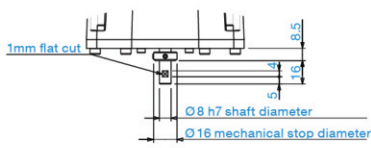
### Standard-model



\*indicates the stroke margin by mechanical stop.



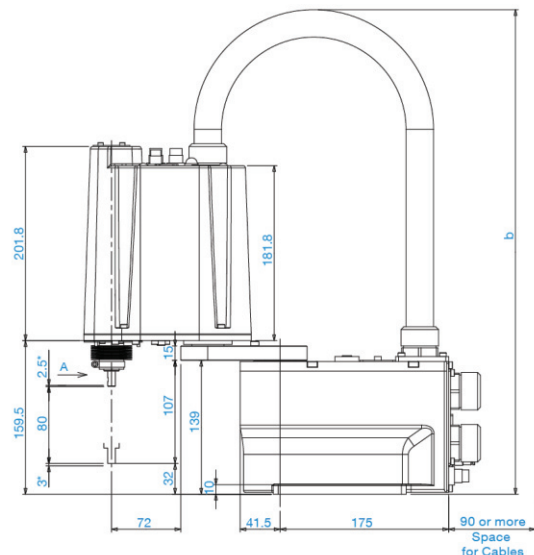
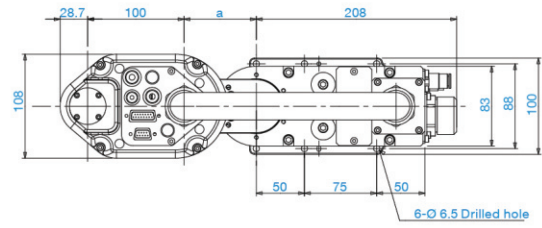
Reference through hole  
(View from the bottom of the base)



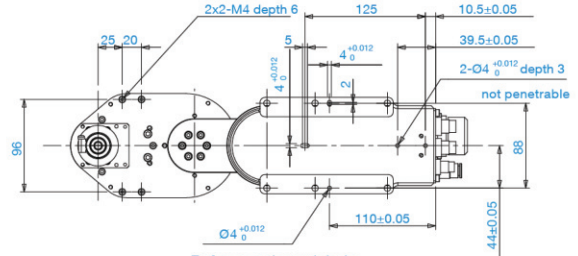
Detail of "A"  
(Calibration point position of Joints #3 and #4)

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

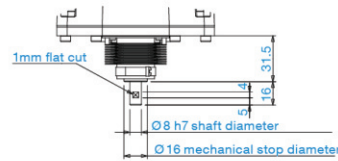
### Cleanroom-model



\*indicates the stroke margin by mechanical stop.



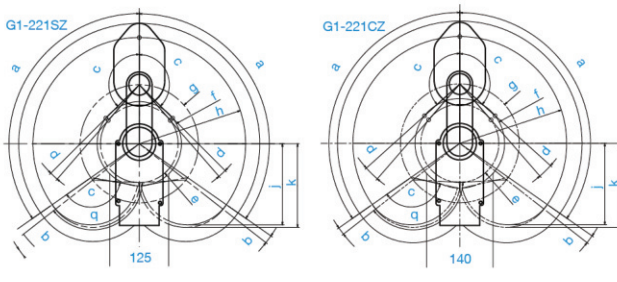
Reference through hole  
(View from the bottom of the base)



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

	G1_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