

G6

G-Series SCARA Robots



Compact, High Speed and Powerful

- Arm Lengths from 450 to 650 mm
- High Rigidity Arm = Ultra High Speed
- Best in Class Motion Range

Specifications

		G6-45x			G6-55x			G6-65x		
Mounting type		Tabletop	Ceiling	Wall	Tabletop	Ceiling	Wall	Tabletop	Ceiling	Wall
Arm length	Arm #1, #2	450 mm			550 mm			650 mm		
Max. operating speed	Joints #1, #2	6440 mm/s			7170 mm/s			7900 mm/s		
	Joint #3	180 (150 clean) = 1100 mm/sec			330 (300 clean) = 2350 mm/sec					
	Joint #4	2400 deg/s								
Weight (cables not included)		27 kg		29 kg	27 kg		29 kg	28 kg		29.5 kg
Repeatability	Joints #1, #2	±0.015 mm								
	Joint #3	±0.01 mm								
	Joint #4	±0.005 deg								
Max. motion range	Joint #1	±152 deg	±120 deg	±105 deg	±152 deg	±135 deg	±152 deg	±148 deg		
	Joint #2	Z:0--270mm ±147.5 deg Z:-270--330mm±145 deg	±130 deg		±147.5 deg					
	Joint #3 Std				180 mm / 330 mm					
	Joint #3 Clean				150 mm / 300 mm					
	Joint #4				±360 deg					
Payload	Rated	3 kg								
	Maximum	6 kg								
Standard cycle time ¹		0.33 sec			0.36 sec			0.38 sec		
Joint #4 allowable moment of inertia ²	Rated	0.01 kg•m ²								
	Maximum	0.12 kg•m ²								
Motor power consumption	Joint #1	400 W								
	Joint #2	400 W								
	Joint #3	200 W								
	Joint #4	100 W								
Joint #3 downward force		150 N								
Electric lines		15Pin (D-Sub), 9Pin (D-sub)								
Pneumatic lines		Ø4mm×2, Ø6mm×2								
Installation environment		Standard/Cleanroom ³ & ESD/Protection ⁴								
Available controllers		RC180, RC620+, RC700A								
Safety standards		CE, ANSI/RIA15.06-2012, UL 1740								

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

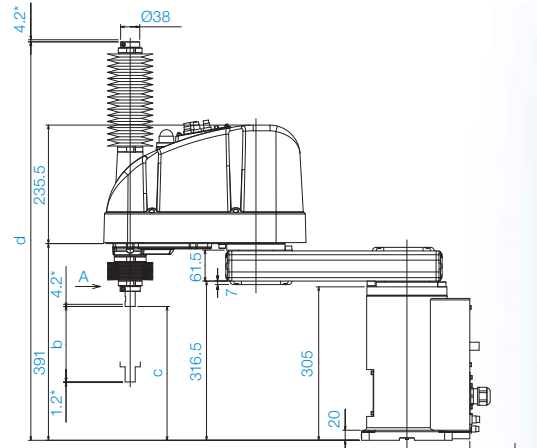
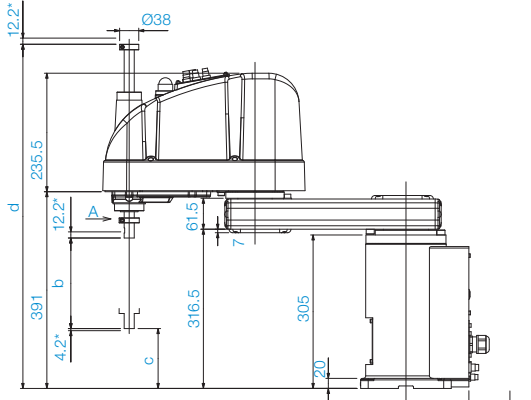
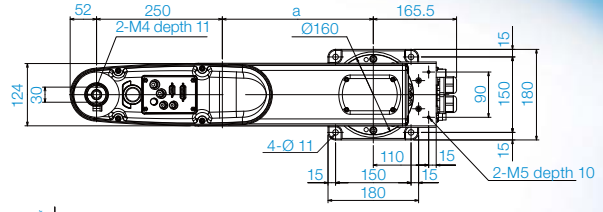
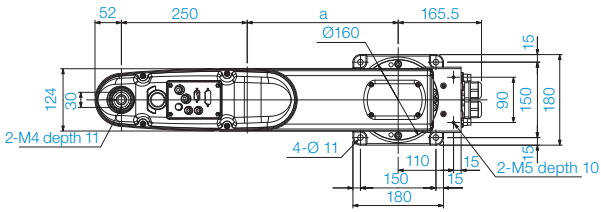
2 When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.

3 Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10.0.1µm particles per 28.317cm³:1cft) cleanroom standards.

4 G6 robots with optional bellows comply with IP54; G6 protected models comply with IP65.

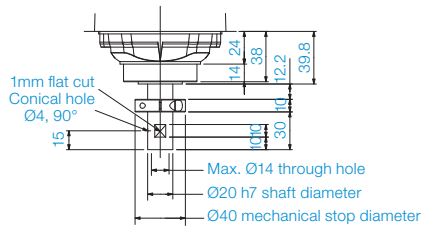
Standard-model

Cleanroom-model

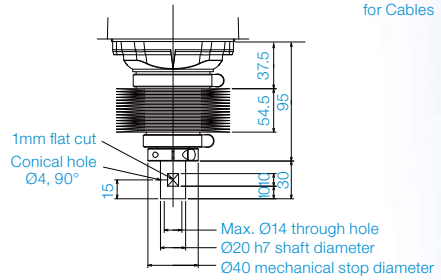


* indicates the stroke margin by mechanical stop. 90 or more Space for Cables

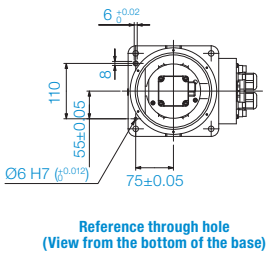
* indicates the stroke margin by mechanical stop. 90 or more Space for Cables



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

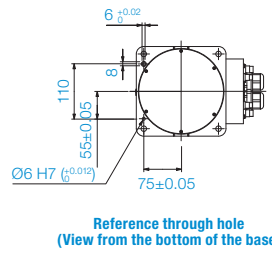


Detail of "A" (Calibration point position of Joints #3 and #4)



	G6-45xS	G6-55xS	G6-65xS
a	200	300	400
b	180	330	
c	119	-31	
d	684	834	

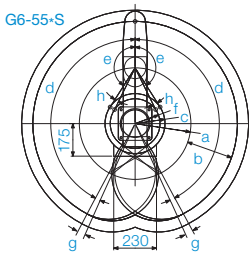
Reference through hole (View from the bottom of the base)



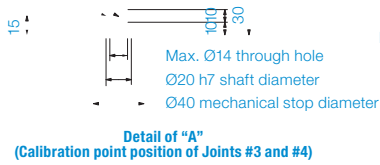
	G6-45xC	G6-55xC	G6-65xC
a	200	300	400
b	150	330	
c	116	-34	
d	792	942	

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

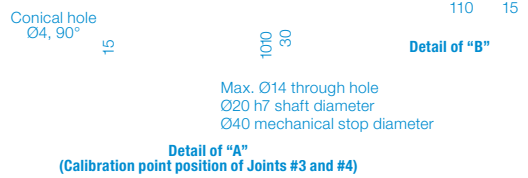
Motion Range (Tabletop Mounting)



Model	Tabletop Mounting					
	G6-45xS/D		G6-45xC/P/D bellows		G6-55x	G6-65x
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 (deg)	124.4				133.8	207.5
e Motion range of Joint #2 (deg)	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 (deg)	3.5					
h Motion range of Joint #2 (deg)	Z: 0 ~ -270	3	Z: 0 ~ -240	3	6.3	
	Z: -270 ~ -330	5.5	Z: -240 ~ -300	8.5		



Detail of "B"



Detail of "B"

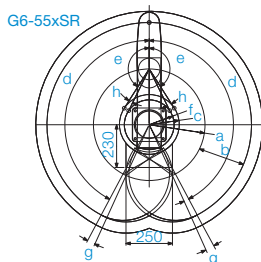
	G6-45xSR	G6-55xSR	G6-65xSR
a	200	300	400

	G6-xx1SR	G6-xx3SR
b	180	330
c	-9	141
d	385	535

	G6-45xCR	G6-55xCR	G6-65xCR
a	200	300	400

	G6-xx1CR	G6-xx3CR
b	150	300
c	99	249
d	526	676

■ Motion Range (Ceiling Mounting)

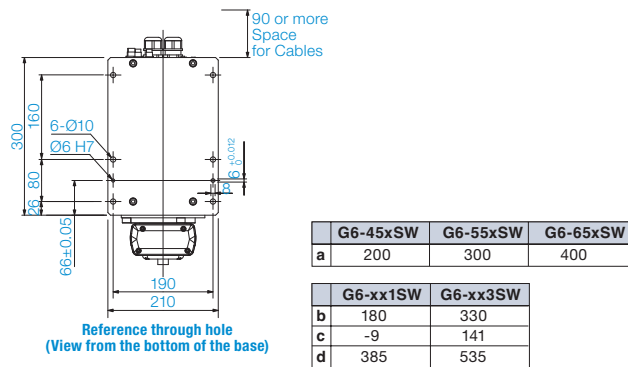
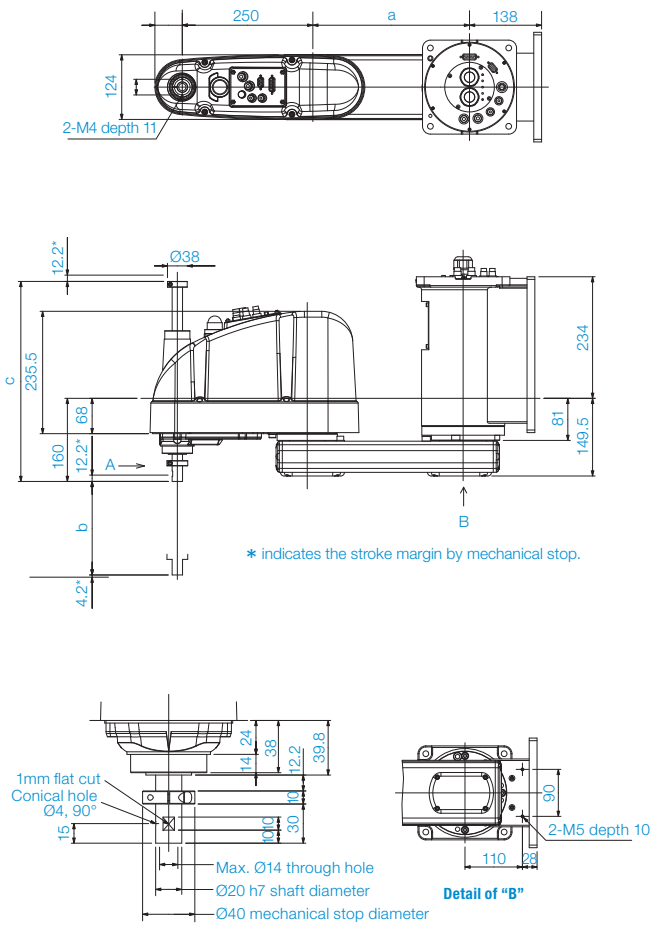


Model	Ceiling Mounting			
	G6-45xxR	G6-55xSR/DR	G6-55xCR/PR/DR bellows	G6-65xxR
a Length of Arm #1 (mm)	200	300		400
b Length of Arm #2 (mm)	250			
c Motion range	195.5	161.2	172.1	232
d Motion range of Joint #1 (deg)	120	152		
e Motion range of Joint #2 (deg)	130	147.5	145	147.5
f Mechanical stop area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

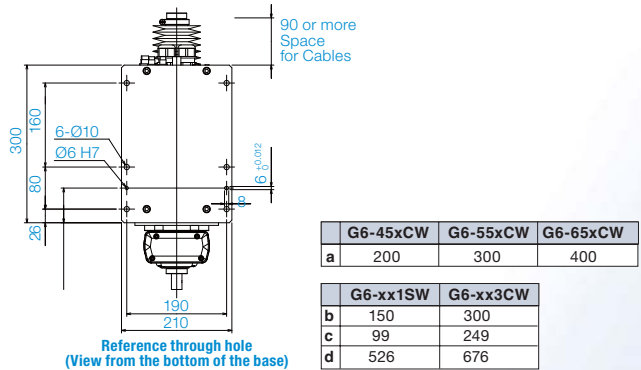
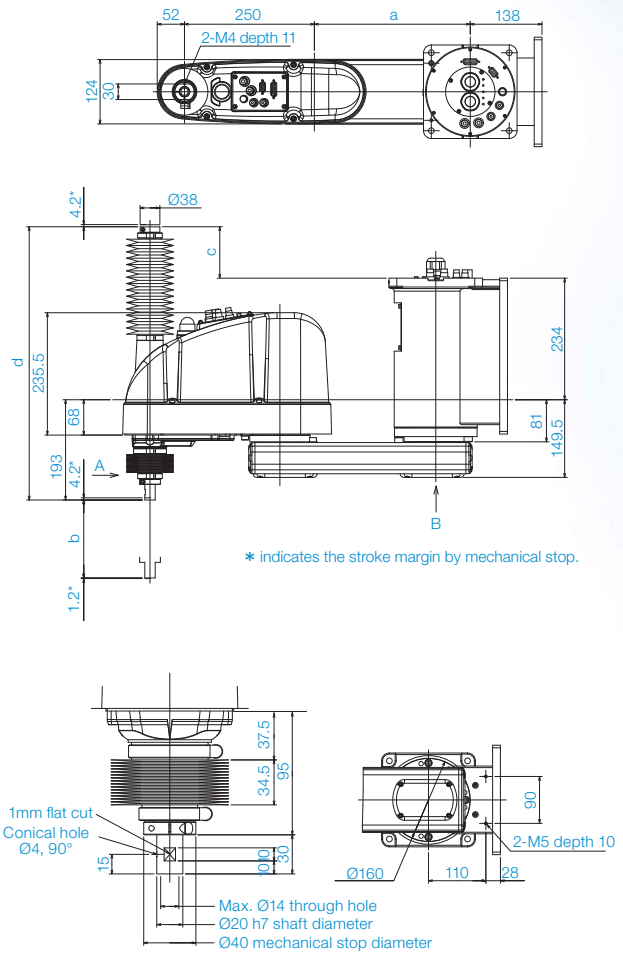
Outer Dimensions (Wall Mounting)

[Units: mm]

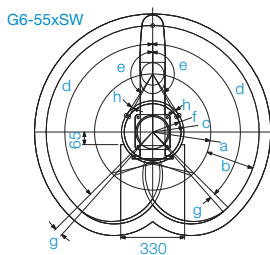
Standard-model



Cleanroom-model



Motion Range (Wall Mounting)



Model	Wall Mounting			
	G6-45xxW	G6-55xSW/DW	G6-55xCW/PW/DW bellows	G6-65xxW
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 (deg)	105	135		148
e Motion range of Joint #2 (deg)	130	147.5	145	147.5
f Mechanical stop area	182.4	146.8		207.5
g Joint #1 angle to hit mechanical stop (deg)		3.5		7.5
h Joint #2 angle to hit mechanical stop (deg)	3.8	3.3	5.8	6.3