

G10

High Rigidity = Ultra High Speed + Heavy Payload

- Arm Lengths from 650 to 850 mm
- Reduced Residual Vibration for Faster Accel/Decel Rates

G20

Long Reach and Heavy Payload

- Arm Lengths from 850 to 1,000 mm
- Monocoque Design Provides for Higher Rigidity

G-Series SCARA Robots



Specifications

		G10-65x			G10/20-85x			G20-A0x		
Mounting type		Tabletop	Ceiling	Wall	Tabletop	Ceiling	Wall	Tabletop	Ceiling	Wall
Arm length	Arm #1, #2	650 mm			850 mm			1000 mm		
Max. operating speed	Joints #1, #2	8800 mm/s			11000 mm/s			11500 mm/s		
	Joint #3	180 (150 clean) = 1100 mm/sec			420 (390 clean) = 2350 mm/sec					
	Joint #4	2400 deg/s			G10=2400 deg/s / G20=1700 deg/s			1700 deg/s		
Weight (cables not included)		46 kg			48 kg			50 kg		
Repeatability	Joints #1, #2				±0.025 mm					
	Joint #3				±0.01 mm					
	Joint #4				±0.005 deg					
Max. motion range	Joint #1	±152 deg	±107 deg		±152 deg	±107 deg		±152 deg	±107 deg	
	Joint #2	±152.5 deg	±130 deg		±152.5 deg	For Clean/Protected models below Z=-360 ~ -390			±151 deg	
	Joint #3 Std				180 mm / 420 mm					
	Joint #3 Clean				150 mm / 390 mm					
	Joint #4				±360 deg					
Payload	Rated	5 kg			G10=5 kg / G20=10 kg			10 kg		
	Maximum	10 kg			G10=10 kg / G20=20 kg			20 kg		
Standard cycle time ¹		0.34 sec			0.37 sec			0.42 sec		
Joint #4 allowable moment of inertia ²	Rated	0.02 kg•m ²			G10=0.02 kg•m ² / G20=0.05 kg•m ²			0.05 kg•m ²		
	Maximum	0.25 kg•m ²			G10=0.25 kg•m ² / G20=0.45 kg•m ²			0.45 kg•m ²		
Motor power consumption	Joint #1				750 W					
	Joint #2				600 W					
	Joint #3				400 W					
	Joint #4				150 W					
Joint #3 downward force					250 N					
Electric lines					15Pin (D-Sub), 9Pin (D-sub)					
Pneumatic lines					Φ4mm×2, Φ6mm×2					
Installation environment					Standard/Cleanroom ³ & ESD/Protection ⁴					
Available controllers					RC180, RC620+, RC700A					
Safety standards					CE, ANSI/RIA15.06-2012, UL 1740					

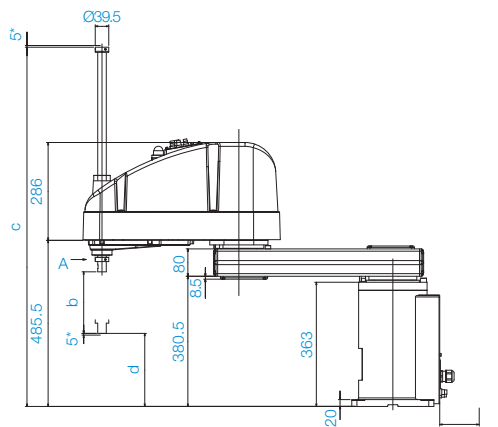
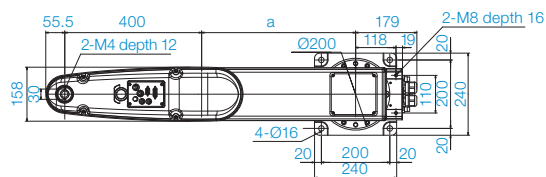
¹ Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed).

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

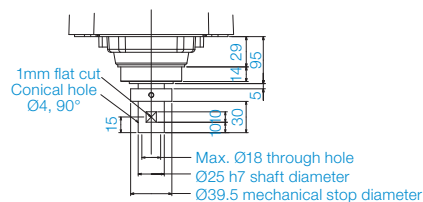
³ Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10.0µm particles per 28,317cm³:1cft) cleanroom standards.

⁴ G10/G20 dustproof robots with optional bellows comply with IP54; G10/20 protected models comply with IP65.

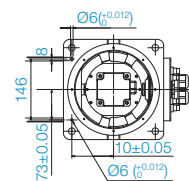
Standard-model



* indicates the stroke margin by mechanical stop.



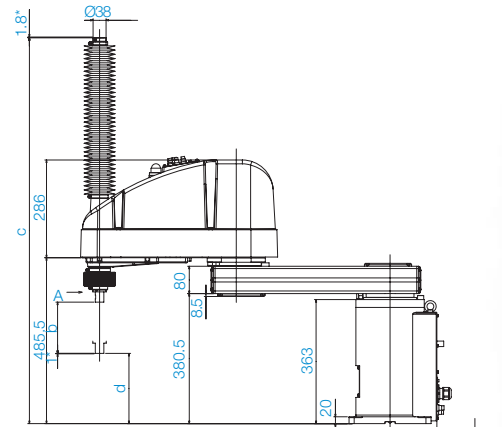
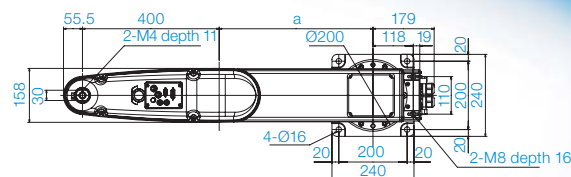
Detail of "A"
(Calibration point position of Joints #3 and #4)



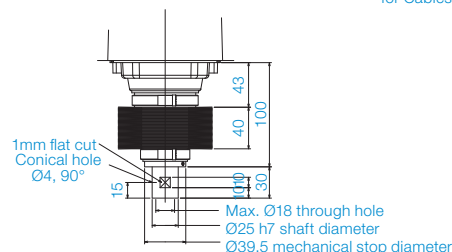
Reference through hole
(View from the bottom of the base)

	G10-65xS	G10/20-85xS	G20-A0xS
a	250	450	600
b	180	330	
c	813.5	1053.5	
d	213.5	-26.5	

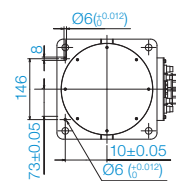
Cleanroom-model



* indicates the stroke margin by mechanical stop.



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

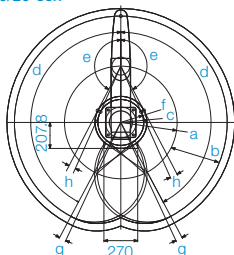


Reference through hole
(View from the bottom of the base)

	G10-65xC	G10/20-85xC	G20-A0xC
a	250	450	600
b	150	390	
c	870.5	1129.5	
d	205.5	-34.5	

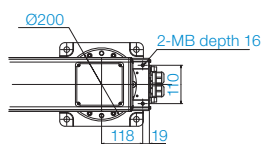
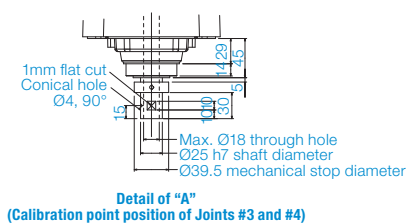
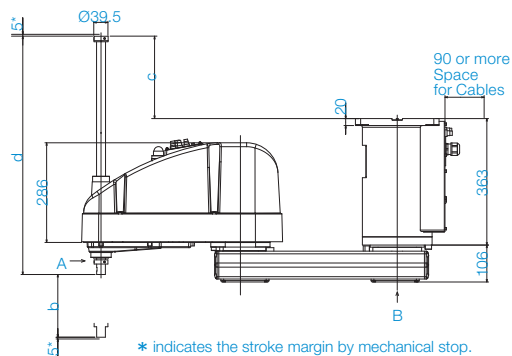
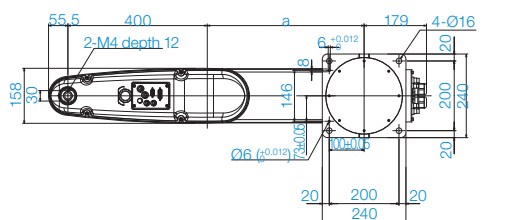
Motion Range (Tabletop Mounting)

G10/20-85x



Model	Tabletop Mounting			
	G10-65x	G10/20-85x		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 Z:-360 ~ -390	207.8 218.3
d Motion range of Joint #1 (deg)	152	152		152
e Motion range of Joint #2 (deg)	152.5	152.5	Z:0 ~ -360 Z:-360 ~ -390	152.5 151
f Mechanical stop area	199.4	183.3		285.4
g Joint #1 angle to hit mechanical stop (deg)	3	3		3
h Joint #2 angle to hit mechanical stop (deg)	3.5	3.5	Z:0 ~ -360 Z:-360 ~ -390	3.5 5

Standard-model

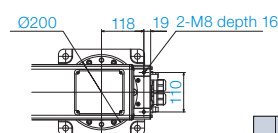
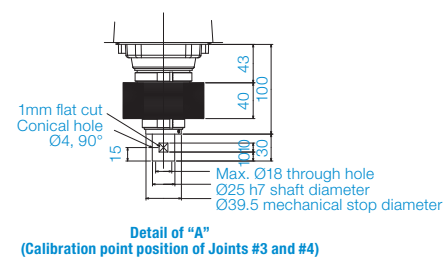
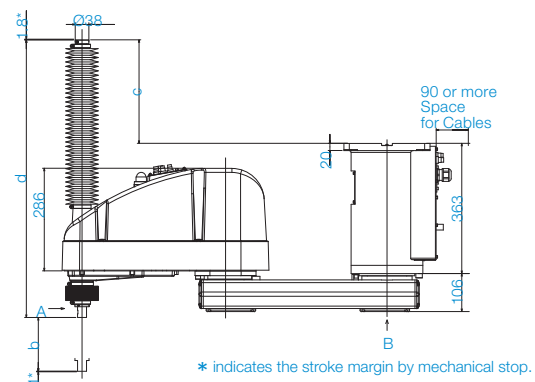
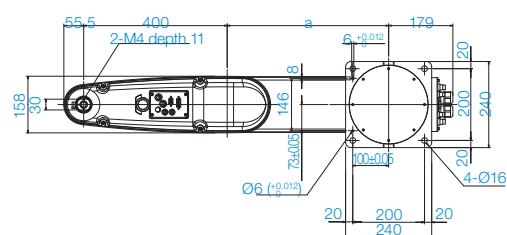


Detail of “B”

	G10-65xSR	G10/20-85xSR	G20-A0xSR
a	250	450	600

	G10/20-xx1SR	G10/20-xx4SR
b	180	420
c	-27.5	212.5
d	420	660

Cleanroom-model



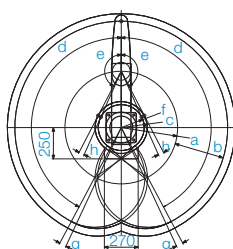
Detail of “B”

	G10-65xCR	G10/20-85xCR	G20-A0xCR
a	250	450	600

	G10/20-xx1CR	G10/20-xx4CR
b	150	390
c	29.5	288.5
d	515	774

■ Motion Range (Ceiling Mounting)

G10/20-85xxR



Model		Ceiling Mounting			
		G10-65xxR	G10/20-85x		G20-A0xxW
			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 (deg)	107	152		152
e	Motion range of Joint #2 (deg)	130	152.5	151	152.5
f	Mechanical stop area	291.2	183.3		285.4
g	Joint #1 angle to hit mechanical stop (deg)	3	3		3
h	Joint #2 angle to hit mechanical stop (deg)	3.5	3.5	5	3.5

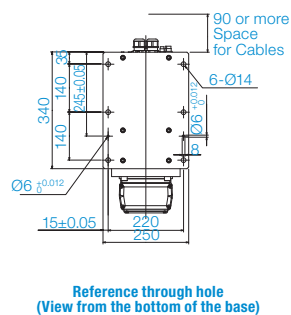
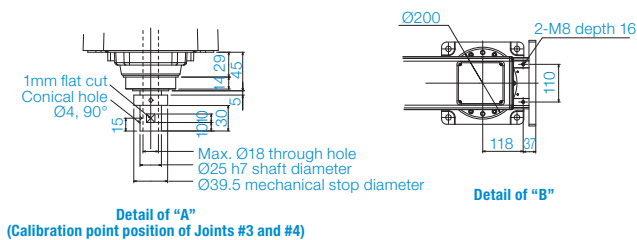
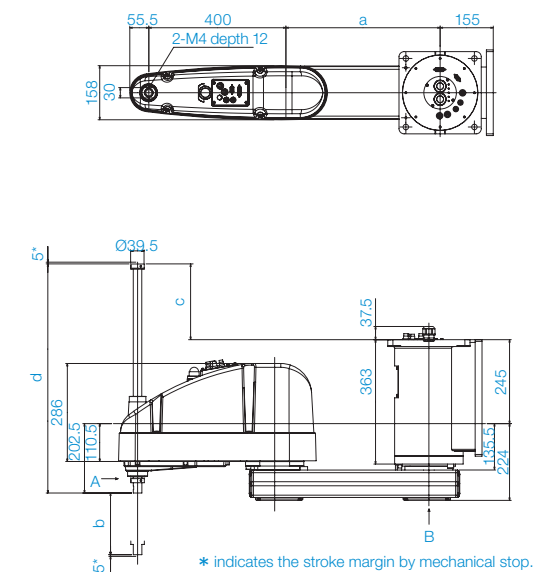
Outer Dimensions (Wall Mounting)

G10-65x / G10/20-85x / G20-A0x

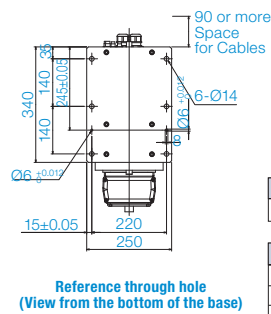
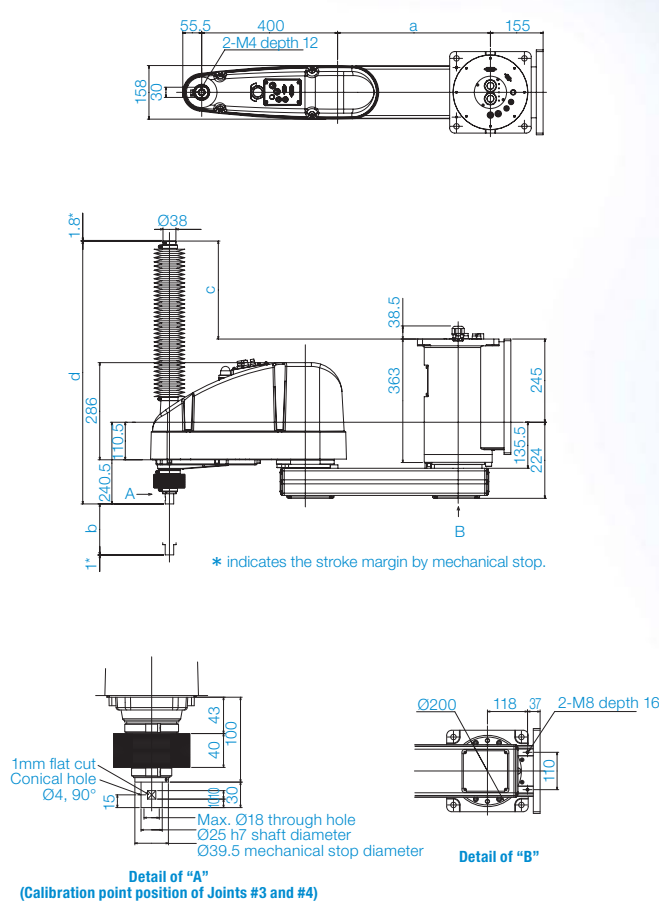
[Units: mm]

Standard-model

Cleanroom-model



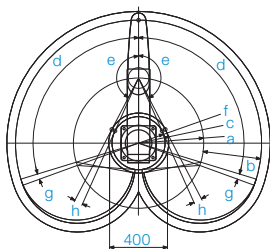
	G10-65xSW	G10/20-85xSW	G20-A0xSW
a	250	450	600
	G10/20-xx1SW	G10/20-xx4SW	
b	180	420	
c	-27.5	212.5	
d	420	660	



	G10-65xCW	G10/20-85xCW	G20-A0xCW
a	250	450	600
	G10/20-xx1CW	G10/20-xx4CW	
b	150	390	
c	29.5	288.5	
d	515	774	

Motion Range (Wall Mounting)

G10/20-85xxW



Model	Wall Mounting		
	G10-65xxW	G10/20-85x SW/DW CW/PW/DW bellows	G20-A0xxW
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 (deg)	107	107	107
e Motion range of Joint #2 (deg)	130	152.5 151	152.5
f Mechanical stop area	291.2	183.3	285.4
g Joint #1 angle to hit mechanical stop (deg)	3	3	3
h Joint #2 angle to hit mechanical stop (deg)	3.5	3.5 5	3.5