## Technical Specifications HS-035/045/055A1

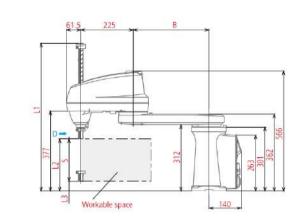
ltem		Specifications			
Model 1		HS035A1-N/*	HS045A1-N/*	HS055A1-N/*	
Axes		4			
Position detection		Absolute encoder			
Drive motor and brake		All-axis servo motor / Z- and T-axis brake			
Total arm length (No. 1 arm + No. 2 arm)		350(125+225)mm	450(225+225)mm	550(325+225)mm	
Motion range and stroke	J1 (No.1 axis)	±155°			
	J2 (No.2 axis)	±145°			
	Z (No.3 axis)	*=10 : 100mm, *=15 : 150mm, *=20 : 200mm, *=32 : 320mm,			
	T (No.4 axis)	±360°			
Axis comb	ination	J1 (1st-Axis)+J2 (2nd-Axis)+Z (3rd-Axis)+T (4th-Axis)			
Maximum	payload		5kg		
Maximum composite speed	Arm end	7,200mm/sec	6,300mm/sec	7,100mm/sec	
(at the center of an end- effector mounting face)	т	2,400°/sec			
Cycle time 2		0.29sec			
Position repeatability (center of end-effector mounting face) 3	J1+J2	±0.015mm ±0.02mm		2mm	
	Z	±0.01mm			
	т	±0.005°			
Maximum pressure input (downward, for up to 1 s)		98N			
Maximum allowable moment of inertia		0.1kgm			
User air piping		4 systems(φ4×2, φ6×2)			
User signal line		19(for proximity sensor signals, etc.)			
Position detection		Absolute encoder			
Air source	Operating pressure	0.05 - 0.35MPa			
	Maximum allowable pressure	0.59MPa			
Airborne noise (equivalent continuous A- weighted sound pressure level)		80 dB or less			
Brake releasing	Models except UL- Listed ones	Press the brake release switch in the direct teaching mode. Enter a brake release command with the teach pendant or mini-pendant.			
	UL-Listed models	Press the brake release switch when the controller power is ON. The teach pendant or mini-pendant cannot release the brakes.			
Degree of protection		Dust & splash proof type : IP65 (option) Cleanroom type ISO class 3 (option)			
Weig	ht	Approx. 25kg			

\*1 An asterisk [\*] in a model name indicates Z-axis stroke.

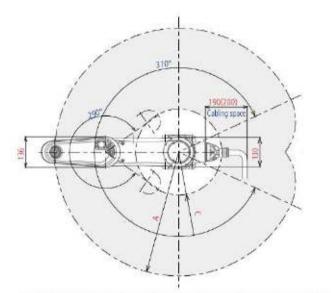
\*2 Time required for a robot to move a 2 kg payload between two points 300 mm apart at a height of 25 mm.

 $\ensuremath{^{\ast}\!3}$  Position repeatability is the precision at constant ambient temperature.

## External Dimensions for Standard Type Unit: mm

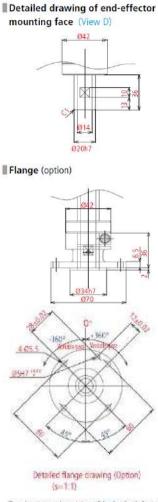


HS035*	350	125	143
HS045*	450	225	136
HS055*	550	325	191



Z ravio stratile : 510nm7			13
* -10:100	597	245	146
* =15:150	647	245	95
* =20:200	697	245	46
* -32:320	817	246	-74 -

Note 1: Please note that if the 2 axis stroke is 320 mm, since when fully lowered, the 2-axis will reach a position lower than the base mounting face, care should be taken to avoid interference with peripheral devices.



The values in parentheses [ ] are of the dust & splash proof type

Detailed drawing of base mounting face (Top view)

