Scara robot

ES06

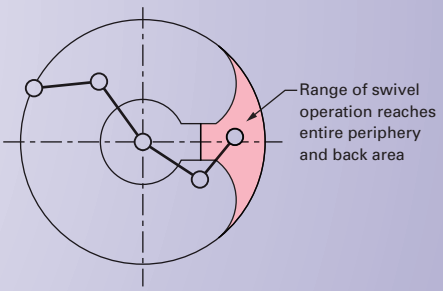
High speed handling

- Super rigid arm and servo controls give this horizontal articulated scara robot fast, high-accuracy operations
- High-speed operations meet demand to support a wide range of fields, from the handling of small parts to high precision assembly work

Cycle time of standard arch motion
ES06: 0.29sec

Prevent cable interference

- Hands with internal passage for wiring available to be mounted on tip of arm
- Wiring and piping can be run internally to the point where the hand is attached
- Minimize area in which robot cables interfere with peripheral equipment



Fully utilize installation space

- Possible to access entire periphery with swivel operation range
- Improves flexibility when considering robot layout

ES06

Robot model

ES○○-□□ □□-01

① Payload
② Maximum reach (input the first two digits): 550, 450, 350mm
③ Vertical stroke (shows first two digits): 200, 340mm
④ Version

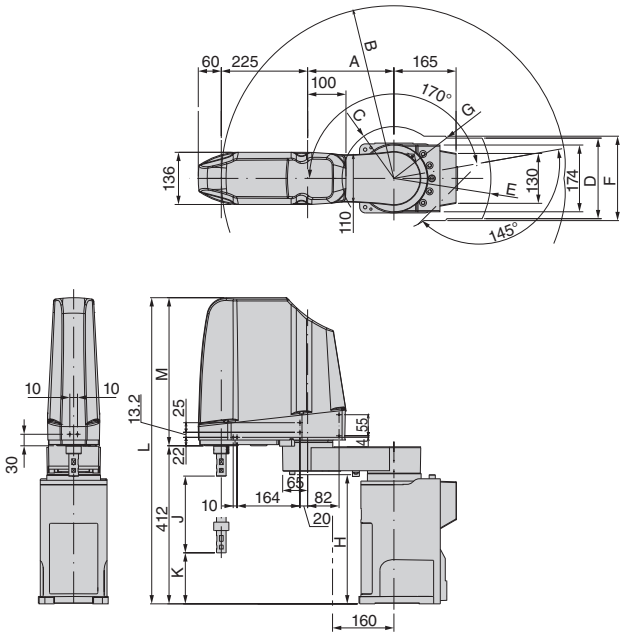
Robot specifications

Item		Specifications					
Robot model		ES06 -3520-01	ES06 -3534-01	ES06 -4520-01	ES06 -4534-01	ES06 -5520-01	ES06 -5534-01
Structure		Horizontal articulation					
Number of axes		4					
Drive system		AC servo system					
Brake		Axes 1, 2, and 4: No brakes Axis 3: With brake					
Max. operating envelope	J1	±2.97rad(±170°)					
	J2	±2.53rad(±145°)					
	J3	200mm	340mm	200mm	340mm	200mm	340mm
	J4	±6.28rad(±360°)					
Max. velocity*4	J1	6.98rad/s(400°/s)					
	J2	11.69 rad/s(670 °/s)					
	J3	2400mm/s					
	J4	43.63rad/s(2500°/s)					
Payload(Max.)		3kg(6kg)					
Maximum pressing force of third axis		165N*7					
Max. allowable moment of inertia*1		0.12kg·m²(0.01 kg·m² rated)					
Position repeatability	X and Y combined	±0.012mm					
	J3 (Z)	±0.01mm					
	J4 (θ)	±0.004°					
Max. reach		350mm		450mm		550mm	
Air piping		Primary: φ6×2 Secondary: φ4×8*5					
Application wirings		Hand: 8 points input/8 points output (20 lines) Dedicated signal line for multipurpose hand (2 lines + 2 power lines) 1 Ethernet cable <100BASE-TX> (8 lines)*6					
Installation		Floor mount					
Ambient conditions		Ambient temperature: 0~40℃*2 Ambient humidity: 20~85%RH (without condensation) Vibration: Not more than 0.5G (4.9m/s²)					
Environmental conditions*3		IP20					
Robot mass		36kg				37kg	

1[rad] = 180/π[°], 1[N·m] = 1/9.8[kgf·m]
*Explosion-proof is not available.

Exterior dimensions and operating envelope

ES06-01



Max. reach	A	B	C	D	E	F	G	H
350mm	125	R350	R142	210	R253	220	R174	342
450mm	225	R450	R135					337
550mm	325	R550	R191	160	R244	172	R197	

Vertical stroke	J	K	L	M
200mm	200	133	798	386
340mm	340	-7	938	526

*1: Note that maximum allowable moment of inertia varies according to load conditions on the wrist.
*2: Permitted height is not higher than 1,000m above sea level. If used in higher place, permitted temperature is affected by height.
*3: Fluids that cause the deterioration of sealants, such as gasoline-based cutting fluids, chlorine, alkali, acids, and organic solvents, cannot be used.
*4: The maximum velocity in the chart is a maximum value. The maximum value may change depending on work programs and load conditions of the wrist.
*5: Secondary φ4 piping is possible with solenoid valve (option).
*6: Possible to use 8 lines for LAN wiring as spare wires, too.
*7: Downward pressing force that is possible on tip of load when maximum load is mounted, and axis 1, axis 2, and axis 4 are static. Use at values below those noted here. Also, an overload error occurs if pressure is applied for a long period of time. Use under conditions in which errors do not occur.

● The specifications are subject to changes without notice.
● In case that an end user uses this product for military purpose or production of weapon, this product may be liable for the subject of export restriction stipulated in the Foreign Exchange and Foreign Trade Act. Please go through careful investigation and necessary formalities for export.

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