

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

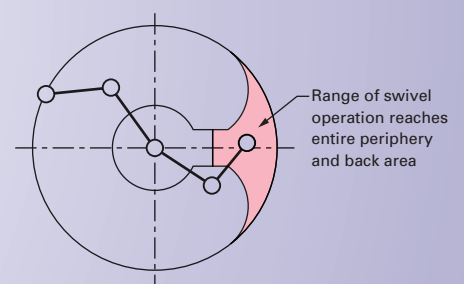


Prevent cable interference

- 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



Robot model

ES○○-□□ □□-01

① ② ③ ④

- 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·m ² (0.01 kg·m ² 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°C*2 | | | | | |
| | Ambient humidity: 20~85%RH (without condensation) Vibration: Not more than 0.5G (4.9m/s ²) | | | | | |
| Environmental conditions*3 | IP20 | | | | | |
| Robot mass | 36kg | | | 37kg | | |

1[rad] = 180/m[°], 1[N·m] = 1/9.8[kgf·m]

*Explosion-proof is not available.

*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.

NACHI-FUJIKOSHI CORP.

Tokyo Head Office

Shiodome Sumitomo Bldg. 17F 1-9-2 Higashi-shinbashi, Minato-ku, Tokyo 105-0021, JAPAN

Tel: +81-(0)3-5568-5245 Fax: +81-(0)3-5568-5236

Toyama Head Office

1-1-1 Fujikoshi-Honmachi, Toyama 930-8511, JAPAN

Tel: +81-(0)76-423-5111 Fax: +81-(0)76-493-5211

NACHI ROBOTIC SYSTEMS INC.

42775 West 9 Mile Road Novi, Michigan, 48375, U.S.A.

Tel: +1-248-305-6545 Fax: +1-248-305-6542

URL: <http://www.nachirobotics.com/>

E-mail: marketing@nachirobotics.com

NACHI BRASIL LTDA.

Avenida João XXIII, No.2330, Jardim São Pedro, Mogi das Cruzes, S.P., CEP 08830-000, BRASIL

Tel: +55-11-4793-8813

URL: <http://www.nachi.com.br/>

NACHI EUROPE GmbH

Bischofstrasse 99, 47809, Krefeld, GERMANY

Tel: +49-(0)2151-65046-0 Fax: +49-(0)2151-65046-90

URL: <http://www.nachirobotics.eu/>

NACHI TECHNOLOGY (THAILAND) CO., LTD. BANGKOK SALES OFFICE

Unit 23/109(A), Fl.24th Sorachai Bldg., Sukhumvit 63 Road(Ekamai), Klongtonnua, Wattana, Bangkok 10110, THAILAND

Tel: +66-2-714-0008 Fax: +66-2-714-0740

PT.NACHI INDONESIA

TEMPO PAVILION I, 7FL JL. HR Rasuna Said Kav. 10-11 Setiabudi Jakarta Selatan DKI Jakarta -12950, INDONESIA

Tel: +62-021-527-2841 Fax: +62-021-527-3029

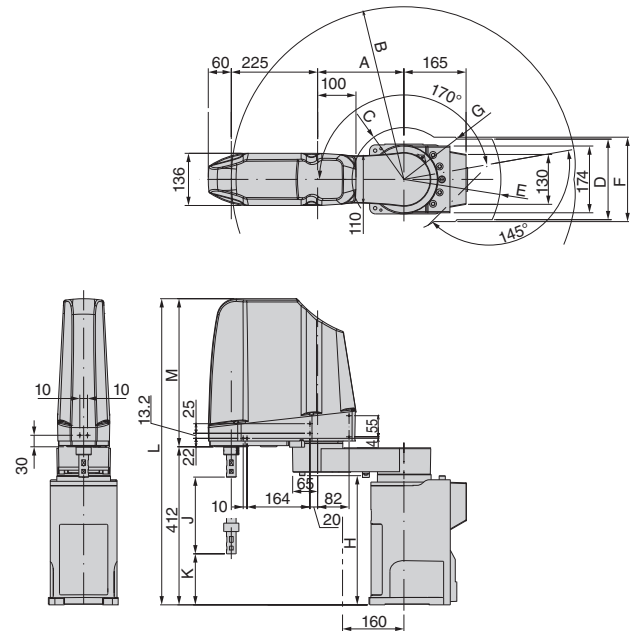
NACHI KG TECHNOLOGY INDIA PVT. GURGAON HEAD OFFICE

Unit No.207, 2nd Floor, Sewa Corporate Park, MG Road, Iffco Chowk, Gurgaon 122001, Haryana, INDIA

Tel: +91-(0)12-4450-2900 Fax: +91-(0)12-4450-9210

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 |

CATALOG NO.

R7802E