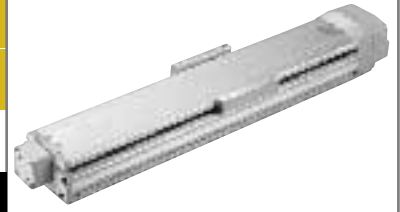


ISA-SZM Single-Axis Robot: Compact Vertical-Axis Type, Actuator Width 90mm, 60W, Straight Shape

ISPA-SZM Single-Axis Robot: Compact Vertical-Axis Type, Actuator Width 90mm, 60W, Straight Shape High-Precision Specification

Type Compact vertical axis (90-mm wide) Stroke 100-600mm Vertical application only (with standard brake) 14kg

Model specification items Series Type Encoder type Motor output Lead Stroke Applicable controller Cable length Options
 ISA[ISPA]-SZM-A-60-16-600-T1-S-B-L



* Refer to page 11 for the details of model specification items.

Models/Specifications

| Model | Encoder type | Motor output (W) | Lead (mm) | Stroke (mm) In increments of 50mm (Note 1) | Speed (mm/s) | Acceleration (Note 2) | | | Load capacity (Note 2) | | | Rated thrust (N) | | | |
|-------------------------------------|--------------|------------------|-----------|--|--------------|---------------------------|---------|--------------|---------------------------|-------|---------------|------------------|-------|---------|-------|
| | | | | | | Horizontal (G) | | Vertical (G) | Horizontal (kg) | | Vertical (kg) | | | | |
| | | | | | | Rated | Maximum | Rated | Maximum | Rated | Maximum | | Rated | Maximum | |
| ISA [ISPA] -SZM-A-60-8-***-T1-△-B-□ | Absolute | 60 | 8 | 100 ~ 600 | 1 ~ 400 | Vertical application only | 0.3 | 0.5 | Vertical application only | 6 | 5 | 127.4 | | | |
| ISA [ISPA] -SZM-A-60-4-***-T1-△-B-□ | | | 4 | | 1 ~ 200 | | | | | | | | 0.15 | 0.3 | 14 |
| ISA [ISPA] -SZM-I-60-8-***-T1-△-B-□ | Incremental | 8 | 1 ~ 400 | 0.3 | 0.5 | | | | | | | | 6 | 5 | 127.4 |
| ISA [ISPA] -SZM-I-60-4-***-T1-△-B-□ | | 4 | 1 ~ 200 | 0.15 | 0.3 | | | | | | | | 14 | 12 | 254.8 |

* In the above model names, *** indicates the stroke, △ the cable length and □ the applicable options.

*1.0G=9800mm/sec²

Options

| Name | Code | Page | Name | Code | Page |
|------------------------------------|------|-------|---|------|-------|
| AQ seal | AQ | → P13 | Master-axis designation | LM | → P14 |
| Brake | B | → P13 | Master-axis designation (sensor on opposite side) | LLM | → P14 |
| Creep sensor | C | → P13 | Reverse homing specification | NM | → P14 |
| Creep sensor on opposite side | CL | → P13 | Guide with ball-retaining mechanism | RT | → P14 |
| Home limit switch | L | → P14 | Slave-axis designation | S | → P14 |
| Home limit switch on opposite side | LL | → P14 | | | |

* The SZM type comes standard with a brake (B).

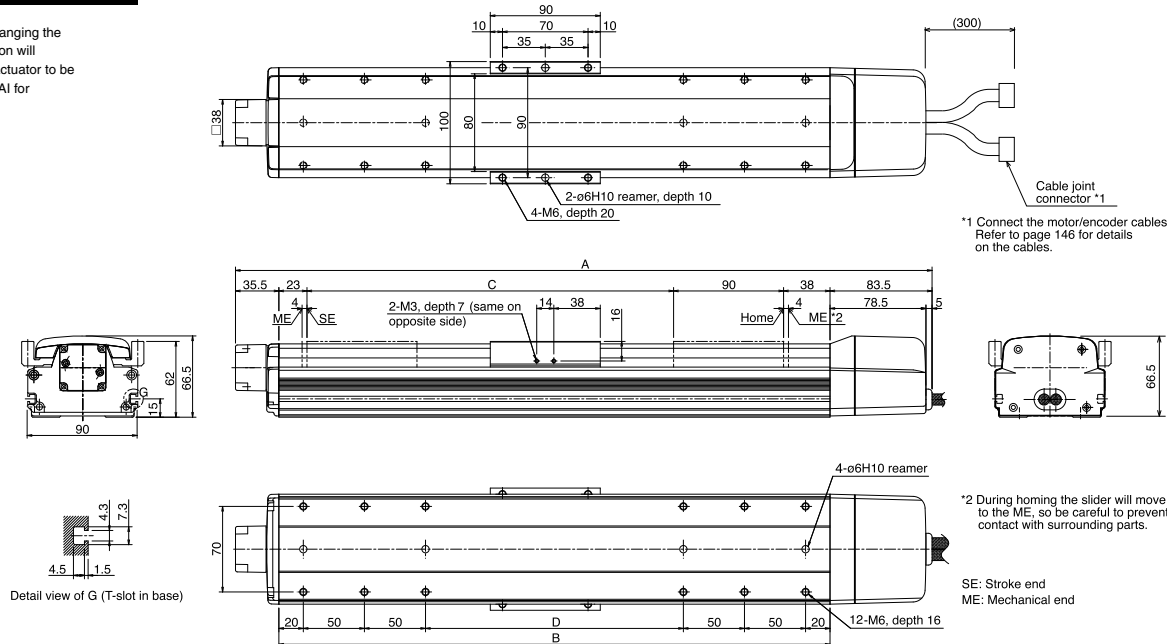
Common Specifications

* Refer to page 10 for the details of common specification items.

| | |
|------------------------------------|---|
| Positioning repeatability (Note 3) | ±0.02mm [±0.01mm] |
| Drive system (Note 4) | Ball screw ø12mm, rolled C10 [equivalent to rolled C5] |
| Backlash (Note 5) | 0.05mm or less [0.02mm or less] |
| Guide | Integrated with base |
| Allowable load moment | Ma: 28.4N•m Mb: 40.2N•m Mc: 33.3N•m |
| Brake | Comes standard with a dry, single-plate, non-excitation type electromagnetic brake. |
| Base | Material: Aluminum with white alumine treatment |
| Cable length (Note 6) | N: No cable, S: 3m, M: 5m, X □ □ : Length specification |

Dimensions

* Note that changing the home direction will require the actuator to be returned to IA1 for adjustment.



*1 Connect the motor/encoder cables. Refer to page 146 for details on the cables.

*2 During homing the slider will move to the ME, so be careful to prevent contact with surrounding parts.

Detail view of G (T-slot in base)

SE: Stroke end
ME: Mechanical end

Dimensions, Weight and Maximum Speed by Stroke

| Stroke | 100 | (150) | 200 | (250) | 300 | (350) | 400 | (450) | 500 | (550) | 600 | |
|---------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|--|
| A | 370 | 420 | 470 | 520 | 570 | 620 | 670 | 720 | 770 | 820 | 870 | |
| B | 251 | 301 | 351 | 401 | 451 | 501 | 551 | 601 | 651 | 701 | 751 | |
| C | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | |
| D | 11 | 61 | 111 | 161 | 211 | 261 | 311 | 361 | 411 | 461 | 511 | |
| Weight (kg) | 3.0 | 3.4 | 3.7 | 4.1 | 4.4 | 4.8 | 5.1 | 5.5 | 5.8 | 6.2 | 6.5 | |
| Maximum speed | | | | | | | 400 | | | | | |
| Lead 8 | | | | | | | 200 | | | | | |
| Lead 4 | | | | | | | 200 | | | | | |

Applicable Controller Specifications

| Applicable controller | Maximum number of controlled axes | Compatible encoder type | Program operation | Positioner operation | Pulse-train control | Supply voltage | Page |
|-----------------------|-----------------------------------|-------------------------|-------------------|----------------------|---------------------|----------------|--------|
| X-SEL | 4 axes | Absolute/incremental | ○ | △ | × | AC100/200V | → P241 |
| E-Con | 1 axis | Absolute/incremental | × | ○ | × | AC100/200V | → P227 |
| P-Driver | 1 axis | Incremental | × | × | ○ | AC100/200V | → P234 |

*The SZM type comes standard with a brake, so use a controller of brake specification.



(Note 1) The strokes that are set in increments of 50 mm are semi-standard settings.
 (Note 2) Refer to page 40 for the relationship of acceleration and load capacity.
 (Notes 3, 4, 5) The figures in brackets apply to the ISPA Series.
 Other specification values apply to both the ISA and ISPA Series.
 (Note 6) The maximum cable length is 30 m. Specify the desired length in meters (e.g., X08 = 8 m).

* Refer to page 9 for other points to note.