

**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[ISA] - 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 [ISA] -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 [ISA] -SZM-A-60-4-***-T1-△-B-□			4		1 ~ 200								0.15	0.3
ISA [ISA] -SZM-I-60-8-***-T1-△-B-□	Incremental	8	1 ~ 400	0.3	0.5		6	5		127.4				
ISA [ISA] -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/sec<sup>2</sup>

**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).

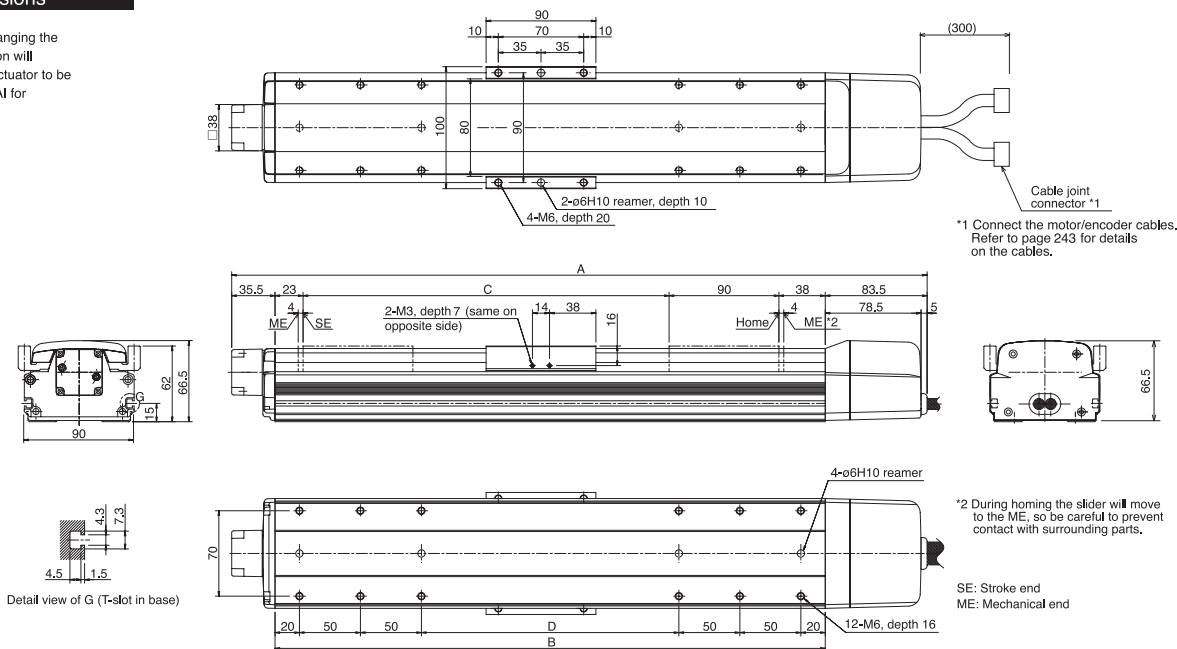
**Common Specifications**

\* 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]
Lost motion (Note 5)	0.05mm or less [0.02mm or less]
Guide	integrated with base
Allowable static moment	Refer to page 242
Allowable dynamic 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 alumite treatment
Cable length (Note 6)	N: None, S: 3m, M: 5m, X□□: Specified length
Ambient operating temperature/humidity	0 to 40°C, 85%RH max. (non-condensing)

**Dimensions**

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



\*1 Connect the motor/encoder cables. Refer to page 243 for details on the cables.

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

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 (mm/s)	Lead 8						400					
	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	
E-Con	1 axis	Absolute/incremental	×	○	×	AC100/200V	
P-Driver	1 axis	Incremental	×	×	○	AC100/200V	

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

**Caution**

(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.