

EC-S8X AR

Simple dust-proof

Supporting mechanism

Motor side-mounted

Body width
90 mm

24v
Stepper motor

Model specification items

EC	S8X		A	R			
Series	Type	Lead	Specification	Specification	Stroke	Power · I/O cable length	Option
		S 30mm	A For long stroke	R Motor side-mounted	700 ~ 1500	Refer to the Power · I/O cable length table below	Refer to the Option table below
		H 20mm			700mm ~ 1500mm (every 50mm)		
		M 10mm					
		L 5mm					



(Note) The above photo shows motor side-mounted specification (ML).

Horizontal

Vertical

Side

Ceiling

Table of strokes

Stroke (mm)	Stroke (mm)
700	1150
750	1200
800	1250
850	1300
900	1350
950	1400
1000	1450
1050	1500
1100	

Table of Options

Name	Option code
RCON-EC connection specification (Note 1)	ACR
Brake	B
Grease Specification	G5
Motor side-mounted to the left (Note 2)	ML
Motor side-mounted to the right (Note 2)	MR
Non-motor end homing specification	NM
PNP specification	PN
Slider part roller specification	SR
Twin power specification	TMD2
Battery-less absolute encoder specification	WA
Wireless communication specification	WL
Wireless axis operation specification	WL2

(Note 1) When selecting RCON-EC connection specification (ACR), PNP specification (PN) and Twin power specification (TMD2) cannot be selected.

(Note 2) Make sure to specify either model in the option of the model specification items.



- (1) Longer strokes may decrease the maximum speed due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Max. Speed" table.
- (2) "Main Specifications" displays the payload's maximum value. Refer to the "Table of Payload by Speed and Acceleration" for details.
- (3) If performing push-motion operations, refer to the "Correlation between Push force and Current Limit" diagram. The push force is only for a reference value. Contact IAI for precautions.
- (4) Depending on the ambient operating temperature, the duty ratio may be limited. Contact IAI for details.
- (5) Pay close attention to the installation orientation. Contact IAI for the overhang load length.
- (6) Reference value of the overhang load length is under 400mm in the Ma, Mb, and Mc directions. Contact IAI for the overhang load length.
- (7) The center of gravity of the attached object should be less than 1/2 of the overhang distance. Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.
- (8) There are limitations on connections when RCON-EC connection specification (ACR) is connected to EC connection unit (RCON-EC-4). Please contact IAI for details.

Power · I/O cable length

Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 4) (With connectors on both end)
		CB-EC-PWBIO□□□-RB supplied	CB-REC-PWBIO□□□-RB supplied
0	No cable	✓ (Note 3)	✓
1 ~ 3	1 ~ 3m	✓	✓
4 ~ 5	4 ~ 5m	✓	✓
6 ~ 7	6 ~ 7m	✓	✓
8 ~ 10	8 ~ 10m	✓	✓

(Note 3) Only a terminal connector is supplied. Contact IAI for details.

(Note 4) In case an optional RCON-EC connection specification (ACR) is selected.

(Note) Robot cable

4-directional connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 5) (With connectors on both end)
		CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S1 ~ S3	1 ~ 3m	✓	✓
S4 ~ S5	4 ~ 5m	✓	✓
S6 ~ S7	6 ~ 7m	✓	✓
S8 ~ S10	8 ~ 10m	✓	✓

(Note 5) In case an optional RCON-EC connection specification (ACR) is selected.

(Note) Robot cable

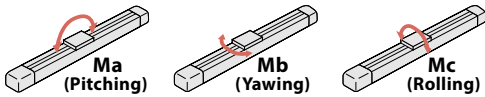
Main specifications

		Item	Description			
Horizontal	Lead	Ball screw lead (mm)	30	20	10	5
		Payload	Max. payload (kg)	14	35	70
	Speed/acceleration/deceleration	Max. speed (mm/s)	1200	975	450	200
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
Vertical	Payload	Max. payload (kg)	2	4	25	55
		Max. speed (mm/s)	850	650	400	200
	Speed/acceleration/deceleration	Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
Push	Max. push force (N)	78	103	235	470	
		Max. push speed (mm/s)	38	25	20	20
Brake	Brake specification	Non-excitation actuating solenoid brake				
	Brake holding force (kgf)	2	4	25	55	
Stroke	Min. stroke (mm)	700	700	700	700	
		Max. stroke (mm)	1500	1500	1500	1500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Driving system	Ball screw, ϕ 16mm, rolled C10
Positioning repeatability	\pm 0.05mm
Lost motion	(two-point positioning function; cannot be represented)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Static allowable moment	Ma: 173 N·m
	Mb: 173 N·m Mc: 271 N·m
Dynamic allowable moment (Note 6)	Ma: 61 N·m
	Mb: 61 N·m Mc: 116 N·m
Ambient operating temperature, humidity	0 - 40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration/shock resistance	4.9m/s ²
Overseas standards	CE marking, RoHS directive
Motor type	Stepper motor □56SP (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 6) Based on the standard rated operation life of 5,000km. Operation life varies according to operating and mounting conditions. Contact IAI to confirm operational life span.

Slider type moment direction



Payload by speed and acceleration

The unit for payload is kg. If blank, operation is not possible.

Lead 30

Orientation	Horizontal				Vertical	
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	14	13	12	12	2	2
200	14	13	12	12	2	2
400	14	13	12	11	1.5	1
650	14	10	9	8	1	1
850	9	6	4	2	1	1
1000	5	3	2	1		
1200	1					

Lead 20

Orientation	Horizontal				Vertical	
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	35	25	25	25	4	4
200	35	25	25	25	4	4
300	35	25	24	16	4	4
400	35	22	18	12	1	1
650	10	9	4	3	1	1
800	10	3	1			
900	7	1				
975	4					

Lead 10

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.5	0.3	0.5
0	70	70	25	25
100	70	70	25	25
200	60	50	14	14
300	45	30	7	7
400	15	9	2	1
450	11	2		

Lead 5

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.3	0.3	0.3
0	80	80	55	55
50	80	80	55	55
75	80	80	30	30
100	80	80	6	6
175	70	70	3	3
200	13	13	3	3

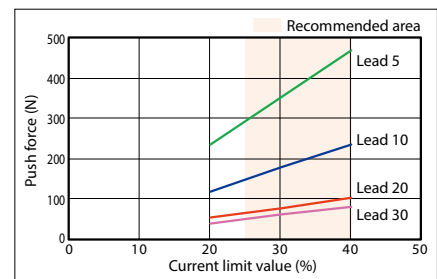
Stroke and maximum speed

Lead (mm)	700~1150 (every 50mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
30	1200<850>			1190<850>	1110<850>	1040<850>	980<850>	920<850>
20	975<650>	910<650>	850<650>	790<650>	740<650>	690<650>	650	610
10	450<400>	440<400>	410<400>	380	360	340	320	300
5	200			190	180	170	160	150

(Unit: mm/s)

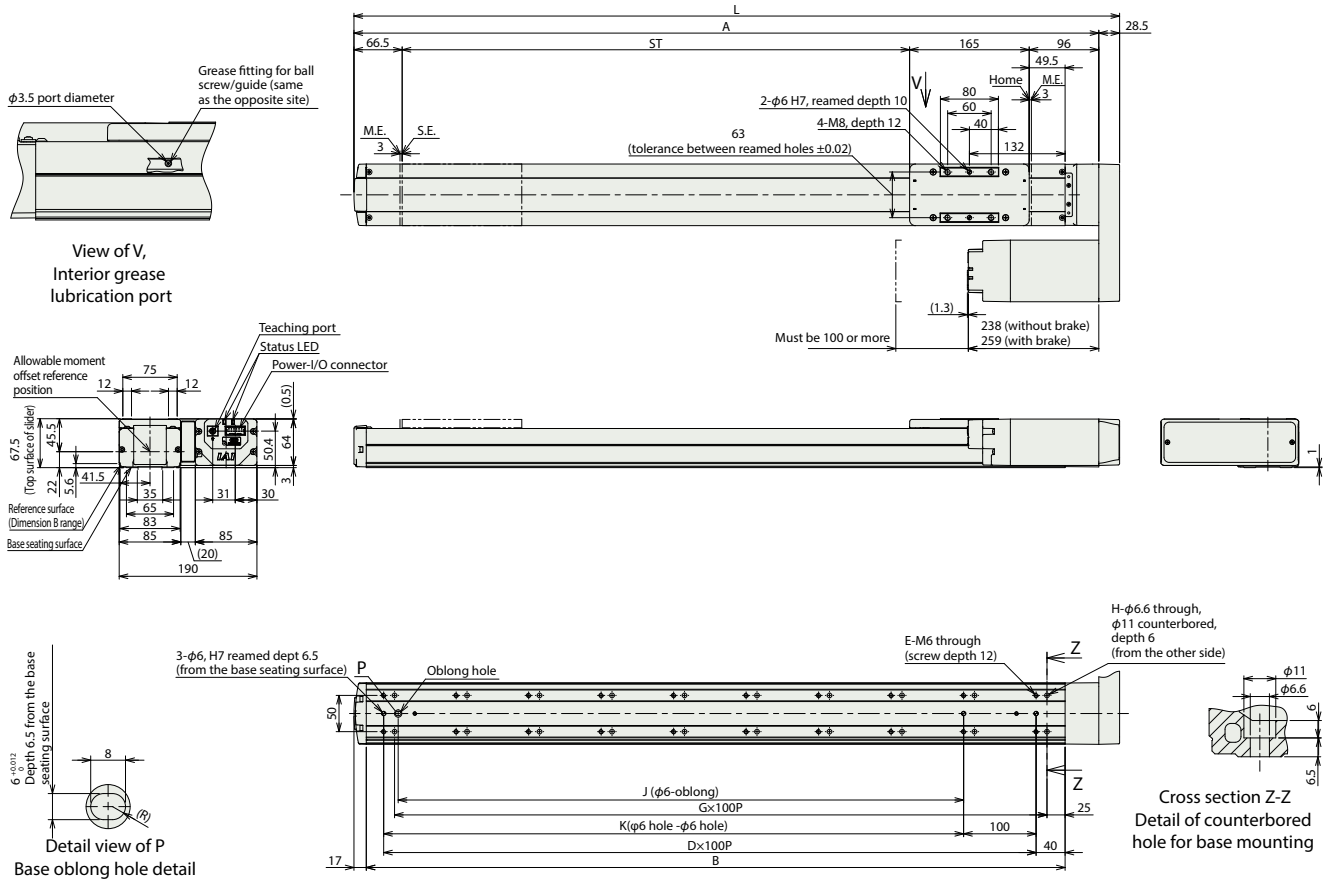
(Note) Values in brackets <> are for vertical use.

Correlation between Push force and Current Limit



(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
 (Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.
 (Note) The following drawings show the side-mounted motor to the left (ML).

ST: Stroke
 M.E.: Mechanical end
 S.E.: Stroke end



Dimensions by stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756	1806	1856
A	1027.5	1077.5	1127.5	1177.5	1227.5	1277.5	1327.5	1377.5	1427.5	1477.5	1527.5	1577.5	1627.5	1677.5	1727.5	1777.5	1827.5
B	964	1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764
D	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
E	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
G	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
H	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
J	780	780	880	880	980	980	1080	1080	1180	1180	1280	1280	1380	1380	1480	1480	1580
K	800	800	900	900	1000	1000	1100	1100	1200	1200	1300	1300	1400	1400	1500	1500	1600

Mass by stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
Mass (kg)	Without brake	9.6	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4
	With brake	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4	14.7	15.0	15.3

Applicable controller

(Note) The EC series is equipped with a built-in controller. Contact IAI for more details about the built-in controller.