

EC-S8X ACR

Clean

Supporting mechanism

Coupled Motor

Body width
90 mm

24v
Stepper motor

Model specification items

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



CE

RoHS 10

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
Non-motor end homing specification	NM
PNP specification	PN
Twin power specification	TMD2
vacuum tube joint on opposite side (mirror image)	VR
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.



- Selection Notes**
- 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.
 - "Main Specifications" displays the payload's maximum value. Refer to the "Table of Payload by Speed and Acceleration" for details.
 - 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.
 - Depending on the ambient operating temperature, the duty ratio may be limited. Contact IAI for details.
 - Pay close attention to the installation orientation. Contact IAI for the overhang load length.
 - Reference value of the overhang load length is under 400mm in the Ma, Mb, and Mc directions. Contact IAI for the overhang load length.
 - 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.
 - 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 3) (With connectors on both end)
		CB-EC-PWBIO□□□-RB supplied	CB-REC-PWBIO□□□-RB supplied
0	No cable	✓ (Note 2)	✓
1 ~ 3	1 ~ 3m	✓	✓
4 ~ 5	4 ~ 5m	✓	✓
6 ~ 7	6 ~ 7m	✓	✓
8 ~ 10	8 ~ 10m	✓	✓

(Note 2) Only a terminal connector is supplied. Contact IAI for details.

(Note 3) 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 4) (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 4) In case an optional RCON-EC connection specification (ACR) is selected.

(Note) Robot cable

Main specifications

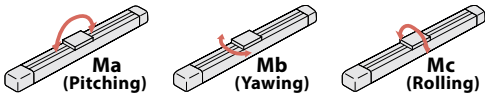
Item		Description				
Lead	Ball screw lead (mm)	30	20	10	5	
	Payload	Max. payload (kg)	18	35	70	80
Horizontal	Speed/acceleration/deceleration	Max. speed (mm/s)	1200	975	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Speed/acceleration/deceleration	Max. speed (mm/s)	850	650	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push	Max. push force (N)	78	103	235	470	
	Max. push speed (mm/s)	38	25	20	20	
Cleanroom specification	Suction volume (NL/min.) (Note 5)	125	95	75	60	
Brake	Brake specification	Non-excitation actuating solenoid brake				
	Brake holding force (kgf)	2	4	25	55	
	Min. stroke (mm)	700	700	700	700	
Stroke	Max. stroke (mm)	1500	1500	1500	1500	
	Stroke pitch (mm)	50	50	50	50	

(Note 5) Guideline for suction volume at the maximum speed.

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
Cleanliness	ISO Class 3 (ISO 14644-1 standard)
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 (L_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	18	13	12	12	2	2	
200	18	13	12	12	2	2	
400	18	13	12	12	1.5	1	
650	18	13	12	8	1	1	
850	14	10	7	5	1	1	
1000	8	6	3	2			
1200	4	2	1				

Lead 20

Orientation	Horizontal					Vertical	
	Acceleration (G)						
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	35	30	25	25	4	4	
200	35	30	25	25	4	4	
300	35	30	25	23	4	4	
400	35	30	23	20	2	2	
650	10	10	8	6	2	2	
800	10	6	2	1			
900	7	3					
975	4	1					

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	65	50	20	20		
300	60	30	9	9		
400	25	15	3	2		
450	20	7	3			

Lead 5

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.5	0.3	0.5
0	80	80	55	55
50	80	80	55	55
75	80	80	30	30
135	80	80	6	6
175	70	70	3	3
200	30	30	3	3
225	2	2	1	1

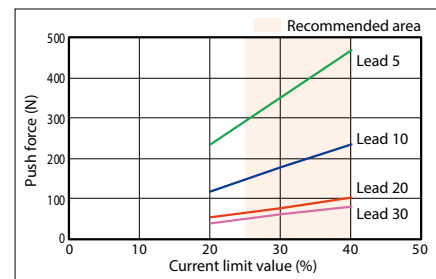
Stroke and maximum speed

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	440	410	380	360	340	320	300
5	225	210	200	190	180	170	160	150

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

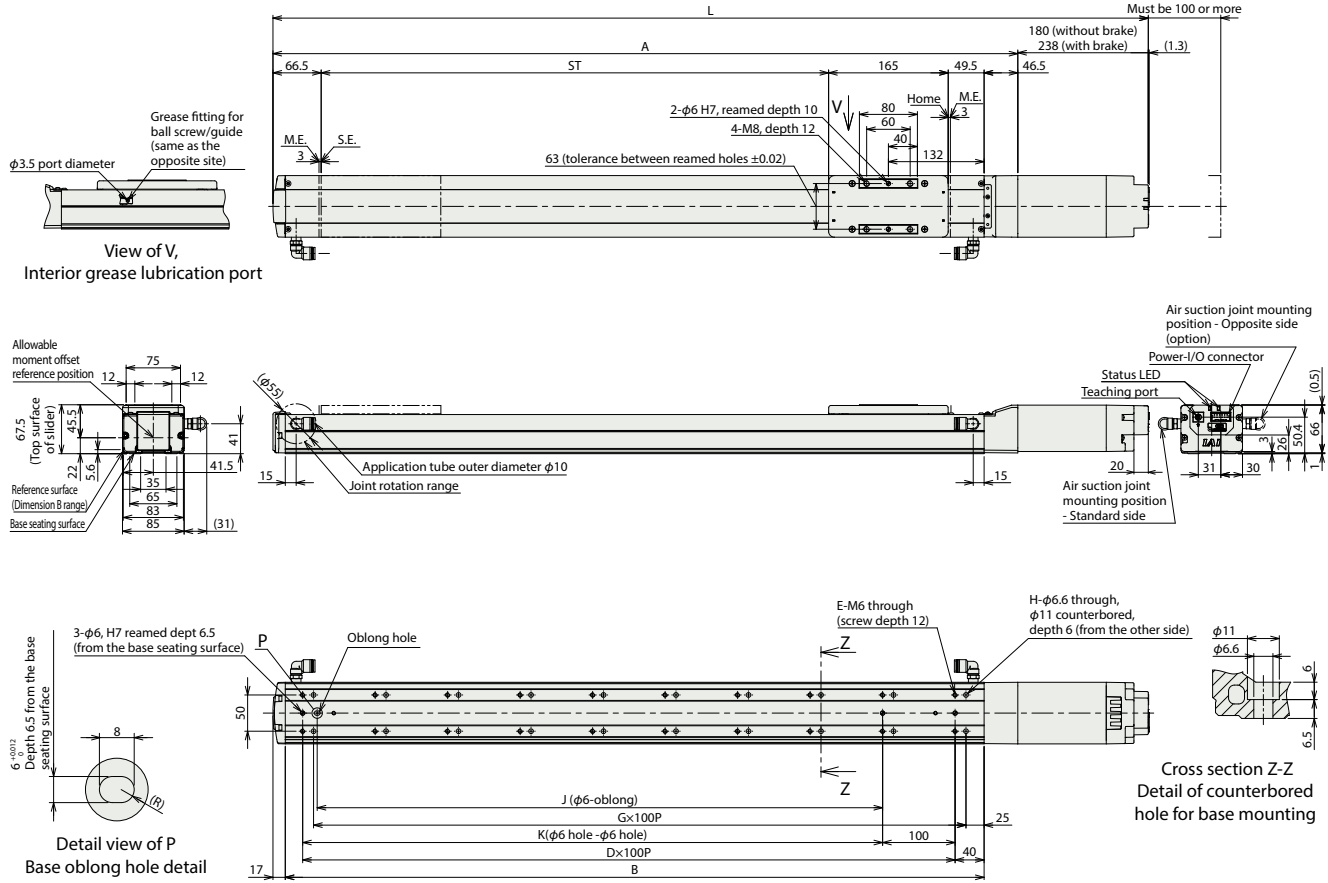
(Unit: mm/s)

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.

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	Without brake	1207.5	1257.5	1307.5	1357.5	1407.5	1457.5	1507.5	1557.5	1607.5	1657.5	1707.5	1757.5	1807.5	1857.5	1907.5	1957.5	2007.5
	With brake	1265.5	1315.5	1365.5	1415.5	1465.5	1515.5	1565.5	1615.5	1665.5	1715.5	1765.5	1815.5	1865.5	1915.5	1965.5	2015.5	2065.5
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	9.2	9.5	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9	12.2	12.8	13.1	13.4	13.7	14.0
	With brake	9.7	10.0	10.3	10.6	10.9	11.2	11.5	11.8	12.1	12.4	12.7	13.0	13.3	13.6	13.9	14.2

■ Applicable controller

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