

EC-RR7□AHR

High Rigidity

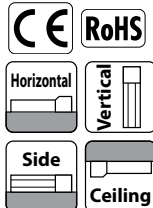
Side-mounted Motor

Body width
75 mm

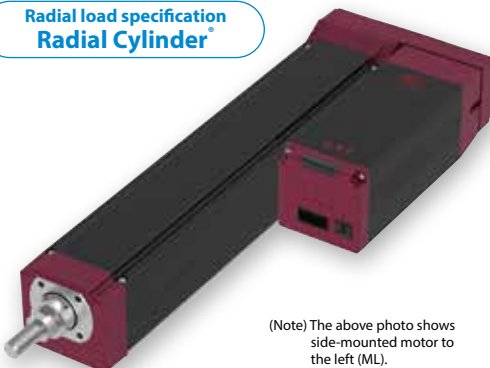
24v Stepper motor

Model Specification Items

EC	RR7		AHR			
Series	Type	Lead	Specification	Stroke	Cable Length	Options
		S 24mm H 16mm M 8mm L 4mm	AHR High rigidity with Side-mounted motor	50 ↑ 500	50mm ↑ 500mm (per 50mm)	0 Terminal type with connector 1 1m ↑ 10 10m
						Refer to the option price list below



Radial load specification Radial Cylinder*



(Note) The above photo shows side-mounted motor to the left (ML).

- POINT Selection Notes

 - (1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.
 - (2) The Radial Cylinder is equipped with a guide. Please refer to P111 for details of the radial loads applied to the rod.
 - (3) The value of the horizontal payload assumes the use of an external guide.
 - (4) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide.
 - (5) Depending on the ambient operating temperature, duty control is necessary. Please refer to P115 for cautions.
 - (6) Special attention needs to be paid to the mounting orientation. Please refer to P33 for details.

Stroke

Stroke (mm)	EC-RR7□AHR	Stroke (mm)	EC-RR7□AHR
50	○	300	○
100	○	350	○
150	○	400	○
200	○	450	○
250	○	500	○

Cable length

Cable code	Cable length
0	No cable (connector supplied)
1 ~ 3	1 ~ 3m
4 ~ 5	4 ~ 5m
6 ~ 10	6 ~ 10m

(Note) Robot cables.

Options

Name	Option code	Reference page
Brake	B	See P.101
Tip adapter (flange)	FFA	See P.101
Flange (front)	FL	See P.102
Foot bracket	FT	See P.103
Side-mounted motor to the left (Note 1)	ML	See P.105
Side-mounted motor to the right (Note 1)	MR	See P.105
Tip adapter (female screw)	NFA	See P.106
Knuckle joint (Note 2)	NJ	See P.107
Knuckle joint + oscillation receiving bracket (Note 2)	NJPB	See P.107
Non-motor end specification	NM	See P.108
PNP specification	PN	See P.108
Clevis bracket (Note 2)	QR	See P.108
Clevis bracket + oscillation receiving bracket (Note 2)	QRPB	See P.109
Split motor and controller power supply specification	TMD2	See P.109
Battery-less absolute encoder	WA	See P.109
Wireless communication specification	WL	See P.109
Wireless axis-operation specification	WL2	See P.109

(Note 1) Please make sure to enter a code in the option column of the model spec item.
 (Note 2) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set. Mounting is to be done by customer.

Main specifications

Item		Description				
Lead	Ball screw lead (mm)	24	16	8	4	
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	20	50	60	80
		Max. payload (kg) (energy-saving enabled)	18	40	50	55
	Speed/acceleration/deceleration	Max. speed (mm/s)	860	700	350	175
		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	3	8	18	19
		Max. payload (kg) (energy-saving enabled)	3	5	17.5	19
Vertical	Speed/acceleration/deceleration	Max. speed (mm/s)	640	560	350	175
		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	Push force	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
		Max. thrust force when pushing (N)*	182	273	547	1094
Push force	Max. speed when pushing (mm/s)	20	20	20	20	
	Brake	Brake specification	Non-excitation actuating solenoid brake			
Brake holding force (kgf)		3	8	18	19	
Stroke	Min. stroke (mm)	65	65	65	65	
	Max. stroke (mm)	315	315	315	315	
	Stroke pitch (mm)	50	50	50	50	

Item	Description
Driving system	Ball screw φ12mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Linear guide	Linear motion infinite circulating type
Rod	φ30mm Material: Aluminum Hard alumite treatment
Rod no-rotation precision (Note 3)	0 degree
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Stepper motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 3) The rod tip displacement angle when no load is applied.

* Speed limitation applies to push motion. See the manual or contact IAI.

Table of Payload by Speed and Acceleration/Deceleration

■ Energy-saving disabled Unit of payload is kg. Operations on the blank locations are not possible.

Lead 24

Orientation	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	20	18	15	12	3	3
	200	20	18	15	12	3	3
	400	20	14	12	8	3	3
	420	17	12	10	6	3	3
	600	14	6	5	4	2.5	2
	640	5	3	2	1.5	2	1
Vertical	800	5	1	1			
	860	2					

Lead 16

Orientation	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	50	40	35	30	8	8
	140	50	40	35	30	8	8
	280	50	35	25	20	7	7
	420	25	18	10	10	4	3
	560	7	5	2	1	0.5	0.5
	640	2.5					
Vertical							

Lead 8

Orientation	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	60	50	45	40	18	18
	70	60	50	45	40	18	18
	140	60	50	45	40	16	12
	210	60	40	31	26	10	9
	280	25	10	8	6	3	2.5
	320	5					
Vertical							

Lead 4

Orientation	Speed (mm/s)	Acceleration (G)					
		0.3	0.5	0.7	1	0.3	0.5
Horizontal	0	80	70	65	60	28	28
	35	80	70	65	60	28	28
	70	80	70	65	60	28	28
	105	80	60	50	40	18	18
	140	40	15	10	5	5	3
	150	20					
Vertical							

■ Energy-saving enabled Unit of payload is kg. Operations on the blank locations are not possible.

Lead 24

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
0	18	9.5	3
200	18	9.5	3
420	10	5	1.5
630	1		

Lead 16

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
0	40	25	5
140	40	25	5
280	18	12	2
420	1.5	1	

Lead 8

Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
0	50	30	17.5
70	50	30	17.5
140	50	30	7
210	14	7	1

Lead 4

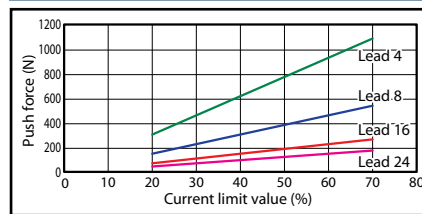
Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
0	55	50	26
35	55	50	26
70	55	50	13
105	30	15	2

Stroke and maximum speed

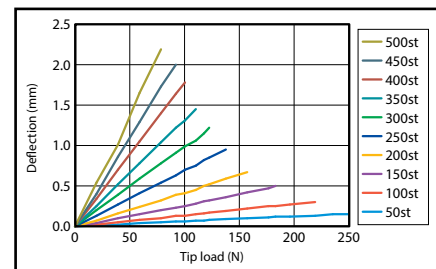
Lead (mm)	Energy-saving	50-500 (per 50mm)
24	Disabled	860<640>
	Enabled	630<420>
16	Disabled	640<560>
	Enabled	420<280>
8	Disabled	320<280>
	Enabled	210
4	Disabled	150<140>
	Enabled	105

(Note) Figures in <> represent vertical operations. (Unit is mm/s)

Correlation between push force and current limit value



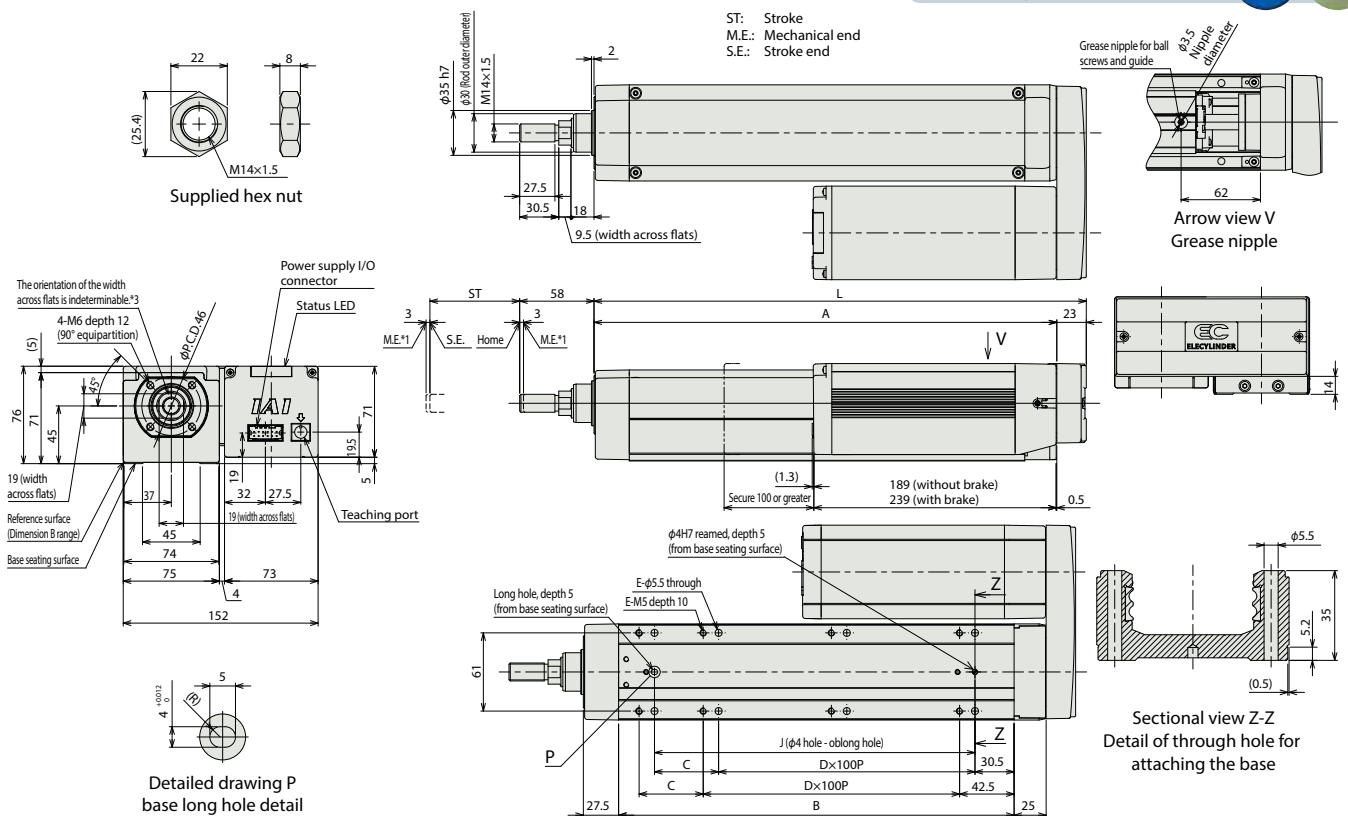
Rod deflection (reference value)



Dimensions

*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
 *2 The drawing below represents side-mounted motor to the left (ML).
 *3 The direction of width across flats varies depending on the product. This flat cannot be used for reference plane.

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



■ Dimensions by stroke

Stroke	50	100	150	200	250	300	350	400	450	500
L	284	334	384	434	484	534	584	634	684	734
A	261	311	361	411	461	511	561	611	661	711
B	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5
C	50	0	50	0	50	0	50	0	50	0
D	1	2	2	3	3	4	4	5	5	6
E	6	6	8	8	10	10	12	12	14	14
J	150	200	250	300	350	400	450	500	550	600

■ Mass by stroke

Stroke	50	100	150	200	250	300	350	400	450	500
Weight (kg)	Without brake	4.6	5	5.3	5.6	6	6.3	6.6	7	7.3
	With brake	5.1	5.5	5.8	6.1	6.5	6.8	7.1	7.5	7.8

Applicable controller

(Note) The EC series is equipped with a built-in controller. Please refer to P116 for details.