

# EC-RR7□R

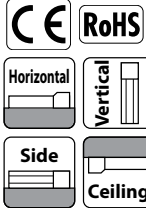


Body width  
**73 mm**

**24v**  
Stepper motor

## Model Specification Items

<b>EC</b>	—	<b>RR7</b>	<input type="text"/>	<b>R</b>	—	<input type="text"/>	—	<input type="text"/>	—	<input type="text"/>
Series	Type	Lead	Specification	Stroke	Cable Length	Options				
		S 24mm H 16mm M 8mm L 4mm	R Motor side-mounted	65 + 315 65mm 315mm (per 50mm)	0 Terminal type with connector 1 1m + 10 10m	Refer to the price list below				



Radial load specification  
**Radial Cylinder\***



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



- (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□R	Stroke (mm)	EC-RR7□R
65	○	215	○
115	○	265	○
165	○	315	○

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>B</b>	See P.101
Tip adapter (flange)	<b>FFA</b>	See P.101
Flange (front)	<b>FL</b>	See P.102
Foot bracket	<b>FT</b>	See P.103
Motor side-mounted to the left (Note 1)	<b>ML</b>	See P.105
Motor side-mounted to the right (Note 1)	<b>MR</b>	See P.105
Tip adapter (female screw)	<b>NFA</b>	See P.106
Knuckle joint (Note 2)	<b>NJ</b>	See P.107
Knuckle joint + oscillation receiving bracket (Note 2)	<b>NJPB</b>	See P.107
Non-motor end specification	<b>NM</b>	See P.108
PNP specification	<b>PN</b>	See P.108
Clevis bracket (Note 2)	<b>QR</b>	See P.108
Clevis bracket + oscillation receiving bracket (Note 2)	<b>QRPB</b>	See P.109
Split motor and controller power supply specification	<b>TMD2</b>	See P.109
Battery-less absolute encoder	<b>WA</b>	See P.109
Wireless communication specification	<b>WL</b>	See P.109
Wireless axis-operation specification	<b>WL2</b>	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	320	160
		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
	Speed/acceleration/deceleration	Max. speed (mm/s)	640	560	280	140
		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	
Brake	Max. speed when pushing (mm/s)	20	20	20	20	
	Brake specification	Non-excitation actuating solenoid brake				
Stroke	Brake holding force (kgf)	3	8	18	19	
	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, RH 85% or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s <sup>2</sup> 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.

Orientation	Speed (mm/s)	Acceleration (G)				
		0.3	0.5	0.7	1	0.3 0.5
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
800	5	1	1			
860	2	0.5				

Orientation	Speed (mm/s)	Acceleration (G)				
		0.3	0.5	0.7	1	0.3 0.5
0	50	40	35	30	8	8
140	50	40	35	30	8	8
280	50	35	25	20	7	7
420	25	18	14	10	4.5	4
560	10	5	3	1.5	1	1
700	1					

Orientation	Speed (mm/s)	Acceleration (G)				
		0.3	0.5	0.7	1	0.3 0.5
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					

Orientation	Speed (mm/s)	Acceleration (G)				
		0.3	0.5	0.7	1	0.3 0.5
0	80	70	65	60	19	19
35	80	70	65	60	19	19
70	80	70	65	60	19	19
105	80	60	50	40	18	18
140	50	25	15	10	7	5
160	10					

■ 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	2

**Lead 4**

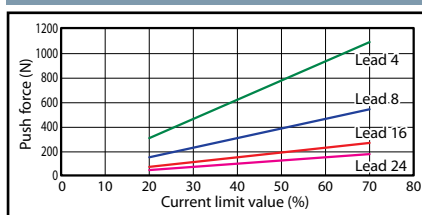
Orientation	Acceleration (G)		
	0.3	0.7	0.3
Speed (mm/s)			
0	55	50	19
35	55	50	19
70	55	50	13
105	30	15	2

**Stroke and maximum speed**

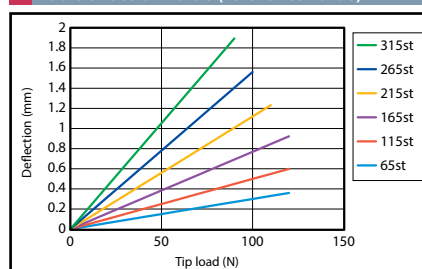
Lead (mm)	Energy-saving mode	65-215 (per 50mm)	265 (mm)	315 (mm)
24	Disabled		860<640>	
	Enabled		630<420>	
16	Disabled		700<560>	
	Enabled		420<280>	
8	Disabled		320<280>	
	Enabled		210	
4	Disabled		160<140>	
	Enabled		105	

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

**Correlation between push force and current limit value**



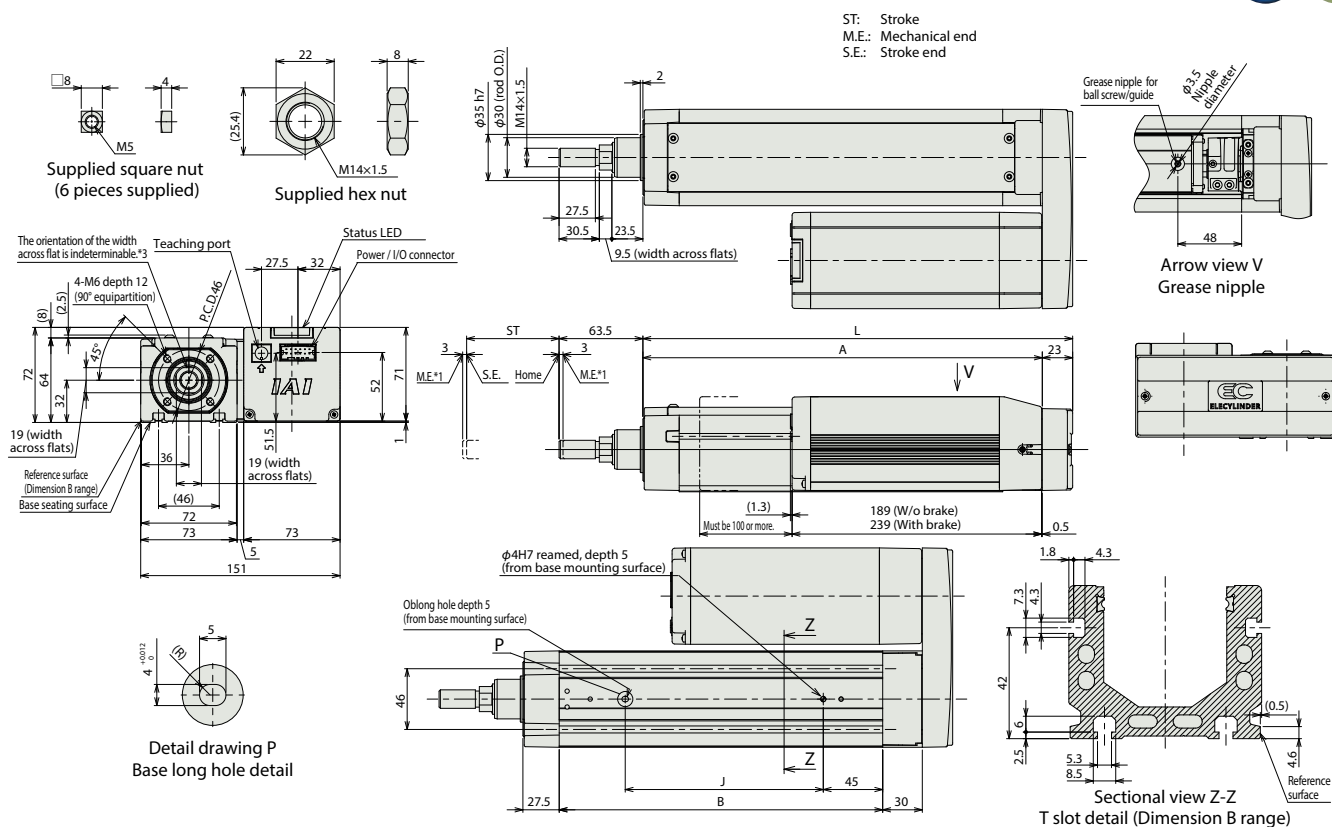
**Rod deflection value (reference value)**



**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 motor side-mounted 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](http://www.intelligentactuator.com)



■ Dimensions by stroke

Stroke	65	115	165	215	265	315
L	275.5	325.5	375.5	425.5	475.5	525.5
A	252.5	302.5	352.5	402.5	452.5	502.5
B	195	245	295	345	395	445
J	100	150	200	250	300	350

■ Mass by stroke

Stroke	65	115	165	215	265	315
Weight (kg)	Without brake	4.4	4.8	5.1	5.5	6.2
	With brake	4.9	5.3	5.6	6.0	6.3

**Applicable controller**

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