

# EC-RR7

Radial Cylinder Motor Unit Type Coupled Motor Body Width 73 mm 24v Stepper Motor

Model Specification Items

EC — RR7

Series — Type

Lead — Stroke — Cable Length — (Options)

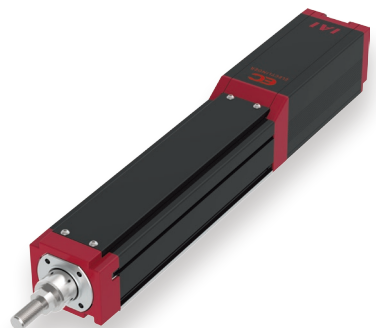
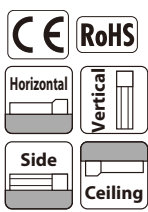
S : 24mm  
H : 16mm  
M : 8mm  
L : 4mm

65: 65mm  
315:315mm (Every 50mm)

0: With terminal block type connector  
1: 1m  
10:10m

Refer to Options below.

\* Please refer to P.16 for more information about the model specification items.



\* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions.

### Table of Payload by Speed/Acceleration

Lead 24							Lead 16						
Orientation	Horizontal			Vertical			Orientation	Horizontal			Vertical		
	Acceleration (G)							Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	20	18	15	12	3	3	0	50	40	35	30	8	8
200	20	18	15	12	3	3	140	50	40	35	30	8	8
400	20	14	12	8	3	3	280	50	35	25	20	7	7
420	17	12	10	6	3	3	420	25	18	14	10	4.5	4
600	14	6	5	4	3	2	560	10	5	3	2	2	1
640	5	3	2	1.5	2	1	700	2					
800	5	1	1										
860	2	0.5											

Lead 8							Lead 4						
Orientation	Horizontal			Vertical			Orientation	Horizontal			Vertical		
	Acceleration (G)							Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	18	18	0	80	70	65	60	19	19
70	60	50	45	40	18	18	35	80	70	65	60	19	19
140	60	50	45	40	16	12	70	80	70	65	60	19	19
210	60	40	31	26	10	9	105	80	60	50	40	18	18
280	34	20	15	11	5	4	140	50	30	20	15	12	10
350	12	4	1		2	1	175	15				2	

- POINT Selection Notes**
- (1) The maximum acceleration/deceleration is 1G for horizontal, and 0.5G for vertical use.
  - (2) 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" at right for more details.
  - (3) The value of the horizontal payload assumes that there is an external guide.
  - (4) When performing push-motion operation, refer to P.65.
  - (5) Depending on the ambient operating temperature, duty control is necessary. Please refer to P.67 for more information.
  - (6) The radial cylinder is equipped with a built-in guide. For the radial load acting on the rod, refer to P.64.
  - (7) The power capacity can be reduced according to the setting. Please refer to P.63 for the relevant "Table of Payload by Speed/Acceleration."
  - (8) For the relationship between rod deflection and load on rod tip, refer to P.66.

### Actuator Specifications

Lead and Payload					Stroke and Max Speed	
Model number	Lead (mm)	Max. payload		Max. push force (N)*	Lead (mm)	65~315 (Every 50mm)
		Horizontal (kg)	Vertical (kg)			
EC-RR7S-①-②-③	24	20	3	182	24	860<640>
EC-RR7H-①-②-③	16	50	8	273	16	700<560>
EC-RR7M-①-②-③	8	60	18	547	8	350
EC-RR7L-①-②-③	4	80	19	1094	4	175

Legend: ① Stroke ② Cable Length ③ Option

<> represents vertical operation. \*Speed limitation applies to push motion. See the manual or contact IAI.

#### ① Stroke

① Stroke (mm)	EC-RR7	① Stroke (mm)	EC-RR7
65	○	215	○
115	○	265	○
165	○	315	○

#### ② Cable Length

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

#### ③ Options

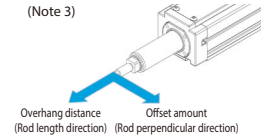
Name	Option code	Reference page	Name	Option code	Reference page
Brake	B	See P.59	Non-motor end specification	NM	See P.62
Tip adapter (flange)	FFA	See P.59	PNP specification	PN	See P.62
Flange (front)	FL	See P.59	Clevis bracket (Note 1)	QR	See P.62
Foot bracket	FT	See P.60	Clevis bracket	QRPB	See P.62
Tip adapter (internal thread)	NFA	See P.61	+ oscillation receiving bracket	WA	See P.62
Knuckle joint (Note 1)	NJ	See P.61	Battery-less Absolute Encoder specification	WL	See P.62
Knuckle joint + oscillation receiving bracket	NJPB	See P.61	Wireless communication specification		

(Note 1) The clevis (QR) and knuckle joint (NJ) are sold as a set. The assembly is to be performed by the customer.

#### Actuator Specifications

Item	Description
Drive system	Ball screw φ12mm, rolled C10
Positioning repeatability	±0.05mm
Rod	φ30mm Material: Aluminum, hard alumite treatment
Rod non-rotation precision (Note 2)	0 degrees
Rod tip static allowable torque	10.5N·m
Rod tip allowable overhang distance (Note 3)	100mm
Rod tip allowable offset amount (Note 3)	100mm
Ambient operating temperature/humidity	0 to 40°C, 85% RH or less (Non-condensing)

(Note 2) Rod rotating direction displacement angle with no load. (Note 3) Rod rotating direction displacement angle with no load.

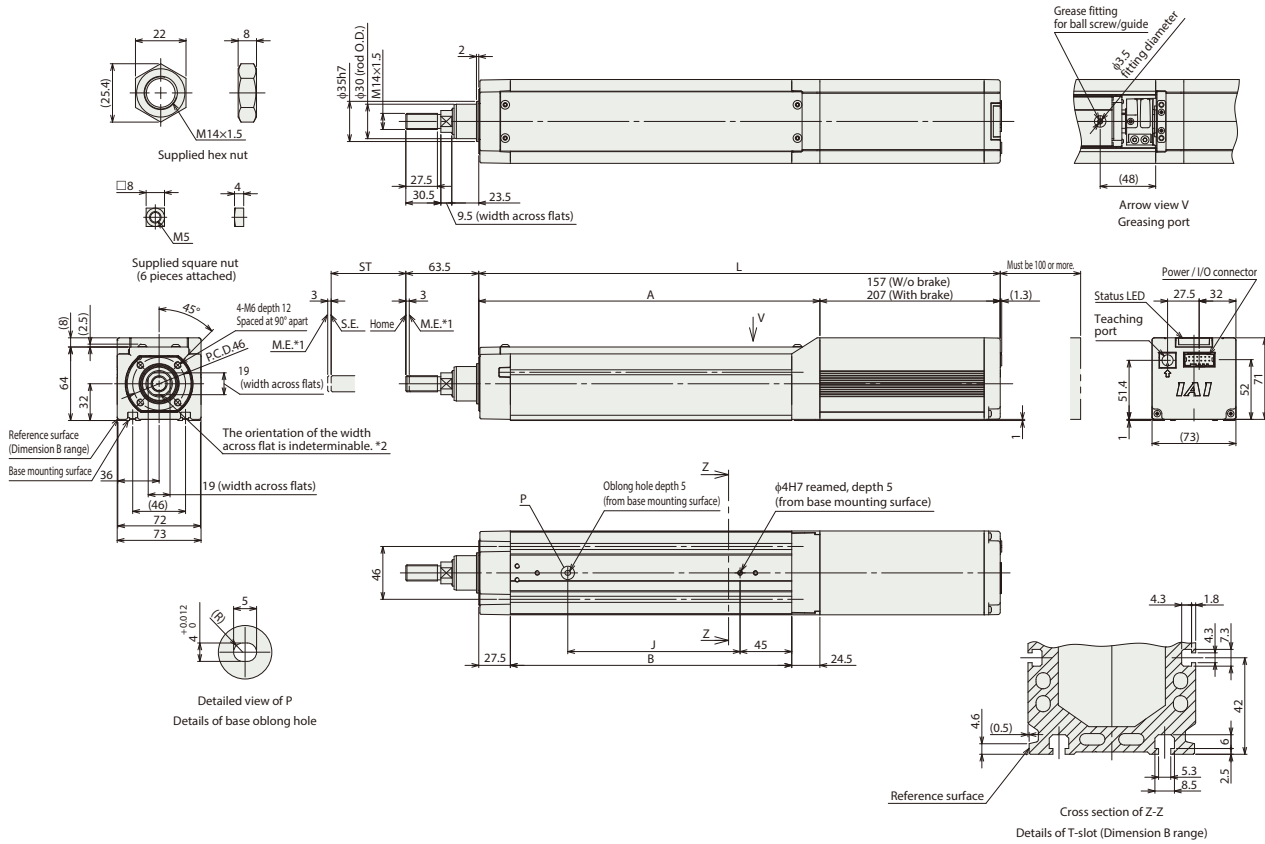


Dimensions

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



\*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.  
M.E: Mechanical end S.E: Stroke end  
\*2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane.



Dimensions and Mass by Stroke

Stroke	65	115	165	215	265	315	
L	W/o Brake	404	454	504	554	604	654
	With Brake	454	504	554	604	654	704
A	247	297	347	397	447	497	
B	195	245	295	345	395	445	
J	100	150	200	250	300	350	
Weight (kg)	W/o Brake	3.7	4.1	4.4	4.8	5.2	5.5
	With Brake	4.3	4.6	5.0	5.3	5.7	6.1

Controller side Options/Accessories

Name	Touch Panel Teaching Pendant	PC software	24VDC power supply
External view			
Model	<input type="checkbox"/> TB-02 (for wired connection only) <input type="checkbox"/> TB-03 (for wired/wireless connection)	<input type="checkbox"/> RCM-101-MW (RS232 connection version) <input type="checkbox"/> RCM-101-USB (USB connection version)	<input type="checkbox"/> PS-241 (100V input) <input type="checkbox"/> PS-242 (200V input)
Overview	<ul style="list-style-type: none"> <li>● TB-02 A teaching pendant equipped with functions such as start point, end point, and AVD input, trial operation, and monitoring.</li> <li>● TB-03 A data setter that supports wireless connection. The start point, end point and AVD can be input with wireless connection.</li> </ul>	Software for start point input, end point input and AVD input, trial operation, and monitoring using a PC. Both the RS232C version and USB version are available for PC connection.	A 24VDC power supply that can instantaneously output up to 17A. Input voltage 200VAC and 100VAC specifications are available.

\* For system configurations using the above tools, refer to P.68.