EC-R6□W

Dust/ Splash-proof | Coupled Motor | Body width 63 mm | 24v Stepper motor

■ Model Specification Items

EC — R6 — [ ] — W — [ ] — [ ] — [ ] — [ ]

Series	Type	Lead		Specification		Stroke		Cable Length		Options
EC	R6	S	20mm	W	Dust/Splash-proof	50	50mm	0	With terminal block type connector	Refer to Options below.
		H	12mm			~	~	1	1m	
		M	6mm			300	300mm (per 50mm)	~	~	
		L	3mm					8	8m	

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) The actuator specifications display the payload's maximum value, but when energy-saving is activated, the specifications will change. Please refer to "Table of Payload by Speed/ Acceleration" for more details.
(2) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction.
(3) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P115 for details.
(4) Depending on the ambient operating temperature, duty control is necessary. Please refer to P115 for details.
(5) Interface box is not processed for dust- and splash-proof. Please install it where there is no water splash.
(6) Special attention needs to be paid to the mounting orientation. Please refer to P33 for details.

Stroke

Stroke (mm)	EC-R6□W	Stroke (mm)	EC-R6□W
50	○	**200**	○
100	○	**250**	○
150	○	**300**	○

Cable Length

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

(Note) Select the actuator cable and the power supply I/O cable so that their total length is under 10m.
(Note) Robot cables.

Options

Name	Option code	Reference page
Actuator cable length 5m	**AC5**	See P.101
Brake	**B**	See P.101
Flange (front)	**FL**	See P.102
Foot bracket	**FT**	See P.103
Tip adapter (female screw)	**NFA**	See P.106
Non-motor end specification	**NM**	See P.108
PNP specification	**PN**	See P.108
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

Main specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	6	25	40	60
		Max. payload (kg) (energy-saving enabled)	6	25	40	40
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. accleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1.5	4	10	12.5
		Max. payload (kg) (energy-saving enabled)	1	4	10	12.5
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	67	112	224	449
		Pushing max. speed (mm/s)	20	20	20	20
Brake		Brake holding specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	4	10	12.5
Stroke		Min. stroke (mm)	50	50	50	50
		Max. stroke (mm)	300	300	300	300
		Stroke pitch (mm)	50	50	50	50

Item		Description
Driving system		Ball screw φ10mm, Rolling C10
Positioning repeatability		±0.05mm
Lost motion		-
Main material	Rod	Material: Aluminum, White alumite treatment
	Frame	Material: Aluminum, Black alumite treatment
	Dust seal	Rubber (NBR)
	Actuator cable	Polyvinyl chloride (PVC)
Rod non-rotation accuracy (Note 1)		±1.5 degree
Allowable load and torque on the rod tip.		0.5N・m
Ambient operation temperature/humidity		0~40°C, 85%RH or less (Non-condensing)
Degree of protection		IP67
Vibration & shock resistance		4.9m/s² 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 1) The rod tip displacement angle (initial reference value) when allowable static torque is applied on rod tip when most of the rod is in the body.

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

Table of Payload by Speed/Acceleration

■ **Setting for energy-saving disabled** Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	6	6	5	5	1.5	1.5
160	6	6	5	5	1.5	1.5
320	6	6	5	3	1.5	1.5
480	6	6	5	3	1.5	1.5
640	6	4	3	2	1.5	1.5
800	4	3			1	1

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	25	18	16	12	4	4
100	25	18	16	12	4	4
200	25	18	16	10	4	4
400	20	14	10	6	4	4
500	15	8	6	4	3.5	3
700	6	2			2	1

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	40	35	30	25	10	10
50	40	35	30	25	10	10
100	40	35	30	25	10	10
200	40	30	25	20	10	10
250	40	27.5	22.5	18	9	8
350	30	14	12	10	5	5
400	18	10	6	5	3	3
450	8	3			2	1

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	12.5	12.5
50	60	50	45	40	12.5	12.5
100	60	50	45	40	12.5	12.5
125	60	50	40	30	10	10
175	40	35	25	20	6	5
200	35	30	20	14	5	4.5
225	16	16	10	6	5	4

■ Setting for energy-saving enabled Unit for payload is kg.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	6	5	1
160	6	5	1
320	6	5	1
480	4	3	1
640	3	1	0.5

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	25	10	4
100	25	10	4
200	25	10	4
300	20	8	3
400	10	5	2
500	5	2	1

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	20	10
50	40	20	10
100	40	20	10
150	40	20	8
200	35	18	5
250	10	6	3

Lead 3

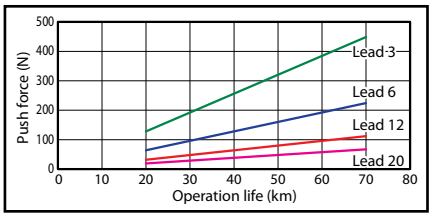
Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	25	12.5
25	40	25	12.5
50	40	25	12.5
75	40	25	12
100	40	25	9
125	40	25	5

Stroke and maximum speed

Lead (mm)	Energy-saving mode	50-200 (per 50mm)	250 (mm)	300 (mm)
20	Disabled	800		
	Enabled	640		
12	Disabled	700		547
	Enabled	500		
6	Disabled	450	376	268
	Enabled	250		
3	Disabled	255	186	133
	Enabled	125		

(Unit is mm/s)

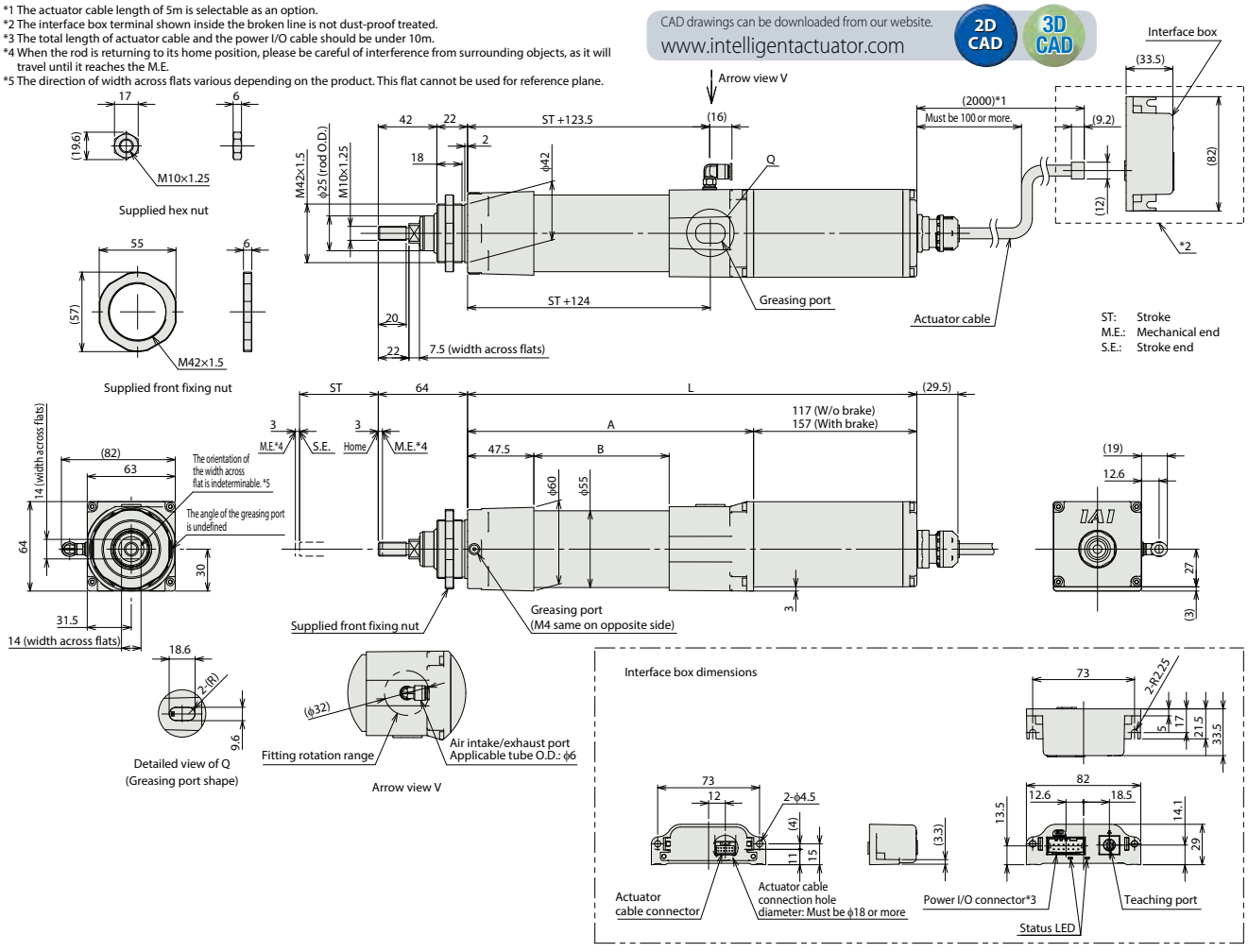
Correlation between push force and current limit value



Dimensions

*1 The actuator cable length of 5m is selectable as an option.
*2 The interface box terminal shown inside the broken line is not dust-proof treated.
*3 The total length of actuator cable and the power I/O cable should be under 10m.
*4 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.
*5 The direction of width across flats various 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
L	Without brake	322	372	422	472	522	572
	With brake	362	412	462	512	562	612
A		205	255	305	355	405	455
B		97	147	197	247	297	347

■ Mass by stroke

Stroke		50	100	150	200	250	300
Weight (kg)	Without brake	1.8	2.0	2.2	2.4	2.6	2.8
	With brake	2.1	2.3	2.5	2.7	2.9	3.1

Applicable controller

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