

EC-GRC7

Slider

2-Finger

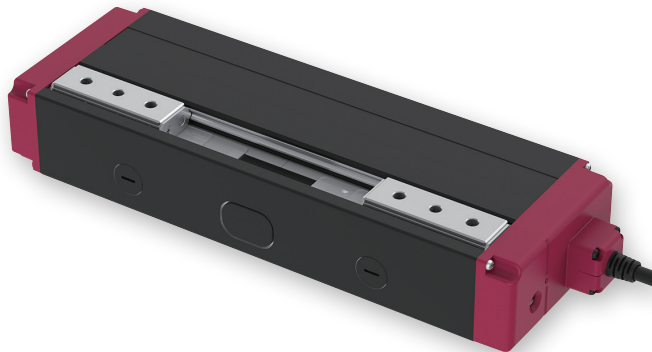
Body Width
70
mm**24v**
Stepper
Motor

Model Specification Items

EC - GRC7

Series	Type	Deceleration ratio	Stroke	Actuator cable length	Power • I/O cable length	Option
	M	Standard Ball screw Lead 2.5mm Pulley deceleration ratio 1.36	20 20mm (10mm per finger) 40 40mm (20mm per finger) 60 60mm (30mm per finger) 80 80mm (40mm per finger)	Refer to the actuator cable length table below	Refer to Power • I/O cable length below	Refer to Option below
	L	High-thrust force Ball screw Lead 2.5mm Pulley deceleration ratio 2.14				

*NPN specification is standard. PNP option is available.



Stroke

Stroke (mm)	EC-GRC7	
	RCON-EC connection specification (Note 1)	NPN/PNP specification
20	✓	✓
40	✓	✓
60	✓	✓
80	✓	✓

(Note 1) Make sure to select "ACR" option.

Options* Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 3) (Note 4)	ACR	43
Brake (Note 5)	B	43
Cable exit orientation (bottom)	CJB	43
Cable exit orientation (left)	CJL	43
Cable exit orientation (right)	CJR	43
Cable exit orientation (top)	CJT	43
Specified grease specification	G1/G5	43
Finger attachment mounting jig (Open/close direction screw hole)	MJF1	44
Finger attachment mounting jig (Side surface screw hole)	MJF2	44
Finger attachment mounting jig (Open/close direction through hole)	MJF3	44
Closed homing specification	NM	45
PNP specification (Note 3)	PN	45
Split motor and controller power specification (Note 3)	TMD2	46
Battery-less absolute encoder specification	WA	46
Wireless communication specification (Note 4)	WL	46
Wireless axis operation specification (Note 4)	WL2	46

(Note 3) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected. The interface box and conversion cable are not included.

(Note 4) If the RCON-EC connection specification (ACR) is selected, the wireless communication specification (WL) and wireless axis operation specification (WL2) cannot be selected. For wireless communication (WL) with RCON-EC connection, an interface box, conversion cable and power • I/O cable should be ordered separately. Refer to P5 for details. For the wireless axis operation specification (WL2), contact one of IAI representatives.

(Note 5) Cannot be selected for 20 Stroke.



- (1) The maximum open/close speed in the Main Specifications represents the operation speed for one side. The relative operation speed is twice the value.
- (2) The maximum grip force in the Main Specifications is the total of the grip force of both fingers when the grip point distance and overhang distance are both 0. For the workpiece weight which can actually be conveyed, refer to the Confirmation of Grip Point Distance table below.
- (3) When gripping the workpiece, be sure to use push-motion operation.
- (4) The workpiece grip force will be maintained via self-lock even during power cutoffs. (However, this does not guarantee that the workpiece will not be dropped.) To move the slider fingers during a power cutoff, turn the open/close screw on the side, or remove the finger attachment to release the workpiece.

Sold Separately * Please check the Options reference pages to confirm each option.

Name	Model	Reference page
Interface box conversion cable	CB-CVN-BJ002	54
RCON-EC connection specification power • I/O cable (Standard connector cable)	CB-REC-PWBIO□□□-RB	57
RCON-EC connection specification power • I/O cable (4-way connector cable)	CB-REC2-PWBIO□□□-RB	57
Interface box for Split motor and controller power specification of RCON-EC connection (Wireless specification)	ECW-CVNW-L-CB-ACR	54

(Note) Power • I/O cable is a robot cable.

Specify the cable length in □□□. (Ex. 010=10m)

Actuator cable length

Cable code	Cable length	Actuator cable length
1 ~ 3	1 ~ 3m	✓
4 ~ 5	4 ~ 5m	✓
6 ~ 10	6 ~ 10m (Note 6)	✓

(Note 6) When connection is via the interface box, the maximum length is 9m.

(Note) Select the cable so that the total length with the actuator cable is 10m or less.

(Note) Robot cable is standard

Power • I/O Cable Length

Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)
		CB-EC-PWBIO□□□-RB supplied
0	No cable	✓ (Note 7)
1 ~ 3	1 ~ 3m	✓
4 ~ 5	4 ~ 5m	✓
6 ~ 9	6 ~ 9m	✓

(Note 7) Only the terminal connector is included. * Choose "0" if optional RCON-EC connection specification (ACR) is selected. Power-I/O cable is not included. Refer to P53 for details.

(Note) Robot cable is standard

4-way connector cable

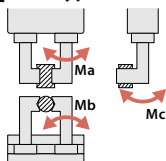
Cable code	Cable length	User wiring specification (flying leads)
		CB-EC2-PWBIO□□□-RB supplied
S1 ~ S3	1 ~ 3m	✓
S4 ~ S5	4 ~ 5m	✓
S6 ~ S9	6 ~ 9m	✓

(Note) Robot cable is standard

Main Specifications

Item	Description	Description	
		M	L
Lead	Deceleration ratio		
	Ball screw lead (mm)	2.5	2.5
Grip operation	Pulley deceleration ratio	1.36	2.14
	Max. grip force (N) (both sides)	150	350
	Max. speed during grip operation (mm/s) (per finger)	20	20
Approach operation	Max. speed (mm/s) (per finger)	137.5	87.5
	Min. speed (mm/s) (per finger)	10	10
	Rated acceleration/deceleration (G) (per finger)	0.3	0.3
	Max. acceleration/deceleration (G) (per finger)	0.3	0.3
Brake	Brake specification (Mass: 0.2kg)	non-exciting electromagnetic brake	
	Brake-holding force (N) (both sides)	107	175
Stroke (per finger)	Min. stroke (mm) (per finger)	10	10
	Max. stroke (mm) (per finger)	40	40

Slide type moment direction

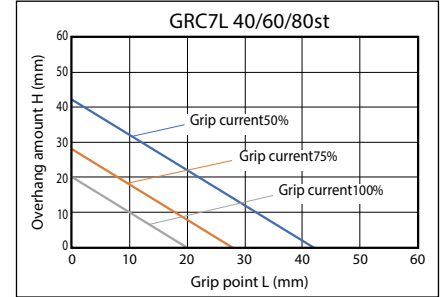
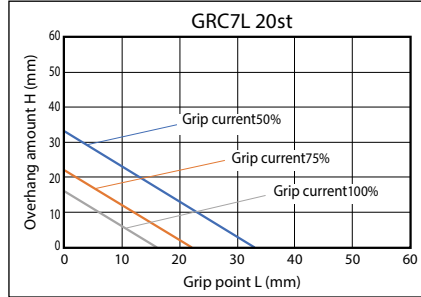
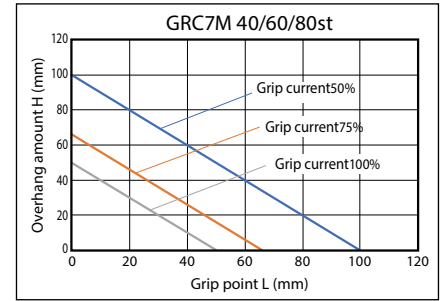
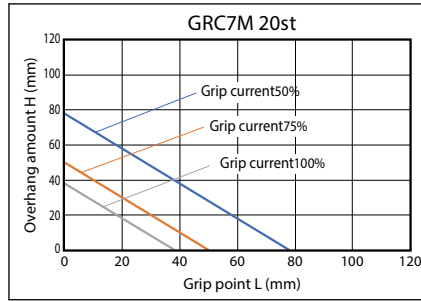
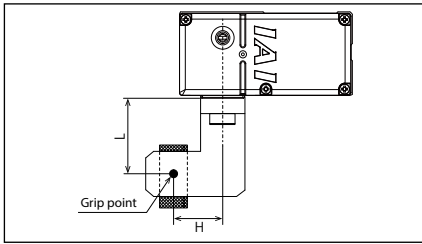


Item	Description
Drive system	Timing belt + both sides trapezoidal sliding screw
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Backlash (per finger)	0.1mm or less
Linear guide	Limited guide
Static allowable moment	Ma : <20st> 3.60 N-m <40/60/80st> 7.52 N-m
	Mb : <20st> 3.60 N-m <40/60/80st> 7.52 N-m
	Mc : <20st> 10.2 N-m <40/60/80st> 15.3 N-m
Vertical allowable load (Note 8)	<20st> 498N <40/60/80st> 798N
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Degree of protection	IP20
Vibration/shock resistance	4.9m/s ²
Overseas standards	CE marking, RoHS directive
Motor type	Stepper motor (□□28) (Power capacity: maximum 2A)
Encoder type	Incremental (standard) /battery-less absolute (option)
Number of encoder pulses	16384 pulse/rev

(Note 8) Use at a load exceeding the value above could reduce operation life or lead to damage.

Confirmation of Grip Point Distance

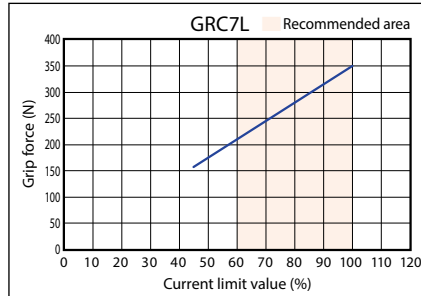
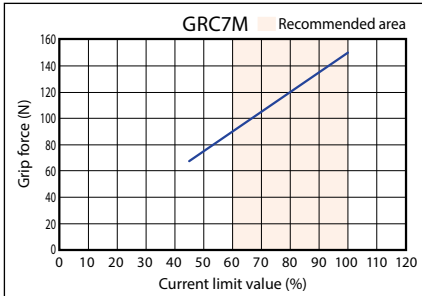
Use with distance (L, H) from finger (jaw) mounting surface to grip point within the range in the graph.



(Note) Use beyond the limited range will cause excessive moment loading on the finger sliding part and interior mechanisms, negatively affecting operation life.

Grip Force

Correlation diagram between grip force and current limit value

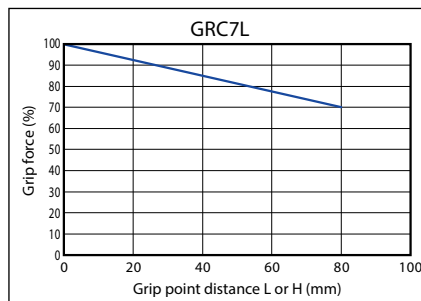
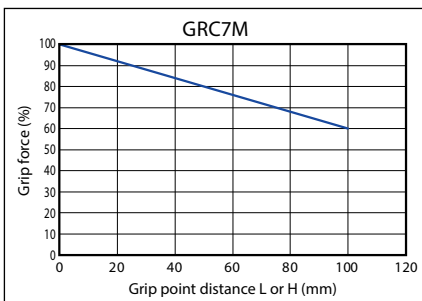


(Note) Total value of both fingers when grip point distance (L, H) is 0.

(Note) These are reference values. There is a potential variation of 0 to 60%, in particular if the current limit values are set outside of the recommended range (colored part of the graph).

(Note) For gripping (pushing), the speed is 20mm/s. When the approach speed is 20mm/s or less, gripping is carried out at the approach speed.

Guidelines for grip point distance and grip force



(Note) Shows grip force of overhang position when maximum grip force is set to 100%. The results may differ due to the rigidity of the finger attachment used.

