Electric gripper

YRG Series

Simple gripper operation and control via the YAMAHA robot language!
Just install a gripper control board into the RCX240 controller and set the electrical gripper as an additional robot axis.

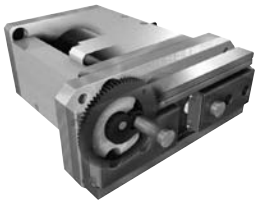
Main functions ▶ P.72

Structure

Single cam structure

Unique cam structure is simple and compact. The fingers work due to external force since no self-locking is used.

Double cam structure



Unique double cam structure with gear. Simple design gives high gripping power yet body is compact.

Ball screw structure

Belt-driven ground ball screw delivers a long stroke with high efficiency and high precision.

Compact ball guide structure

Use of special cams provides light weight and compactness. Ideal for grasping and moving a round workpiece made of glass or similar material.

Features

1 Electric gripper for high-precision gripping power, positioning, and speed control

YRG delivers gripping power control, speed and acceleration control, multi-point positioning, and measuring of workpieces, which have been difficult for air-driven devices. The YRG proves a flexible fit for a wide range of applications.

2 Just one RXC240 controller can run it all

One multi-axis controller RCX240 unit can control all robot operations including a gripper.
Needs no data exchange with the host device such as PLC, so set-up and start-up are amazingly simple.

3 Gripping power control

Settable in 1% units from 30 to 100%.

4 Measuring

Measures a workpiece by position sensing.

5 Speed control

Settable as needed in 1% units from 20 to 100% for speed and 1 to 100% for acceleration.

6 Multi-point Control

A maximum of 10,000 positioning points can be set.

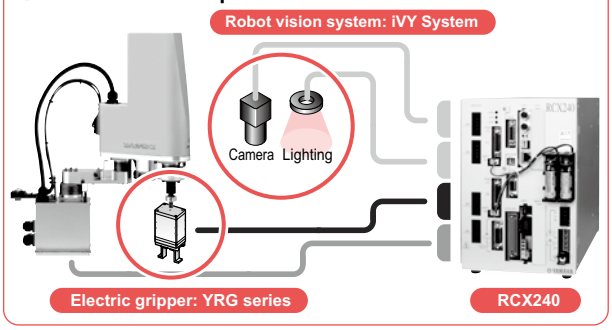
7 Workpiece check function

Utilizes the HOLD output signal to check if the gripper fails to grip a workpiece or drops it, without using a sensor.

8 Combination with a vision system supports wide ranging applications

Even sophisticated systems can be easily configured by using the YRG series gripper in combination with a controller-integrated robot vision “iVY system”.

Connection example



Compact single cam type

YRG-2005SS

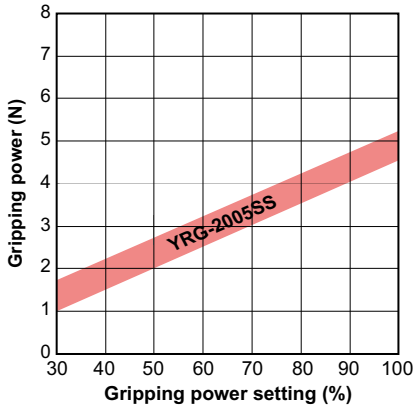
Basic specifications

Model name		YRG-2005SS
Holding power	Max. continuous rating (N)	5
	Min. setting (% (N))	30 (1.5)
	Resolution (% (N))	1 (0.05)
Open/close stroke (mm)		3.2
Speed	Max. rating (mm/sec)	100
	Min. setting (% (mm/sec))	20 (20)
	Resolution (% (mm/sec))	1 (1)
	Holding speed (Max.) (%)	50
Repetitive positioning accuracy (mm)		+/-0.02
Guide mechanism		Linear guide
Max. holding weight Note 1 (kg)		0.05
Weight (g)		90

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

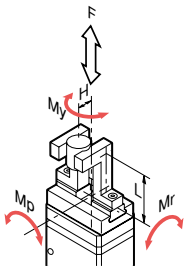
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

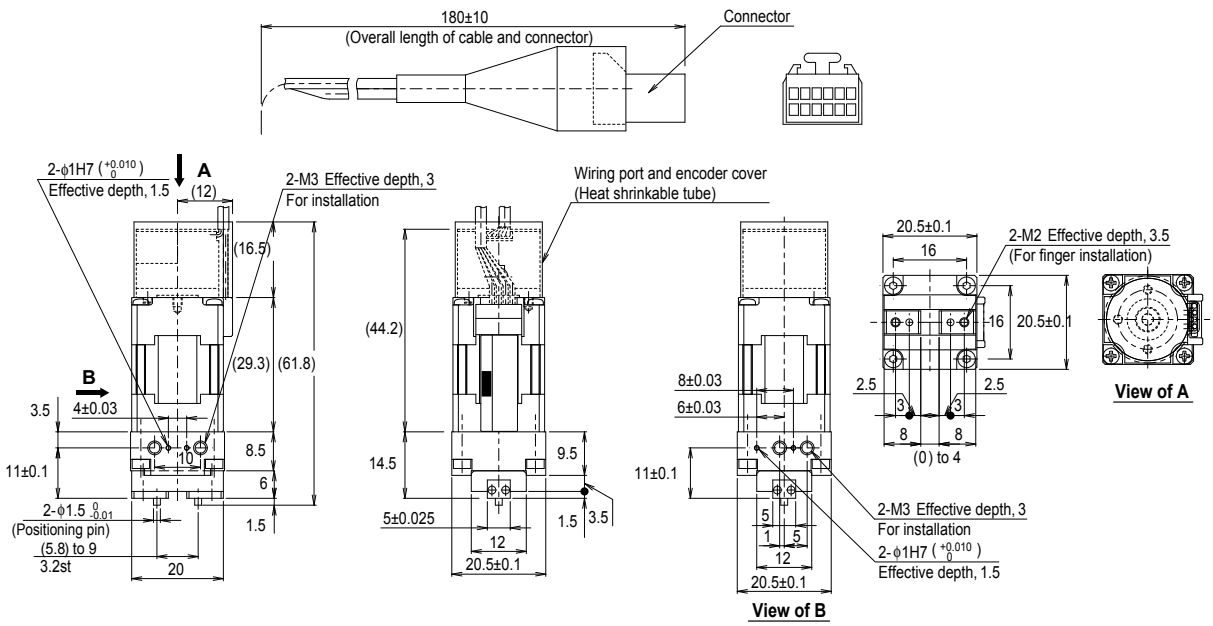
Allowable load and load moment

				YRG-2005SS
Guide	Allowable load	F	N	12
	Allowable pitching moment	Mp	N•m	0.04
	Allowable yawing moment	My	N•m	0.04
	Allowable rolling moment	Mr	N•m	0.08
Finger	Max. weight (1 pair)		g	10
	Max. holding position	L	mm	20
	Max. overhang	H	mm	20



• Mount the finger so that the allowable load and load moment of the guide do not exceed the values stated in the table above.
• Make the adjustment so that the finger weight, holding length (L) from the installation surface to the holding point, and overhang (H) do not exceed the values stated in the table above.
• Please contact your YAMAHA sales dealer for further information on combination of L and H.

YRG-2005SS



Note. Avoid extreme winding of the cable and fix the cable securely so that it does not move.
Take appropriate measures so that any excessive force is not applied to the root of the cable.

Single cam type

YRG-2010S/2815S/4225S

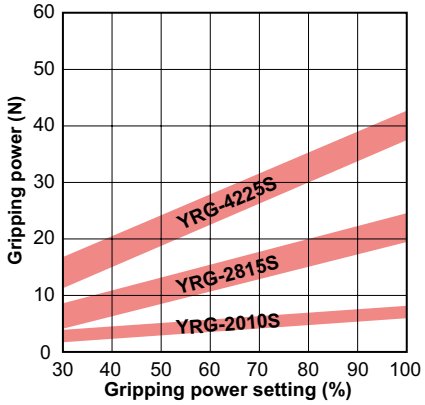
Basic specifications

Model name		YRG-2010S	YRG-2815S	YRG-4225S
Holding power	Max. continuous rating (N)	6	22	40
	Min. setting (% (N))	30 (1.8)	30 (6.6)	30 (12)
	Resolution (% (N))	1 (0.06)	1 (0.22)	1 (0.4)
Open/close stroke (mm)		7.6	14.3	23.5
Speed	Max. rating (mm/sec)	100		
	Min. setting (% (mm/sec))	20 (20)		
	Resolution (% (mm/sec))	1 (1)		
	Holding speed (Max.) (%)	50		
Repetitive positioning accuracy (mm)		+/-0.02		
Guide mechanism		Linear guide		
Max. holding weight Note 1 (kg)		0.06	0.22	0.4
Weight (g)		160	300	580

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

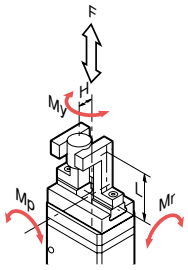
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

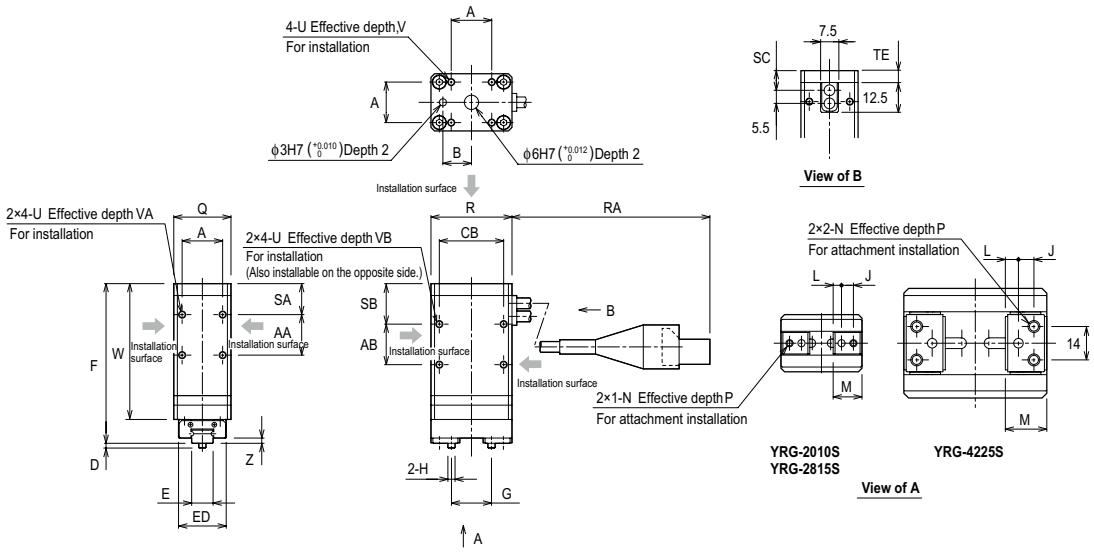
Allowable load and load moment

				YRG-2010S	YRG-2815S	YRG-4225S
Guide	Allowable load	F	N	450	350	600
	Allowable pitching moment	Mp	N•m	0.7	0.5	1.1
	Allowable yawing moment	My	N•m	0.8	0.6	1.3
	Allowable rolling moment	Mr	N•m	2.3	2.8	8.6
Finger	Max. weight (1 pair)		g	15	30	50
	Max. holding position	L	mm	20	20	25
	Max. overhang	H	mm	20	25	30



• Mount the finger so that the allowable load and load moment of the guide do not exceed the values stated in the table above.
• Make the adjustment so that the finger weight, holding length (L) from the installation surface to the holding point, and overhang (H) do not exceed the values stated in the table above.
• Please contact your YAMAHA sales dealer for further information on combination of L and H.

YRG-2010S/2815S/4225S



	A	AA	AB	B	CB	D	E	ED	F	G	H	J	L
YRG-2010S	17	17	17	12	27	2	9 0 -0.05	20	71	8.4 to 16	φ3 0 -0.01	5	3.5
YRG-2815S	24	24	14	15	38	2	14 0 -0.05	25	78	9.6 to 23.9	φ3 0 -0.01	6	4.3
YRG-4225S	36	25	13	20	50	3	24 0 -0.05	40	86	12 to 35.5	φ4 0 -0.012	6.5	5.5

	M	N	P	Q	R	RA	SA	SB	SC	TE	U	V	VA	VB	W	Z
YRG-2010S	12.1	M3	5	24	34	165+/-10	13	17	8.3	5	M3	5	6	6	61	2.2
YRG-2815S	15	M4	5	32	46	140+/-10	16	21	9.3	6	M4	6	8	8	69	2
YRG-4225S	17.4	M5	8	46	60	235+/-10	18	24	10.8	7.5	M5	7.5	8	10	72	3

Double cam type

YRG-2005W/2810W/4220W

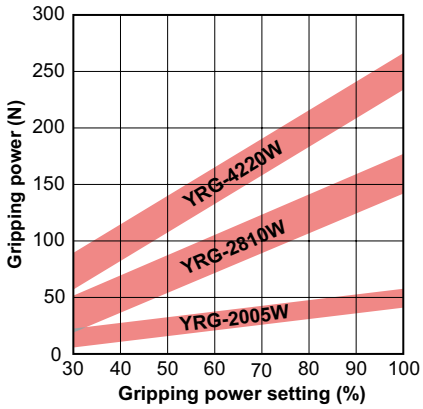
Basic specifications

Model name		YRG-2005W	YRG-2810W	YRG-4220W
Holding power	Max. continuous rating (N)	50	150	250
	Min. setting (% (N))	30 (15)	30 (45)	30 (75)
	Resolution (% (N))	1 (0.5)	1 (1.5)	1 (2.5)
Open/close stroke (mm)		5	10	19.3
Speed	Max. rating (mm/sec)	60	60	45
	Min. setting (% (mm/sec))	20 (12)	20 (12)	20 (9)
	Resolution (% (mm/sec))	1 (0.6)	1 (0.7)	1 (0.45)
	Holding speed (Max.) (%)	50		
Repetitive positioning accuracy (mm)		+/-0.03		
Guide mechanism		Linear guide		
Max. holding weight Note 1 (kg)		0.5	1.5	2.5
Weight (g)		200	350	800

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

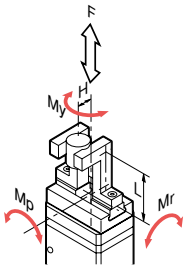
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

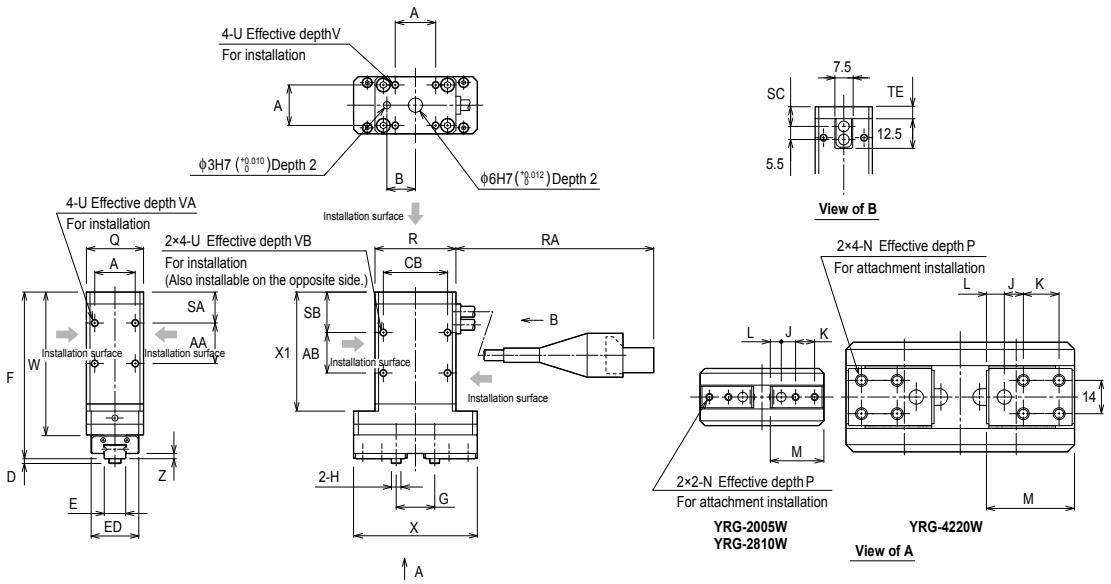
Allowable load and load moment

				YRG-2005W	YRG-2810W	YRG-4220W
Guide	Allowable load	F	N	1000	1000	2000
	Allowable pitching moment	Mp	N•m	6.7	8.1	20.1
	Allowable yawing moment	My	N•m	4	4.8	12
	Allowable rolling moment	Mr	N•m	5.1	7.8	25.9
Finger	Max. weight (1 pair)		g	40	80	200
	Max. holding position	L	mm	30	30	50
	Max. overhang	H	mm	20	20	30



• Mount the finger so that the allowable load and load moment of the guide do not exceed the values stated in the table above.
• Make the adjustment so that the finger weight, holding length (L) from the installation surface to the holding point, and overhang (H) do not exceed the values stated in the table above.
• Please contact your YAMAHA sales dealer for further information on combination of L and H.

YRG-2005W/2810W/4220W



	A	AA	AB	B	CB	D	E	ED	F	G	H	J	K	L
YRG-2005W	17	17	17	12	27	2	9 0 -0.05	20	74	10.6 to 15.6	ϕ4 0 -0.012	6	8	4.6
YRG-2810W	24	24	14	15	38	2	14 0 -0.05	25	80	12.6 to 22.6	ϕ5 0 -0.012	7	10	5.65
YRG-4220W	36	25	13	20	50	3	24 0 -0.05	40	90	17.0 to 36.3	ϕ6 0 -0.012	8	15	7.5

	M	N	P	Q	R	RA	SA	SB	SC	TE	U	V	VA	VB	W	X	X1	Z
YRG-2005W	22.5	M3	5	24	34	165+/-10	13	17	8.3	5	M3	5	6	6	64	52	54	2.2
YRG-2810W	27.5	M4	5	32	46	140+/-10	16	21	9.3	6	M4	6	8	8	71	67	61	2
YRG-4220W	37	M5	8	46	60	235+/-10	18	24	10.8	7.5	M5	7.5	8	10	76	96	63	3

Screw type strait style

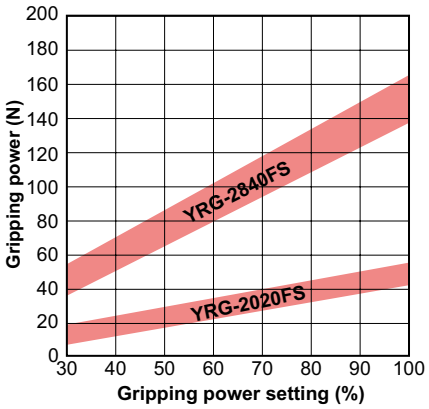
YRG-2020FS/2840FS

Basic specifications

Model name		YRG-2020FS	YRG-2840FS
Holding power	Max. continuous rating (N)	50	150
	Min. setting (% (N))	30 (15)	30 (45)
	Resolution (% (N))	1 (0.5)	1 (1.5)
Open/close stroke (mm)		19	38
Speed	Max. rating (mm/sec)	50	50
	Min. setting (% (mm/sec))	20 (10)	20 (10)
	Resolution (% (mm/sec))	1 (0.5)	1 (0.5)
	Holding speed (Max.) (%)	50	50
Repetitive positioning accuracy (mm)		+/-0.01	+/-0.01
Guide mechanism		Linear guide	
Max. holding weight Note 1 (kg)		0.5	1.5
Weight (g)		420	880

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.
Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

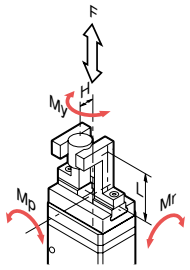
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

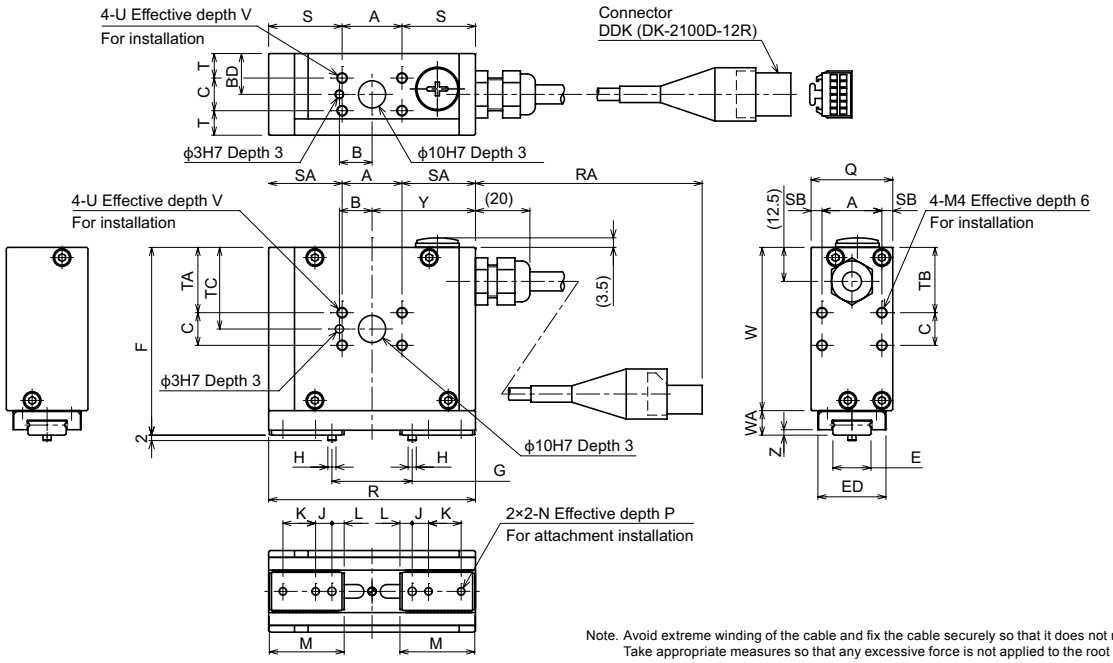
Allowable load and load moment

				YRG-2020FS	YRG-2840FS
Guide	Allowable load	F	N	1000	1300
	Allowable pitching moment	Mp	N•m	3.5	5
	Allowable yawing moment	My	N•m	4.2	6
	Allowable rolling moment	Mr	N•m	7.3	12.7
Finger	Max. weight (1 pair)		g	40	80
	Max. holding position	L	mm	30	30
	Max. overhang	H	mm	20	20



• Mount the finger so that the allowable load and load moment of the guide do not exceed the values stated in the table above.
• Make the adjustment so that the finger weight, holding length (L) from the installation surface to the holding point, and overhang (H) do not exceed the values stated in the table above.
• Please contact your YAMAHA sales dealer for further information on combination of L and H.

YRG-2020FS/2840FS



Note. Avoid extreme winding of the cable and fix the cable securely so that it does not move. Take appropriate measures so that any excessive force is not applied to the root of the cable.

	A	B	BD	C	D	E	ED	F	G	H	J	K	L	M	N
YRG-2020FS	22	12	15	12	2	14 $^{0}_{-0.05}$	25	69	10.5 to 29.5	ϕ3 $^{0}_{-0.01}$	6	12	4.5	27.5	M3
YRG-2840FS	30	15	20	16	2	18 $^{0}_{-0.05}$	30	84	13 to 51	ϕ4 $^{0}_{-0.012}$	8	14	5.5	34.5	M4

	P	Q	R	RA	S	SA	SB	T	TA	TB	TC	TD	U	V	W	WA	Y	Z
YRG-2020FS	5	30	76	175+/-10	27	27	4	9	24	24	30	12.5	M4	6	60	9	38	2
YRG-2840FS	7.5	40	110	135+/-10	40	40	5	12	28	28	36	14	M5	7.5	72	12	55	3

Screw type “T” style

YRG-2020FT/2840FT

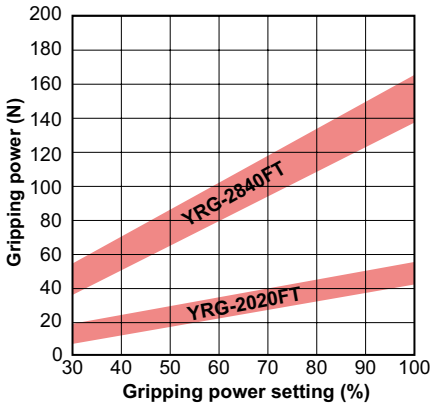
Basic specifications

Model name		YRG-2020FT	YRG-2840FT
Holding power	Max. continuous rating (N)	50	150
	Min. setting (% (N))	30 (15)	30 (45)
	Resolution (% (N))	1 (0.5)	1 (1.5)
Open/close stroke (mm)		19	38
Speed	Max. rating (mm/sec)	50	50
	Min. setting (% (mm/sec))	20 (10)	20 (10)
	Resolution (% (mm/sec))	1 (0.5)	1 (0.5)
	Holding speed (Max.) (%)	50	50
Repetitive positioning accuracy (mm)		+/-0.01	+/-0.01
Guide mechanism		Linear guide	
Max. holding weight Note 1 (kg)		0.5	1.5
Weight (g)		420	890

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

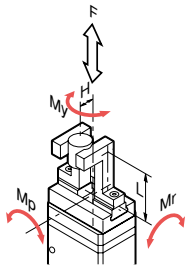
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

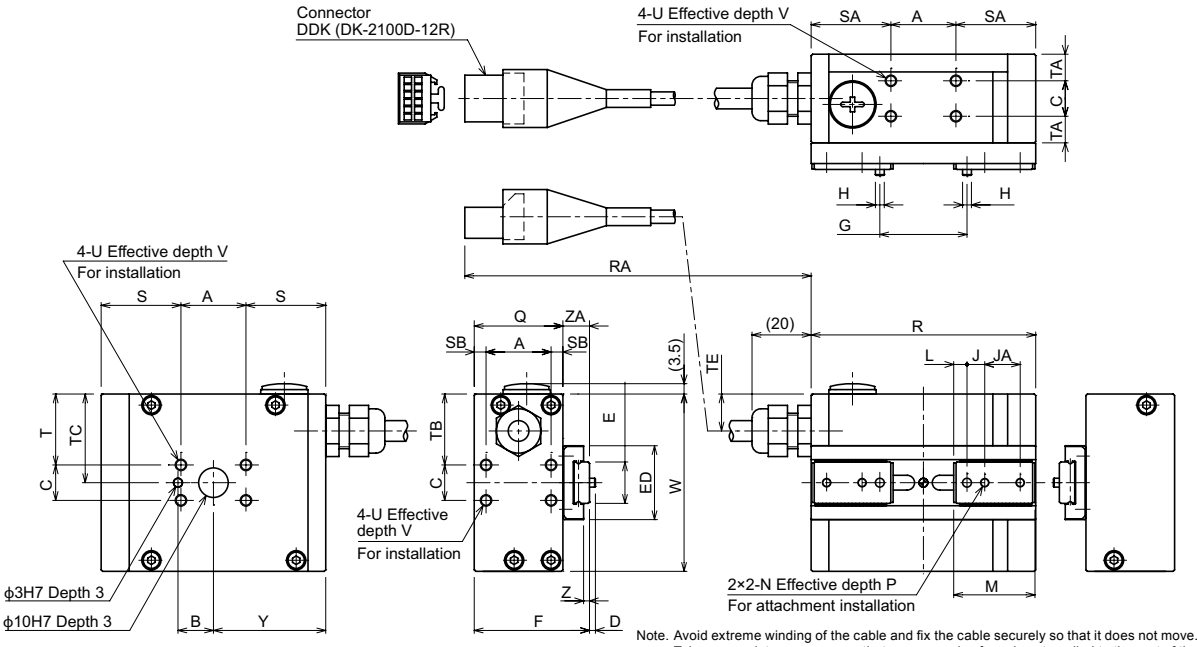
Allowable load and load moment

				YRG-2020FT	YRG-2840FT
Guide	Allowable load	F	N	1000	1300
	Allowable pitching moment	Mp	N•m	3.5	5
	Allowable yawing moment	My	N•m	4.2	6
	Allowable rolling moment	Mr	N•m	7.3	12.7
Finger	Max. weight (1 pair)		g	40	80
	Max. holding position	L	mm	30	30
	Max. overhang	H	mm	20	20



• Mount the finger so that the allowable load and load moment of the guide do not exceed the values stated in the table above.
• Make the adjustment so that the finger weight, holding length (L) from the installation surface to the holding point, and overhang (H) do not exceed the values stated in the table above.
• Please contact your YAMAHA sales dealer for further information on combination of L and H.

YRG-2020FT/2840FT



Note. Avoid extreme winding of the cable and fix the cable securely so that it does not move. Take appropriate measures so that any excessive force is not applied to the root of the cable.

	A	B	C	D	E	ED	F	G	H	J	JA	K	L	M	N	P
YRG-2020FT	22	12	12	2	14 $^{0}_{-0.05}$	25	39	10.5 to 29.5	ϕ3 $^{0}_{-0.01}$	6	12	12	4.5	27.5	M3	5
YRG-2840FT	30	15	16	2	18 $^{0}_{-0.05}$	30	52	13 to 51	ϕ4 $^{0}_{-0.012}$	8	14	14	5.5	34.5	M4	7.5

	Q	R	RA	S	SA	SB	T	TA	TB	TC	TD	TE	U	V	W	Y	Z	ZA
YRG-2020FT	30	76	175+/-10	27	27	4	24	9	24	30	12.5	12.5	M4	6	60	38	2	9
YRG-2840FT	40	110	135+/-10	40	40	5	28	12	28	36	14	14	M5	7.5	72	55	3	12

Three fingers type

YRG-2004T

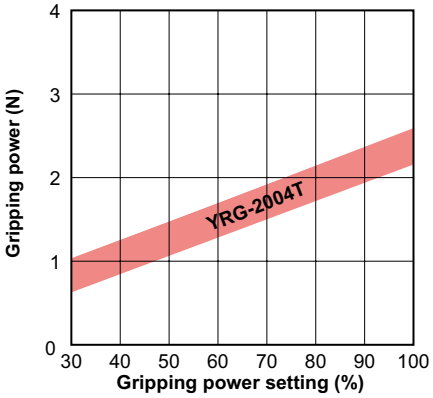
Basic specifications

Model name		YRG-2004T
Holding power	Max. continuous rating (N)	2.5
	Min. setting (% (N))	30 (0.75)
	Resolution (% (N))	1 (0.025)
Open/close stroke (mm)		3.5
Speed	Max. rating (mm/sec)	100
	Min. setting (% (mm/sec))	20 (20)
	Resolution (% (mm/sec))	1 (1)
	Holding speed (Max.) (%)	50
Repetitive positioning accuracy (mm)		+/-0.03
Guide mechanism		Linear guide
Max. holding weight Note 1 (kg)		0.02
Weight (g)		90

• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.
Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

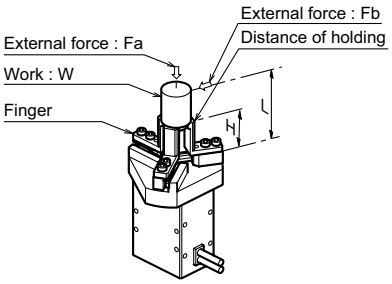
Gripping power vs. gripping power setting (%)



• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

Allowable load and load moment

				YRG-2004T
Finger	Allowable load		N	6
	Allowable pitching moment		N•m	0.02
	Max. weight (1 pair)		g	10
	Max. holding position	L	mm	15



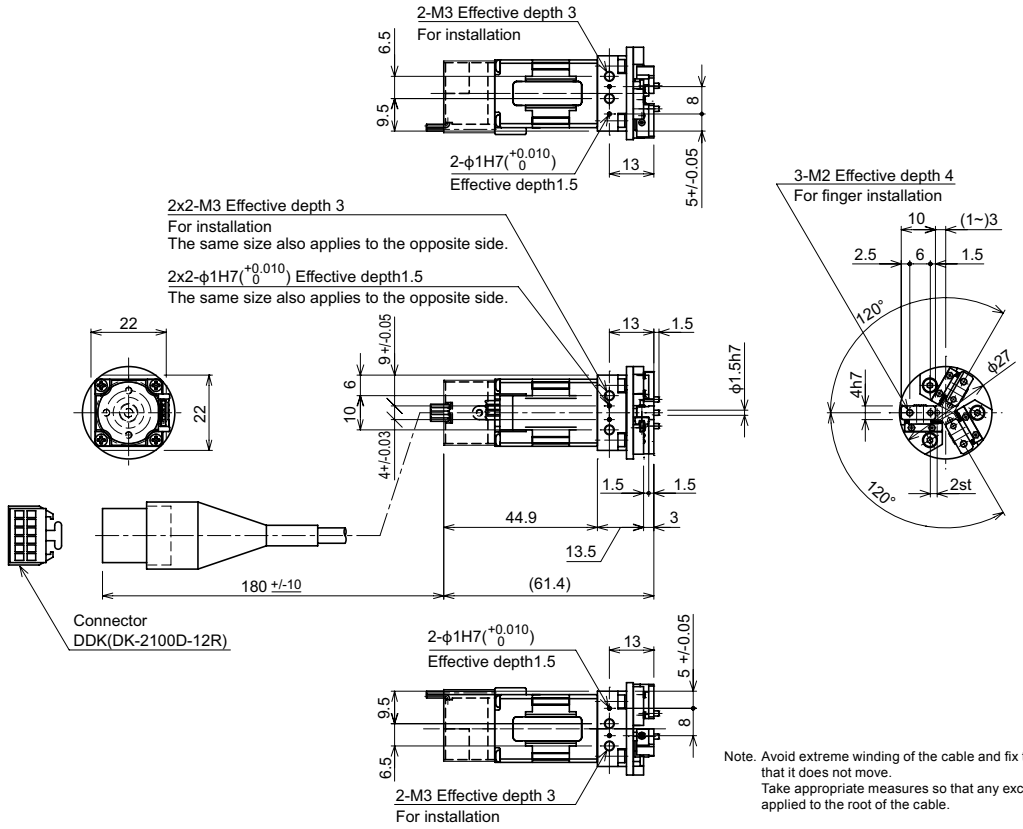
• When the external forces Fa and Fb are applied to a potion the distance (L) apart from the finger installation surface, the load (F) and moment (M) are calculated from the formulas shown below.

F = Fa + W × g
M = Fb × L

Fa : External force [N]
Fb : External force [N]
W : Workpiece weight [Kg]
g : Gravity acceleration [m/s^2]
H : Distance of holding point [m]

F : Load [N]
M : Moment [N•m]
L : Distance of point of external force application [m]

YRG-2004T



Note. Avoid extreme winding of the cable and fix the cable securely so that it does not move.
Take appropriate measures so that any excessive force is not applied to the root of the cable.

Three fingers type

YRG-2013T/2820T/4230T

Basic specifications

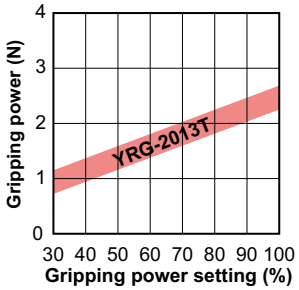
Model name		YRG-2013T	YRG-2820T	YRG-4230T
Holding power	Max. continuous rating (N)	2	10	20
	Min. setting (% (N))	30 (0.6)	30 (3)	30 (6)
	Resolution (% (N))	1 (0.02)	1 (0.1)	1 (0.2)
Open/close stroke (mm)		13	20	30
Speed	Max. rating (mm/sec)	100		
	Min. setting (% (mm/sec))	20 (20)		
	Resolution (% (mm/sec))	1 (1)	1 (1)	1 (1)
	Holding speed (Max.) (%)	50	50	50
Repetitive positioning accuracy (mm)		+/-0.03		
Guide mechanism		Linear guide		
Max. holding weight Note 1 (kg)		0.02	0.1	0.2
Weight (g)		190	340	640

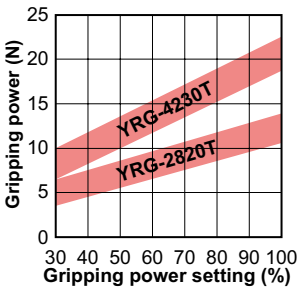
• Hoding power control : 30 to 100% (1% steps) • Speed control : 20 to 100% (1% steps)
• Acceleration control : 1 to 100% (1% steps) • Multipoint position control : 10,000 max.

Note. Design the finger as short and lightweight as possible.
Note. Set the parameters and holding power (%) of the holding movement command so that any excessive shock is not applied to the finger during operation.
Note. When installing or uninstalling the finger, tighten the bolts while the finger is being held securely so that any excessive force or shock is not applied to the guide block.
Note. Workpiece weight that is able to be held may greatly vary depending on the material, shape, and/or holding surface conditions of the finger.

Note 1. Design the weight of a workpiece to be held so that it is approximately 1/10 to 1/20 of the holding power. (Consider further allowance when moving and swinging the gripper that keeps holding a workpiece.)

Gripping power vs. gripping power setting (%)

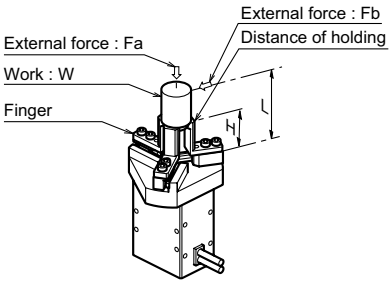




• Graph shows a general guide to gripping power versus gripping power setting (%). Variations will appear in the actual gripping power.

Allowable load and load moment

				YRG-2013T	YRG-2820T	YRG-4230T
Finger	Allowable load		N	20	30	50
	Allowable pitching moment		N•m	0.1	0.2	0.4
	Max. weight (1 pair)		g	20	30	50
	Max. holding position	L	mm	20	30	40



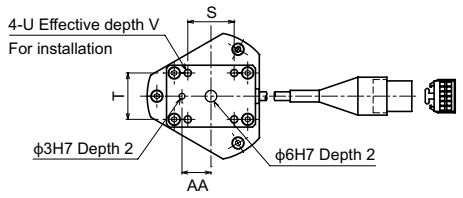
• When the external forces Fa and Fb are applied to a potion the distance (L) apart from the finger installation surface, the load (F) and moment (M) are calculated from the formulas shown below.

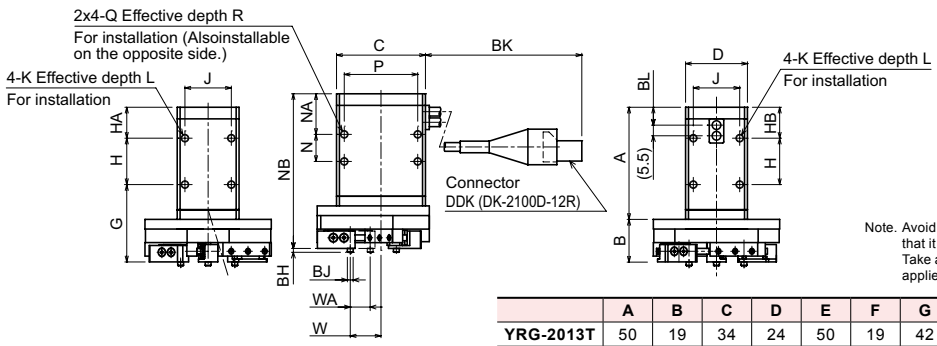
F = Fa + W × g
M = Fb × L

F : Load [N]
M : Moment [N•m]
L : Distance of point of external force application [m]

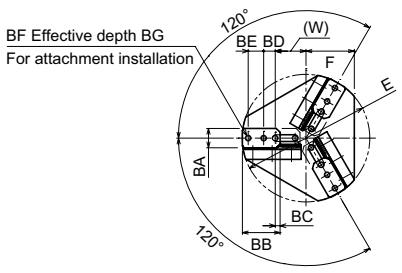
Fa : External force [N]
Fb : External force [N]
W : Workpiece weight [Kg]
g : Gravity acceleration [m/s^2]
H : Distance of holding point [m]

YRG-2013T/2820T/4230T





Note. Avoid extreme winding of the cable and fix the cable securely so that it does not move.
Take appropriate measures so that any excessive force is not applied to the root of the cable.



	A	B	C	D	E	F	G	H	HA	HB	J	K	L	N
YRG-2013T	50	19	34	24	50	19	42	17	13	13	17	M3	6	17
YRG-2820T	58	19	46	32	66	25	40	24	16	16	24	M4	8	14
YRG-4230T	59	25	60	46	86	34	45	25	18	18	36	M5	8	13

	NA	NB	P	Q	R	S	T	U	V	W	WA	AA	BA
YRG-2013T	17	72	27	M3	6	17	17	M3	5	11.4 to 4.6	6.8st	12	10 $^{0}_{-0.02}$
YRG-2820T	21	80	38	M4	8	24	24	M4	6	15.9 to 5.6	10.3st	15	10 $^{0}_{-0.02}$
YRG-4230T	24	88	50	M5	10	36	36	M5	7.5	21.9 to 6.6	15.3st	20	14 $^{0}_{-0.02}$

	BB	BC	BD	BE	BF	BG	BH	BJ	BK	BL
YRG-2013T	16	2.5	10	***	3x1-M3	8	2	ϕ3 $^{0}_{-0.01}$	165+/-10	8.3
YRG-2820T	19.5	2.5	6	8	3x2-M3	6	2	ϕ3 $^{0}_{-0.01}$	140+/-10	9.3
YRG-4230T	22.5	2.5	6	10	3x2-M4	8	3	ϕ4 $^{0}_{-0.012}$	235+/-10	10.8

YRG Series

Robot language

The robot program can by itself perform tasks such as moving the gripper, controlling the speed, controlling the gripping power, measuring the workpiece, and acquiring each type of status without any data exchange with the host device such as PLC or I/O signals.
It also makes device wiring work and debugging tasks more efficient since a sequence of all tasks involving conveying from robot axis movement to gripping the workpiece can be performed with a single program.
Combining the YRG series gripper with the robot vision “iVY system” allows consistent control of all operations from image recognition to conveying workpieces.
Other benefits are flexible usage in all types of applications as well as drastic reduction of the total number of required man-hours.

Command	Function	Operation description
GDRIVE	Absolute position movement	Moves the gripper axis to an absolute position.
GDRIVEI	Relative position movement	Moves the gripper axis to a relative position.
GHOLD	Absolute position movement to grip workpiece	Moves to nearly the specified position, and then moves at the specified gripping speed to grip a workpiece.
GHOLDI	Relative position movement to grip workpiece	Moves to nearly the specified distance, and then moves at the specified gripping speed to grip a workpiece.
GOPEN	Constant speed movement to grip workpiece (open)	Moves at a constant speed to the stroke end in the open direction.
GCLOSE	Constant speed movement to grip workpiece (close)	Moves at a constant speed to the stroke end in the close direction.
GORIGIN	Gripper return-to-origin	Returns the specified gripper to its origin position.
GSTATUS	Acquire status	Acquires status such as servo status, grip status, and status of current operation.

Electric gripper basic specifications

Item		Specifications
Basic specifications	Applicable controller	RCX240 / RCX240S
	Number of connection grippers	Max. 2 units (One unit per slot, max. 2 slots)
Axis control	Control method	PTP motion
	Min. setting unit	0.01mm
	Position indication unit	Pulses, mm (millimeters)
	Speed setting	20 to 100% (in 1% steps, Changeable by the program.)
	Acceleration setting	1 to 100% (in 1% steps, Setting by the acceleration parameter)
Programming	Teaching	MDI (coordinate data input), direct teaching, teaching playback,offline teaching (data input from external unit)

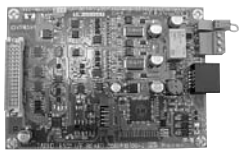
Gripper control board specifications

Item		Specifications
Axis control	No. of axes	1 axis
	Position detection method	Optical rotary encoder
	Min. setting distance	0.01mm
	Speed setting	Set in the range of 20 to 100% to the max. parameter speed.
Protective alarm		Overcurrent, overload, voltage failure, system failure, position deviation over, feedback error, etc.
LED status indication		POWER (Green), RUN (Green), READY (Yellow), ALARM (Red)
Power supply	Drive power	DC 24V +/-10% 1.0A Max.

Accessories and part options

Standard accessories

Gripper control board



Model	KX0-M4400-F1

Note. This board includes a 24V supply connector and emergency stop connector.

Robot (for gripper) cable

Model	3.5m	KCF-M4751-31
	5m	KCF-M4751-51
	10m	KCF-M4751-A1

Note. Be sure to adjust the total length of the robot (for gripper) cable and relay cable to 14m or less.

Relay cable

Model	0.5m	KCF-M4811-11
	1m	KCF-M4811-21
	1.5m	KCF-M4811-31
	2m	KCF-M4811-41
	2.5m	KCF-M4811-51
	3m	KCF-M4811-61
	3.5m	KCF-M4811-71
	4m	KCF-M4811-81

Connector for 24V power supply

Model	KCF-M5382-00

Connector for gripper emergency stop

Model	KCF-M5370-00