

RCP2-GRLS

RoboCylinder 2-Finger Gripper Vertical Small Lever Type
42 mm Width Pulse Motor

Model Description

RCP2 - GRLS

I

20P

30

180

P1

N

NM

I: Incremental
* The Simple absolute encoder is also considered type "I."

20P : 20 size
Pulse motor

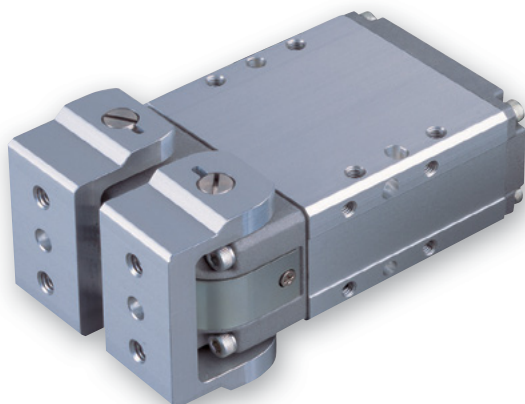
30 : 1/30
Deceleration ratio

180:180 degree
(90 degree per side)

P1:PCON-PL/PO/SE
PSEL
RCON
P3:PCON-CA
PMEC/PSEP
MSEP

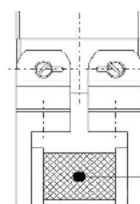
N : None
P : 1m
S : 3m
M : 5m
X : Custom

NM : Non-motor end specification
FB : Flange bracket
SB : Shaft bracket



Gripping Force vs. Electric Current Limit

The gripping (pushing) force can be adjusted freely within the range of electric current limits of 20% to 70%.

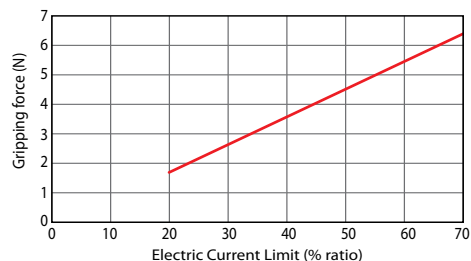


* The gripping force of the graph below is measured on the top face of the lever. The actual gripping force drops in inverse proportion to the distance from the opening/closing fulcrum. Calculate the effective gripping force using the formula below.

* Operate with the L1 distance under 40 mm.

$$\text{Effective gripping force (GRLS)} = F \times 15.5 / (L1 + 15.5)$$

* In the graph below, the gripping force value is the sum of gripping forces of both fingers.



* The gripping force graph above shows the number of references. Please allow margins up to $\pm 15\%$.

* Please note that, when gripping (pushing), the speed is fixed at 5 deg/s.

- (1) The maximum opening/closing speed indicates the operating speed on one side. The relative operating speed is twice this value.
- (2) The maximum gripping force is the sum of the gripping forces of both fingers, at a gripping point where there is no offset or overhang distance. The work part weight that can be actually moved depends on the friction coefficient between the gripper fingers and the work part, as well as on the shape of the work part. As a rough guide, a work part's weight should not exceed 1/10 to 1/20 of the gripping force. (See page 27 for details.)
- (3) The rated acceleration while moving is 0.3 G.

Actuator Specifications

Lead and Payload

Model Number	Deceleration Ratio	Max. Gripping Force (N)	Stroke (degree)
RCP2-GRLS-I-20P-30-180- [1] - [2] - [3]	30	6.4 (3.2 per side)	180 (90 per side)

Legend: [1] Compatible controllers [2] Cable length [3] Options

Stroke and Max. Opening/Closing Speed

Deceleration Ratio	Stroke	180 (degree)
30		600 (per side)

(Unit: deg/s)

Cable List

Type	Cable Symbol
Standard Type (Robot cable)	P (1m)
	S (3m)
	M (5m)
Special Length	X06 (6m) ~ X10 (10m)
	X11 (11m) ~ X15 (15m)
	X16 (16m) ~ X20 (20m)

* The standard cable is the motor-encoder integrated robot cable.

Actuator Specifications

Item	Description
Drive System	Worm gear + helical gear
Positioning Repeatability	± 0.01 degree
Backlash	1.0 degree or less per side (constantly pressed out by a spring)
Lost Motion	0.1 degree or less per side
Guide	-
Allowable Static Load Moment	-
Weight	0.2 kg
Ambient Operating Temp./Humidity	0 to 40°C, 85% RH or less (non-condensing)

Option List

Name	Option Code	See Page
Non-motor end specification	NM	P 18
Flange bracket	FB	-
Shaft bracket	SB	-

Dimensions

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

2D
CAD

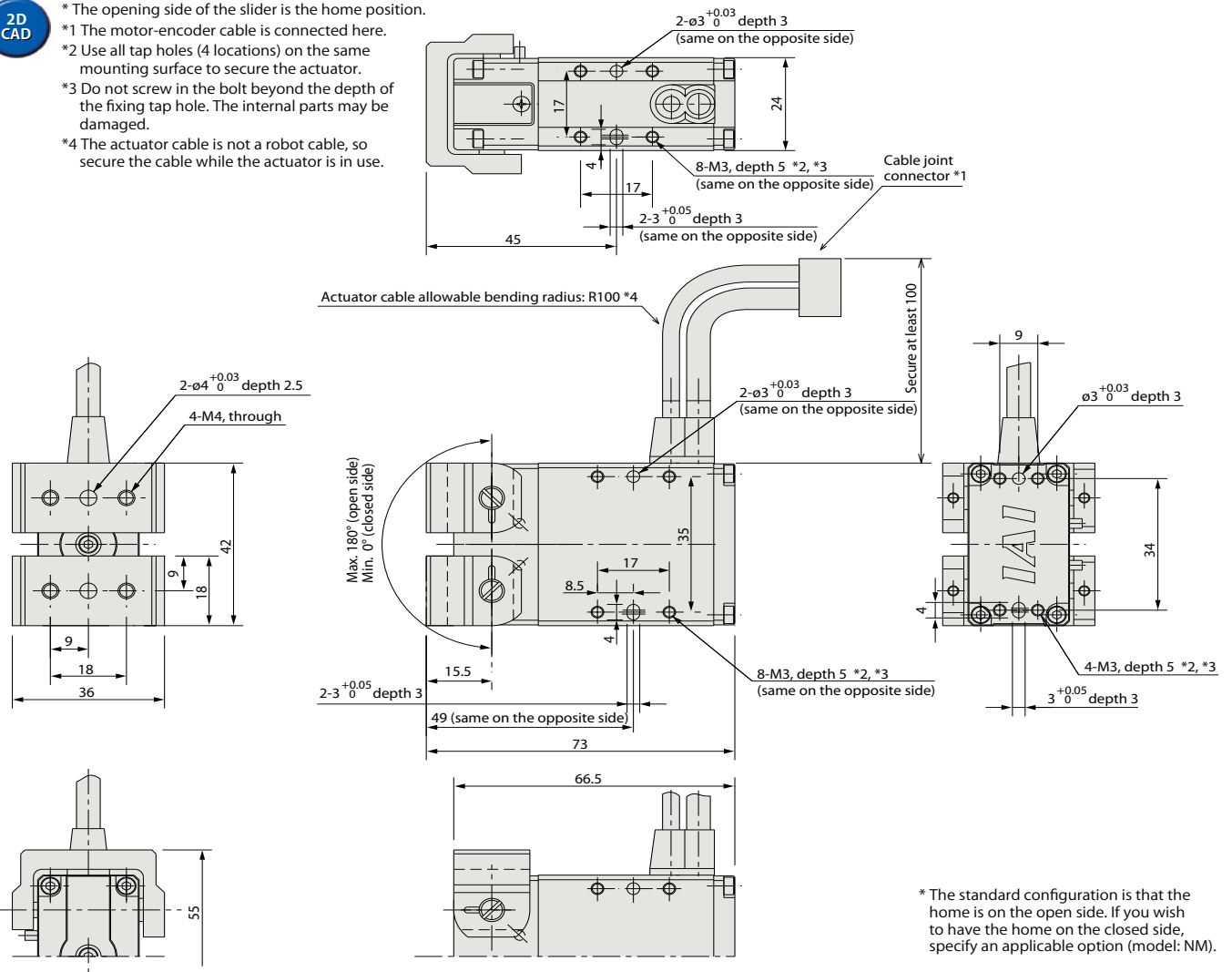
* The opening side of the slider is the home position.

*1 The motor-encoder cable is connected here.

*2 Use all tap holes (4 locations) on the same mounting surface to secure the actuator.

*3 Do not screw in the bolt beyond the depth of the fixing tap hole. The internal parts may be damaged.






*4 The actuator cable is not a robot cable, so secure the cable while the actuator is in use.



* The standard configuration is that the home is on the open side. If you wish to have the home on the closed side, specify an applicable option (model: NM).

Compatible Controllers

The RCP2 series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Description	Max. Pos. Points	Input Voltage	Power Supply Capacity		See Page
Solenoid Valve Multi-axis Type PIO Specification		MSEP-C- ③ -① -2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	3 points	DC24V	See RoboCylinder General Catalog.		→ P29
Solenoid Valve Multi-axis Type Network Specification		MSEP-C- ③ -④ -0-0	Filed network-ready positioner type, allowing up to 8 axes to be connected	256 points				
Positioner Type		PCON-CA-20PI- ① -2-0	PIO control ready	512 points		1A max.		
Pulse Train Type		PCON-CA-20PI-PL□-2-0	Pulse-train input ready	—				
Network Type		PCON-CA-20PI- ④ -0-0	Field network ready	768 points				
Pulse Train Type (Differential Line Driver Specification)		PCON-PL-20PI- ① -2-0	Differential line driver ready	—	See RoboCylinder General Catalog.		See RoboCylinder General Catalog.	
Pulse Train Type (Open Collector Specification)		PCON-PO-20PI- ① -2-0	Open collector ready					
Serial Communication Type		PCON-SE-20PI-N-0-0	Dedicated serial communication type	64 points				
Program Control Type		PSEL-CS-1-20PI- ① -2-0	Program operation is possible. Operation is possible up to 2 axes.	1500 points				

* This is for the single-axis PSEL.

*① indicates I/O type (NP/PN).

*□ indicates N (NPN specification) or P (PNP specification) symbol.

*③ indicates number of axes (1~8).

*④ indicates field network specification symbol.