ROSIER
Mécatronique

GB

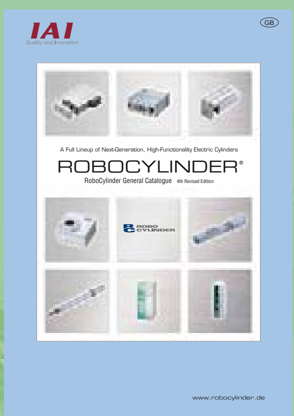
ROBO CYLINDER

24 VDC
Pulse Motor

RCP2 & RCP3

with dedicated controllers
PCON and PSEL

Catalogue Extract
4th revised Edition B



RCP3 series Slider	Coupled Type	Aluminum Base	22mm width	RCP3-SA2AC	3
			28mm width	RCP3-SA2BC	5
			32mm width	RCP3-SA3C	7
			40mm width	RCP3-SA4C	9
			50mm width	RCP3-SA5C	11
			60mm width	RCP3-SA6C	13
	Side-Mounted Motor Type	Aluminum Base	22mm width	RCP3-SA2AR	15
			28mm width	RCP3-SA2BR	17
			32mm width	RCP3-SA3R	19
			40mm width	RCP3-SA4R	21
			50mm width	RCP3-SA5R	23
			60mm width	RCP3-SA6R	25
RCP2 series Slider	Coupled Type	Aluminum Base	52mm width	RCP2-SA5C	27
			58mm width	RCP2-SA6C	29
			73mm width	RCP2-SA7C	31
		Steel Base	60mm width	RCP2-SS7C	33
			80mm width	RCP2-SS8C	35
		High-Speed Type	80mm width	RCP2-HS8C	37
	Side-Mounted Motor Type	Aluminum Base	52mm width	RCP2-SA5R	39
			58mm width	RCP2-SA6R	41
			73mm width	RCP2-SA7R	43
		Steel Base	60mm width	RCP2-SS7R	45
			80mm width	RCP2-SS8R	47
		High-Speed Type	80mm width	RCP2-HS8R	49
	Belt Type		58mm width	RCP2-BA6/BA6U	51
			68mm width	RCP2-BA7/BA7U	53
RCP3 series Rod	Mini Rod Type	Coupling Type	22mm width	RCP3-RA2AC	131
			28mm width	RCP3-RA2BC	133
		Side-Mounted Motor Type	22mm width	RCP3-RA2AR	135
			28mm width	RCP3-RA2BR	137
RCP2 series Rod	Standard Type	Coupling Type	25mm width	RCP2-RA2C	139
			35mm width	RCP2-RA3C	141
			45mm width	RCP2-RA4C	143
			64mm width	RCP2-RA6C	145
			85mm width	RCP2-RA8C	146-1
			100mm width	RCP2-RA10C	147
		Side-Mounted Motor Type	85mm width	RCP2-RA8R	148-1
			45mm width	RCP2-SRA4R	149
	Single-Guide Type	Coupling Type	45mm width	RCP2-RGS4C	151
			64mm width	RCP2-RGS6C	153
		Side-Mounted Motor Type	45mm width	RCP2-SRGS4R	155
	Double-Guide Type	Coupling Type	35mm width	RCP2-RGD3C	157
			45mm width	RCP2-RGD4C	159
			64mm width	RCP2-RGD6C	161
		Side-Mounted Motor Type	45mm width	RCP2-SRGD4R	163
RCP3 series Table	Table Type	Inline Motor	36mm width	RCP3-TA3C	269
			40mm width	RCP3-TA4C	271
			55mm width	RCP3-TA5C	273
			65mm width	RCP3-TA6C	275
			75mm width	RCP3-TA7C	277
		Side-Mounted Motor	36mm width	RCP3-TA3R	279
			40mm width	RCP3-TA4R	281
			55mm width	RCP3-TA5R	283
			65mm width	RCP3-TA6R	285
			75mm width	RCP3-TA7R	287
RCP2 series Gripper	2-Finger-Gripper	Mini Slider Type	42 mm width	RCP2-GRSS	333
		Mini Lever Type	42 mm width	RCP2-GRLS	335
		Small Slider Type	69 mm width	RCP2-GRS	337
		Medium Slider-Typ	74 mm width	RCP2-GRM	339
		Medium High-force Slider Type	116 mm width	RCP2-GRHM	340-1
		Large High-force Slider Type	131 mm width	RCP2-GRHB	340-3
		Long Stroke Slider Type	130 mm width ~ 190 mm width	RCP2-GRST	341
	3-Finger Gripper	Lever Type	62 mm width	RCP2-GR3LS	343
			80 mm width	RCP2-GR3LM	345
		Slider Type	62 mm width	RCP2-GR3SS	347
			80 mm width	RCP2-GR3SM	349
RCP2 series Rotary	Rotary	Small Vertical Type	45 mm width	RCP2-RTBS/RTBSL	353
		Small Flat Type	72 mm width	RCP2-RTCS/RTCSL	355
		Medium Vertical Type	50 mm width	RCP2-RTB / RTBL	357
		Medium Flat Type	88 mm width	RCP2-RTC / RTCL	359
		Large Vertical Type	76 mm width	RCP2-RTBB / RTBBL	361
		Large Flat Type	124 mm width	RCP2-RTCB / RTCBL	363
RCP2CR series Cleanroom	Slider Coupling Type	Aluminum Base	52mm width	RCP2CR-SA5C	399
			58mm width	RCP2CR-SA6C	401
			73mm width	RCP2CR-SA7C	403
		Steel Base	60mm width	RCP2CR-SS7C	405
			80mm width	RCP2CR-SS8C	407
		High-Speed Type	80mm width	RCP2CR-HS8C	409
	Gripper Type	Mini Slider Type	42mm width	RCP2CR-GRSS	411
		Mini Lever Type	42mm width	RCP2CR-GRLS	413
RCP2W series Damp room	Slider Type	Coupled	158mm width	RCP2W-SA16C	443
	Rod Type	Coupled	45mm width	RCP2W-RA4C	445
			64mm width	RCP2W-RA6C	447
		High-thrust Type	100mm width	RCP2W-RA10C	449
	Gripper Type	Mini Slider Type	42mm width	RCP2W-GRSS	451
		Mini Lever type	42mm width	RCP2W-GRLS	453

RCP2-GR3LS

RoboCylinder 3-Finger Gripper Lever Type 62mm Width Pulse Motor

■ Configuration: **RCP2** – **GR3LS** – **I** – **28P** – **30** – **19** – ☐ – ☐ – ☐

Series	Type	Encoder	Motor	Deceleration Ratio	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder is also considered type "I".	28P : 28 ☐ size Pulse motor	30: 1/30 deceleration ratio	19: 19 degrees	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X☐☐ : Custom R☐☐: Robot cable	FB: Flange bracket SB: Shaft bracket

* See page Pre-35 for an explanation of the naming convention.

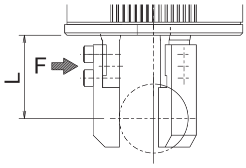
Technical References P. A-5

POINT Notes on Selection

(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 all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-77.
(3) The rated acceleration while moving is 0.3G.

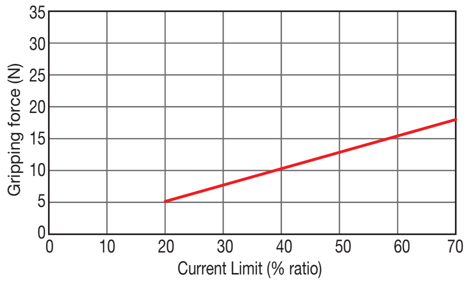
■ Gripping Force vs. Current Limit

Lever Type (GR3LS/GR3LM)



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

* The values in the graph below are gripping forces at 10mm gripping point. The actual gripping force decreases inversely proportional to the distance from the opening/closing point.
You can calculate the actual gripping force by the following equation.
Actual gripping force (type S)=P×24/(L+14)
Actual gripping force (type M)=P×28.5/(L+18.5)
P=Gripping force on graph
L=Distance from finger mounting surface to the gripping point.



Actuator Specifications

■ Lead and Load Capacity

Model	Deceleration Ratio	Max. Gripping Force (N)	Stroke (deg)
RCP2-GR3LS-I-28P-30-19-①-②-③	30	18	19

■ Stroke and Maxi. Opening/Closing Speed

Deceleration Ratio \ Stroke	19 (deg)
30	200 (per side)

Legend: ① Compatible controllers ② Cable length ③ Options

(Unit: degrees/s)

Cable List

Type	Cable Symbol	
Standard Type	**P** (1m)	
	S (3m)	
	M (5m)	
Special Lengths	**X06** (6m) ~ **X10** (10m)	
	X11 (11m) ~ **X15** (15m)	
	X16 (16m) ~ **X20** (20m)	
Robot Cable	**R01** (1m) ~ **R03** (3m)	
	R04 (4m) ~ **R05** (5m)	
	R06 (6m) ~ **R10** (10m)	
	R11 (11m) ~ **R15** (15m)	
	R16 (16m) ~ **R20** (20m)	

* See page A-39 for cables for maintenance.

Option List

Name	Option Code	See Page	
Flange bracket	FB	→ A-26	
Shaft bracket	SB	→ A-36	

Actuator Specifications

Item	Description
Drive System	Worm gear + worm wheel gear
Positioning Repeatability	±0.01 degrees
Backlash	1 degree or less per side (constantly pressed out by a spring)
Lost Motion	0.15 degrees or less per side
Weight	0.6kg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

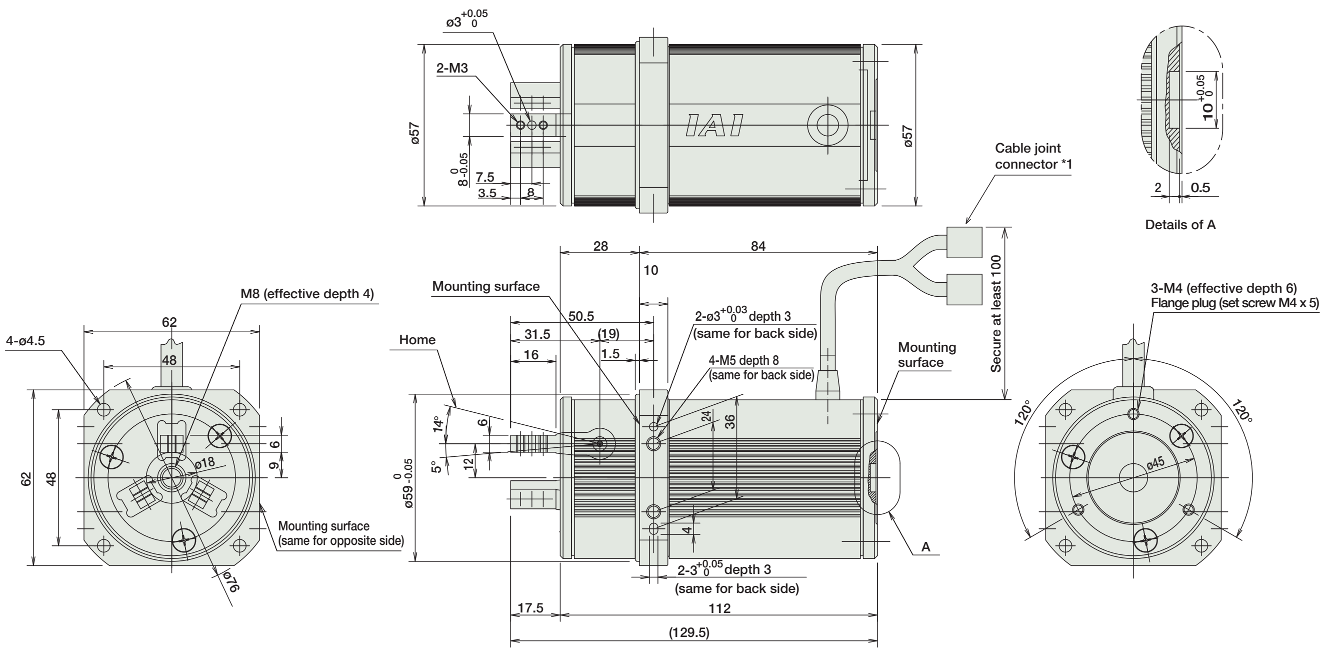
Dimensions

For Special Orders P. A-9

2/3D CAD

* When homing, the actuator swings 1 degree past the home position before returning. Therefore, please watch for any interference with the surrounding objects.

*1 The motor-encoder cable is connected here. See page A-39 for details on cables.



Weight (kg)	0.6

Compatible Controllers

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

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity		See Page
Solenoid Valve Type		PMEC-C-28PI-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V AC230V	See P481		→ P477
		PSEP-C-28PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.		DC24V	2A max.		→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-28PI-NP-2-0						
Positioner Type		PCON-C-28PI-NP-2-0	Positioning is possible for up to 512 points	512 points				→ P525
Safety-Compliant Positioner Type		PCON-CG-28PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-28PI-NP-2-0	Pulse train input type with differential line driver support	(–)				
Pulse Train Input Type (Open Collector)		PCON-PO-28PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-28PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-28P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-28PI-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P557

* This is for the single-axis PSEL.

Slider Type
Mini
Standard
Controllers Integrated
Rod Type
Mini
Standard
Controllers Integrated
Table/Arm /Flat Type
Mini
Standard
Gripper/ Rotary Type
Linear Motor Type
Cleanroom Type
Splash-Proof
Controllers
PMEC /AMEC
PSEP /ASEP
ROBO NET
ERC2
PCON
ACON
SCON
PSEL
ASEL
SSEL
XSEL
Pulse Motor
Servo Motor (24V)
Servo Motor (230V)
Linear Motor

RCP2-GR3LM RoboCylinder 3-Finger Gripper Lever Type 80mm Width Pulse Motor

■ Configuration: **RCP2 – GR3LM – I – 42P – 30 – 19 – ☐ – ☐ – ☐**

Series	Type	Encoder	Motor	Deceleration Ratio	Stroke	Compatible Controllers	Cable Length	Option
		I: Incremental * The Simple absolute encoder is also considered type "I".	42P : 42 □ size Pulse motor	30: 1/30 deceleration ratio	19: 19 degrees	P1: PCON RPCON PSEL P3: PMEC PSEP	N : None P : 1m S : 3m M : 5m X□□ : Custom R □□: Robot cable	FB: Flange bracket SB: Shaft bracket

* See page Pre-35 for an explanation of the naming convention.

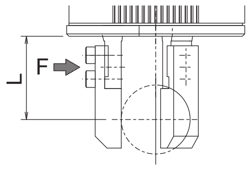
Technical References P. A-5

POINT Notes on Selection

(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 all fingers with gripping point distance of 10mm and no overhang distance. For the actual transportable work piece weight, see explanation on the right, or page A-77.
(3) The rated acceleration while moving is 0.3G.

■ Gripping Force vs. Current Limit

Lever Type (GR3LS/GR3LM)



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

* The values in the graph below are gripping forces at 10mm gripping point.
The actual gripping force decreases inversely proportional to the distance from the opening/closing point.
You can calculate the actual gripping force by the following equation.
Actual gripping force (type S)=P×24/(L+14)
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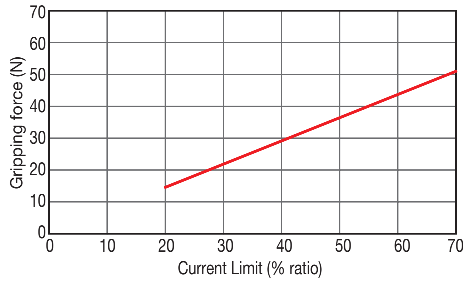


Actuator Specifications

■ Lead and Load Capacity

Model	Deceleration Ratio	Max. Gripping Force (N)	Stroke (deg)
RCP2-GR3LM-I-42P-30-19-①-②-③	30	51	19

Legend: ① Compatible controllers ② Cable length ③ Options

■ Stroke and Maxi. Opening/Closing Speed

Deceleration Ratio \ Stroke	19 (deg)
30	200 (per side)

(Unit: degrees/s)

Cable List

Type	Cable Symbol	
Standard Type	**P** (1m)	
	S (3m)	
	M (5m)	
Special Lengths	**X06** (6m) ~ **X10** (10m)	
	X11 (11m) ~ **X15** (15m)	
	X16 (16m) ~ **X20** (20m)	
Robot Cable	**R01** (1m) ~ **R03** (3m)	
	R04 (4m) ~ **R05** (5m)	
	R06 (6m) ~ **R10** (10m)	
	R11 (11m) ~ **R15** (15m)	
	R16 (16m) ~ **R20** (20m)	

* See page A-39 for cables for maintenance.

Actuator Specifications

Item	Description
Drive System	Worm gear + worm wheel gear
Positioning Repeatability	±0.01 degrees
Backlash	1 degree or less per side (constantly pressed out by a spring)
Lost Motion	0.15 degrees or less per side
Weight	1.1kg
Ambient Operating Temp./Humidity	0~40°C, 85% RH or less (non-condensing)

Option List

Name	Option Code	See Page	
Flange bracket	FB	→ A-26	
Shaft bracket	SB	→ A-36	

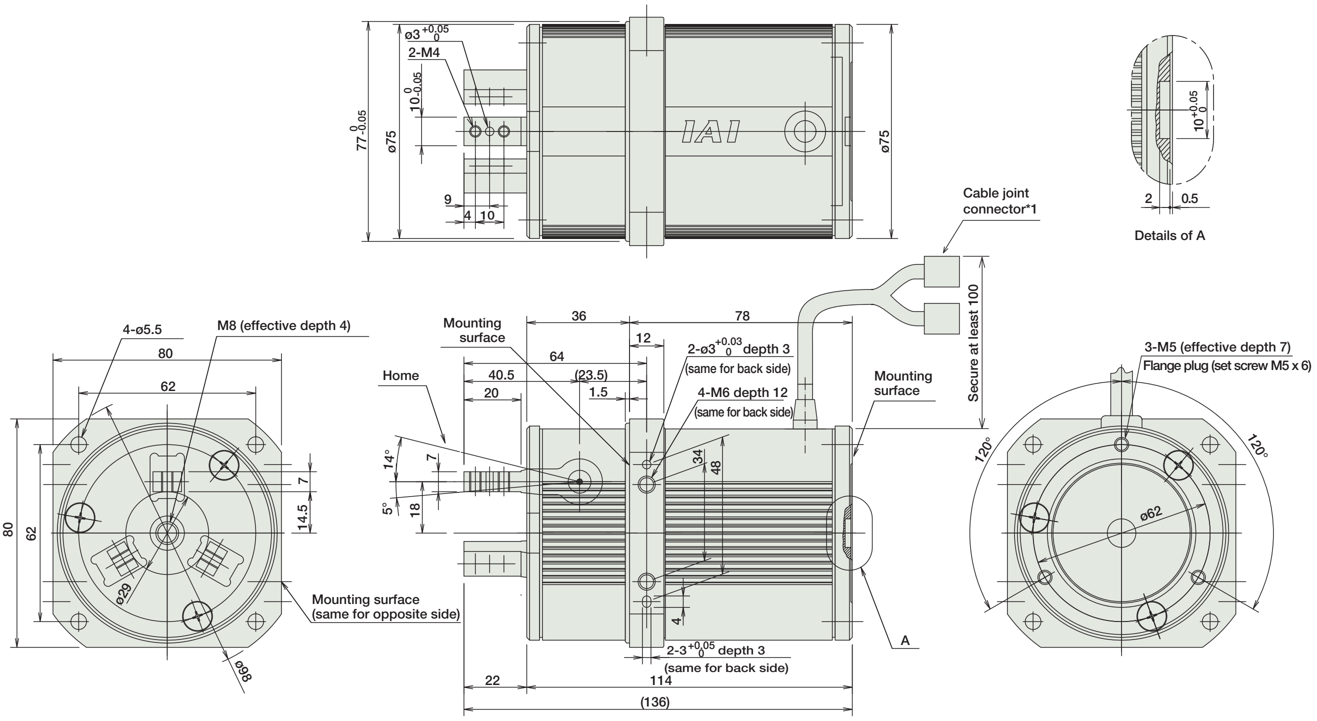
Dimensions

For Special Orders P. A-9

2/3D CAD

* When homing, the actuator swings 1 degree past the home position before returning. Therefore, please watch for any interference with the surrounding objects.

*1 The motor-encoder cable is connected here. See page A-39 for details on cables.



Weight (kg)	1.1

Compatible Controllers

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

Name	External View	Model	Description	Max. Positioning Points	Input Voltage	Power Supply Capacity		See Page
Solenoid Valve Type		PMEC-C-42PI-NP-2-2	Easy-to-use controller, even for beginners	3 points	AC115V AC230V	See P481		→ P477
		PSEP-C-42PI-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.		DC24V	2A max.		→ P487
Splash-Proof Solenoid Valve Type		PSEP-CW-42PI-NP-2-0						
Positioner Type		PCON-C-42PI-NP-2-0	Positioning is possible for up to 512 points	512 points				→ P525
Safety-Compliant Positioner Type		PCON-CG-42PI-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		PCON-PL-42PI-NP-2-0	Pulse train input type with differential line driver support	(–)				
Pulse Train Input Type (Open Collector)		PCON-PO-42PI-NP-2-0	Pulse train input type with open collector support					
Serial Communication Type		PCON-SE-42PI-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RPCON-42P	Dedicated to field network	768 points				→ P503
Program Control Type		PSEL-C-1-42PI-NP-2-0	Programmed operation is possible Operation is possible on up to 2 axes	1500 points				→ P557

* This is for the single-axis PSEL.