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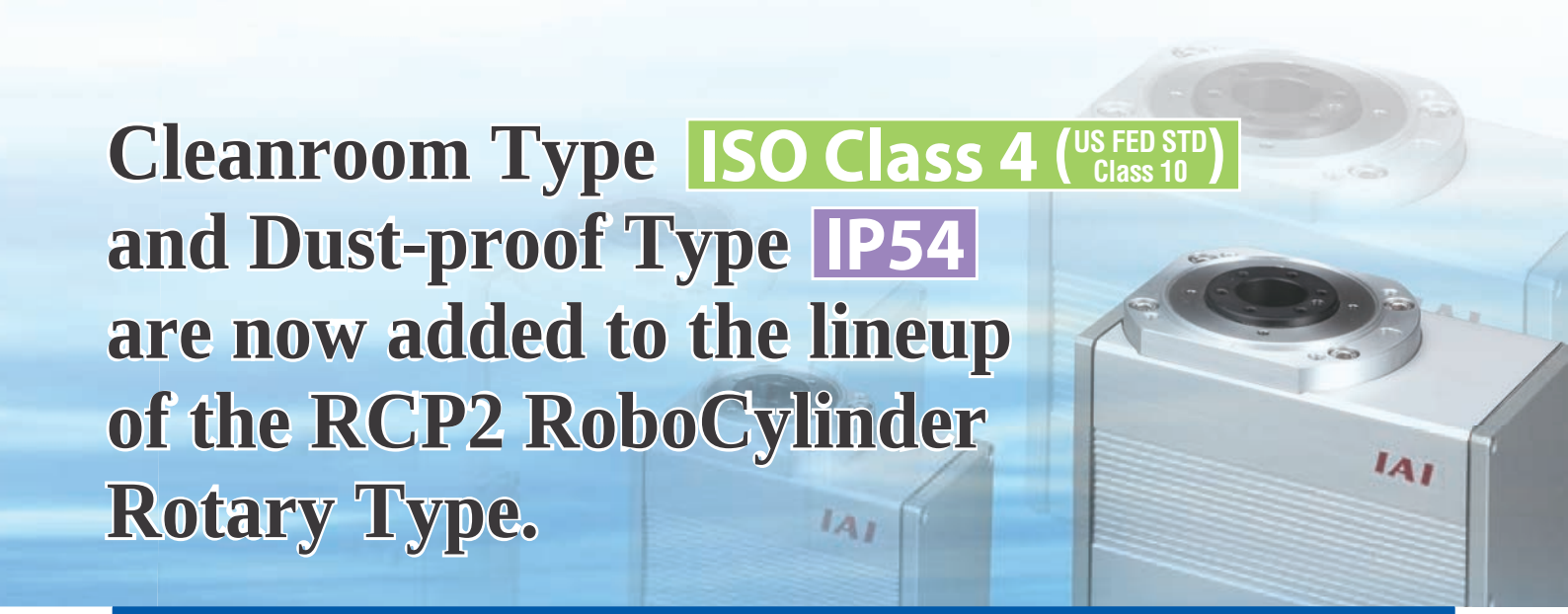
GB

Cleanroom Rotary Type **RCP2CR-RT**

Dust-proof/Splash-proof Rotary Type **RCP2W-RT**

www.robocylinder.de

Cleanroom Type ISO Class 4 (US FED STD Class 10) and Dust-proof Type IP54 are now added to the lineup of the RCP2 RoboCylinder Rotary Type.



Features of the Series

1 Cleanroom Type and Dust-proof/Splash-proof Type added

■ Cleanroom Type and Dust-proof/Splash-proof Type are now added to the lineup of the rotary type actuators.
Choose a suitable one for your working environment.

Supporting ISO Cleanliness Class 4 (US FED STD Class 10)

Supporting IP54

What is ISO Cleanliness Class 4

ISO class 5 and ISO class 4 are examples of the unit of the cleanliness.
ISO class 4 (0.1μm) indicates an environment with 10000 pieces of dust or less that are 0.1μm or larger in a $1m^3$ area.

What is IP?

It is the class specified in IEC standards for splash proof and dust proof capabilities.

IP54

2nd Number...Protection against water entry
There is no negative influence by splashes from any direction

1st Number... Protection against human contact and solid particle
Ingress of dust is not entirely prevented, but does not enter in sufficient quantity to interfere with the satisfactory operation of the equipment.

2 Features of the RoboCylinder Rotary Type

RoboCylinder Rotary Type possesses superior functions and features as shown below.

Speed and acceleration control is available
Smooth starting and stopping is available.

Positioning available on multiple points
512 points are available for positioning.

Pitch feeding available
Rotation in angle increments can be performed easily.

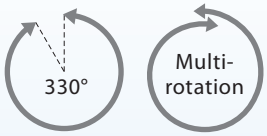
Zone output available
Signal output is available in any stroke area.

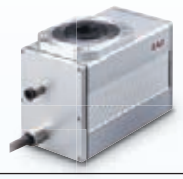
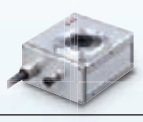
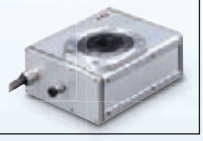
Speed change available during operation
Speed increase and decrease can be performed while in operation.

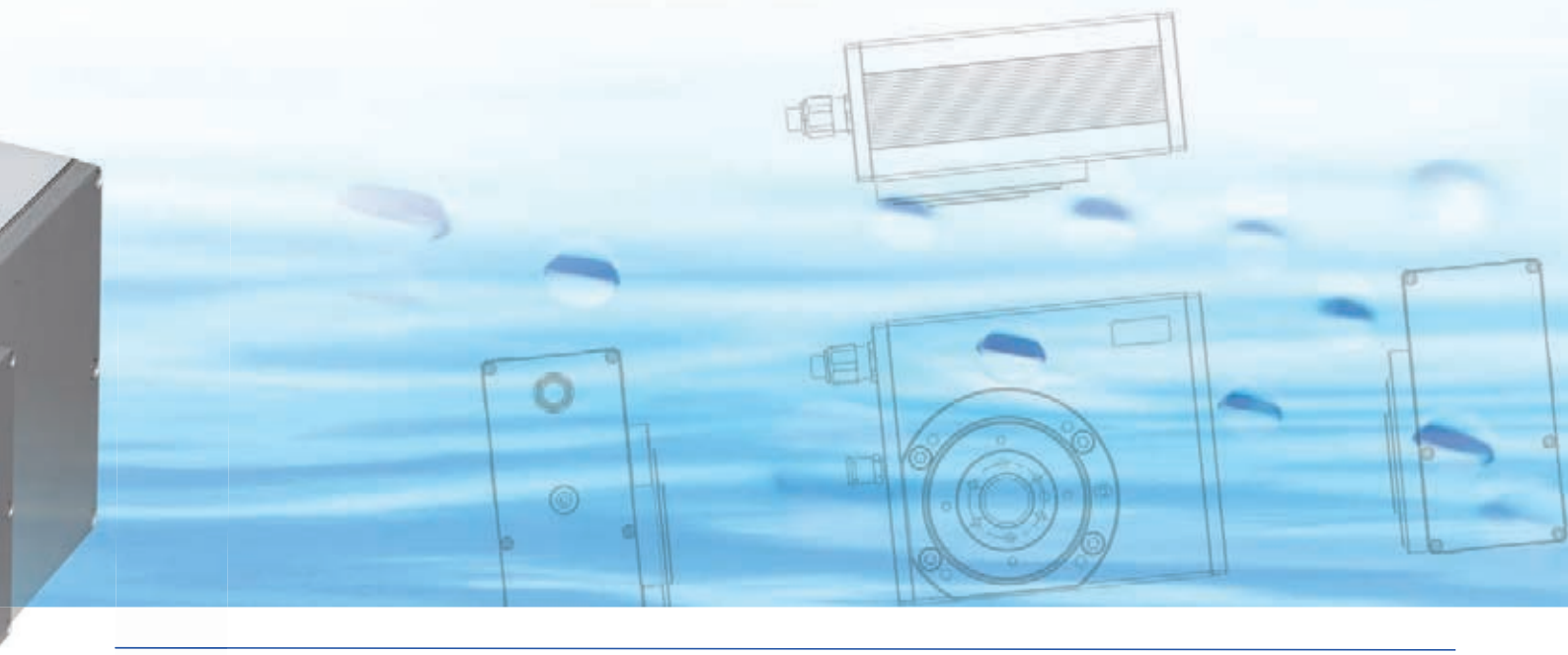
Pause available
Motion can be paused and resumed by sending a pause signal.

3 Wide Variations

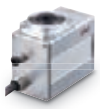
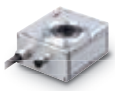
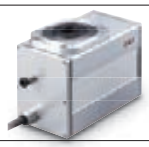
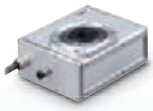
- Size: 3 sizes
- Shape: 2 types (Vertical type and flat type)
- Rotation: 2 types (330-degree rotation specification and multi-rotation specification)



Shape \ Size	Small Type	Medium Type	Large Type
Vertical Type			
Flat Type			



Product Lineup

Series	Type		Type Code	External View	Operating Range (deg)	Body Width	Maximum Torque (N•m) Deceleration Ratio 1/20	Deceleration Ratio 1/30	Deceleration Ratio 1/45	See Page
Cleanroom RCP2CR Dust-proof/ Splash-proof RCP2W	Small Type	Vertical Type	RTBS		330	45 mm	–	0.24	0.36	P.3
			RTBSL		360 (multiple rotation)					
		Flat Type	RTCS		330	68 mm				P.5
			RTCSL		360 (multiple rotation)					
	Medium Type	Vertical Type	RTB		330	50 mm	1.1	1.7	–	P.7
			RTBL		360 (multiple rotation)					
		Flat Type	RTC		330	81 mm				P.9
			RTCL		360 (multiple rotation)					
	Large Type	Vertical Type	RTBB		330	76 mm	3	4.6	–	P.11
			RTBBL		360 (multiple rotation)					
		Flat Type	RTCB		330	114 mm				P.13
			RTCBL		360 (multiple rotation)					

Applicable Controller

Position Controller for Single Axis
PCON-CA

Position Controller Multi-axis Type
MSEP-C

Position Controller Multi-axis Type with PLC Function
MSEP-LC (*)

(*) MSEP-LC coming soon with CE conformity.

Program Controller Multi-axis Type
MSEL-PG

RCP2CR-RTBS/RTBSL

Cleanroom RoboCylinder, Rotary, Small Vertical Type, 45 mm Body Width, Pulse Motor

RCP2W-RTBS/RTBSL

Dust-proof/Splash-proof RoboCylinder, Rotary, Small Vertical Type, 45 mm Body Width, Pulse Motor

Model Specification Items

RCP2CR / RCP2W — Series — Type — I — Encoder — 20P — Motor — Deceleration Ratio — Oscillation Angle — Applicable Controllers — Cable Length — Options

- **Type**: RTBS: 330-degree rotation specification; RTBSL: Multi-rotation specification
- **Encoder**: I: Incremental (* The Simple absolute encoder is also considered type "I.")
- **Motor**: 20P: Pulse motor 20□ size
- **Deceleration Ratio**: 30: Deceleration ratio 1/30; 45: Deceleration ratio 1/45
- **Oscillation Angle**: 330: 330 degrees (RTBS only); 360: 360 degrees (Multi-rotational, RTBSL only)
- **Applicable Controllers**: P1: PCON-CY/PL/PO/SE PSEL; P3: PCON-CA PMEC/PSEP MSEP/MSEL
- **Cable Length**: N: None; P: 1m; S: 3m; M: 5m; X□□: Custom; R□□: Robot cable
- **Options**: NM: Reverse rotation specification; SA: Shaft adapter; TA: Table adapter

CE RoHS

Horizontal / Vertical / Side / Ceiling

*Can be installed with above orientations.

POINT — Note on selection

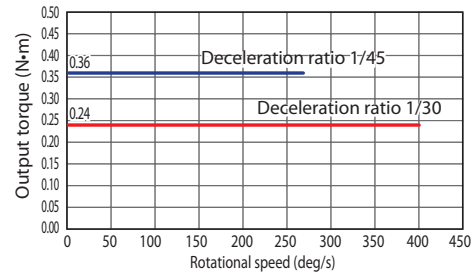
(1) The output torque gets lower as the rotation speed gets faster.
Check the output torque graph on the right to see if the necessary speed for the application is possible.

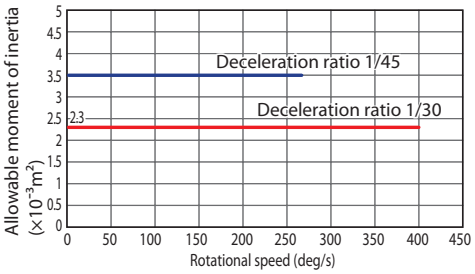
(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed.
Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.2 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTBS-I-20P-30-330- ② - ③ - ④	1/30	0.24	0.0023	330
RCP2 ① -RTBS-I-20P-45-330- ② - ③ - ④	1/45	0.36	0.0035	
RCP2 ① -RTBSL-I-20P-30-360- ② - ③ - ④	1/30	0.24	0.0023	360 (*)
RCP2 ① -RTBSL-I-20P-45-360- ② - ③ - ④	1/45	0.36	0.0035	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/30	400
1/45	266

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

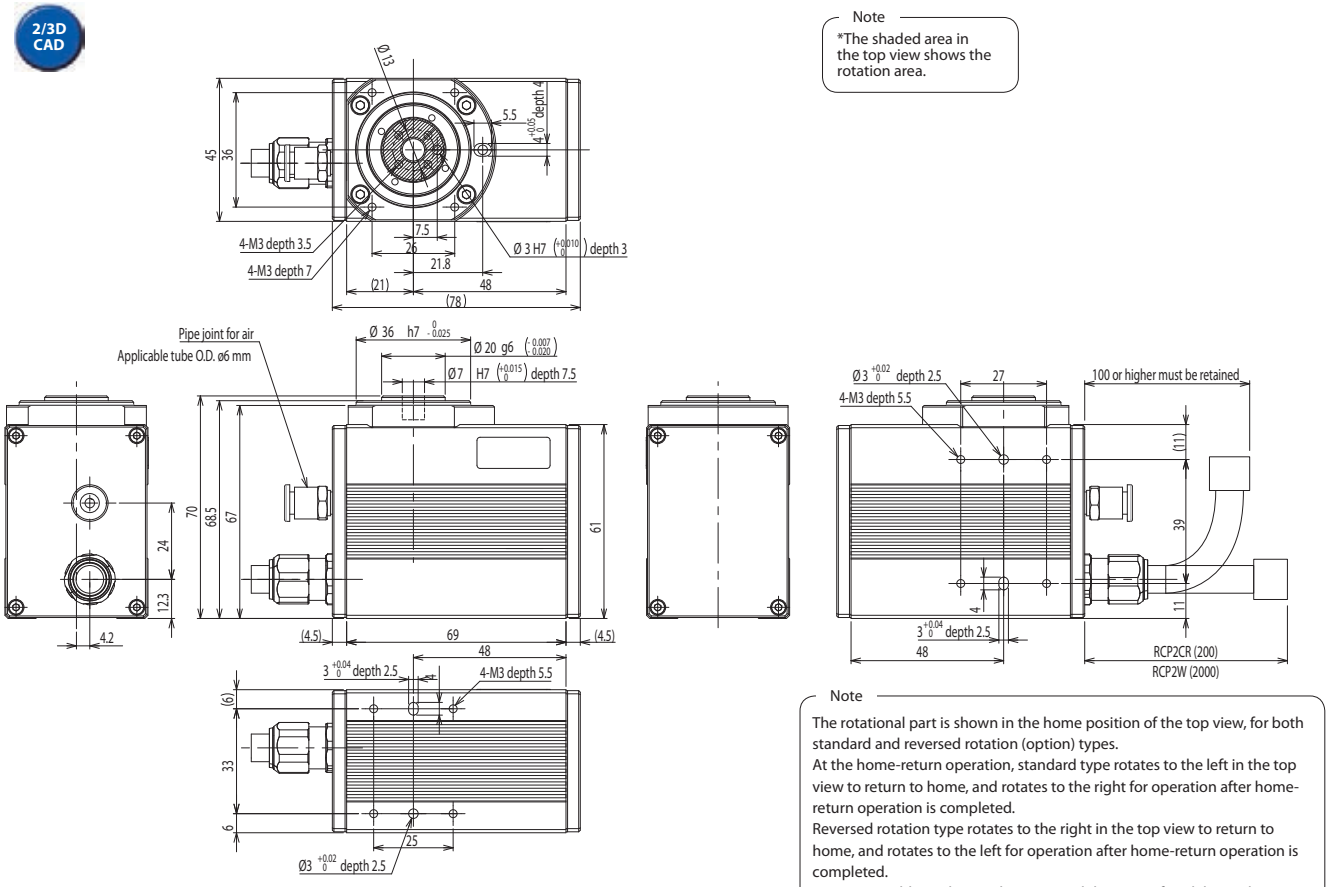
Actuator Specifications

Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.05 degrees	
Home-return Accuracy	±0.05 degrees or less (RTBS)/±0.05 degrees or less (RTBSL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	30 N	
Allowable Load Moment	3.6 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	10 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	15 Nl/min
Weight	0.6 kg	

Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD



Note

The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅰ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅲ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-20PⓋ-Ⅰ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-20PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-20PⓋ-Ⅲ-0-0		768 points		
Program Control Type		PSEL-CS-1-20PI-Ⅰ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-20PⓋ-Ⅰ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-20PⓋ-Ⅲ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⅰ I/O type (NP/PN) *Ⅱ Number of axes *Ⅲ Field network specification code
*Ⓥ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⓥ C (standard type) or LC (PLC function equipped type)
*Ⓜ N (NPN specification)/P (PNP specification) code

RCP2CR-RTCS/RTCSL

Cleanroom RoboCylinder, Rotary, Small Flat Type, 72 mm Body Width, Pulse Motor

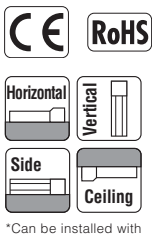
RCP2W-RTCS/RTCSL

Dust-proof/Splash-proof RoboCylinder, Rotary, Small Flat Type, 72 mm Body Width, Pulse Motor

Model Specification Items

Series	Type	Encoder	Motor	Deceleration Ratio	Oscillation Angle	Applicable Controllers	Cable Length	Options
RCP2CR RCP2W	RTCS: 330-degree rotation specification RTCSL: Multi-rotation specification	I: Incremental * The Simple absolute encoder is also considered type "I."	20P: Pulse motor 20□ size	30: Deceleration ratio 1/30 45: Deceleration ratio 1/45	330: 330 degrees (RTCS only) 360: 360 degrees (Multi-rotational, RTCSL only)	P1: PCON-CY/PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP/MSEL	N: None P: 1m S: 3m M: 5m X□□: Custom R□□: Robot cable	NM: Reverse rotation specification SA: Shaft adapter TA: Table adapter

CE RoHS



*Can be installed with above orientations.

POINT Note on selection

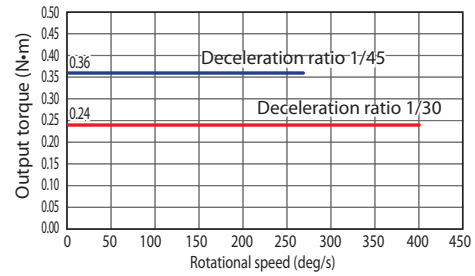
(1) The output torque gets lower as the rotation speed gets faster.
Check the output torque graph on the right to see if the necessary speed for the application is possible.

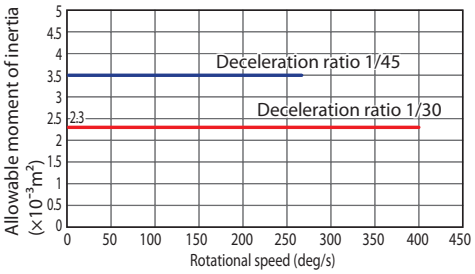
(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed. Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.2 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTCS-I-20P-30-330- ② - ③ - ④	1/30	0.24	0.0023	330
RCP2 ① -RTCS-I-20P-45-330- ② - ③ - ④	1/45	0.36	0.0035	
RCP2 ① -RTCSL-I-20P-30-360- ② - ③ - ④	1/30	0.24	0.0023	360 (*)
RCP2 ① -RTCSL-I-20P-45-360- ② - ③ - ④	1/45	0.36	0.0035	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/30	400
1/45	266

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

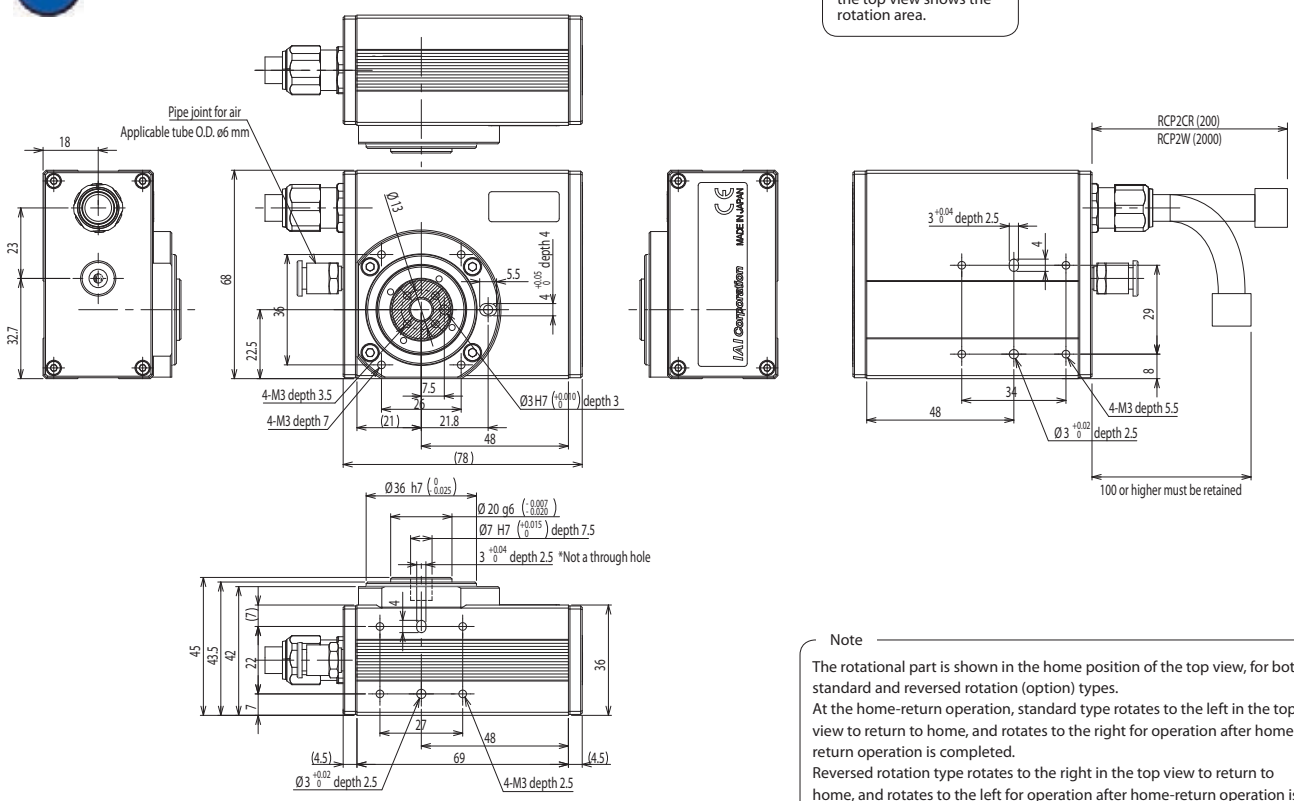
Actuator Specifications

Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.05 degrees	
Home-return Accuracy	±0.05 degrees or less (RTCS)/±0.05 degrees or less (RTCSL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	30 N	
Allowable Load Moment	3.6 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	10 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	15 Nl/min
Weight	0.54 kg	

Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD



Note

The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⅱ-~~-Ⅰ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⅱ-~~-Ⅲ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-20PⓋ-Ⅰ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-20PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-20PⓋ-Ⅲ-0-0		768 points		
Program Control Type		PSEL-CS-1-20PI-Ⅰ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-20PⓋ-Ⅰ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-20PⓋ-Ⅲ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⅰ I/O type (NP/PN) *Ⅱ Number of axes *Ⅲ Field network specification code
*Ⓥ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⓥ C (standard type) or LC (PLC function equipped type)
*Ⓥ N (NPN specification)/P (PNP specification) code

RCP2CR-RTB/RTBL

Cleanroom RoboCylinder, Rotary, Medium Vertical Type, 50 mm Body Width, Pulse Motor

RCP2W-RTB/RTBL

Dust-proof/Splash-proof RoboCylinder, Rotary, Medium Vertical Type, 50 mm Body Width, Pulse Motor

Model Specification Items

RCP2CR / RCP2W — Series — Type — Encoder — Motor — Deceleration Ratio — Oscillation Angle — Applicable Controllers — Cable Length — Options

- **Type**
  - RTB: 330-degree rotation specification
  - RTBL: Multi-rotation specification
- **Encoder**: I: Incremental (* The Simple absolute encoder is also considered type "I.")
- **Motor**: 28P: Pulse motor 28□ size
- **Deceleration Ratio**
  - 20: Deceleration ratio 1/20
  - 30: Deceleration ratio 1/30
- **Oscillation Angle**
  - 330: 330 degrees (RTB only)
  - 360: 360 degrees (Multi-rotational, RTBL only)
- **Applicable Controllers**
  - P1: PCON-CY/PL/PO/SE PSEL
  - P3: PCON-CA PMEC/PSEP MSEP/MSEL
- **Cable Length**: N: None; P: 1m; S: 3m; M: 5m; X□□: Custom; R□□: Robot cable
- **Options**: NM: Reverse rotation specification; SA: Shaft adapter; TA: Table adapter

CE RoHS

Horizontal Vertical Side Ceiling

*Can be installed with above orientations.

POINT Note on selection

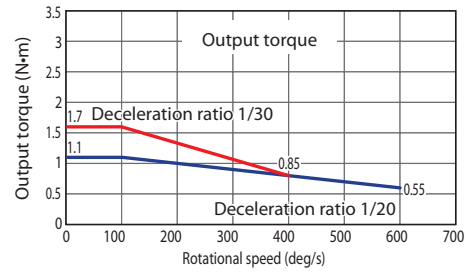
(1) The output torque gets lower as the rotation speed gets faster.
Check the output torque graph on the right to see if the necessary speed for the application is possible.

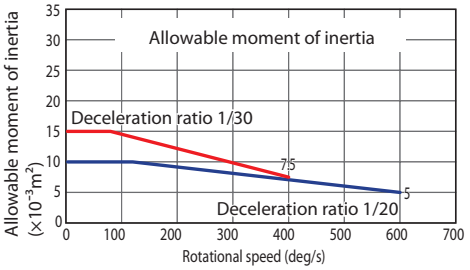
(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed.
Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.3 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTB-I-28P-20-330- ② - ③ - ④	1/20	1.1	0.01	330
RCP2 ① -RTB-I-28P-30-330- ② - ③ - ④	1/30	1.7	0.015	
RCP2 ① -RTBL-I-28P-20-360- ② - ③ - ④	1/20	1.1	0.01	360 (*)
RCP2 ① -RTBL-I-28P-30-360- ② - ③ - ④	1/30	1.7	0.015	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/20	600
1/30	400

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

Actuator Specifications

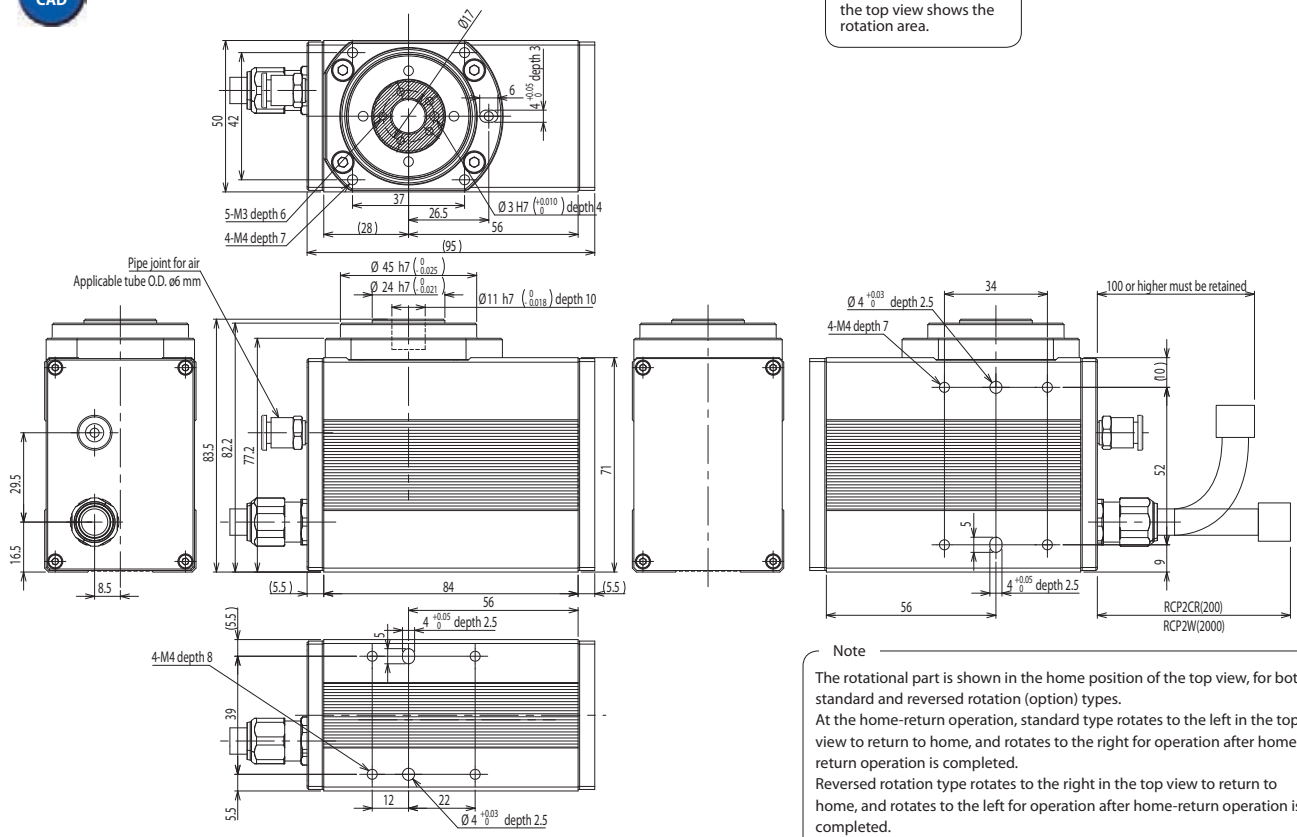
Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.01 degrees	
Home-return Accuracy	±0.01 degrees or less (RTB)/±0.05 degrees or less (RTBL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	50 N	
Allowable Load Moment	3.9 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	15 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	20 Nl/min
Weight	0.96 kg	

Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD

Note
*The shaded area in the top view shows the rotation area.



Note
The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅰ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅲ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-28PⓋ-Ⅰ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-28PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-28PⓋ-Ⅲ-0-0		768 points		
Program Control Type		PSEL-CS-1-28PI-Ⅰ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-28PⓋ-Ⅰ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-28PⓋ-Ⅲ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⅰ I/O type (NP/PN) *Ⅱ Number of axes *Ⅲ Field network specification code
*Ⓥ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⓥ C (standard type) or LC (PLC function equipped type)
*Ⓥ N (NPN specification)/P (PNP specification) code

RCP2CR-RTC/RTCL

Cleanroom RoboCylinder, Rotary, Medium Flat Type, 88 mm Body Width, Pulse Motor

RCP2W-RTC/RTCL

Dust-proof/Splash-proof RoboCylinder, Rotary, Medium Flat Type, 88 mm Body Width, Pulse Motor

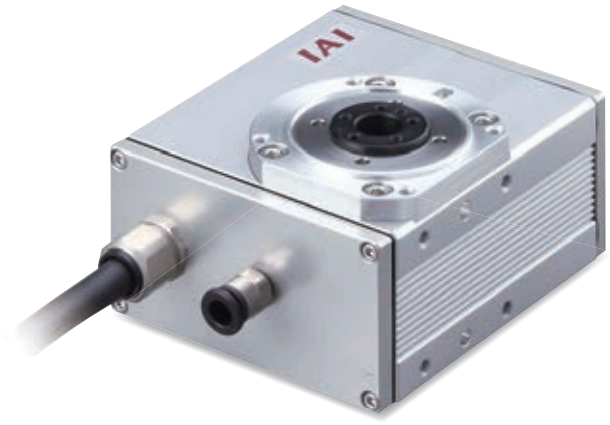
Model Specification Items

RCP2CR / RCP2W Series	Type	Encoder	Motor	Deceleration Ratio	Oscillation Angle	Applicable Controllers	Cable Length	Options
	RTC: 330-degree rotation specification RTCL: Multi-rotation specification	I: Incremental * The Simple absolute encoder is also considered type "I."	28P: Pulse motor 28□ size	20: Deceleration ratio 1/20 30: Deceleration ratio 1/30	330: 330 degrees (RTC only) 360: 360 degrees (Multi-rotational, RTCL only)	P1: PCON-CY/PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP/MSEL	N: None P: 1m S: 3m M: 5m X□□: Custom R□□: Robot cable	NM: Reverse rotation specification SA: Shaft adapter TA: Table adapter

CE RoHS

Horizontal Vertical Side Ceiling

*Can be installed with above orientations.



POINT Note on selection

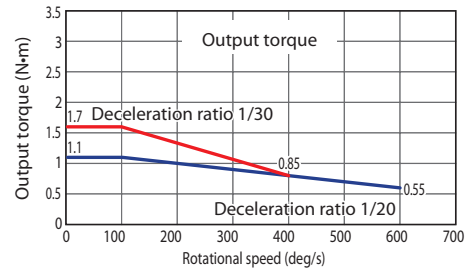
(1) The output torque gets lower as the rotation speed gets faster.
Check the output torque graph on the right to see if the necessary speed for the application is possible.

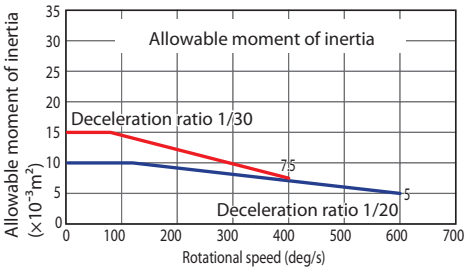
(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed. Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.3 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTC-I-28P-20-330- ② - ③ - ④	1/20	1.1	0.01	330
RCP2 ① -RTC-I-28P-30-330- ② - ③ - ④	1/30	1.7	0.015	
RCP2 ① -RTCL-I-28P-20-360- ② - ③ - ④	1/20	1.1	0.01	360 (*)
RCP2 ① -RTCL-I-28P-30-360- ② - ③ - ④	1/30	1.7	0.015	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/20	600
1/30	400

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

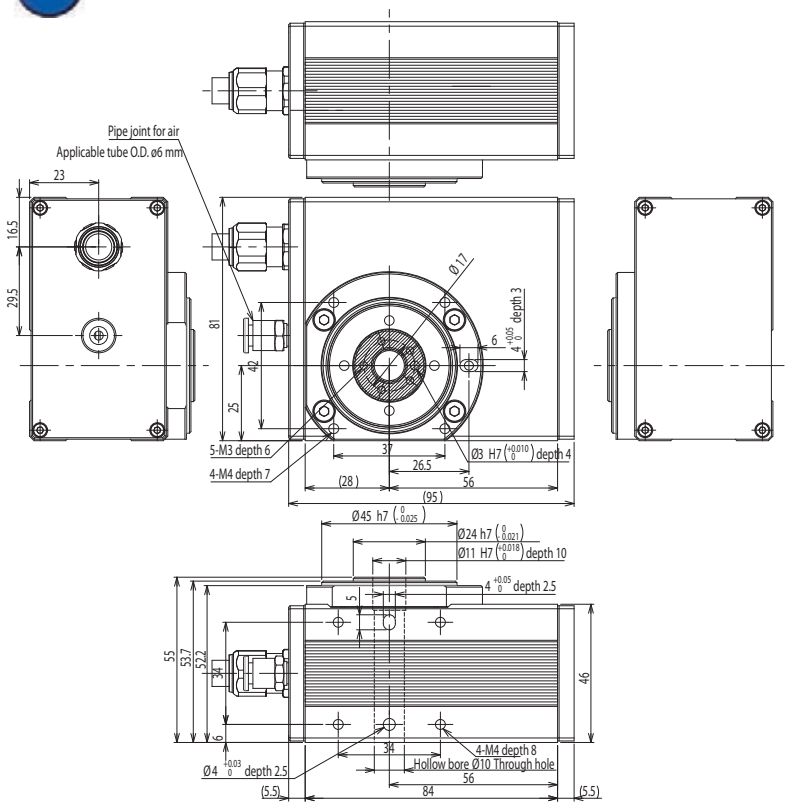
Actuator Specifications

Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.01 degrees	
Home-return Accuracy	±0.01 degrees or less (RTC)/±0.05 degrees or less (RTCL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	50 N	
Allowable Load Moment	3.9 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	15 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	20 Nl/min
Weight	1.04 kg	

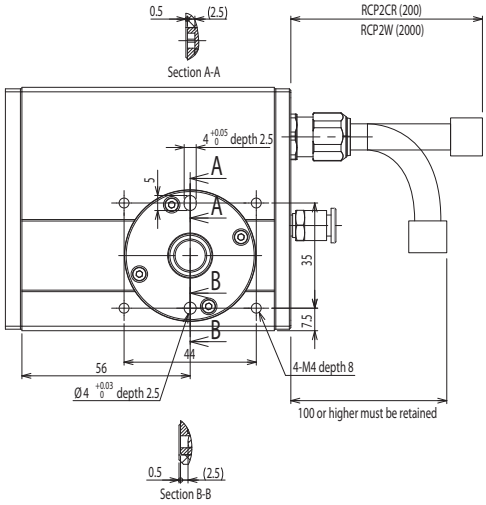
Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD



Note
*The shaded area in the top view shows the rotation area.



Note

The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅰ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅲ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-28PⓋ-Ⅰ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-28PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-28PⓋ-Ⅲ-0-0		768 points		
Program Control Type		PSEL-CS-1-28PI-Ⅰ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-28PⓋ-Ⅰ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-28PⓋ-Ⅲ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⅰ I/O type (NP/PN) *Ⅱ Number of axes *Ⅲ Field network specification code
*Ⅳ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⅴ C (standard type) or LC (PLC function equipped type)
*Ⅵ N (NPN specification)/P (PNP specification) code

RCP2CR-RTBB/RTBBL

Cleanroom RoboCylinder, Rotary, Large Vertical Type, 76 mm Body Width, Pulse Motor

RCP2W-RTBB/RTBBL

Dust-proof/Splash-proof RoboCylinder, Rotary, Large Vertical Type, 76 mm Body Width, Pulse Motor

Model Specification Items

RCP2CR / RCP2W Series	Type	Encoder	Motor	Deceleration Ratio	Oscillation Angle	Applicable Controllers	Cable Length	Options
	RTBB: 330-degree rotation specification RTBBL: Multi-rotation specification	I: Incremental * The Simple absolute encoder is also considered type "I."	35P: Pulse motor 35□ size	20: Deceleration ratio 1/20 30: Deceleration ratio 1/30	330: 330 degrees (RTBB only) 360: 360 degrees (Multi-rotational, RTBBL only)	P1: PCON-CY/PL/PO/SE PSEL P3: PCON-CA PMEC/PSEP MSEP/MSEL	N: None P: 1m S: 3m M: 5m X□□: Custom R□□: Robot cable	NM: Reverse rotation specification SA: Shaft adapter TA: Table adapter

CE RoHS

Horizontal / Vertical / Side / Ceiling

*Can be installed with above orientations.

POINT Note on selection

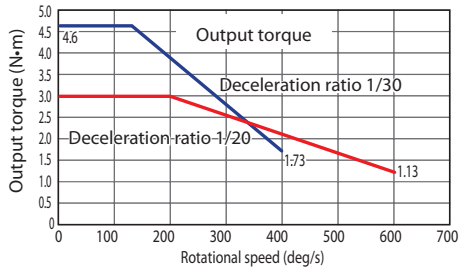
(1) The output torque gets lower as the rotation speed gets faster.
Check the output torque graph on the right to see if the necessary speed for the application is possible.

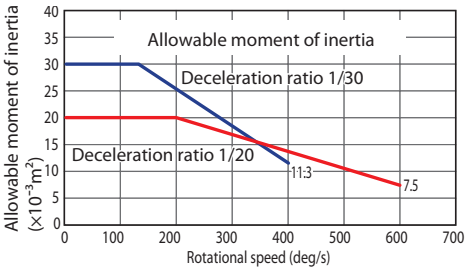
(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed.
Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.3 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTBB-I-35P-20-330- ② - ③ - ④	1/20	3.0	0.02	330
RCP2 ① -RTBB-I-35P-30-330- ② - ③ - ④	1/30	4.6	0.03	
RCP2 ① -RTBBL-I-35P-20-360- ② - ③ - ④	1/20	3.0	0.02	360 (*)
RCP2 ① -RTBBL-I-35P-30-360- ② - ③ - ④	1/30	4.6	0.03	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/20	600
1/30	400

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

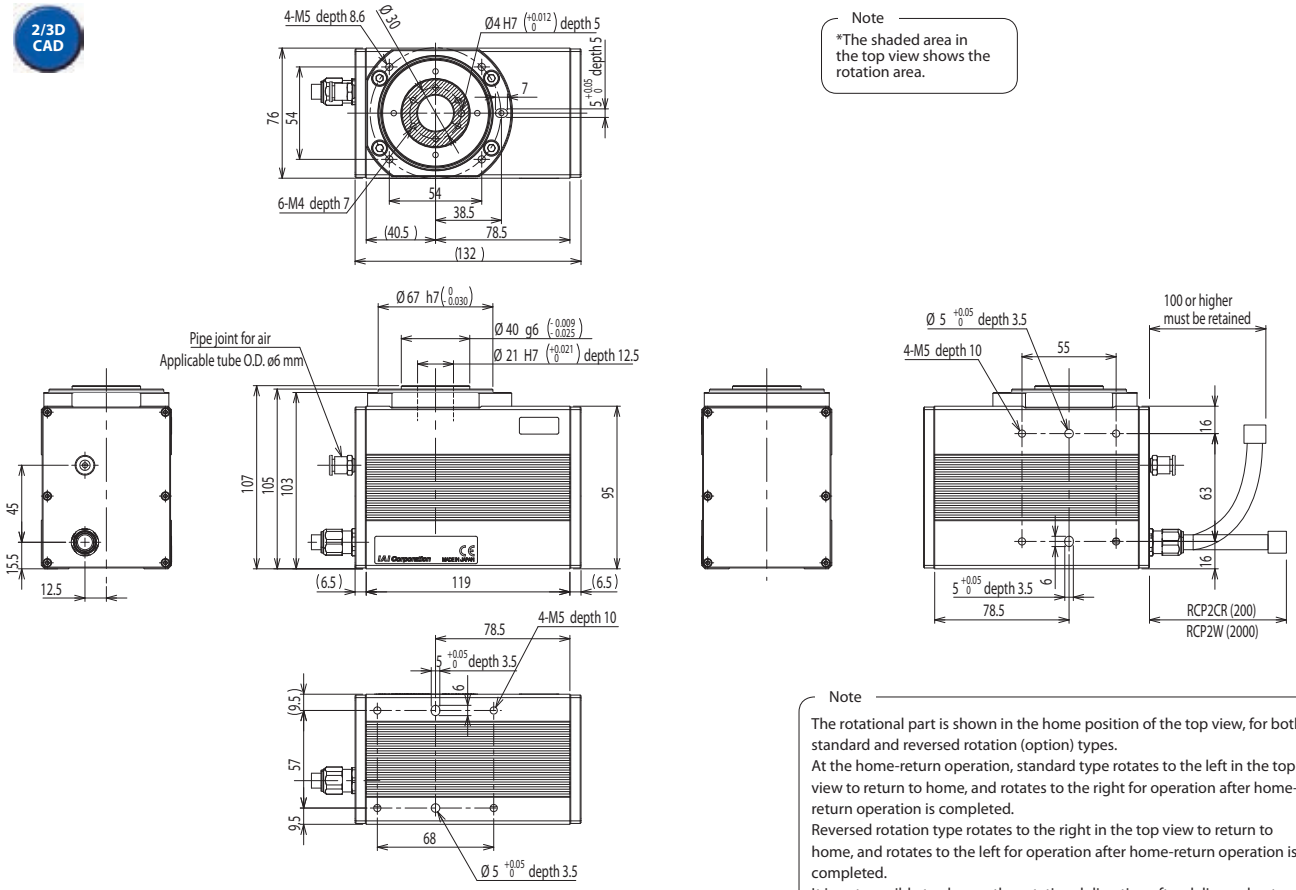
Actuator Specifications

Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.01 degrees	
Home-return Accuracy	±0.01 degrees or less (RTBB)/±0.03 degrees or less (RTBBL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	200 N	
Allowable Load Moment	17.7 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	20 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	40 Nl/min
Weight	2.5 kg	

Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD



Note

*The shaded area in the top view shows the rotation area.

Note

The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⓘ-~-Ⓘ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⓘ-~-Ⓘ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-35PⓋ-Ⓘ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-35PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-35PⓋ-Ⓘ-0-0		768 points		
Program Control Type		PSEL-CS-1-35PI-Ⓘ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-35PⓋ-Ⓘ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-35PⓋ-Ⓘ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⓘ I/O type (NP/PN) *Ⓘ Number of axes *Ⓘ Field network specification code
*Ⓥ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⓥ C (standard type) or LC (PLC function equipped type)
*Ⓘ N (NPN specification)/P (PNP specification) code

RCP2CR-RTCB/RTCBL

Cleanroom RoboCylinder, Rotary, Large Flat Type, 124 mm Body Width, Pulse Motor

RCP2W-RTCB/RTCBL

Dust-proof/Splash-proof RoboCylinder, Rotary, Large Flat Type, 124 mm Body Width, Pulse Motor

Model Specification Items

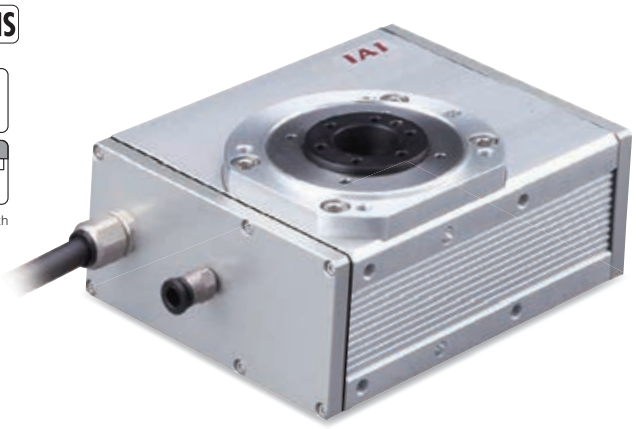
RCP2CR / RCP2W — Series — Type — Encoder — Motor — Deceleration Ratio — Oscillation Angle — Applicable Controllers — Cable Length — Options

- **Type**: RTCB: 330-degree rotation specification; RTCBL: Multi-rotation specification
- **Encoder**: I: Incremental (* The Simple absolute encoder is also considered type "I.")
- **Motor**: 35P: Pulse motor 35□ size
- **Deceleration Ratio**: 20: Deceleration ratio 1/20; 30: Deceleration ratio 1/30
- **Oscillation Angle**: 330: 330 degrees (RTCB only); 360: 360 degrees (Multi-rotational, RTCBL only)
- **Applicable Controllers**: P1: PCON-CY/PL/PO/SE PSEL; P3: PCON-CA PMEC/PSEP MSEP/MSEL
- **Cable Length**: N: None; P: 1m; S: 3m; M: 5m; X□□: Custom; R□□: Robot cable
- **Options**: NM: Reverse rotation specification; SA: Shaft adapter; TA: Table adapter

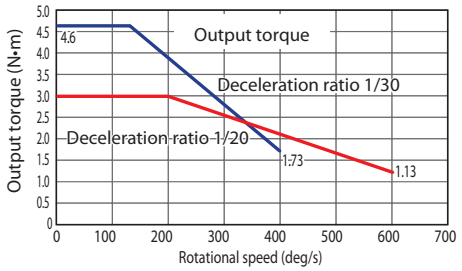
CE RoHS

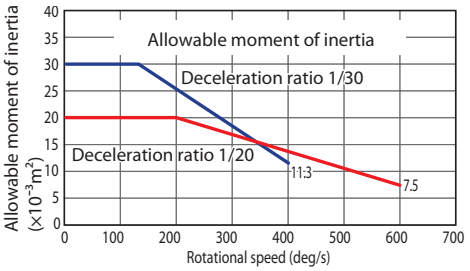
Horizontal / Vertical / Side / Ceiling

*Can be installed with above orientations.



■ Correlation Graph of Speed, Output Torque and Allowable Moment of Inertia





POINT — Note on selection

(1) The output torque gets lower as the rotation speed gets faster. Check the output torque graph on the right to see if the necessary speed for the application is possible.

(2) The allowable moment of inertia on the rotated work piece will differ depending on the rotation speed. Check the allowable moment of inertia graph on the right to see if the necessary moment of inertial for the application is in the allowable range.

(3) The rated acceleration while moving is 0.3 G.

(4) Note that PMEC/PSEP/MSEP Controllers are not capable of infinite rotation operation when used with multi-rotation actuators.

Actuator Specifications

Model	Deceleration Ratio	Maximum Torque (N•m)	Allowable Moment of Inertia (kg•m)	Oscillation Angle (deg)
RCP2 ① -RTCB-I-35P-20-330- ② - ③ - ④	1/20	3.0	0.02	330
RCP2 ① -RTCB-I-35P-30-330- ② - ③ - ④	1/30	4.6	0.03	
RCP2 ① -RTCBL-I-35P-20-360- ② - ③ - ④	1/20	3.0	0.02	360 (*)
RCP2 ① -RTCBL-I-35P-30-360- ② - ③ - ④	1/30	4.6	0.03	

Legend: ① Series ② Applicable controllers ③ Cable length ④ Options

* Max. operating range: ±9999 degrees

■ Deceleration Ratio and Max. Speed

Deceleration Ratio \ Oscillation Angle	330/360 (deg)
1/20	600
1/30	400

(Unit: deg/s)

Cable Length

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

* Robot cable is standard for applicable P1 controller.

Options

Name	Option Code	Reference	
Reverse Rotation Specification	**NM**	See RoboCylinder General Catalog	
Shaft Adapter	**SA**		
Table Adapter	**TA**		

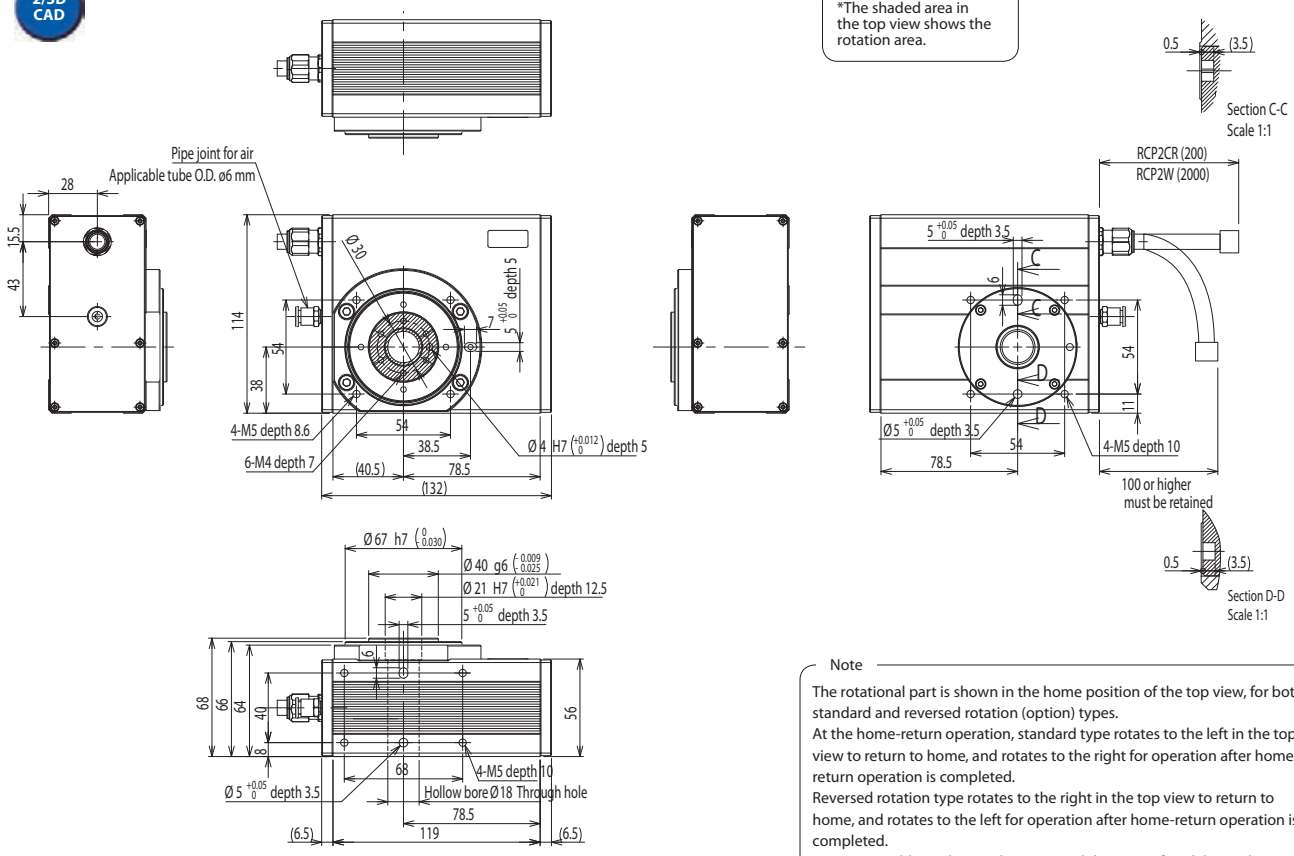
Actuator Specifications

Item	Description	
	Cleanroom	Dust-proof/Splash-proof
Drive System	Hypoid gear	
Positioning Repeatability	±0.01 degrees	
Home-return Accuracy	±0.01 degrees or less (RTCB)/±0.03 degrees or less (RTCBL)	
Lost Motion	±0.1 degrees	
Allowable Thrust Load	200 N	
Allowable Load Moment	17.7 N·m	
Ambient Operating Temperature/Humidity	0~40°C, 85% RH or less (non-condensing)	
Cleanliness	ISO class 4 (US FED STD class 10)	–
Pipe Joint for Vacuuming	Quick connect joint, applicable tube outer diameter ø6 mm	–
Vacuuming Flow Volume	20 Nl/min	–
IP Code	–	IP54 or equivalent
Pipe Joint for Air Purge	–	Quick connect joint, applicable tube outer diameter ø6 mm
Air Purge Flow Volume	–	40 Nl/min
Weight	2.4 kg	

Dimensions

CAD drawings can be downloaded from the website. www.robocylinder.de

2/3D CAD



Note

The rotational part is shown in the home position of the top view, for both standard and reversed rotation (option) types.
At the home-return operation, standard type rotates to the left in the top view to return to home, and rotates to the right for operation after home-return operation is completed.
Reversed rotation type rotates to the right in the top view to return to home, and rotates to the left for operation after home-return operation is completed.
It is not possible to change the rotational direction after delivery due to structural reason.

Applicable Controllers

The RCP2CR/RCP2W series actuators can operate with the controllers below. Select the controller according to your usage.

Name	External View	Model Number	Max. Number of Controlled Axes	Max. Pos. Points	Input Voltage	
Solenoid Valve Multi-axis Type (PIO Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅰ-2-0 (Note)	C:8 LC:6	3 points	DC24V	(Note) MSEP-LC is coming soon with CE conformity.
Positioner Multi-axis Type (Network Specification)		MSEP-Ⓥ-Ⅱ-~-Ⅲ-0-0 (Note)		256 points		
Positioner Type High-output Specification		PCON-CA-35PⓋ-Ⅰ-2-0	1	512 points		
Pulse Train Type High-output Specification		PCON-CA-35PWAI-PLⓋ-2-0		–		
Network Type High-output Specification		PCON-CA-35PⓋ-Ⅲ-0-0		768 points		
Program Control Type		PSEL-CS-1-35PI-Ⅰ-2-0	2	1500 points		
Program Control Multi-axis Type (PIO Specification) Global version (Safety Category Compliant Specification)		MSEL-PG-1-35PⓋ-Ⅰ-2-4	4	30000 points	Single-phase AC 100V ~ 230V	
Program Control Multi-axis Type (Network Specification) Global version (Safety Category Compliant Specification)		MSEL-PG -1-35PⓋ-Ⅲ-0-4				
Other Connectable Devises	PSEP, PMEC, PCON-CY/PL/PO/SE					

*For the single-axis PSEL and MSEL. *Ⅰ I/O type (NP/PN) *Ⅱ Number of axes *Ⅲ Field network specification code
*Ⓥ Encoder type WAI: Incremental/SA: Simple absolute. However, WAI and SA cannot be used together for MSEL. *Ⓥ C (standard type) or LC (PLC function equipped type)
*Ⓜ N (NPN specification)/P (PNP specification) code

RCP2CR/RCP2W Series
Rotary Type
Catalogue No. 0615-E

The information contained in this catalog is subject to change without notice for the purpose of product improvement

ISO 9001
BUREAU VERITAS
Certification

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