

Mini Cylinder **RCD**



www.intelligentactuator.com

Ultra-Compact Motorized Cylinder with 12mm Cross-Section

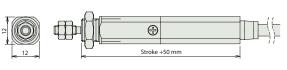


Features

• Ultra-compact size makes it a good replacement for compact air cylinders.

Ultra-compact size has been achieved, with a cross-section of only 12 mm and a body length as short as 60 mm.

The Mini Cylinder RCD is small enough to replace compact air cylinders used for short-stroke travel, pressing, hoisting, etc.

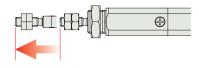


Slim actuator

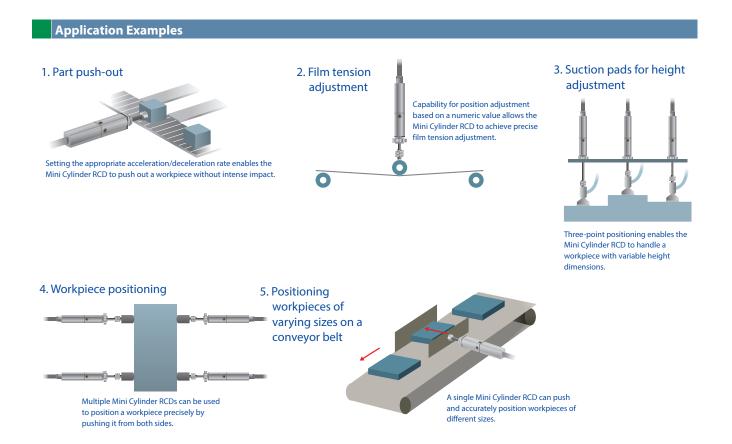
2. High-speed performance with maximum acceleration/deceleration of 1 G and maximum speed of 300 mm/s

The Mini Cylinder RCD incorporates a newly developed brushless DC motor that generates sufficient torque despite its compact size.

Its high-speed performance with maximum acceleration/deceleration of 1 G and maximum speed of 300 mm/s is highly effective in reducing cycle time in a variety of systems.



High-speed travel



D-RA1 R ROBO Cylinder, Ultra-Compact Rod Type, Actuator Width 12mm, DC24V Brushless Motor RCD - RA1DA -3 2 **D5** Model Specification Items Encoder Type — Motor Type — Series — Туре – Lead Stroke - Applicable Controllers - Cable Length 3: DC Brushless D5: DSEP I: Incremental 2: 2mm 10:10mm N : None P : 1m S : 3m M: 5m Motor 2.5W DCON 30: 30mm (Every 10mm) MSEP X .: Custom length Controller is not included. R□□: Robot cable





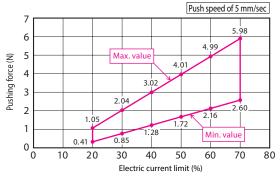
*If vou install in a vertical position, there are restrictions applied depending on the model.



- (1) The load capacity is based on operation at an acceleration of 1G. This is the upper limit of
- the acceleration/deceleration speed. (2) The horizontal payload is the value when used in combination with an external guide.
- Please note that if an external force is applied to the rod in a direction other than the proper direction the rod travels, the detent may get damaged.
- (3) The push motion is when operated at 5mm/s.
- (4) Since this model uses a lead screw, the actuator specifications may change according to the usage. (5) Take note that, since there is no brake, the rod may come down when the power is turned
 - off if the actuator is used vertically.

Electric Current Limit and Pushing Force

Electric current limit and pushing force



* The ranges shown in this graph take into account efficiency deterioration caused by wear on the lead screw. Always use the product within the maximum and minimum values.

Actuator Specifications Lead and Payloads Stroke and Maximum Speed									
Model Number	Motor Output(w)	Feed Screw	Lead	Maximun Horizontal (kg)		Maximum Push Force (N)	Stroke	Lead (mm)	- 10~30 (Every 10mm)
RCD-RA1DA-I-3-2-①-D5-②	2.5	Lead Screw	2	0.7	0.3	4.2	10 to 30 (Every 10 mm)	2	300
Legend: ①Stroke ②Cable length							(Unit: mm/s		

Legend: ① Stroke ② Cable length

①Stroke				
Stroke (mm)	Standard Price			
10	—			
20	—			
30	_			

@Cable Length

Cable Length						
Туре	Cable Code	Standard Price				
Standard Type	P (1m)	_				
	S (3m)	—				
	M (5m)	—				
Special Length	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)	_				

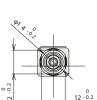
Actuator Specifications

ltem	Description		
Drive Method	Ball screw, ø3mm		
Positioning Repeatability	±0.05mm		
Lost Motion	0.2mm or less		
Encoder Resolution	480 pulses/rev		
Base	Material: Aluminum, white alumite treated		
Rod Allowable Static Moment	0.02 N•m		
Rod Non-rotation Precision	±3 deg		
Ambient Operating Temperature/Humidity	0 to 40°C, 85% RH max. (Non-condensing)		
Service Life	10 million cycles (for horizontal and vertical)		

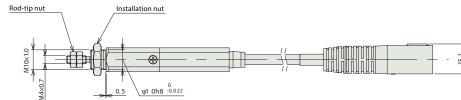
Dimensional Drawings

2D CAD

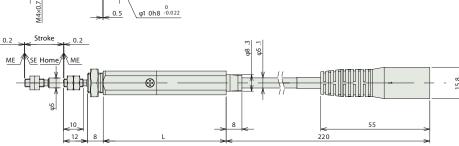
CAD drawings can be downloaded www.intelligentactuator.com



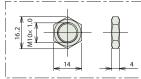
3D CAD

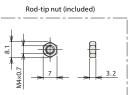


(Installation nut not shown)



Installation nut (included)





ME: Mechanical end SE: Stroke end

Stroke	10	20	30	
L	52	62	72	
Weight (g)	47	51	55	

Applicable Controllers RCD series actuators can be operated with the controllers indicated below. Select the type according to your intended application. Max. Number of Positioning Input Voltac Solenoid Valve Type DSEP-C-3I-①-2-0 3 points 1 Dust-proof DSEP-CW-3I-①-2-0 Solenoid Valve Type Solenoid Valve Multi-axis Type MSEP-∭-∭-~①-2-0 3 points (PIO Specification) DC24V C:8 LC:6 Solenoid Valve MSEP-∭-∭-~∭-0-0 Multi-axis Type 256 points (Network Specification) DCON-CA-3I-①-2-0 Positioner Type 512 points 1 DCON-CA-3I-10-0-0 Network Type 768 points

* indicates I/O type (NP/PN) * indicates Field Network specification code * indicates C (standard) or LC (with PLC function) type * indicates the number of axes

IAI America, Inc.

 Headquarters: 2690 W. 237th Street, Torrance, CA 90505
 (800) 736-1712

 Chicago Office: 110 E. State Pkwy, Schaumburg, IL 60173
 (800) 944-0333

 Atlanta Office: 1220 Kennestone Circle, Suite 108, Marietta, GA 30066
 (888) 354-9470

IAI Industrieroboter GmbH

Ober der Röth 4, D-65824 Schwalbach am Taunus, Germany IAI Robot (Thailand), CO., Ltd. 825 PhairojKijja Tower 12th Floor, Bangna-Trad RD., Bangna, Bangna, Bangkok 10260, Thailand



www.intelligentactuator.com Bangna, Ba