

RCS2W-RA4C/RA4D/RA4R

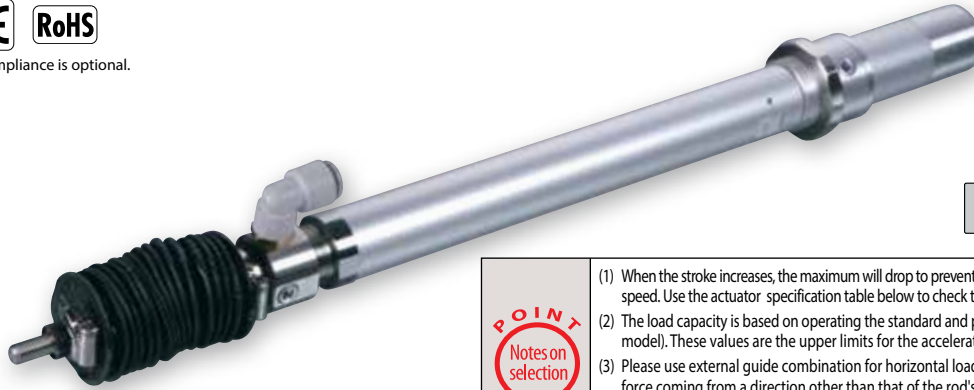
Robo Cylinder, Splash-Proof Rod Type, ø37mm Diameter, 200V Servo Motor, Coupled/Built-In/Side-Mounted Motor Specification

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options
	RA4C: Coupled type	I: Incremental	20: 20W Servo motor	12: 12mm	50: 50mm	T1: XSEL-J/K T2: SCON	N: None P: 1m S: 3m M: 5m	See Options below.	
	RA4D: Built-in	A: Absolute	30: 30W Servo motor	6: 6mm	300: 300mm (50mm pitch increments)	MSCON SSEL XSAL-P/Q XSAL-R/S	X□□: Custom Length R□□: Robot Cable		
	RA4R: Side-mounted motor			3: 3mm					

* See page Pre-47 for details on the model descriptions.



*CE compliance is optional.



Technical References Appendix P.5



- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
- (2) The load capacity is based on operating the standard and power-saving models at 0.3G (0.2G for 3mm-lead model). These values are the upper limits for the acceleration.
- (3) Please use external guide combination for horizontal load capacity; the value is for when no external force coming from a direction other than that of the rod's direction of travel is applied.
- (4) The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.
- (5) See page A-71 for details on push motion.

*Please note that the bellows shape has some change from the photo above.

Actuator Specifications

Lead and Payload

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCS2W-①-②-20-12-③-④-⑤-⑥	20	12	3.0	1.0	18.9	50~300 (every 50mm)
RCS2W-①-②-20-6-③-④-⑤-⑥		6	6.0	2.0	37.7	
RCS2W-①-②-20-3-③-④-⑤-⑥		3	12.0	4.0	75.4	
RCS2W-①-②-30-12-③-④-⑤-⑥	30	12	4.0	1.5	28.3	
RCS2W-①-②-30-6-③-④-⑤-⑥		6	9.0	3.0	56.6	
RCS2W-①-②-30-3-③-④-⑤-⑥		3	18.0	6.5	113.1	

Stroke and Maximum Speed

Stroke Lead	50~300 (every 50mm)	
	12	600
6	300	
3	150	

(Unit: mm/s)

Code explanation ① Type ② Encoder ③ Stroke ④ Applicable controller ⑤ Cable Length ⑥ Options *See page A-71 for details on push motion.

② Encoder & ③ Stroke

③ Stroke (mm)	Standard price							
	RA4C/RA4D				RA4R			
	② Encoder Type		② Encoder Type		② Encoder Type		② Encoder Type	
	Incremental		Absolute		Incremental		Absolute	
	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	Motor power output	
	20W	30W	20W	30W	20W	30W	20W	30W
50	—	—	—	—	—	—	—	—
100	—	—	—	—	—	—	—	—
150	—	—	—	—	—	—	—	—
200	—	—	—	—	—	—	—	—
250	—	—	—	—	—	—	—	—
300	—	—	—	—	—	—	—	—

⑤ Cable Length

Type	Cable symbol	Standard Price
Standard	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)	—

* See page A-59 for cables for maintenance.

⑥ Options

Name	Option code	See page	Standard price
Brake (*1)	B	→ A-42	—
CE compliance	CE	→ A-42	—
Flange bracket	FL	→ A-45	—
Foot bracket (front)	FT	→ A-49	—
Home sensor (*2)	HS	→ A-50	—
Knuckle joint	NJ	→ A-53	—
Non-motor end specification (*2)	NM	→ A-52	—
Clevis bracket (*3)	QR	→ A-53	—
Rear mounting plate (*3)	RP	→ A-54	—
Trunnion bracket (front) (*4)	TRF	→ A-57	—
Trunnion bracket (rear) (*4)	TRR	→ A-58	—

(*1) No brake option for RA4D.
 (*2) The home sensor (HS) cannot be used on the Non-motor end models (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA4R.
 (*4) Trunnion bracket (rear) only available for RA4C/RA4D.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning Repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Rod diameter	ø20mm
Non-rotating accuracy of rod	±1.0 deg
Protection structure	IP54
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

Dimensional Drawings

CAD drawings can be downloaded from the website.

www.intelligentactuator.com



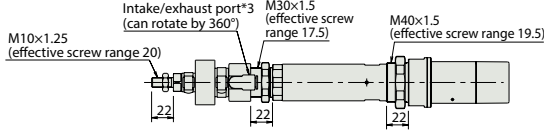
(Note) No 3D CAD data for RA4D type.

For Special Orders

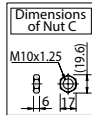
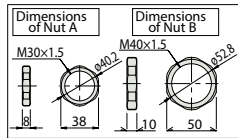
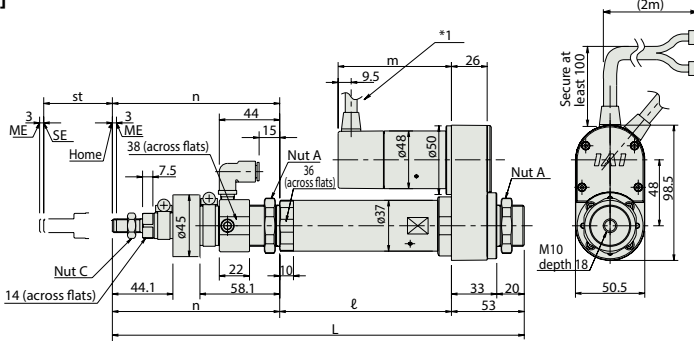
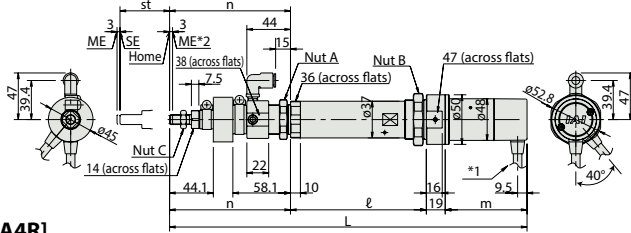


- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
ME: Mechanical end SE: Stroke end
- (*3) Intake/exhaust port is the air exhaust tube in the main body. Insert OD $\phi 10$ mm tube and use it extended to a place that is not prone to water spills or intake.

[RA4C/RA4D]



[RA4R]



Note:
Please don't apply an external force coming from a direction other than that of the rod's direction of travel. The detent may break if a force is applied other than in the direction of travel or a torque is applied to the rod.

Dimensions and Weight by Stroke

RCS2W-RA4C/RA4D/RA4R (without brake)		Stroke	50	100	150	200	250	300
L	RA4C	20W	358.4	418.4	478.4	538.4	599.4	660.4
		30W	373.4	433.4	493.4	553.4	614.4	675.4
	RA4D	20W	336.4	396.4	456.4	516.4	577.4	638.4
		30W	351.4	411.4	471.4	531.4	592.4	653.4
	RA4R	20W	299.9	359.9	419.9	479.9	540.9	601.9
		30W	299.9	359.9	419.9	479.9	540.9	601.9
l	RA4C	20W	137	187	237	287	337	387
		30W	137	187	237	287	337	387
	RA4D	20W	137	187	237	287	337	387
		30W	137	187	237	287	337	387
	RA4R	20W	125	175	225	275	325	375
		30W	125	175	225	275	325	375
m	RA4C	20W	80.5					
		30W	95.5					
	RA4D	20W	58.5					
		30W	73.5					
	RA4R	20W	80.5					
		30W	95.5					
n	RA4C	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9	173.9
	RA4D	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9	173.9
	RA4R	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9	173.9
Weight (Kg)	RA4C	20W/30W	1.4	1.5	1.7	1.8	2.0	2.1
	RA4D	20W/30W	1.3	1.5	1.6	1.8	2.0	2.1
	RA4R	20W/30W	1.5	1.7	1.8	2.0	2.1	2.3

RCS2W-RA4C/RA4D/RA4R (with brake)

RCS2W-RA4C/RA4D/RA4R (with brake)		Stroke	50	100	150	200	250	300
L	RA4C	20W	401.4	461.4	521.4	581.4	642.4	703.4
		30W	416.4	476.4	536.4	596.4	657.4	718.4
	RA4D	20W	No brake-equipped model					
		30W	No brake-equipped model					
	RA4R	20W	299.9	359.9	419.9	479.9	540.9	601.9
		30W	299.9	359.9	419.9	479.9	540.9	601.9
l	RA4C	20W	137	187	237	287	337	387
		30W	137	187	237	287	337	387
	RA4D	20W	No brake-equipped model					
		30W	No brake-equipped model					
	RA4R	20W	125	175	225	275	325	375
		30W	125	175	225	275	325	375
m	RA4C	20W	123.5					
		30W	138.5					
	RA4D	20W	No brake-equipped model					
		30W	No brake-equipped model					
	RA4R	20W	123.5					
		30W	138.5					
n	RA4C	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9	173.9
	RA4D	20W	No brake-equipped model					
		30W	No brake-equipped model					
	RA4R	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9	173.9
Weight (Kg)	RA4C	20W/30W	1.6	1.7	1.9	2.0	2.2	2.3
	RA4D	20W/30W	-					
	RA4R	20W/30W	1.7	1.9	2.0	2.2	2.3	2.5

Applicable Controllers

RCS2W-series actuators can be operated with the following controllers. Select an appropriate controller type according to your application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power supply capacity	Standard price	Reference page
Positioner mode		SCON-CA-20①-NP-2-② SCON-CA-30D①-NP-2-②③	Up to 512 positioning points are supported.	512 points	Single-phase 100VAC	126 VA max. * Power supply capacity will vary depending on the controller, so please refer to the instruction manual for details.	—	→ P643
Solenoid valve mode			Actuators can be operated through the same control used for solenoid valves.	7 points				
Field network type			Movement by numerical specification is supported.	768 points				
Pulse-train input control type			Dedicated pulse-train input type	(—)				
Positioner multi-axis, network type		MSCON-C-1-20①-V-0-②③ MSCON-C-1-30D①-V-0-②③	Up to 6 axes can be operated. Movement by numerical specification is supported.	256 points	3-phase 200VAC (XSEL-P/Q/R/S ONLY)	—	→ P655	
Program control type, 1 to 2 axes		SSEL-CS-1-20①-NP-2-②③ SSEL-CS-1-30D①-NP-2-②③	Program operation is supported. Up to 2 axes can be operated.	20,000 points	—	—	→ P685	
Program control type, 1 to 8 axes		XSEL-④-1-20①-N1-EEE-2-⑤⑥ XSEL-④-1-30D①-N1-EEE-2-⑤⑥	Program operation is supported. Up to 8 axes can be operated.	Varies depending on the number of axes connected	—	—	→ P695	

* This is for the single-axis MSCON, SSEL, and XSEL.
 * ① indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V).
 * ② indicates the power-supply voltage type (1: 100V / 2: Single-phase 200V / 3: Three-phase 200V).
 * ③ indicates the encoder type (I: Incremental / A: Absolute).
 * ④ indicates the XSEL type (J / K / P / Q / R / S).
 * ⑤ indicates field network specification symbol.