

RCS2W-RA4C/RA4D/RA4R

ROBO Cylinder Splash-proof Rod Type
 ø37mm Diameter 200V Servo Motor
 Coupled/Built-in/Side-Mounted Motor Specification

■ Configuration: **RCS2W** — [] — [] — [] — [] — [] — [] — [] — [] — []

Series — Type — Encoder — Motor — Lead — Stroke — Compatible Controllers — Cable Length — Option

RA4C: Coupled type
 RA4D: Built-in
 RA4R: Side-Mounted Motor

I : Incremental Type
 A : Absolute Type

20 : 20W servo motor
 30 : 30W servo motor

12 : 12mm
 6 : 6mm
 3 : 3mm

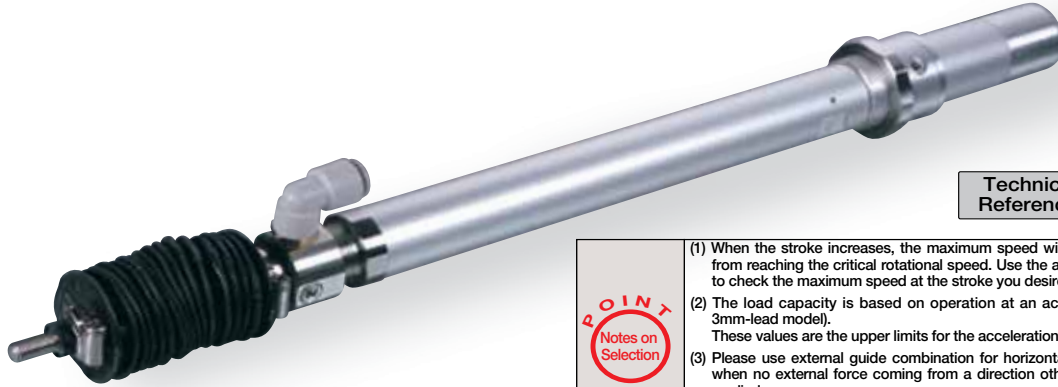
50:50mm
 300:300mm (50mm pitch increments)

T1 : XSEL-J/K
 T2 : SCON
 SSEL
 XEL-P/Q

N : None
 P : 1m
 S : 3m
 M : 5m
 X [] : Custom Length
 R [] : Robot Cable

See Options below

* See page Pre-35 for explanation of each code that makes up the configuration name.



Technical References P. A-5

- POINT**
Notes on Selection
- When the stroke increases, the maximum speed 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.
 - The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model). These values are the upper limits for the acceleration.
 - 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 rod's advance is applied.
 - The cable joint connector is not splash-proof; secure it in a place that is not prone to water spills.

Actuator Specifications

Lead and Load Capacity

Model	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 (50mm increments)
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	

Legend ① Type ② Encoder ③ Stroke ④ Compatible controller ⑤ Cable length ⑥ Options

Stroke and Maximum Speed

Stroke / Lead	50-300 (50mm increments)	
	Stroke (mm)	Maximum Speed (mm/s)
12	600	
6	300	
3	150	

(Unit: mm/s)

Encoder & Stroke List

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

⑥ Option List

Name	Option Code	See Page	Standard Price
Brake (*1)	B	→ A-25	-
Flange bracket	FL	→ A-27	-
Foot bracket	FT	→ A-29	-
Home confirmation sensor (*2)	HS	→ A-32	-
Knuckle Joint	NJ	→ A-34	-
Reversed-home (*2)	NM	→ A-33	-
Clevis Bracket (*3)	QR	→ A-34	-
Rear mounting plate (*3)	RP	→ A-33	-
Trunnion Bracket (Front) (*4)	TRF	→ A-38	-
Trunnion Bracket (Back) (*4)	TBR	→ A-38	-

(*1) No brake setting for RA4D.
 (*2) Home sensor (HS) can't be used under reversed-home (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA4R.
 (*4) Trunnion bracket only available for RA4C/RA4D.

⑤ Cable List

Type	Cable Symbol	Standard Price
Standard	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	Ball screw ø10mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1 mm or less
Base	Material: Aluminum (white alumite treated)
Rod diameter	ø20mm
Rod non-rotational accuracy	±1.0 degrees
Protection Structure	IP54
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

Dimensions

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



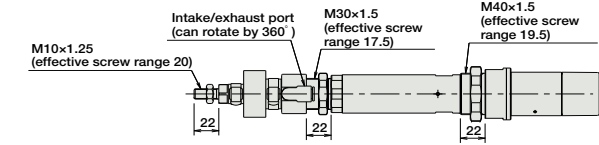
Note: No 3D CAD data for RA4D type.

For Special Orders

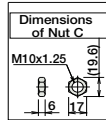
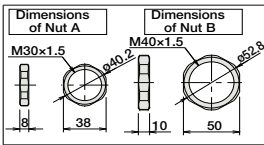
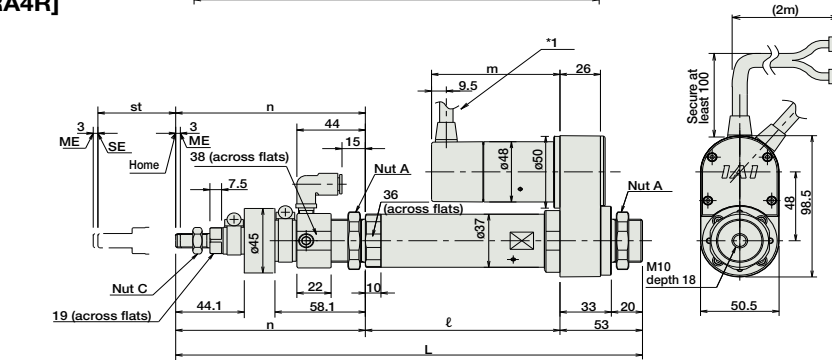


- * 1 Cable joint connector and cable bending space are the same as for RCS2-RA4C. (See P236)
- * 2 When homing, the slider moves to the ME; therefore, please watch for any interference with the surrounding objects.
ME: Mechanical end SE: Stroke end

[RA4C/RA4D]



[RA4R]



Dimensions/Weight by Stroke

RCS2W-RA4C/RA4D/RA4R (without brake)

Stroke	50						100						150						200						250						300																	
		20W						30W						20W						30W						20W						30W						20W						30W				
L	RA4C		358.4						418.4						478.4						538.4						598.4						660.4															
			373.4						433.4						493.4						553.4						614.4						675.4															
	RA4D		336.4						396.4						456.4						516.4						577.4						638.4															
			351.4						411.4						471.4						531.4						592.4						653.4															
	RA4R		299.9						359.9						419.9						479.9						540.9						601.9															
			299.9						359.9						419.9						479.9						540.9						601.9															
r	RA4C		137						187						237						287						337						387															
			137						187						237						287						337						387															
	RA4D		137						187						237						287						337						387															
			137						187						237						287						337						387															
	RA4R		125						175						225						275						325						375															
			125						175						225						275						325						375															
m	RA4C		80.5						95.5						110.5						125.5						140.5						155.5															
			80.5						95.5						110.5						125.5						140.5						155.5															
	RA4D		58.5						73.5						88.5						103.5						118.5																					
			58.5						73.5						88.5						103.5						118.5																					
	RA4R		80.5						95.5						110.5						125.5						140.5																					
			80.5						95.5						110.5						125.5						140.5																					
n	RA4C		121.9						131.9						141.9						151.9						162.9						173.9															
			121.9						131.9						141.9						151.9						162.9						173.9															
	RA4D		121.9						131.9						141.9						151.9						162.9						173.9															
			121.9						131.9						141.9						151.9						162.9						173.9															
	RA4R		121.9						131.9						141.9						151.9						162.9						173.9															
			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									
			20W/30W						1.3						1.5						1.6						1.8						1.9						2.1									
	RA4D		20W/30W						1.3						1.5						1.6						1.8						1.9						2.1									
			20W/30W						1.3						1.5						1.6						1.8						1.9						2.1									
	RA4R		20W/30W						1.5						1.7						1.8						2.0						2.1						2.3									
			20W/30W						1.5						1.7						1.8						2.0						2.1						2.3									

RCS2W-RA4C/RA4D/RA4R (with brake)

Stroke	50						100						150						200						250						300																	
		20W						30W						20W						30W						20W						30W						20W						30W				
L	RA4C		401.4						461.4						521.4						581.4						642.4						703.4															
			416.4						476.4						536.4						596.4						657.4						718.4															
	RA4D		No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
			No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
	RA4R		299.9						359.9						419.9						479.9						540.9						601.9															
			299.9						359.9						419.9						479.9						540.9						601.9															
l	RA4C		137						187						237						287						337						387															
			137						187						237						287						337						387															
	RA4D		No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
			No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
	RA4R		125						175						225						275						325						375															
			125						175						225						275						325						375															
m	RA4C		123.5						138.5						153.5						168.5						183.5																					
			123.5						138.5						153.5						168.5						183.5																					
	RA4D		No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
			No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
	RA4R		123.5						138.5						153.5						168.5						183.5																					
			123.5						138.5						153.5						168.5						183.5																					
n	RA4C		121.9						131.9						141.9						151.9						162.9						173.9															
			121.9						131.9						141.9						151.9						162.9						173.9															
	RA4D		No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
			No brake-equipped model.						No brake-equipped model.						No brake-equipped model.						No brake-equipped model.																											
	RA4R		121.9						131.9						141.9						151.9						162.9						173.9															
			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									
			20W/30W						1.6						1.7						1.9						2.0						2.2						2.3									
	RA4D		20W/30W						-						-						-						-																					
			20W/30W						-						-						-						-																					
	RA4R		20W/30W						1.7						1.9						2.0						2.2						2.3						2.5									
			20W/30W						1.7						1.9						2.0						2.2						2.3						2.5									

Compatible Controllers

The RCS2W 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	Standard Price	See Page
Positioner Mode		SCON-C-20 ①-NP-2-② SCON-C-30D ①-NP-2-②	Positioning possible for up to 512 points	512 points	Single-Phase AC 100V Single-Phase AC 200V 3-Phase AC 200V (XSEL-P/Q only)	Maximum 360VA *1 axis type When operating 150W	-	→ P547
Solenoid Valve Mode			Operation possible with the same controls as solenoid valve.	7 points				
Serial Communication Type			Dedicated to serial communication	64 points				
Pulse Train Input Control Type			Open Collector Pulse Train Input Type	(-)				
Program control 1-2 Axes type		SSEL-C-1-20 ①-NP-2-② SSEL-C-1-30D ①-NP-2-②	Programmed operation is possible Can operate up to 2 axes	20000 points			-	→ P577
Program control 1-6 Axes type			Programmed operation is possible Can operate up to 6 axes	20000 points				

- * For SSEL and XSEL, only applicable to the single-axis model.
- * ① is a placeholder for the encoder type (I: incremental, A: absolute.)
- * ② is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V)
- * ③ is a placeholder for the XSEL type name (J, K, P, or Q)
- * ④ is a placeholder for the power supply voltage (1: 100V, 2: single-phase 200V, 3: 3-phase 200V).