

RCS2W-RA4C/RA4D/RA4R

ROBO Cylinder, Splash-Resistant RodType, Actuator Width $\phi 37\text{mm}$, 200-V Servo Motor, Coupling /Built-in/Reverse-mounted Motor Specification

Model Description **RCS2W** — [] — [] — [] — [] — [] — [] — [] — [] — []

Series	Type	Encoder type	Motor type	Lead	Stroke	Compatible Controllers	Cable length	Option
RA4C: Coupling specification	I: Incremental specification	20: Servo motor 20W	12: 12mm	50: 50mm to 300: 300mm (Set steps every 50mm)	T1: XSEL-J/K T2: SCON	N: None P: 1m S: 3m M: 5m	Refer to the Option Price List below.	
RA4D: Built-in specification	A: Absolute specification	30: Servo motor 30W	6: 6mm 3: 3mm	SSEL XSEL-P/Q	X□: Length R□: Robot cable			
RA4R: Reverse-mounted motor specification								

See preceding section for model descriptions.



Technical Reference P. 451

POINT
Notes on selection

(1) As the stroke length increases, the maximum speed decreases due to hazardous ball screw RPMs. Use the actuator specification table below to check the maximum speed at the stroke you desire.

(2) The load capacity is based on operation at an acceleration of 0.3G (or 0.2G if the lead is 3). The above values are maximum acceleration.

Actuator Specification Table

Leads and Payloads

Model	Motor output (W)	Lead (mm)	Maximum payload		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 to 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	

Legend: [1] Type [2] Encoder type [3] Stroke [4] Controller [5] Cable length [6] Option

Stroke and Maximum Speed

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

(Unit = mm/s)

Price List by [2] Encoder Type/[3] Stroke

[3] Stroke (mm)	[1] Type code							
	RA4C/RA4D				RA4R			
	[2] Encoder type		[2] Encoder type		[2] Encoder type		[2] Encoder type	
	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute	Incremental	Absolute
	Motor W number	Motor W number	Motor W number	Motor W number	Motor W number	Motor W number	Motor W number	Motor W number
	20W	30W	20W	30W	20W	30W	20W	30W
50	-	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-

[4] Option Price List

Title	Option code	See page	Standard price
Brake (*1)	B	→P437	-
Flange bracket	FL	→P438	-
Foot bracket	FT	→P440	-
Home check sensor (*2)	HS	→P442	-
Knuckle joint	NJ	→P442	-
Reversed-home specification (*2)	NM	→P442	-
Clevis bracket (*3)	QR	→P443	-
Rear mounting plate (*3)	RP	→P444	-
Trunion bracket (front) (*4)	TRF	→P446	-
Trunion bracket (rear) (*4)	TRR	→P446	-

(*1) There is no brake setting for the RA4D.
 (*2) Home check sensors (HS) cannot be used with the reversed-home specification.
 (*3) The clevis bracket and rear mounting plate can only be used with the RA4R.
 (*4) The trunion bracket (rear) can only be used with the RA4C/RA4D.

[5] Cable Length Price List

Type	Cable symbol	Standard price
Standard type	P (1m)	-
	S (3m)	-
	M (5m)	-
	X06 (6m) to X10 (10m)	-
Special length	X11 (11m) to X15 (15m)	-
	X16 (16m) to X20 (20m)	-
Robot cable	R01 (1m) to R03 (3m)	-
	R04 (4m) to R05 (5m)	-
	R06 (6m) to R10 (10m)	-
	R11 (11m) to R15 (15m)	-
	R16 (16m) to R20 (20m)	-

*See P394 for details on maintenance cable.

Actuator Specification

Item	Description
Drive system	Ball screw $\phi 10\text{mm}$, rolled C10
Positioning repeatability	$\pm 0.02\text{mm}$
Backlash	0.1mm or less
Base	Material: aluminum with alumite treatment
Rod diameter	$\phi 20\text{mm}$
Non-rotary rod precision	± 1.0 degree
Protective structure	IP54
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (non-condensing)
Service life	5000km

Dimensional Drawings

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



Note) There is no 3-dimensional CAD data for the RA4D type.

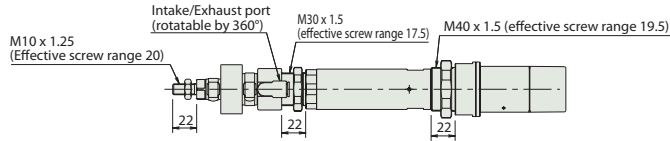
Information on special orders **P. 454**

Dimensions and Weight by Stroke

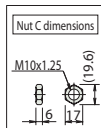
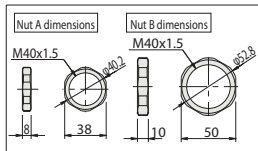
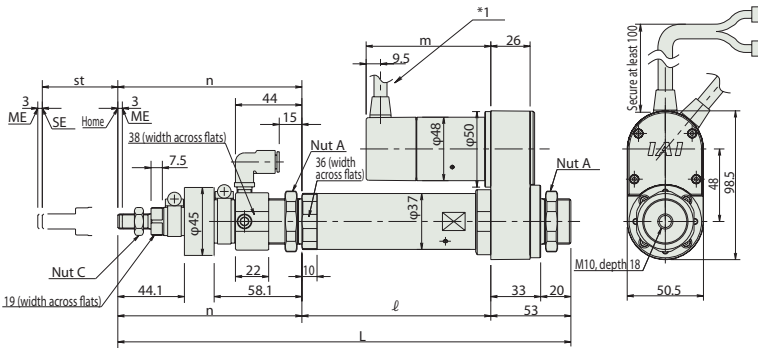
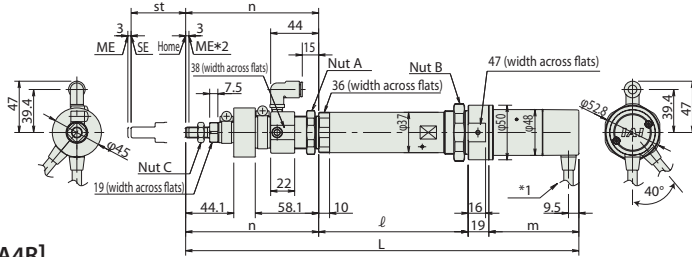
RCS2W-RA4C/RA4D/RA4R (without brake)

Stroke	50	100	150	200	250	300	
							RA4C
L	20W	358.4	418.4	478.4	538.4	599.4	660.4
		373.4	433.4	493.4	553.4	614.4	675.4
	30W	336.4	396.4	456.4	516.4	577.4	638.4
		351.4	411.4	471.4	531.4	592.4	653.4
	20W	299.9	359.9	419.9	479.9	540.9	601.9
		30W	299.9	359.9	419.9	479.9	540.9
l	20W	137	187	237	287	337	387
		30W	137	187	237	287	337
	20W	137	187	237	287	337	387
		30W	137	187	237	287	337
	20W	125	175	225	275	325	375
		30W	125	175	225	275	325
m	20W	80.5					
		95.5					
	20W	58.5					
		73.5					
	20W	80.5					
		30W	95.5				
n	20W		121.9	131.9	141.9	151.9	162.9
		30W	121.9	131.9	141.9	151.9	162.9
	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9
	20W	121.9	131.9	141.9	151.9	162.9	173.9
		30W	121.9	131.9	141.9	151.9	162.9
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	1.9	2.1
RA4R 20W/30W	1.5	1.7	1.8	2.0	2.1	2.3	

[RA4C/RA4D]



[RA4R]



RCS2W-RA4C/RA4D/RA4R (with brake)

Stroke	50	100	150	200	250	300	
							RA4C
L	20W	401.4	461.4	521.4	581.4	642.4	703.4
		30W	416.4	476.4	536.4	596.4	657.4
	20W	Without brake.					
		30W	Without brake.				
	20W		299.9	359.9	419.9	479.9	540.9
		30W	299.9	359.9	419.9	479.9	540.9
l	20W		137	187	237	287	337
		30W	137	187	237	287	337
	20W	Without brake.					
		30W	Without brake.				
	20W		125	175	225	275	325
		30W	125	175	225	275	325
m	20W		123.5				
		30W	138.5				
	20W		Without brake.				
		30W	Without brake.				
	20W		123.5				
		30W	138.5				
n	20W		121.9	131.9	141.9	151.9	162.9
		30W	121.9	131.9	141.9	151.9	162.9
	20W	Without brake.					
		30W	Without brake.				
	20W		121.9	131.9	141.9	151.9	162.9
		30W	121.9	131.9	141.9	151.9	162.9
Weight (kg)	RA4C 20W/30W		1.6	1.7	1.9	2.0	2.2
	RA4D 20W/30W	-	-	-	-	-	-
RA4R 20W/30W	1.7	1.9	2.0	2.2	2.3	2.5	

Compatible Controllers

RCS2 series actuators can be operated with the following controllers. Select the type that is compatible with your application.

Title	External View	Model	Features	Max. positioning p points	Input power	Power-supply capacity	Standard price	See page
Positioner type		SCON-C-20 ①-NP-2-② SCON-C-30D ①-NP-2-②	Up to 512-point positioning possible	512 points	Single-phase AC 100V Single-phase AC 200V 3-phase AC 200V (XSEL-P/Q only)	Maximum 360VA *1-axis specification for 150W operation	-	→P385
Solenoid valve type			Same as solenoid valve controlled operation enabled	7 points				
Serial communication type			Serial communications special type	64 points				
Pulse train input control type			Pulse train input special type	(-)				
Program control 1-2 axis type		SSEL-C-1-20 ①-NP-2-② SSEL-C-1-30D ①-NP-2-②	Programmable type capable of operating up to 2 axes	20000 points			-	→P415
Program control 1-6 axis type		XSEL-③-1-20 ①-N1-EEE-2-④ XSEL-③-1-30D ①-N1-EEE-2-④	Programmed operation enabled, maximum 6-axes operation possible	4000 points			For inquiries	→P425

*SSEL, XSEL are for 1-axis specification.
 ① Indicates the encoder type (I: incremental, A: absolute).
 ② Indicates the power-supply voltage type (1: 100V; 2: Single-phase 200V).
 ③ Indicates the XSEL type (J/K/P/Q).
 ④ Indicates the power-supply voltage type (1: 100V; 2: Single-phase 200V, 3: Three-phase 200V).

- Controller-Integrated
- Slider Type
- Rod Type
- Table Arm/Flat
- Gripper/Rotary Type
- Clearroom
- Splash-resistant
- Controller
- Coupling
- Built-in (Direct)
- Reverse-mounted
- Pulse Motor 20P
- Pulse Motor 28P
- Pulse Motor 35P
- Pulse Motor 42P
- Pulse Motor 56P
- Pulse Motor 86P
- Servo Motor 10W
- Servo Motor 20W
- Servo Motor 30W
- Servo Motor 60W
- Servo Motor 100W
- Servo Motor 150W
- Servo Motor 750W