

RCAW-RA3C/RA3D/RA3R

ROBO Cylinder Splash-proof Rod Type
 ø32mm Diameter 24V Servo Motor
 Coupled/Built-in/Side-Mounted Motor Specification

■ Configuration: **RCAW** — — **I** — **20** — — — — —

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

RA3C: Coupled type
 RA3D: Built-in Side-Mounted Motor
 RA3R: Side-Mounted Motor type "I".

I: Incremental Type
 * The simple absolute encoder is also considered type "I".

20: 20W servo motor

Lead: 10: 10mm
 5: 5mm
 2.5: 2.5mm

Stroke: 50: 50mm
 200: 200mm (50mm pitch increments)

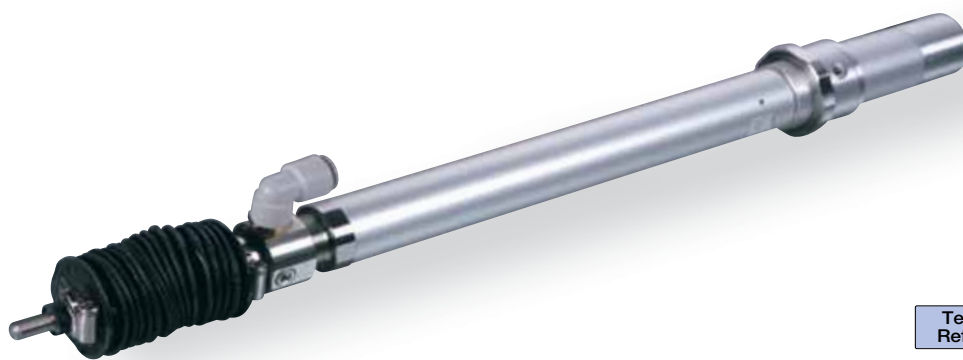
Compatible Controllers: A1: ACON
 RACON
 ASEL
 A3: AMEC
 ASEP

Cable Length: 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.

Power-saving



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 2.5mm-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)		
RCAW-①-I-20-10-②-③-④-⑤	20	10	4	1.5	36.2	50-200 (50mm increments)
RCAW-①-I-20-5-②-③-④-⑤		5	9	3	72.4	
RCAW-①-I-20-2.5-②-③-④-⑤		2.5	18	6.5	144.8	

Legend ① Type ② Stroke ③ Compatible controller ④ Cable length ⑤ Options (Unit: mm/s)

■ Stroke and Maximum Speed

Lead	Stroke	
	50-100	50-200 (50mm increments)
10	500	500
5	250	250
2.5	125	125

Encoder & Stroke List

② Stroke (mm)	Standard Price		
	RA3C	RA3D	RA3R
50	-	-	-
100	-	-	-
150	-	-	-
200	-	-	-

④ 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)	-
	R21 (21m) ~ R25 (25m)	-

* See page A-39 for cables for maintenance.

⑤ 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	-
Power-saving	LA	→ 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)	TRR	→ A-38	-

(*1) No brake option for RA3D.
 (*2) Home sensor (HS) can't be used with reversed-home (NM).
 (*3) Clevis bracket and rear mounting plate only available for RA3R.
 (*4) Trunnion bracket (rear) only available for RA3C/RA3D.

Actuator Specifications

Item	Description
Drive System	Ball screw ø8mm C10 grade
Positioning Repeatability	±0.02mm
Lost Motion	0.1 mm or less
Base	Material: Aluminum (white alumite treated)
Rod diameter	ø16mm
Rod non-rotational accuracy	±1.0 degrees
Protection Structure	IP54
Ambient Operating Temp./Humidity	0~40°C, 85%RH or less (Non-condensing)

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- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Cleanroom Type
- Splash-Proof
- Controllers
- PMEC /AMEC
- PSEP /ASEP
- ROBO NET
- ERC2
- PCON
- ACON
- SDON
- PSEL
- ASEL
- SSEL
- XSEL
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor

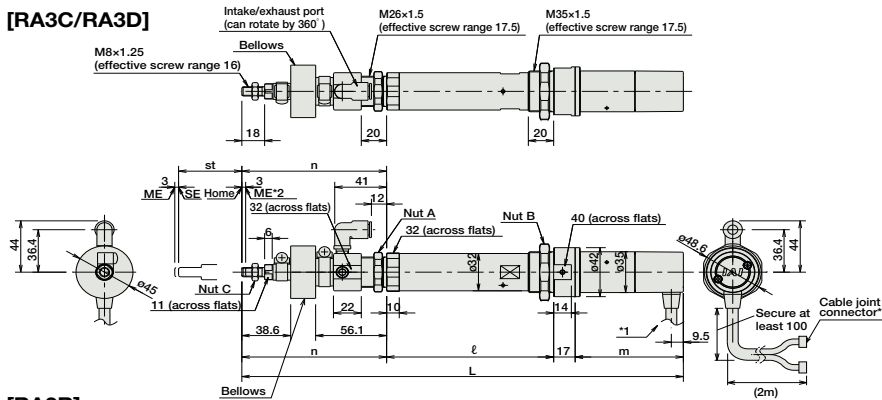
Dimensions

For Special Orders P. A-9

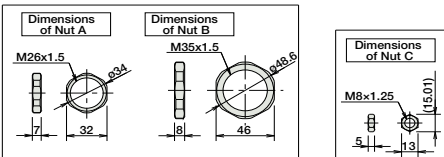
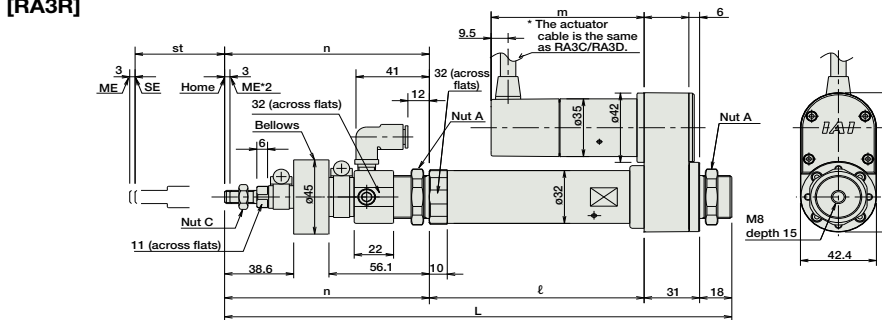
Note: No 3D CAD data for RA3D type.

*1 A motor-encoder cable is connected here. See page A-39 for details on cables.
 *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

[RA3C/RA3D]



[RA3R]



■ Dimensions/Weight by Stroke

RCAW-RA3C/RA3D/RA3R (without brake)

Stroke	50	100	150	200	
L	RA3C	348.9	408.9	468.9	528.9
	RA3D	329.9	389.9	449.9	509.9
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	132	182	232	282
	RA3D	132	182	232	282
	RA3R	120	170	220	270
m	RA3C	85.5			
	RA3D	66.5			
	RA3R	85.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	114.4	124.4	134.4	144.4
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.0	1.1	1.2	1.3
	RA3D	1.0	1.1	1.2	1.3
	RA3R	1.1	1.2	1.3	1.4

RCAW-RA3C/RA3D/RA3R (with brake)

Stroke	50	100	150	200	
L	RA3C	387.9	447.9	507.9	567.9
	RA3D	No brake-equipped model.			
	RA3R	283.4	343.4	403.4	463.4
ℓ	RA3C	No brake-equipped model.			
	RA3D	No brake-equipped model.			
	RA3R	120	170	220	270
m	RA3C	124.5			
	RA3D	No brake-equipped model.			
	RA3R	124.5			
n	RA3C	114.4	124.4	134.4	144.4
	RA3D	No brake-equipped model.			
	RA3R	114.4	124.4	134.4	144.4
Weight (kg)	RA3C	1.2	1.3	1.4	1.5
	RA3D	1.2	1.3	1.4	1.5
	RA3R	1.3	1.4	1.5	1.6

③ Compatible Controllers

The RCAW 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
Solenoid Valve Type		AMEC-C-20SI ①-NP-2-1	Easy-to-use controller, even for beginners.	3 points	AC100V	2.4A rated	-	→ P477
		ASEP-C-20SI ①-NP-2-0	Operable with same signal as solenoid valve. Supports both single and double solenoid types. No homing necessary with simple absolute type.					
Splash-Proof Solenoid Valve Type		ASEP-CW-20SI ①-NP-2-0						→ P487
Positioner Type		ACON-C-20SI ①-NP-2-0	Positioning possible for up to 512 points	512 points	DC24V	1.7A rated 5.1A peak	-	→ P535
Safety Category Compliant Positioner Type		ACON-CG-20SI ①-NP-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-20SI ①-NP-2-0	Differential line driver support Pulse Train Input Type	(-)	DC24V	1.7A rated 5.1A peak	-	→ P535
Pulse Train Input Type (Open Collector)		ACON-PO-20SI ①-NP-2-0	Open Collector Pulse Train Input Type					
Serial Communication Type		ACON-SE-20SI ①-N-0-0	Dedicated to serial communication	64 points				
Field Network Type		RACON-20S ①	Dedicated to field network	768 points				→ P503
Program Control Type		ASEL-C-1-20SI ①-NP-2-0	Programmed operation is possible. Can operate up to 2 axes.	1500 points				→ P567

* This is for the single-axis ASEL.
 * ① is a placeholder for the code "LA", when the the energy-saving option is selected.



RCAW-RA3C/RA3D/RA3R

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- Slider Type
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- Standard
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- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/Arm /Flat Type
- Mini
- Standard
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- Cripper/ Rotary Type
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- SSEL
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- Pulse Motor
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- Servo Motor (200V)
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