

Rotary Actuator: Free Mount Type Vane Style

Series *CRBU2*

Size: 10, 15, 20, 30, 40

How to Order

Without auto switch

CRBU2 W [] 180 S E

With auto switch
Size: 10, 15

CDRBU2 W [] 180 S 90 L []

With auto switch
Size: 20, 30, 40

CDRBU2 W [] 180 S R73 L []

With auto switch
(With switch unit)

Free mount type

Shaft type

W	Double shaft with single flat (size 10 to 30)
	Long shaft key, Short shaft with single flat (size 40)

Rotating angle

Applicable	Symbol	Rotating angle
Single vane	90	90°
	180	180°
	270	270°
Double vane	90	90°
	100	100°

Vane type

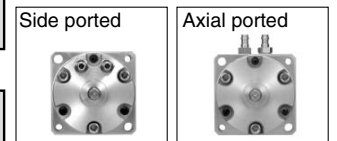
S	Single vane
D	Double vane

Auto switch

Nil	Without auto switch
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* For the applicable auto switch model, refer to the table below.

Connection port location		Size
Nil	Side ported	10
E	Side ported	15
	Axial ported	20
		30
		40



* Fittings are sold separately.

Number of auto switches

S	1 pc. *
Nil	2 pcs.

* Right-hand auto switch will be used for actuators with 1 auto switch.

Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
L	Grommet/Lead wire: 3 m
C	Grommet/Lead wire: 0.5 m
CL	Grommet/Lead wire: 3 m
CN	Grommet/Without lead wire

* Connectors are available only for auto switch types D-R73, D-R80, D-T79.

** Lead wire with connector part nos.

D-LC05: Lead wire 0.5 m

D-LC30: Lead wire 3 m

D-LC50: Lead wire 5 m

Applicable Auto Switch/Refer to page 11-1-1 for further information on auto switches.

Applicable size	Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire type	Lead wire length (m) *				Applicable load			
					DC	AC			0.5 (Nil)	3 (L)	5 (Z)	None (N)				
For 10 and 15	Reed switch	Grommet	No	2-wire	24 V	5 V,12 V	5 V,12 V,24 V	90	Parallel cord	●	●	●	—	IC circuit	Relay, PLC	
						5 V,12 V, 100 V	5 V,12 V, 24 V,100 V	90A	Heavy-duty cord	●	●	●	—			
	Solid state switch		Yes			—	100 V	—	97	Parallel cord	●	●	●	—		—
									T99	Heavy-duty cord	●	●	—	—		
									T99V		●	●	—	—		
									S99		●	●	—	—		
						3-wire (NPN)	5 V,12 V		S99V		●	●	—	—		IC circuit
									S9P	●	●	—	—			
									S9PV	●	●	—	—			
										●	●	—	—			
For 20, 30, and 40	Reed switch	Grommet	Yes	2-wire	24 V	—	100 V	R73	Heavy-duty cord	●	●	—	—	—	Relay, PLC	
		Connector						R73C		●	●	●	●			
		Grommet						R80		●	●	—	—			IC circuit
		Connector						R80C		●	●	●	●			
	Solid state switch	Yes	Grommet			—	—	T79		●	●	—	—	—		
								T79C		●	●	●	●			
			3-wire (NPN)			5 V,12 V		S79		●	●	—	—	IC circuit		
								S7P		●	●	—	—			

* Lead wire length symbols: 0.5 m Nil (Example) R73C
3 m L (Example) R73CL
5 m Z (Example) R73CZ
None N (Example) R73CN

Rotary Actuator: Free Mount Type Vane Style **Series CRBU2**



Single Vane Specifications

Model (Size)		CRBU2W10-□S	CRBU2W15-□S	CRBU2W20-□S	CRBU2W30-□S	CRBU2W40-□S
Rotating angle		90°, 180°, 270°				
Fluid		Air (Non-lube)				
Proof pressure (MPa)		1.05			1.5	
Ambient and fluid temperature		5 to 60°C				
Max. operating pressure (MPa)		0.7			1.0	
Min. operating pressure (MPa)		0.2	0.15			
Speed regulation range (sec/90°) ⁽¹⁾		0.03 to 0.3			0.04 to 0.3	0.07 to 0.5
Allowable kinetic energy ⁽²⁾ (J)		0.00015	0.001	0.003	0.02	0.04
			0.00025	0.0004	0.015	0.033
Shaft load	Allowable radial load (N)	15		25	30	60
	Allowable thrust load (N)	10		20	25	40
Bearing type		Bearing				
Port location		Side ported or Axial ported				
Shaft type		Double shaft (Double shaft with single flat on both shafts)				Double shaft (Long shaft key & Single flat)
Angle adjustable ⁽³⁾		0 to 230°	0 to 240°			0 to 230°

Note 3) Adjustment range in the table is for 270°. For 90° and 180°, refer to page 11-3-5.

Double Vane Specifications

Model (Size)		CRBU2W10-□D	CRBU2W15-□D	CRBU2W20-□D	CRBU2W30-□D	CRBU2W40-□D
Rotating angle		90°, 100°				
Fluid		Air (Non-lube)				
Proof pressure (MPa)		1.05			1.5	
Ambient and fluid temperature		5 to 60°C				
Max. operating pressure (MPa)		0.7			1.0	
Min. operating pressure (MPa)		0.2	0.15			
Speed regulation range (sec/90°) ⁽¹⁾		0.03 to 0.3			0.04 to 0.3	0.07 to 0.5
Allowable kinetic energy (J)		0.0003	0.0012	0.0033	0.02	0.04
Shaft load	Allowable radial load (N)	15		25	30	60
	Allowable thrust load (N)	10		20	25	40
Bearing type		Bearing				
Port location		Side ported or Axial ported				
Shaft type		Double shaft (Double shaft with single flat on both shafts)				
Angle adjustable ⁽³⁾		0 to 90°				0 to 230°



Note 1) Make sure to operate within the speed regulation range. Exceeding the maximum speeds can cause the unit to stick or not operate.

Note 2) The upper numbers in this section in the table indicate the energy factor when the rubber bumper is used (at the end of the rotation), and the lower numbers indicate the energy factor when the rubber bumper is not used.

Note 3) Adjustment range in the table is for 100°. For 90°, refer to page 11-3-5.

Inner Volume and Connection Port

Vane type	Model (size)	CRBU2W10			CRBU2W15			CRBU2W20			CRBU2W30			CRBU2W40		
Single vane	Rotating angle	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
	Volume (cm ³)	1 (0.6)	1.2	1.5	1.5 (1.0)	2.9	3.7	4.8 (3.5)	6.1	7.9	11.3 (8.5)	15	20.2	25	31.5	41
	Port size	Side ported	M5 x 0.8													
			M3 x 0.5					M5 x 0.8								
Double vane	Rotating angle	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°	90°
	Volume (cm ³) *	1	1.1	2.6	2.7	5.6	5.7	14.4	14.5	33	34					
	Port size	Side ported	M5 x 0.8													
			M3 x 0.5					M5 x 0.8								

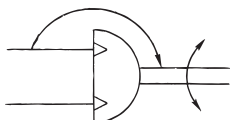
* Values inside () are volume of the supply side when A port is pressurized.

Weight

(g)

Vane type	Model (size)	CRBU2W10			CRBU2W15			CRBU2W20			CRBU2W30			CRBU2W40		
Single vane	Rotating angle	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
	Body of rotary actuator	47.5	47.1	47	73	72	72	143	142	140	263	258	255	491	480	469
	Auto switch unit + 2 switches	30			30			50			60			46.5		
	Angle adjuster	30			47			90			150			203		
Double vane	Rotating angle	—	90°	100°	—	90°	100°	—	90°	100°	—	90°	100°	—	90°	100°
	Body of rotary actuator	—	62.2	63.2	—	77	81	—	151	158	—	289	308	—	504	550
	Auto switch unit + 2 switches	30			30			50			60			46.5		
	Angle adjuster	30			47			90			150			203		

JIS Symbol



Caution

Be sure to read before handling. Refer to pages 11-13-3 to 4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 11-1-4 to 6 for Precautions on every series.