

Rotary Actuator with Angle Adjuster



Series **CRB1BWU**

Vane Style/Size:10, 15, 20, 30

How to order

Without auto switch

CRB1 **B** WU **10** — **180** **S**

Mounting

B	Basic
F	Flange

Size

10
15
20
30

Vane style

S	Single
D	Double

Rotation angle

Application	Symbol	Rotation angle
Single vane	90	90°
	180	180°
	270	270°
Double vane	90	90°
	100	100°

With angle adjusting unit

With auto switch
Size 10, 15

CDRB1 **F** WU **10** — **180** **S** — **90** **L** **—**

With auto switch
Size 20, 30

CDRB1 **B** WU **20** — **180** **S** — **R73** **L** **—**

Mounting

B	Basic
F	Flange

Size

20
30

Rotation angle

Application	Symbol	Rotation angle
Single vane	90	90°
	180	180°
	270	270°
Double vane	90	90°
	100	100°

Vane style

S	Single
D	Double

Auto switch

—	Without auto switch
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No. of auto switches mounted

S	1*
—	2

* The auto switch ordered with symbol "S" is right hand side operating type.

Electrical entry/Lead wire length

—	Grommet (Lead wire: 0.5m)
L	Grommet (Lead wire: 3m)
C	Connector (Lead wire: 0.5m)
CL	Connector (Lead wire: 3m)
CN	Connector, without lead wire

*Connector is applicable only to "R73", "R80" and "T79".
** Single unit part number of lead wire with connector:
D-LC05: Lead wire 0.5m
D-LC30: Lead wire 3m
D-LC50: Lead wire 5m

CRB1

CRBU

CRA1

CRQ

MRQ

MSQ

MSUB

Auto switch Specifications/ Refer to p.2.11-1 for further specifications on single unit of auto switch.

Applicable size	Style	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch part no.	Lead wire	Lead wire length*				Applicable load								
					DC	AC			0.5 (—)	3 (L)	5 (Z)	— (N)									
For 10/15	Reed switch	Grommet	No	2 wire	24V	5V, 12V	≤24V AC	90	Parallel cord	●	●	●	—	IC	Relay PLC						
	≤100V AC					90A	Cab tire	●	●	●	—										
	12V					—	97	Parallel cord	●	●	●	—									
						100V	93A	Cab tire	●	●	—	—									
	—		—			T99	●		●	—	—										
						T99V	●		●	—	—										
	5V, 12V				—	S99	●		●	—	—										
						S99V	●		●	—	—										
						S9P	●		●	—	—										
						S9PV	●	●	—	—											
			For 20/30			Solid state switch	Reed switch	Yes	2 wire	24V	12V	100V	R73	Cab tire		●	●	—	—	—	Relay PLC
											—	—	R73C			●	●	●	●		
5V, 12V	≤100V AC	R80		●	●		—	●													
	≤24V AC	R80C		●	●		●	—													
—	—	T79		●	●		—	●													
		T79C		●	●		●	—													
5V, 12V	—	S79	●	●	—		—	IC													
		S7P	●	●	—		—														

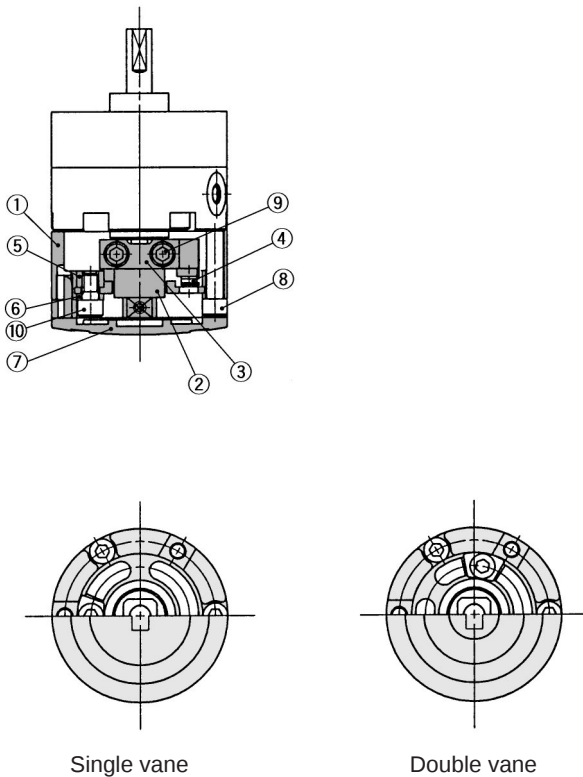
*Lead wire length symbol 0.5m..... — Ex.) R73C ●Operating time — 1.2ms ●Operating temperature range — -10°C to 60°C
3m..... L Ex.) R73CL ●Shock resistance — 300m/s² (Reed switch), 1000m/s² (Solid state switch)
5m..... Z Ex.) R73CZ
— N Ex.) R73CN

Series CRB1BWU

Construction (Units are common for both the single vane and double vane.)

With angle adjusting unit

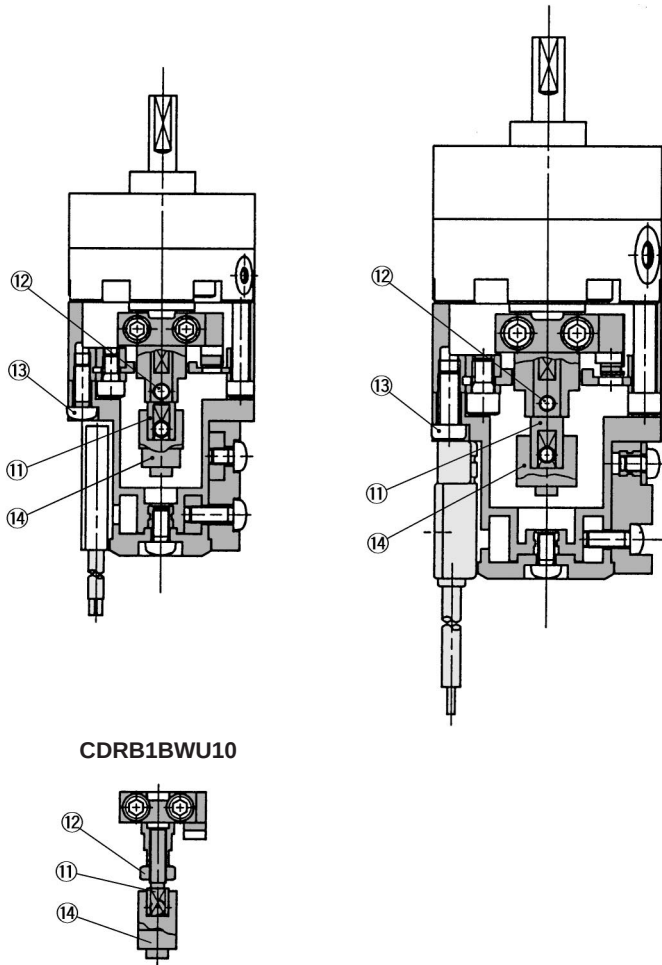
CRB1BWU10/15/20/30-□[§]



With angle adjusting unit and auto switch

CDRB1BWU10/15/-□[§]

CDRB1BWU20/30/-□[§]



Component Parts

No.	Description	Material	Notes
①	Stopper ring	Aluminum die casting	
②	Stopper lever	Carbon steel	
③	Lever retainer	Carbon steel	Zinc chromated
④	Rubber bumper	NBR	
⑤	Stopper block	Carbon steel	Zinc chromated
⑥	Block retainer	Carbon steel	Zinc chromated
⑦	Cap	Resin	
⑧	Hexagon socket head cap bolt	Stainless steel	Special bolt
⑨	Hexagon socket head cap bolt	Stainless steel	Special bolt
⑩	Hexagon socket head cap bolt	Stainless steel	Special bolt
⑪	Joint	Aluminum alloy	(1)
⑫	Hexagon socket head cap screw	Stainless steel	Only for CDRBUW10, the part indicated with no. 12 is a hexagon nut.
⑬	Hexagon nut	Stainless steel	
⑭	Cross-recessed head cap screw	Stainless steel	(1)
⑮	Magnet lever	—	(1)



Note 1) Consists of the combination of an auto switch unit and an angle adjustment unit; for detailed specifications, refer to p.1.0-23 and 1.0-24.

⚠ Precautions

Be sure to read before handling.
Refer to p.0-20 and 0-21 for Safety Instructions and common precautions for the products mentioned in this catalog, and refer to p.1.0-2 to 1.0-4 for precautions on every series.

Unit with Angle Adjuster

⚠ Caution

① The maximum angle of the adjustable range of rotation angle will be restricted depending on the rotation angle of the rotary actuator body.

Rotation angle of rotary actuator body	Range of rotation angle
270° ⁺⁴ ₀	0° to 230° (Size: 10) ^{*1}
	0° to 240° (size: 15, 20, 30)
180° ⁺⁴ ₀	0° to 175°
90° ⁺⁴ ₀	0° to 85°

*1 The maximum adjustable angle of the angle adjustment unit for size 10 is 230°.

② All the positions of the connecting ports are on the body side.

③ The allowable kinetic energy is the same as that of the specification of the rotary actuator unit.

④ To make a 90° adjustment on the double vane type, use a rotary actuator for 100°.

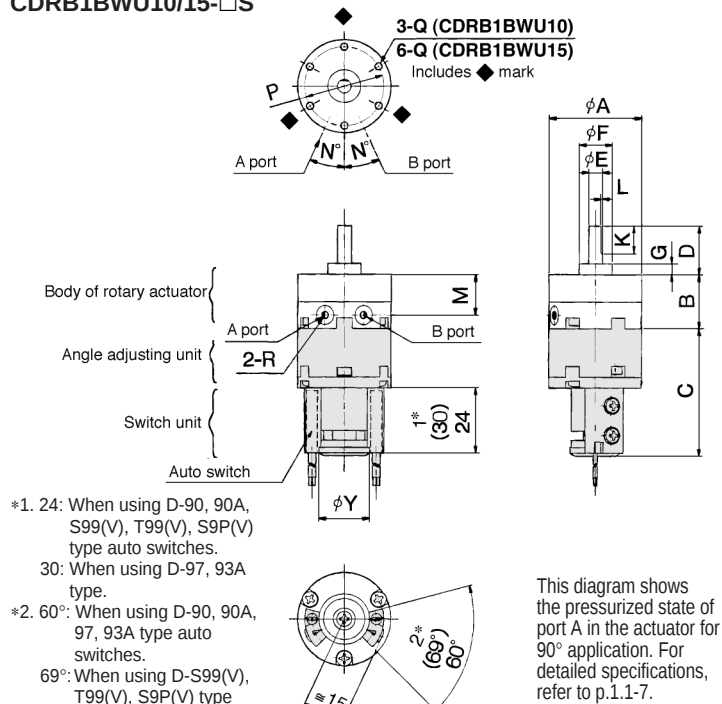
Series CDRB1BWU

Size 10, 15, 20, 30/With angle adjuster and auto switch



Single vane

CDRB1BWU10/15-□S



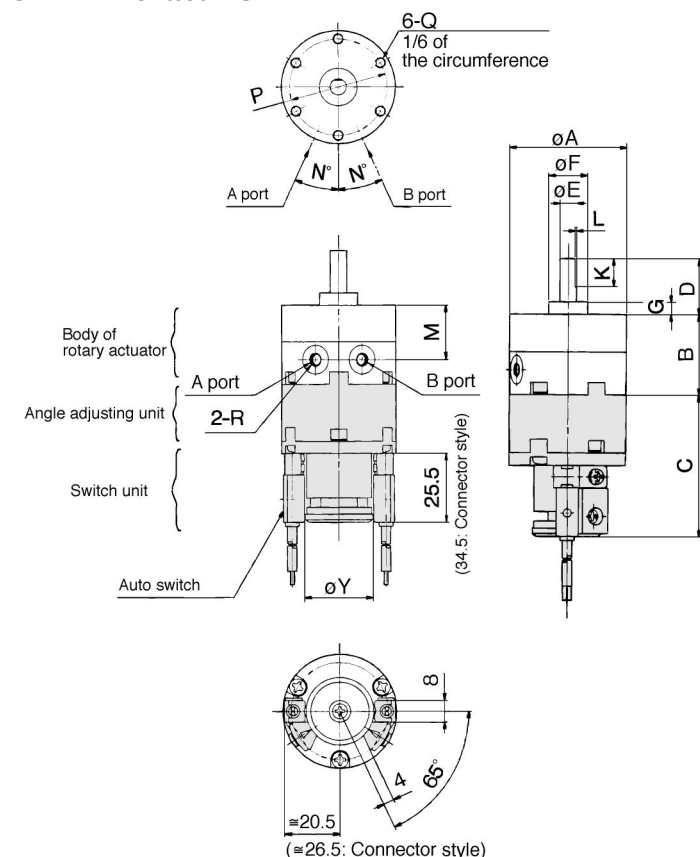
- *1. 24: When using D-90, 90A, S99(V), T99(V), S9P(V) type auto switches.
30: When using D-97, 93A type.
*2. 60°: When using D-90, 90A, 97, 93A type auto switches.
69°: When using D-S99(V), T99(V), S9P(V) type auto switches.

Note) The connecting port position for those equipped with an auto switch is on the body side.
*The outside drawing indicates on each of the right-hand and left-hand switches.

CDRB1BWU Size -S.....SCRB Size #9

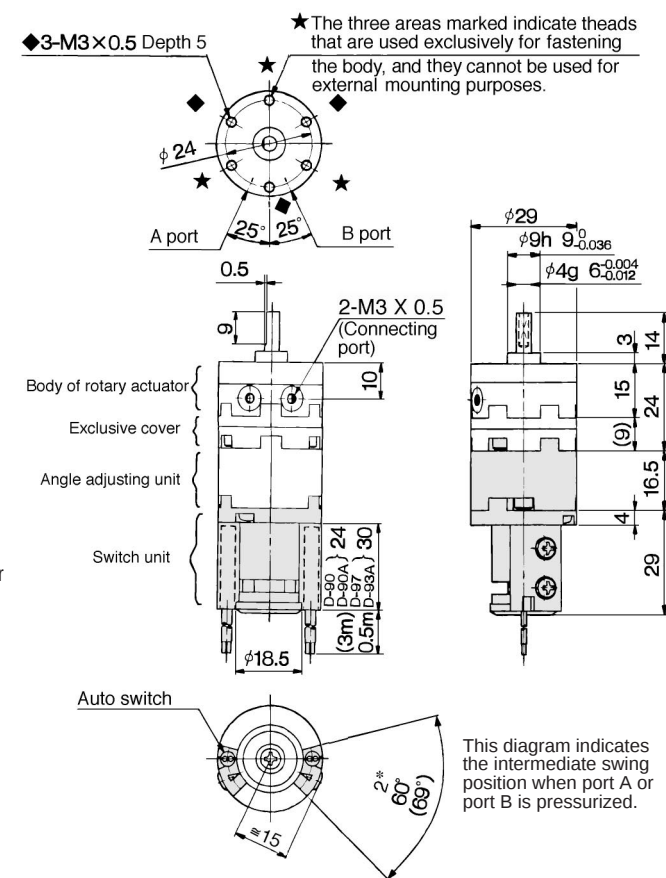
Single vane

CDRB1BWU20/30-□S



Double vane

CDRB1BWU10-□D



Double vane

CDRB1BWU15/20/30-□D

The outside diameter dimension diagram and dimension table for sizes 15, 20, and 30 of the double vane style provide the same dimensions as those of sizes 15, 20, and 30 of the single vane style.

Model	A	B	C	D	E (g6)	F (h9)	G	K	L	M
CDRB1BWU10-□S	29	15	45.5	14	4	9	3	9	0.5	10
CDRB1BWU15-□S	34	20	47	18	5	12	4	10	0.5	15
CDRB1BWU15-□D										
CDRB1BWU20-□S	42	29	51	20	6	14	4.5	10	0.5	20
CDRB1BWU20-□D										
CDRB1BWU30-□S	50	40	55.5	22	8	16	5	12	1	30
CDRB1BWU30-□D										

Model	N	P	Y	Q	R			
					90°	100°	180°	270°
CDRB1BWU10-□S	25	24	18.5	M3 X 0.5 Depth 6	M5 X 0.8	—	M5 X 0.8	M3 X 0.5
CDRB1BWU10-□D					Refer to the drawings.*			
CDRB1BWU15-□S	25	29	18.5	M3 X 0.5 Depth 5	M5 X 0.8	—	M5 X 0.8	M3 X 0.5
CDRB1BWU15-□D					M3 X 0.5			
CDRB1BWU20-□S	25	36	25	M4 X 0.7 Depth 7	M5 X 0.8	—	M5 X 0.8	—
CDRB1BWU20-□D					M5 X 0.8			
CDRB1BWU30-□S	25	43	25	M5 X 0.8 Depth10	M5 X 0.8	—	M5 X 0.8	—
CDRB1BWU30-□D					M5 X 0.8			

Note) The connecting port position for those equipped with an angle adjustment unit or auto switch is on the body side.
Note) The outside drawing indicates one each of the right-hand and left-hand switches.

CDRB1BWU Size -S.....SCRB Size #9