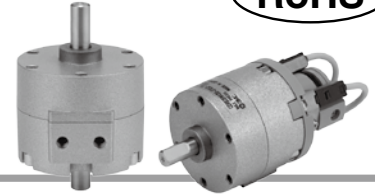


Rotary Actuator Vane Type

Series *CRB2*

Size: 10, 15, 20, 30, 40

RoHS



How to Order

Without auto switch
CRB2 **B** **S** **180** **S** **E** **Z**

With auto switch
Size: 10, 15
CDRB2 **F** **W** **180** **S** **Z** **T99** **L**

With auto switch
Size: 20, 30, 40
CDRB2 **B** **W** **180** **S** **Z** **T79** **L**

Size
10
15
20
30
40

Connecting port location
Nil Side ported
E Axial ported

Mounting
B Basic type
F Flange type
* F: Except size 40

Vane type
S Single vane
D Double vane

Auto switch
Nil Without auto switch (Built-in magnet)
* For applicable auto switch model, refer to the table below.

Number of auto switches
S 1 pc. *
Nil 2 pcs. **

Shaft type
S Single shaft *
W Double shaft **
J Simple Specials
K Simple Specials
T Simple Specials
Y Simple Specials

Patterned sequencing order
Nil Standard
P Simple Specials/Made to Order
* For details, refer to pages 19 to 30.

Rotating angle
Single vane 90 180 270
Double vane 90 100

Electrical entry/Lead wire length
Nil Grommet/Lead wire: 0.5 m
L Grommet/Lead wire: 3 m
C Connector/Lead wire: 0.5 m
CL Connector/Lead wire: 3 m
CN Connector/Without lead wire

Made to Order
For details, refer to the table below.

With auto switch
(With auto switch unit and built-in magnet)
* Refer to page 33 when the auto switch unit is needed separately.

* Single shaft with single flat (size 10 to 30); Key (size 40)
** Double shaft with single flat (Size 10 to 30)
Long shaft key, Short shaft with single flat (Size 40)
Refer to Page 4 for details of simple specials J, K, T and Y.
Note) When an auto switch is mounted to the rotary actuator, only shaft types W and J are available.

* Connectors are available only for the R73, R80, 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 Switches/Refer to Best Pneumatics No.4 for further information on auto switches.

Applicable size	Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire type	Lead wire length (m)*				Pre-wired connector	Applicable load	
						DC	AC	Perpendicular	In-line		0.5 (Nil)	3 (L)	5 (Z)	None (N)			
For 10, 15	Solid state auto switch	—	Grommet	Yes	3-wire (NPN) 3-wire (PNP)	5 V, 12 V	—	S99V	S99	Oilproof heavy-duty vinyl cord	●	●	○	—	○	IC circuit	Relay, PLC
						12 V	—	S9PV	S9P	—	●	●	○	—	○	—	
						24 V	5 V, 12 V, 24 V	T99V	T99	Vinyl parallel cord	●	●	○	—	○	—	
	Reed auto switch	—	Grommet	No	2-wire	5 V, 12 V, 100 V	5 V, 12 V, 24 V, 100 V	—	90A	Oilproof heavy-duty vinyl cord	●	●	●	—	—	IC circuit	
						—	—	—	97	Vinyl parallel cord	●	●	●	—	—	—	
						—	100 V	—	93A	Oilproof heavy-duty vinyl cord	●	●	●	—	—	—	
For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	3-wire (NPN) 3-wire (PNP)	5 V, 12 V	—	—	S79	Oilproof heavy-duty vinyl cord	●	●	○	—	○	IC circuit	Relay, PLC
						12 V	—	—	S7P		●	●	○	—	○	—	
						24 V	—	—	T79		●	●	○	—	○	—	
						—	100 V	—	T79C		●	●	●	●	—	—	
						—	—	—	R73		●	●	○	—	—	—	
	Reed auto switch	—	Connector	Yes	2-wire	—	—	—	R73C		●	●	●	●	—	—	
						—	—	—	R80		●	●	○	—	—	IC circuit	
						48 V, 100 V	100 V	—	R80C		●	●	○	—	—	—	
						—	24 V or less	—	—		●	●	●	●	—	—	
						—	—	—	—		●	●	●	●	—	—	

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

* Solid state auto switches marked with "○" are produced upon receipt of order.

* Auto switches are shipped together, (but not assembled).

Flange Assembly Part No.

(For details, refer to page 5.)

Model	Assembly part no.
CRB2F□10	P211070-2
CRB2F□15	P211090-2
CRB2F□20	P211060-2
CRB2F□30	P211080-2

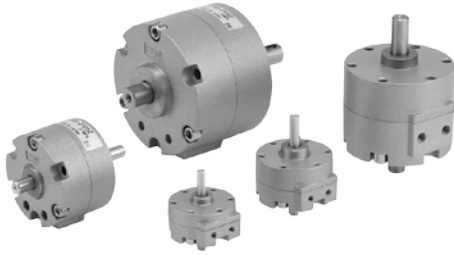


Made to Order
(For details, refer to pages 19 to 23, 29, 30.)

Symbol	Description
XA1 to XA24	Shaft type pattern
XC1	Add connecting ports
XC2	Change threaded hole to through-hole
XC3	Change the screw position
XC4	Change the rotation range
XC5	Change rotation range between 0 to 200°
XC6	Change rotation range between 0 to 110°
XC7	Reversed shaft
XC30	Fluorine grease

The above may not be selected when the product comes with an auto switch or angle adjustment unit.
For details, refer to pages 19, 20, 24, 25, 29.

Single Vane Specifications



Model (Size)	CRB2B□10-□S	CRB2B□15-□S	CRB2B□20-□S	CRB2B□30-□S	CRB2B□40-□S
Vane type	Single vane				
Rotating angle	90°,180°	270°	90°,180°	270°	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			
Rotation time adjustment range s/90° ^{Note 1)}	0.03 to 0.3			0.04 to 0.3	0.07 to 0.5
Allowable kinetic energy (J) ^{Note 2)}	0.00015	0.001	0.003	0.02	0.04
		0.00025	0.0004	0.015	0.03
Shaft load	Allowable radial load	15	15	25	30
(N)	Allowable thrust load	10	10	20	25
				40	
Bearing type	Bearing				
Port location	Side ported or Axial ported				
Port size (Side ported, Axial ported)	M3 x 0.5			M5 x 0.8	
Angle adjustable range ^{Note 3)}	0 to 230°	0 to 240°			0 to 230°
Mounting	Basic type, Flange type				Basic type
Auto switch	Mountable (Side ported only)				

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 270°. For 90° and 180°, refer to page 15.

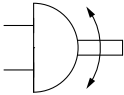
Double Vane Specifications

Model (Size)	CRB2B□10-□D	CRB2B□15-□D	CRB2B□20-□D	CRB2B□30-□D	CRB2B□40-□D
Vane type	Double vane				
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			
Rotation time adjustment range s/90° ^{Note 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 (N)	Allowable radial load	15	15	25	30
	Allowable thrust load	10	10	20	25
Bearing type	Bearing				
Port location	Side ported or Axial ported				
Port size (Side ported, Axial ported)	M3 x 0.5			M5 x 0.8	
Angle adjustable range ^{Note 3)}	0 to 90°				
Mounting	Basic type, Flange type				Basic type
Auto switch	Mountable (Side ported only)				

Note 1) Make sure to operate within the speed regulation range. Exceeding the maximum speed (0.3 sec/90°) can cause the unit to stick or not operate.

Note 3) Adjustment range in the table is for 100°. For 90°, refer to page 15.

JIS Symbol



Volume

(cm³)

Vane type	Single vane															Double vane									
Model	CRB2B□10-□S	CRB2B□15-□S	CRB2B□20-□S	CRB2B□30-□S	CRB2B□40-□S	CRB2B□10-□D	CRB2B□15-□D	CRB2B□20-□D	CRB2B□30-□D	CRB2B□40-□D	CRB2B□10-□D	CRB2B□15-□D	CRB2B□20-□D	CRB2B□30-□D	CRB2B□40-□D	CRB2B□10-□D	CRB2B□15-□D	CRB2B□20-□D	CRB2B□30-□D	CRB2B□40-□D	CRB2B□10-□D	CRB2B□15-□D	CRB2B□20-□D	CRB2B□30-□D	CRB2B□40-□D
Rotation	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°
Volume	1 (0.6)	1.2	1.5	1.5 (1.0)	2.9	3.7	4.8 (3.6)	6.1	7.9	11.3 (8.5)	15	20.2	25 (18.7)	31.5	41	1.0	1.1	2.6	2.7	5.6	5.7	14.4	14.5	33	34

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

Weight

(g)

Vane type	Single vane															Double vane											
Model	CRB2BW10-□S			CRB2BW15-□S			CRB2BW20-□S			CRB2BW30-□S			CRB2BW40-□S			CRB2BW10-□D		CRB2BW15-□D		CRB2BW20-□D		CRB2BW30-□D		CRB2BW40-□D			
Rotating angle	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°	90°	100°
Rotary actuator body	27	26.7	26.4	48.4	47.4	46.4	104	103	101	199	194	189	385	374	363	42.7	43.7	55.4	58.4	119	142	219	239	398	444		
Flange assembly	9			10			19			25			—			9		10		19		25		—			
Auto switch unit	15			20			28			38			43			15		20		28		38		43			
Angle adjuster unit	30			47			90			150			203			30		47		90		150		203			

Series CDRB2

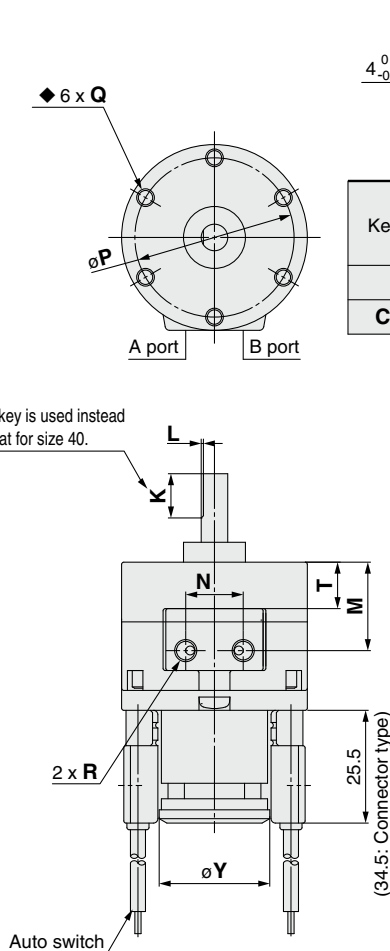
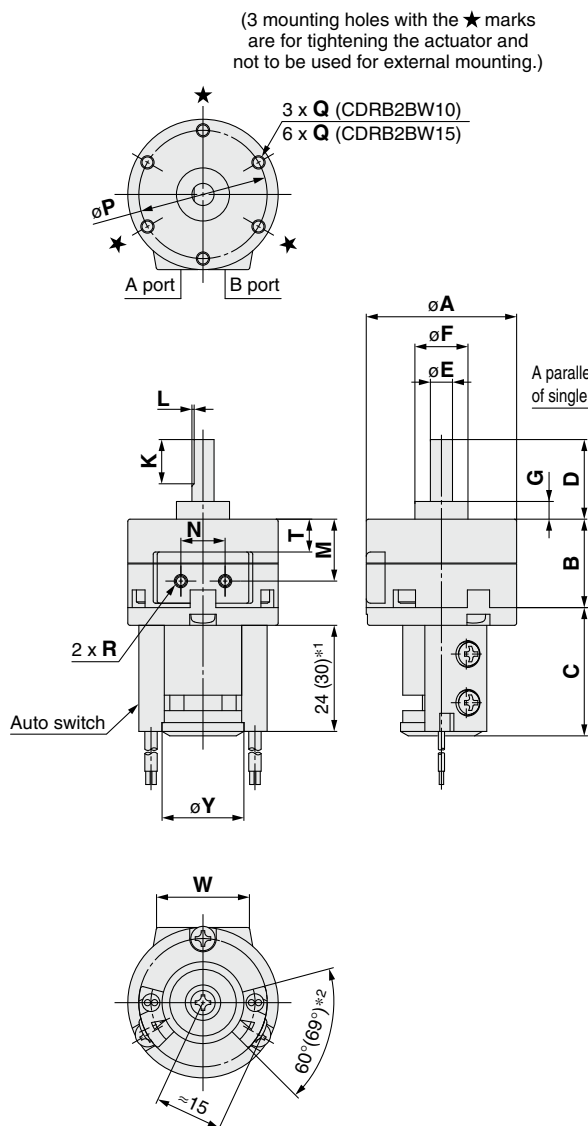
Dimensions: 10, 15, 20, 30, 40 (The size 10 double vane type is indicated on page 13.)

- For single vane type, the figures below show actuators for 90° and 180° when B port is pressurized.
For double vane type, the figures below show the intermediate rotation position when the A or B port is pressurized.

CDRB2BW10/15-□S
CDRB2BW15-□D

CDRB2BW20/30/40-□S/D

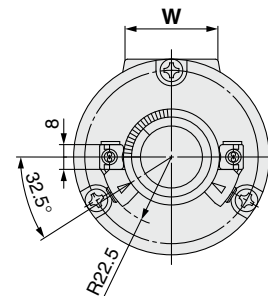
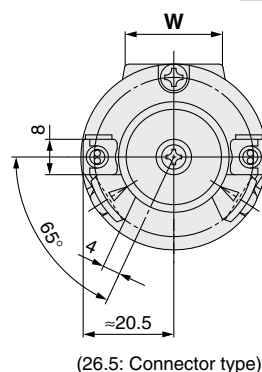
Size 40



Key dimensions			
Model	b (h9)	h (h9)	L1
CDRB2B□40	4 ⁰ _{-0.030}	4 ⁰ _{-0.030}	20

CDRB2BW20/30-□S/D

CDRB2BW40-□S/D



- *1. The length is 24 when any of the following auto switches are used:
D-90/90A/S99(V)/T99(V)/S9P(V)
The length is 30 when any of the following auto switches are used:
D-97/93A
- *2. The angle is 60° when any of the following auto switches are used:
D-90/90A/97/93A
The angle is 69° when any of the following auto switches are used:
D-S99(V)/T99(V)/S9P(V)

Model	A	B	C	D	E (g7)	F (h9)	G	K	L	M	N	P	Q	R	T	W	Y
CDRB2BW10-□S	29	15	29	14	4 ^{-0.004} _{-0.016}	9 ⁰ _{-0.036}	3	9	0.5	9.5	9.5	24	M3 x 0.5 depth 6	M3	3.6	19.8	18.5
CDRB2BW15-□S CDRB2BW15-□D	34	20	29	18	5 ^{-0.004} _{-0.016}	12 ⁰ _{-0.043}	4	10	0.5	14	10	29	M3 x 0.5 depth 5	M3	7.6	21	18.5
CDRB2BW20-□S CDRB2BW20-□D	42	29	30	20	6 ^{-0.004} _{-0.016}	14 ⁰ _{-0.043}	4.5	10	0.5	20	13	36	M4 x 0.7 depth 7	M5	10.5	22	25
CDRB2BW30-□S CDRB2BW30-□D	50	40	31	22	8 ^{-0.005} _{-0.020}	16 ⁰ _{-0.043}	5	12	1.0	26	14	43	M5 x 0.8 depth 10	M5	14	24	25
CDRB2BW40-□S CDRB2BW40-□D	63	45	31	30	10 ^{-0.005} _{-0.020}	25 ⁰ _{-0.052}	6.5	20	1.5	31	20	56	M5 x 0.8 depth 10	M5	17	30	31