

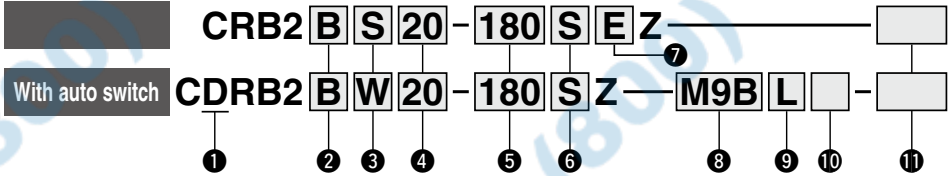
Rotary Actuator Vane Type

RoHS

CRB2 Series

Size: 10, 15, 20, 30, 40

How to Order



1 With auto switch

(With auto switch unit and built-in magnet)
* Refer to page 99 when the auto switch unit is needed separately.

2 Mounting

Symbol	Mounting
B	Basic type
F*	Flange type

* F: Except size 40

3 Shaft type

Symbol	Shaft type	Shaft-end shape	
		Long shaft	Short shaft
S	Single shaft	Single flat*	—
W	Double shaft	Single flat*	Single flat
J**	Double shaft	Round shaft	Single flat
K**	Double shaft	Round shaft	Round shaft
T**	Single shaft	Round shaft	—
Y**	Double shaft	Single flat*	Long shaft with single flat*

* A key is used for size 40. ** J, K, T and Y are made to order.
*** When an auto switch is mounted to the rotary actuator, only shaft types W and J are available.

4 Size

10
15
20
30
40

9 Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
M	Grommet/Lead wire: 1 m
L	Grommet/Lead wire: 3 m
CN	Connector/Without lead wire
C	Connector/Lead wire: 0.5 m
CL	Connector/Lead wire: 3 m

* 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

5 Rotating angle

Single vane	90	90°
	180	180°
Double vane	270	270°
	90	90°
	100	100°

6 Vane type

S	Single vane
D	Double vane

7 Connecting port location

Nil	Side ported
E	Axial ported

8 Auto switch

Nil	Without auto switch (Built-in magnet)
M	Without M9 type auto switch (Built-in magnet)

* For applicable auto switch model, refer to the table below.

** The operating range and hysteresis of the D-M9□ are different from those of the other auto switches. For details, refer to page 102.

10 Number of auto switches

S	1 pc.*
Nil	2 pcs.**

* S: A right-hand auto switch is shipped.

** Nil: A right-hand switch and a left-hand switch are shipped.

11 Made to Order

For details, refer to the next page.

Applicable Auto Switches/Refer to pages 797 to 850 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)	1 (M)	3 (L)	5 (Z)	None (N)			
For 10, 15	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	○	—	○	IC circuit	
					3-wire (PNP)			M9PV	M9P		●	●	●	○	—	○		
					2-wire			M9BV	M9B		●	●	●	○	—	○		
	Reed auto switch	—	—	No	3-wire (NPN)	5 V, 12 V	—	S99V	S99	Vinyl parallel cord	●	●	●	○	—	○	IC circuit	
					3-wire (PNP)			S99V	S99		●	●	●	○	—	○		
					2-wire			T99V	T99		●	●	●	○	—	○		
For 20, 30, 40	Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	Oilproof heavy-duty cord	●	●	●	○	—	○	IC circuit	
					3-wire (PNP)			M9PV	M9P		●	●	●	○	—	○		
					2-wire			M9BV	M9B		●	●	●	○	—	○		
					3-wire (NPN)	5 V, 12 V	—	S79	S7P		●	●	●	○	—	○		IC circuit
					3-wire (PNP)			S79	S7P		●	●	●	○	—	○		
					2-wire			T79	T79		●	●	●	○	—	○		
	Reed auto switch	—	—	No	2-wire	—	100 V	R73	R73C	Vinyl parallel cord	●	●	●	○	—	○	IC circuit	
					—			R80	R80C		●	●	●	○	—	○		
					—			R80	R80C		●	●	●	○	—	○		
					—	48 V, 100 V	100 V	R73	R73C		●	●	●	○	—	○		
					—			R80	R80C		●	●	●	○	—	○		
					—			R80	R80C		●	●	●	○	—	○		

* Lead wire length symbols: 0.5 m..... Nil (Example) R73C

3 m..... L (Example) R73CL

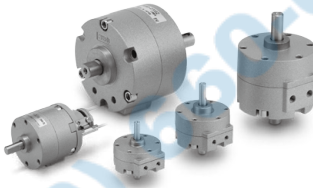
5 m..... Z (Example) R73CZ

None..... N (Example) R73CN

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

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

Single Vane Specifications



Symbol



Size		10	15	20	30	40
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				
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	60
	Allowable thrust load	10	10	20	25	40
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°

Note 1) Make sure to operate within the speed regulation range. Speeds slower than the adjustment range 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 270°. For 90° and 180°, refer to page 64.

Flange Assembly Part No.

(For details about dimensions, refer to page 62.)

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

Double Vane Specifications

Size		10	15	20	30	40
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				
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	Allowable radial load	15	15	25	30	60
	Allowable thrust load	10	10	20	25	40
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 2)}		0 to 90°				

Note 1) Make sure to operate within the speed regulation range. Speeds slower than the adjustment range can cause the unit to stick or not operate.

Note 2) Adjustment range in the table is for 100°. For 90°, refer to page 64.



Made to Order

(For details, refer to pages 84 to 98.)

Symbol	Description	Applicable shaft type
XA1 to XA24	Shaft type pattern I	W
XA31 to XA58	Shaft type pattern II	S, J, K, T, Y
XC1	Add connecting ports	W, S, J, K, T, Y
XC2	Change threaded hole to through-hole	W, S, J, K, T, Y
XC3	Change the screw position	W, S, J, K, T, Y
XC4	Change the rotation range	W, S, J, K, T, Y
XC5	Change rotation range between 0 to 220°	W, S, J, K, T, Y
XC6	Change rotation range between 0 to 110°	W, S, J, K, T, Y
XC7	Reversed shaft	W, J
XC30	Fluorine grease	W, S, J, K, T, Y
X5	For M5 port (90°/180°)	W, S, J, K, T, Y

The above may not be selected when the product comes with an auto switch or angle adjustment unit. For details, refer to pages 84, 85, 90, 91, 96.

Refer to pages 102 to 106 for actuators with auto switches.

- Operating range and hysteresis
- How to change the auto switch detecting position
- Auto switch mounting
- Auto switch adjustment

CRB□2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MSZ

CRQ□X

MSQX

MRQ

D-□