



Rotary Actuator Rack & Pinion Style Series *CRA1*

Size: 30, 50, 63, 80, 100

How to Order

Mounting style

B	Basic style
L	Foot style

Rotating angle

90	90°
180	180°

Rod end shape
Double shaft

Size 30

CRA1 B W 30 — 90

Size 50 to 100

CRA1 B S [] 50 — 90 []

Mounting style

B	Basic style
L*	Foot style
F	Flange style

* For part numbers, refer to the tables below.

Air cushion

Nil	None
C	With air cushion

Shaft type

Standard	S	Single shaft
	W	Double shaft
Option	X	Single shaft with four chamfers
	Y	Double shaft key
	Z	Double shaft with four chamfers

Rotating angle

Standard	90	90°
	180	180°
Option	100	100°
	190	190°

Type

Nil	Pneumatic
H	Air-hydro

Size

50
63
80
100

Foot Bracket Part No.



Size	Foot bracket	Mounting screws included in foot bracket
30	CRA1L30-Y-1	M5 x 0.8 x 25
50	CRA1L50-Y-1	M8 x 1.25 x 35
63	CRA1L63-Y-1	M10 x 1.5 x 40
80	CRA1L80-Y-1	M12 x 1.75 x 50
100	CRA1L100-Y-1	M12 x 1.75 x 50



Note 1) The part numbers shown above include mounting screw.

Note 2) As ordering foot bracket, write "1 piece" for the bracket for one rotary actuator.

Rotary Actuator Rack & Pinion Series CRA1



Specifications

Type	Pneumatic					Air-hydro			
	30	50	63	80	100	50	63	80	100
Fluid	Air (Non-lube)					Hydraulic oil			
Max. operating pressure	1 MPa								
Min. operating pressure	0.1 MPa								
Ambient and fluid temperature	0 to 60°C (No freezing)								
Cushion	None	Not attached, Air cushion				None			
Output (N·m) ⁽¹⁾	1.9	9.3	17	32	74	9.3	17	32	74
Allowable surge pressure	—					1.5 MPa			
Backlash	⁽²⁾	Within 1°							
Tolerance in rotating angle	—				+ 4° 0				



Note 1) Output under the operating pressure of 0.5 MPa. Refer to page 11-1-29 for further information.

Note 2) Since CRA1□30 has a stopper installed, there is no backlash produced under pressure.

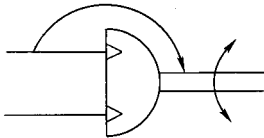
Allowable Kinetic Energy/Safe Range of Rotation Time

Model	Allowable kinetic energy			Adjustable range of rotation time safe in operation
	Allowable kinetic energy (mJ)		Cushion angle	
	Without cushion	With cushion ^(Note)		Rotation time (s/90°)
CRA1□W30	10	—	—	0.2 to 1
CRA1□□50	50	980	35°	0.2 to 2
CRA1□□63	120	1500	35°	0.2 to 3
CRA1□□80	160	2000	35°	0.2 to 4
CRA1□□100	540	2900	35°	0.2 to 5



Note) Allowable kinetic energy of the bumpers equipped model
The maximum absorbed energy under proper adjustment of the cushion needle.

JIS Symbol



P. 11-7-32 to 11-7-51

Caution

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

Weight/Standard

(kg)

Model	Standard weight		Additional weight	
	90°	180°	Foot bracket	Flange bracket
CRA1BW30	0.3	0.4	0.1	—
CRA1BW50	1.5	1.7	0.3	0.5
CRA1BW63	2.5	3	0.5	0.9
CRA1BW80	4.3	5	0.9	1.5
CRA1BW100	8.5	9.5	1.2	2

Weight/With Auto Switches and Solenoid Valves

(kg)

Size	Additional weight	
	With 2 auto switches	With solenoid valve*
30	0.1	—
50	0.2	0.2
63	0.4	0.2
80	0.6	0.2
100	0.9	0.2



* Weight of the solenoid valve is not included. Refer to page 11-7-19 concerning weight of the solenoid valve.

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MRQ

D-

20-

Rotary Actuator Rack & Pinion Style **Series CRA1**

Shaft Variations/Without Key Groove (Size 50 to 100)

Shaft Type: T, J, K

CRA1 Mounting Shaft type Size Rotating angle

Air cushion

Nil	None
C	With air cushion



Refer to "How to Order" on pages 11-7-2, 13, 18 and 24.

Shaft type

T	Single round shaft
J	Double shaft (Long shaft without key and with our chamfers)
K	Double round shaft

Specifications

Type	Pneumatic	Air-hydro
Size	50, 63, 80, 100	
Fluid	Air (Non-lube)	Hydraulic oil
Shaft type	Single round shaft (T), Double round shaft (K), Double shaft/Long shaft without key and with four chamfers (J)	
Cushion	Not attached, Air cushion	None
Auto switch	Mountable	
Mounting	Basic style, Foot style	

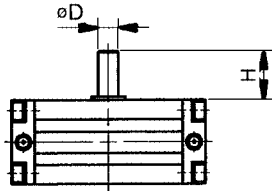
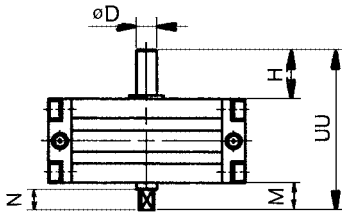
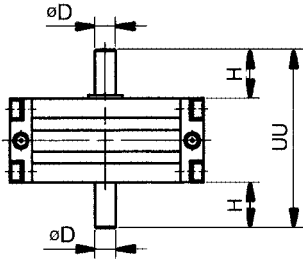


Note) Except flange style.

* Refer to page 11-7-3 for other specifications.

Dimensions

(mm)

Shaft type	T (Single round shaft)		J (Double shaft/Long shaft without key & with four chamfers)					K (Double round shaft)		
Configuration										
Size	D (g6)	H	D (g6)	H	M	N	UU	D (g6)	H	UU
50	15	36	15	36	20	15	118	15	36	134
63	17	41	17	41	22	17	139	17	41	158
80	20	50	20	50	25	20	167	20	50	192
100	25	60	25	60	30	25	202	25	60	232



* Refer to pages 11-7-11 to 11-7-12 for other specifications.

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MRQ

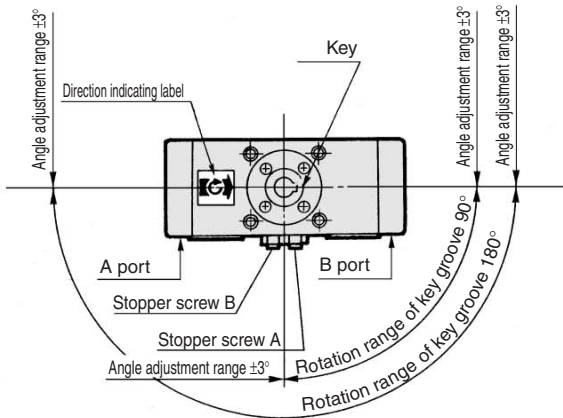
D-

20-

Rotation Range of Key Groove

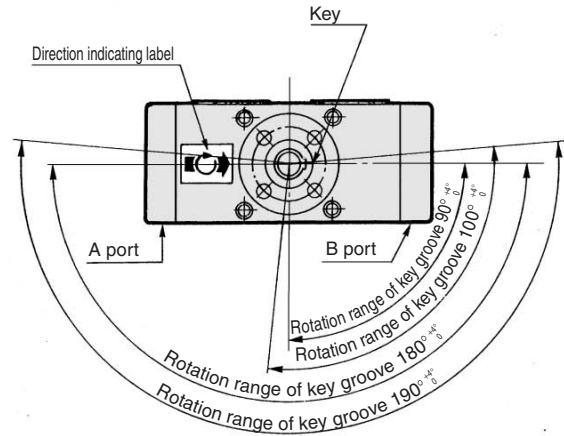
If air pressure is applied from the A side of the direction indication label, the shaft rotates clockwise. If air pressure is applied from the B side, the shaft rotates counterclockwise.

Size: 30



- Stopper screw A: For end adjustment in clockwise direction
- Stopper screw B: For end adjustment in counter clockwise direction

Size: 50 to 100



How to Set Rotation Time

Even if the torque that is generated by the rotary actuator is small, the parts could become damaged depending on the inertia of the load. Therefore, the rotation time should be determined by calculating the load's inertial moment and kinetic energy. Refer to pages 11-1-34 to 35 for details on how to set the rotation time.

Allowable load on the shaft

Refer to the model selecting order step 3 for rotary actuators on page 11-1-20 concerning allowable loads on the shafts of Series CRA1.

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MRQ

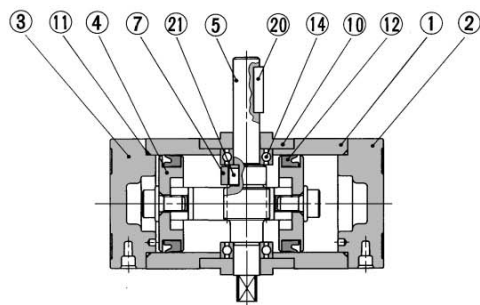
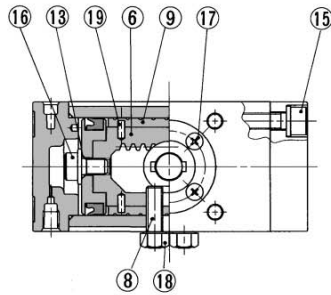
D-

20-

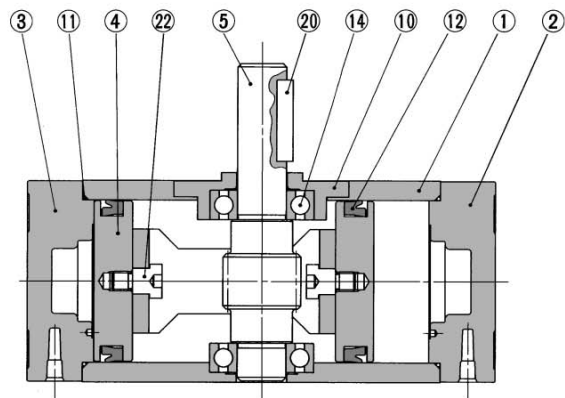
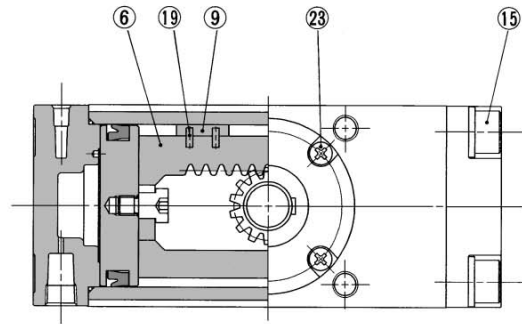
Series CRA1

Construction

Without air cushion
Size: 30




Without air cushion
Size: 50 to 100



Component Parts

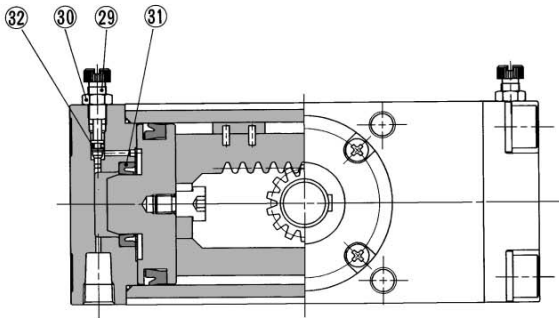
No.	Description	Material	Note
①	Body	Aluminum alloy	Hard anodized
②	Right cover	Aluminum alloy	Black anodized
③	Left cover	Aluminum alloy	Black anodized
④	Piston	Aluminum alloy	Chromated
⑤	Shaft	Chrome molybdenum steel	
⑥	Rack	Carbon steel	Nitrided
⑦	Stopper	Chrome molybdenum steel	
⑧	Stopper screw	Chrome molybdenum steel	Black dyed
⑨	Slider	Resin	
⑩	Bearing retainer	Zinc alloy ^{Note)}	Black painted
⑪	Tube gasket	NBR	

 Note) Size 50 to 100: Aluminum alloy (Black anodized)

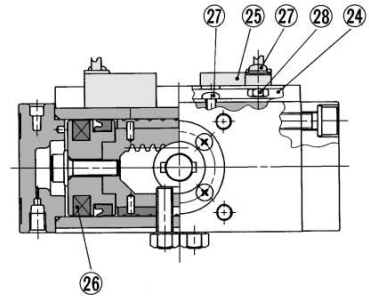
No.	Description	Material	Note
⑫	Piston seal	NBR	
⑬	O-ring	NBR	
⑭	Bearing	Bearing steel	
⑮	Hexagon socket head cap screw with spring washer	Chrome molybdenum steel	Black zinc chromated
⑯	Hexagon socket head cap flange screw	Chrome molybdenum steel	Zinc chromated
⑰	Cross-recessed countersunk head screw	Steel wire	Black dyed
⑱	Hexagon nut	Steel wire	Black dyed
⑲	Spring pin	Steel wire	
⑳	Parallel keyway	Carbon steel	
㉑	Parallel keyway	Carbon steel	
㉒	Connecting screw	Carbon steel	Zinc chromated
㉓	Round head Phillips screw	Steel wire	Black zinc chromated

Rotary Actuator Rack & Pinion Style **Series CRA1**

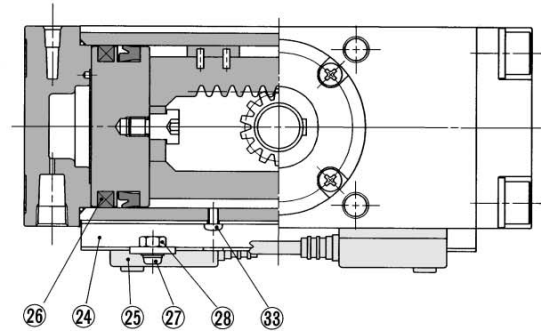
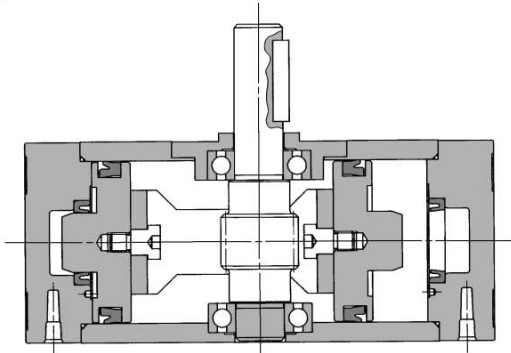
With air cushion



With auto switch Size: 30



Size: 50 to 100




- CRB2
- CRBU2
- CRB1
- MSU
- CRJ
- CRA1**
- CRQ2
- MSQ
- MRQ
- D-
- 20-

Component Parts

No.	Description	Material	Note
24	Auto switch mounting rail	Aluminum alloy	
25	Auto switch	—	
26	Plastic magnet	Magnetic material	
27	Round head Phillips screw	Steel wire	Nickel plated
28	Hexagon nut	Steel wire	Nickel plated
29	Needle valve	Steel wire	Nickel plated
30	Lock nut	Steel wire	Nickel plated
31	Cushion seal	NBR	
32	O-ring	NBR	
33	Round head Phillips screw	Steel wire	Nickel plated

Replacement Parts (Corresponding parts shown below are set.)

Size	Replacement parts			
	Standard	With air cushion	With auto switch	Air-hydro
CRA1□W30-90	P294010-20	—	P294010-20	—
CRA1□W30-180	P294010-21	—	P294010-21	—
CRA1□□50	P294020-20A	P294020-20A	P294020-20A	P294020-23A
CRA1□□63	P294030-20A	P294030-20A	P294030-20A	P294030-23A
CRA1□□80	P294040-20	P294040-20	P294040-20	P294040-23
CRA1□□100	P294050-20A	P294050-20A	P294050-20A	P294050-23A
Corresponding parts	⑨, ⑩, ⑫, and ⑰ are set.			

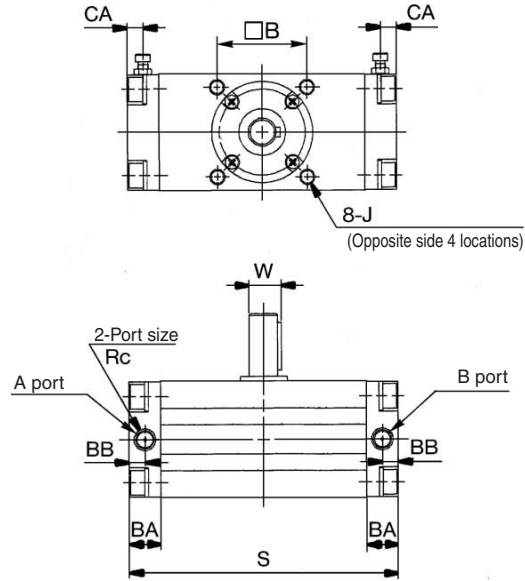
 Note) When ordering spare parts, write "1 piece" for 1 set of the parts for one actuator.

Rotary Actuator Rack & Pinion Style **Series CRA1**

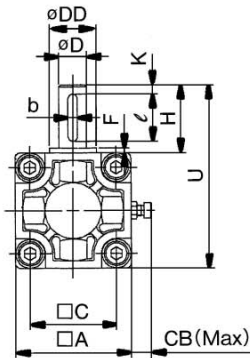
Size 50, 63, 80, 100/Basic Style: CRA1B□

Size: 50 to 100

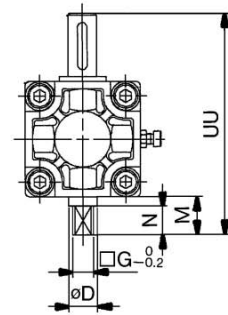
Single shaft type: CRA1BS



Single shaft



Double shaft type: CRA1BW Double shaft



* The dimensions above show pressurization to B port.
* () are the dimensions for rotation of 180° and 190°.

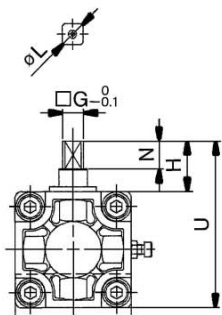
Model	Port size Rc	A	B	C	D (g6)	DD (h9)	F	H	J	K	S	U	W	BA	BB	CA*	CB*	Keyway dimensions	
																		b	ℓ
CRA1BS50	1/8	62	48	46	15	25	2.5	36	M8 x 1.25 Depth 8	5	144 (177)	98	17	17	8.5	8.5	13	5 ⁰ _{-0.030}	25
CRA1BS63	1/8	76	60	57	17	30	2.5	41	M10 x 1.5 Depth 12	5	163 (201.5)	117	19.5	20	10	10	14	6 ⁰ _{-0.030}	30
CRA1BS80	1/4	92	72	70	20	35	3	50	M12 x 1.75 Depth 13	5	186 (230)	142	22.5	23.5	12	12	18	6 ⁰ _{-0.030}	40
CRA1BS100	3/8	112	85	85	25	40	4	60	M12 x 1.75 Depth 14	5	245 (311)	172	28	25	12.5	12.5	18	8 ⁰ _{-0.036}	45

* For model with air cushion

Note) Other dimensions are the same as the single shaft.

Model	D (g6)	G	M	N	UU	L
CRA1BW50	15	11	20	15	118	14
CRA1BW63	17	13	22	17	139	16
CRA1BW80	20	15	25	20	167	19
CRA1BW100	25	19	30	25	202	24

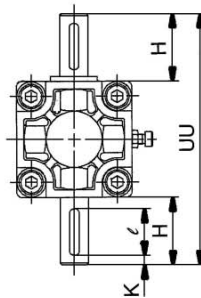
Single shaft with four chamfers: CRA1BX



Note) Other dimensions are the same as the single shaft.

Model	G	H	N	U	L
CRA1BX50	11	27	15	89	14
CRA1BX63	13	29	17	105	16
CRA1BX80	15	38	20	130	19
CRA1BX100	19	44	25	156	24

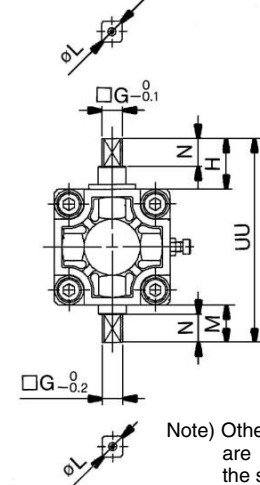
Double shaft key: CRA1BY



Note) Other dimensions are the same as the single shaft.

Model	H	K	UU	ℓ
CRA1BY50	36	5	134	25
CRA1BY63	41	5	158	30
CRA1BY80	50	5	192	40
CRA1BY100	60	5	232	45

Double shaft with four chamfers: CRA1BZ



Note) Other dimensions are the same as the single shaft.

Model	G	H	M	N	UU	L
CRA1BZ50	11	27	20	15	109	14
CRA1BZ63	13	29	22	17	127	16
CRA1BZ80	15	38	25	20	155	19
CRA1BZ100	19	44	30	25	186	24

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MRQ

D-

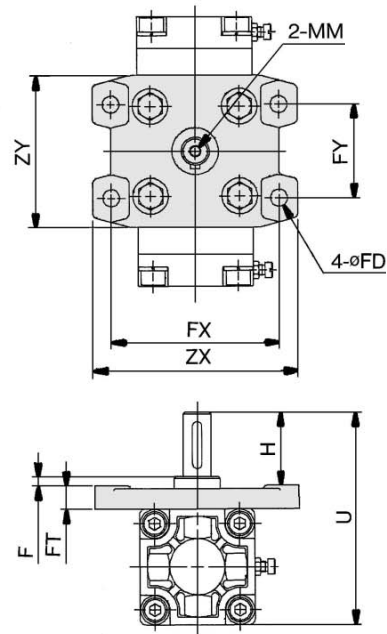
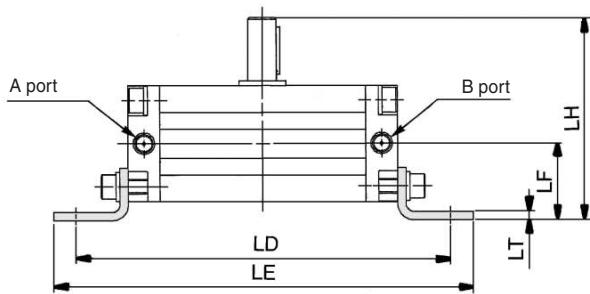
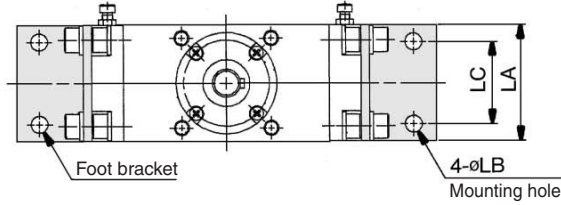
20-

Series CRA1

Size 50, 63, 80, 100/Foot Style: CRA1L□, Flange Style: CRA1F□

Foot style: CRA1L□

Flange style
Single shaft: CRA1FS



● Dimensions above show pressurization to B port.
* () are the dimensions for rotation of 180° and 190°.

Model	LA	LB	LC	LD	LE	LF	LH	LT
CRA1L□□50	62	9	44	200 (233)	224 (257)	41	108	4.5
CRA1L□□63	76	11	55	235 (273.5)	263 (301.5)	48	127	5
CRA1L□□80	92	13	67	274 (318)	316 (360)	58	154	6
CRA1L□□100	112	13	87	333 (399)	375 (441)	73.5	189.5	6



Note) Other dimensions are the same as standard.

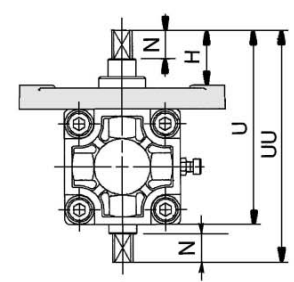
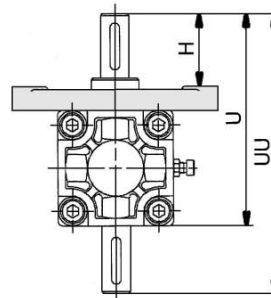
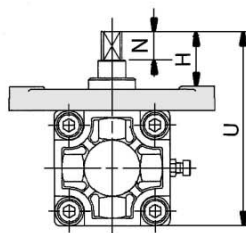
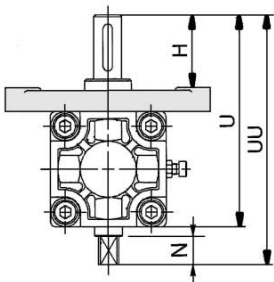
Model	F	H	MM	U	FD	FT	FX	FY	ZX	ZY
CRA1F□□50	4	39	M 6 x 1.0 depth 12	114	9	13	90	50	110	81
CRA1F□□63	5	45	M 6 x 1.0 depth 12	136	11.5	15	105	59	130	101
CRA1F□□80	5	55	M 8 x 1.25 depth 16	165	13.5	18	130	76	160	119
CRA1F□□100	5	60	M 10 x 1.5 depth 20	190	13.5	18	150	92	180	133

Flange style
Double shaft: CRA1FW

Flange style
Single shaft with four
chamfers: CRA1FX

Flange style
Double shaft key:
CRA1FY

Flange style
Double shaft with four
chamfers: CRA1FZ



Note) Other dimensions are the same as the single shaft.

Model	H	N	U	UU
CRA1FW□50	39	15	114	134
CRA1FW□63	45	17	136	158
CRA1FW□80	55	20	165	190
CRA1FW□100	60	25	190	220



Note) Other dimensions are the same as the single shaft.

Model	H	N	U
CRA1FX□50	30	15	105
CRA1FX□63	33	17	124
CRA1FX□80	43	20	153
CRA1FX□100	44	25	174



Note) Other dimensions are the same as the single shaft.

Model	H	U	UU
CRA1FY□50	39	114	150
CRA1FY□63	45	136	177
CRA1FY□80	55	165	215
CRA1FY□100	60	190	250



Note) Other dimensions are the same as the single shaft.

Model	H	N	U	UU
CRA1FZ□50	30	15	105	125
CRA1FZ□63	33	17	124	146
CRA1FZ□80	43	20	153	178
CRA1FZ□100	44	25	174	204




Rotary Actuator with Auto Switch Rack & Pinion Style

Series *CDRA1*

Size: 30, 50, 63, 80, 100

How to Order



Size 30

Mounting style

B	Basic style
L	Foot style

Rotating angle

90	90°
180	180°

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1


CRQ2

MSQ

MRQ

D-

20-



Size 50 to 100

Mounting style

B	Basic style
L*	Foot style
F	Flange style

* For part numbers of foot bracket, refer to page 11-7-2.

Size

50
63
80
100

Number of auto switches

S	1 pc.
Nil	2 pcs.

Note) Maximum number of auto switches mountable is two.

Auto switch

* For the applicable auto switch model, refer to the table below.
* Auto switches are shipped together, (but not assembled).

Cushion

Nil	None
C	With cushion

Rotating angle

Standard	90	90°
	180	180°
Option	100	100°
	190	190°

CRB2

CRBU2

CRB1

MSU

CRJ

CRA1

CRQ2

MSQ

MRQ

D-

20-

Built-in magnet

Shaft type

Standard	S	Single shaft
	W	Double shaft
Option	X	Single shaft with four chamfers
	Y	Double shaft key
	Z	Double shaft with four chamfers

Type

Nil	Pneumatic
H	Air-hydro

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

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model				Lead wire * length (m)				Pre-wire connector	Applicable load		
					DC	AC	Size 30		Size 50 to 100		0.5 (Nil)	3 (L)	5 (Z)	None (N)				
							Perpendicular	In-line	In-line	In-line								
Reed switch	—	Grommet	Yes	3-wire (NPN equiv.)	—	5 V	—	—	A76H	A56	●	●	—	—	—	IC circuit	—	
				2-wire	—	200 V	A72	A72H	—	●	●	—	—	—	—	—	Relay, PLC	
		24 V			12 V	—	—	A53	●	●	●	—	—	—				
		—			100 V, 200 V	—	—	A73C	—	—	●	●	●	●	—			
Diagnosis indication (2-color)	Grommet	—	—	—	—	—	—	A54	●	●	●	—	—	—	—	—		
				—	—	—	—	A79W	—	A59W	●	●	—	—	—	—	—	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	—	F7NV	F79	F59	●	●	○	—	○	IC circuit	PLC	
				3-wire (PNP)				F7PV	F7P	F5P	●	●	○	—	○			
				12 V				F7BV	J79	J59	●	●	○	—	○			
		2-wire		—	100 V, 200 V	—	—	J51	●	●	○	—	—					
				12 V	—	—	—	J79C	—	—	●	●	●	●	—			
				—	—	—	—	F7NWW	F79W	F59W	●	●	○	—	○			
	Diagnosis indication (2-color)	Grommet		—	3-wire (NPN)	5 V, 12 V	—	—	—	F7PW	F5PW	●	●	○	—	○		IC circuit
					3-wire (PNP)				F7BWV	J79W	J59W	●	●	○	—	○		
	Water resistant (2-color)	Grommet		—	24 V	—	—	—	—	F7BA**	F5BA**	—	●	○	—	○		—
									—	F7BAV**	—	—	—	●	○	—		○
Diagnosis output (2-color)	Grommet	—	—	5 V, 12 V	—	—	—	F79F	F59F	●	●	○	—	○	IC circuit			
							—	—	—	—	—	—	—	—	—	—		

** Although it is possible to mount water resistant type auto switches, note that the rotary actuator itself is not of water resistant construction.
* Lead wire length symbols: 0.5 m Nil (Example) A73C * Auto switches marked with "○" are made to order specifications.
3 m L (Example) A73CL
5 m Z (Example) A73CZ
None N (Example) A73CN

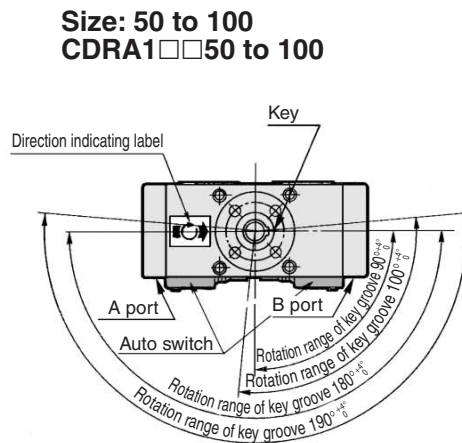
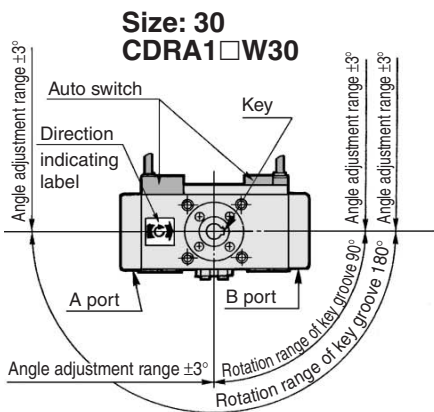
• Refer to page 11-7-14 for applicable switches other than those indicated above.
• For F7NWW, F7BWV switch types, refer to Best Pneumatics Vol. 8.



Refer to page 11-11-36 for detailed solid state switches with pre-wire connectors.

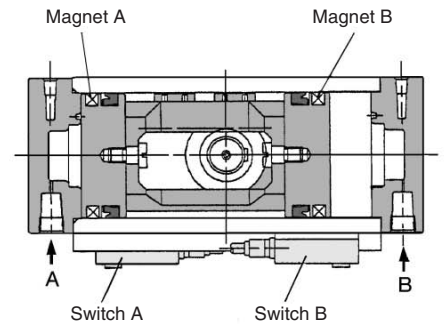
Series CDRA1

Rotation Range of Key Groove/Switch Mounting Position

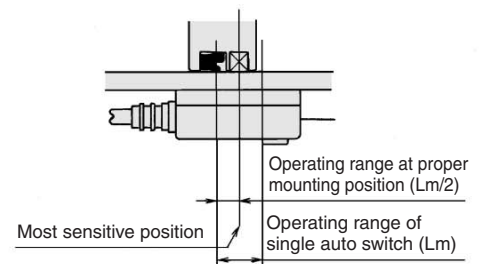
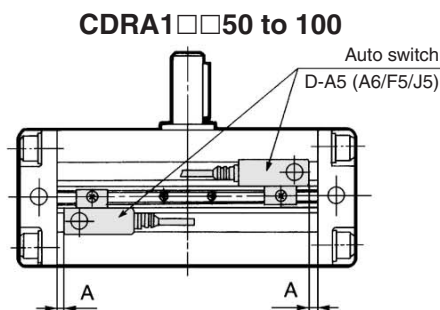
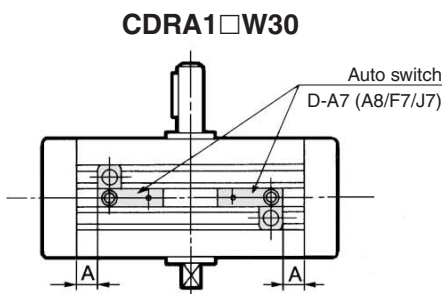


Working Principle

In the diagram below, switch B is ON. When pressure is applied from A, the piston moves to B, causing the shaft to rotate clockwise. At this time, magnet B goes out of the movement range of switch B, causing switch B to turn OFF. Furthermore, the piston moves to the right, causing magnet A to enter the movement range of switch A. As a result, switch A turns ON.



Proper Auto Switch Mounting Position at Rotation End



Operating angle θ m: Converts the operating range (Lm) of the auto switch into the rotation angle.
 Angle of hysteresis: The hysteresis of the auto switch is converted to degrees.

Model	A (mm)	Operating angle θ m	Hysteresis angle (°)
CDRA1□W30-90	9 (19)	95°	20°
CDRA1□□50-90	9 (26)	65°	20°
CDRA1□□63-90	11 (30)	60°	10°
CDRA1□□80-90	15 (37)	45°	7°
CDRA1□□100-90	27 (60)	35°	5°

* The dimensions inside () are for 180° .

** Up to 2 auto switches can be mounted per actuator. The dimensions in the table are the values that represent the most sensitive positions of the auto switches. Thus, they are not the dimensions that represent the mounting position at the time of shipment.

★ Please consult with SMC concerning the angles for the auto switches other than the models D-A73 and D-A53.

Auto Switch Specifications/Refer to page 11-11-1 for further information on auto switch single body.

Type	Model	Electrical entry	Features	Applicable size
Reed switch	D-A80	Grommet (Perpendicular)	Without indicator light	30
	D-A80H	Grommet (In-line)		
	D-A80C	Connector (In-line)		
	D-A64	Grommet (In-line)	Without indicator light, built-in contact protection circuit	50 to 100
	D-A67	Grommet (In-line)	Without indicator light	
Solid state switch	D-F7NTL	Grommet (In-line)	With timer	30
	D-F5NTL	Grommet (In-line)		50 to 100

* With pre-wire connector is also available for D-F5NTL, D-F7NTL. For details, refer to pages 11-11-34 to 35.

Sets of Mounting Screws for Auto Switch (Round head Phillips screw, Hexagon nut)

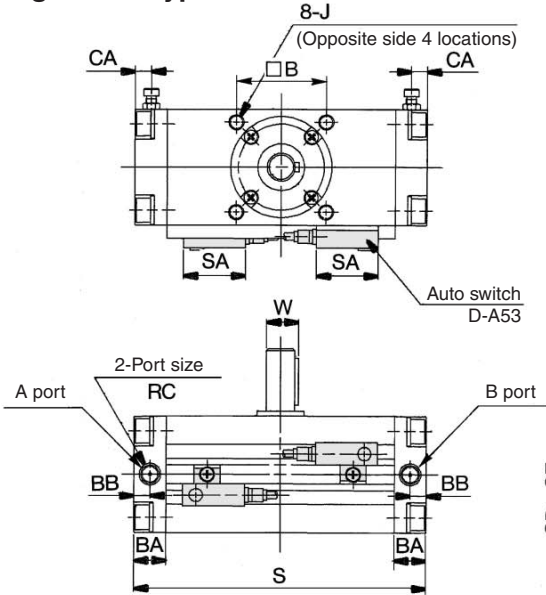
Model	Part no.
CDRA1□W30	P294010-24
CDRA1□□50 to 100	P294020-24

Note 1) The above part numbers include 2 pieces of mounting screws and 2 pieces of nuts.
 Note 2) To order a set for 1 unit, the ordering quantity should be "1".

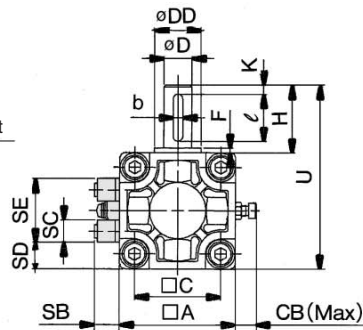
Series CDRA1

Size 50, 63, 80, 100/Basic Style: CRA1B□

With auto switch
Single shaft type: CDRA1BS

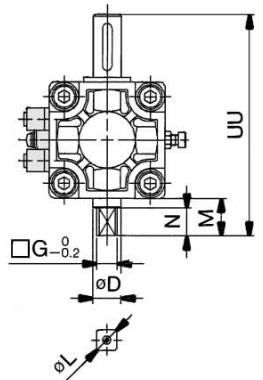


Single shaft



Double shaft type:
CDRA1BW

Double shaft



Double Shaft Type

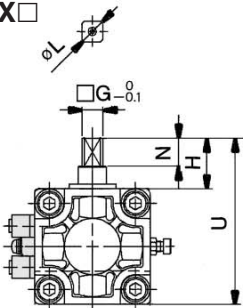
Model	D(g6)	G	M	N	UU	L
CDRA1BW50	15	11	20	15	118	14
CDRA1BW63	17	13	22	17	139	16
CDRA1BW80	20	15	25	20	167	19
CDRA1BW100	25	19	30	25	202	24

Single Shaft Type

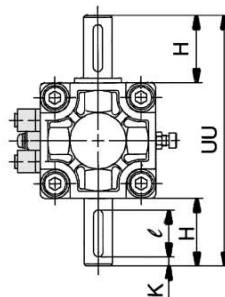
* The dimensions below show pressurization to B port.
* () are the dimensions for rotation of 180° and 190°.

Model	Port size Rc	A	B	C	D (g6)	DD (h9)	F	H	J	K	S	U	W	BA	BB	CA	CB	SA	SB	SC	SD	SE	Keyway dimensions	
																							b	ℓ
CDRA1BS50	1/8	62	48	46	15	25	2.5	36	M8 x 1.25 depth 8	5	156 (189)	98	17	17	8.5	8.5	13	33	13.5	12	14	34	5 ⁰ _{-0.030}	25
CDRA1BS63	1/8	76	60	57	17	30	2.5	41	M10 x 1.5 depth 12	5	175 (213.5)	117	19.5	20	10	10	14	33	14.5	12	21	34	6 ⁰ _{-0.030}	30
CDRA1BS80	1/4	92	72	70	20	35	3	50	M12 x 1.75 depth 13	5	199 (243)	142	22.5	23.5	12	12	18	33	15.5	12	29	34	6 ⁰ _{-0.030}	40
CDRA1BS100	3/8	112	85	85	25	40	4	60	M12 x 1.75 depth 14	5	259 (325)	172	28	25	12.5	12.5	18	33	16	12	39	34	8 ⁰ _{-0.036}	45

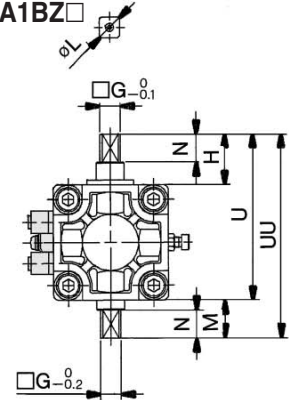
Single shaft with four chamfers:
CDRA1BX□



Double shaft key:
CDRA1BY□



Double shaft with four chamfers:
CDRA1BZ□



Note) Other dimensions are the same as the single shaft.

Model	G	H	N	U	L
CDRA1BX□50	11	27	15	89	14
CDRA1BX□63	13	29	17	105	16
CDRA1BX□80	15	38	20	130	19
CDRA1BX□100	19	44	25	156	24

Note) Other dimensions are the same as the single shaft.

Model	H	K	UU	ℓ
CDRA1BY□50	36	5	134	25
CDRA1BY□63	41	5	158	30
CDRA1BY□80	50	5	192	40
CDRA1BY□100	60	5	232	45

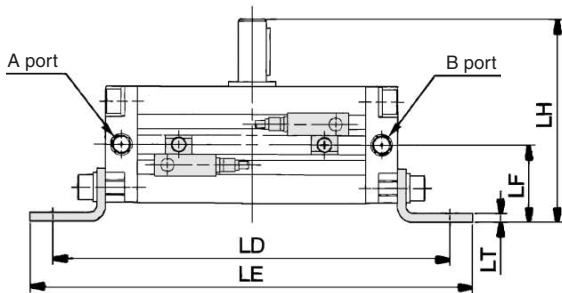
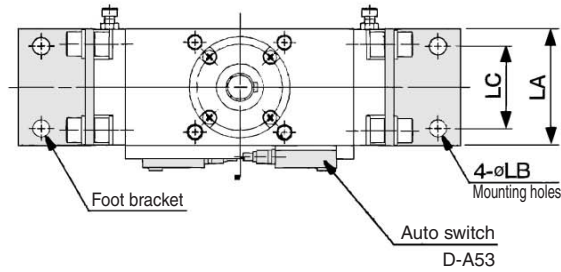
Note) Other dimensions are the same as the single shaft.

Model	G	H	M	N	U	UU	L
CDRA1BZ□50	11	27	20	15	89	109	14
CDRA1BZ□63	13	29	22	17	105	127	16
CDRA1BZ□80	15	38	25	20	130	155	19
CDRA1BZ□100	19	44	30	25	156	186	24

Rotary Actuator with Auto Switch Rack & Pinion Style **Series CDRA1**

Size 50, 63, 80, 100/Foot Style: CDRA1L, Flange Style: CDRA1F

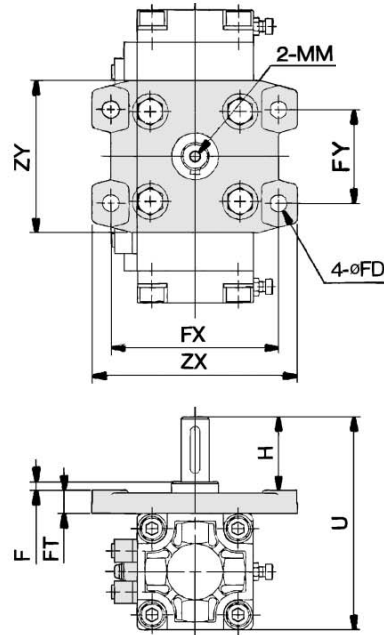
Foot style: CDRA1L□



★ Dimensions above show pressurization to B port.
* () are the dimensions for rotation of 180° and 190°.

Model	LA	LB	LC	LD	LE	LF	LH	LT
CDRA1L□□50	62	9	44	212 (245)	236 (269)	41	108	4.5
CDRA1L□□63	76	11	55	247 (285.5)	275 (313.5)	48	127	5
CDRA1L□□80	92	13	67	287 (331)	329 (373)	58	154	6
CDRA1L□□100	112	13	87	347 (413)	389 (455)	73.5	189.5	6

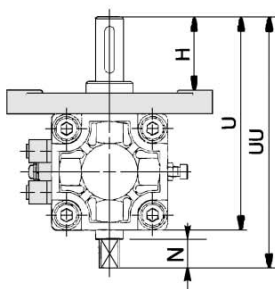
**Flange style
Single shaft: CRA1FS**



Note) Other dimensions are the same as standard.

Model	F	H	MM	U	FD	FT	FX	FY	ZX	ZY
CDRA1F□□50	4	39	M 6 x 1.0 depth 12	114	9	13	90	50	110	81
CDRA1F□□63	5	45	M 6 x 1.0 depth 12	136	11.5	15	105	59	130	101
CDRA1F□□80	5	55	M8 x 1.25 depth 16	165	13.5	18	130	76	160	119
CDRA1F□□100	5	60	M10 x 1.5 depth 20	190	13.5	18	150	92	180	133

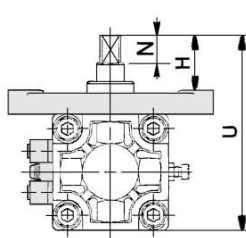
**Flange style
Double shaft:
CDRA1FW**



Note) Other dimensions are the same as the single shaft.

Model	H	N	U	UU
CDRA1FW□50	39	15	114	134
CDRA1FW□63	45	17	136	158
CDRA1FW□80	55	20	165	190
CDRA1FW□100	60	25	190	220

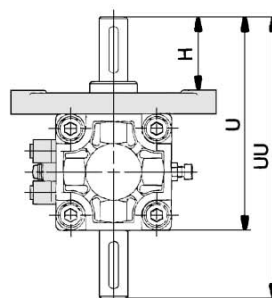
**Flange style
Single shaft with four
chamfers: CDRA1FX**



Note) Other dimensions are the same as the single shaft.

Model	H	N	U
CDRA1FX□50	30	15	105
CDRA1FX□63	33	17	124
CDRA1FX□80	43	20	153
CDRA1FX□100	44	25	174

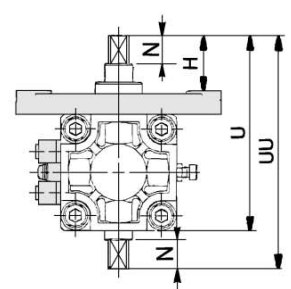
**Flange style
Double shaft key:
CDRA1FY**



Note) Other dimensions are the same as the single shaft.

Model	H	U	UU
CDRA1FY□50	39	114	150
CDRA1FY□63	45	136	177
CDRA1FY□80	55	165	215
CDRA1FY□100	60	190	250

**Flange style
Double shaft with four
chamfers: CDRA1FZ**



Note) Other dimensions are the same as the single shaft.

Model	H	N	U	UU
CDRA1FZ□50	30	15	105	125
CDRA1FZ□63	33	17	124	146
CDRA1FZ□80	43	20	153	178
CDRA1FZ□100	44	25	174	204

- CRB2
- CRBU2
- CRB1
- MSU
- CRJ
- CRA1**
- CRQ2
- MSQ
- MRQ
- D-
- 20-