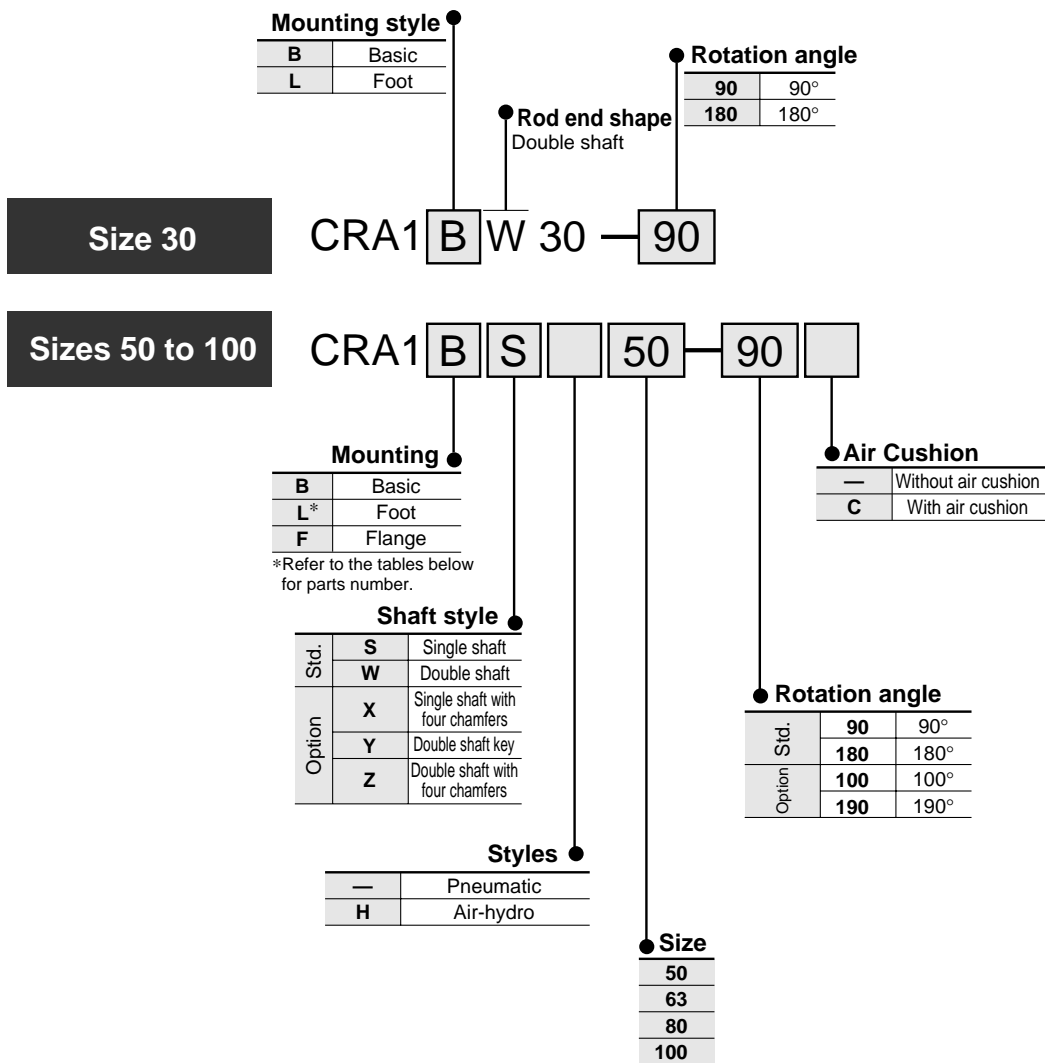


Rotary Actuator

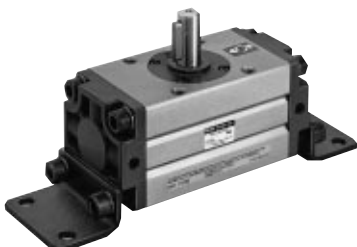
Series CRA1

Rack Pinion Style/Size: 30, 50, 63, 80, 100

How to Order



Foot Brackets 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



Notes) The part numbers shown above include mounting screw.
As ordering foot bracket, write "1 piece" for the bracket for one rotary actuator.

Rotary Actuator Rack Pinion Style **Series CRA1**

Specifications

Style	Pneumatic					Air-hydro			
	30	50	63	80	100	50	63	80	100
Size	30	50	63	80	100	50	63	80	100
Fluid	Air (Non-lube)					Hydraulic oil			
Max. operating pressure	1MPa								
Min. operating pressure	0.1MPa								
Ambient and fluid temperature	0° to 60°C (No freezing)								
Cushion	None	With or without air cushion				None			
Output ⁽¹⁾ (Nm)	1.9	9.3	17	32	74	9.3	17	32	74
Allowable surge pressure	—					1.5MPa			
Backlash	(2)	Within 1°							
Tolerance in rotating angle	—					+4° 0			



Note 1) Output under the operating pressure of 0.5MPa. Refer to p.1.0-28 for further information.
Note 2) Since CRA1□30 has a stopper installed, there is no backlash produced under pressure.

CRB1

CRBU

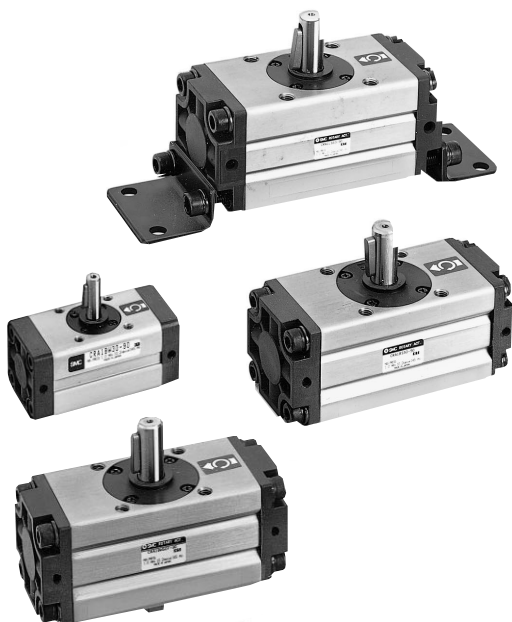
CRA1

CRQ

MRQ

MSQ

MSUB



Allowable Kinetic Energy/Safe Range of Rotation Time

Model	Allowable kinetic energy			Safe range of rotation time
	Allowable kinetic energy (J)		Cushion angle	
	Without cushion	With cushion ⁽¹⁾		Rotation time (s/90°)
CRA1□W30	0.01	—	—	0.2 to 1
CRA1□□50	0.05	0.98	35°	0.2 to 2
CRA1□□63	0.12	1.5	35°	0.2 to 3
CRA1□□80	0.16	2.0	35°	0.2 to 4
CRA1□□100	0.54	2.9	35°	0.2 to 5

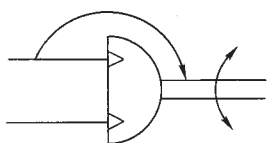


Note 1) Allowable kinetic energy of the bumpers equipped model
The maximum absorbed energy under proper adjustment of the cushion needle.

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



P.1.3-29 to 1.3-46

⚠️ Precaution

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

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 p.1.3-17 concerning weight of the solenoid valve.

Series CRA1

Rotary Actuator with Built-in One-touch Fittings

CRA1 Mounting Shaft style Size **F** Rotation Additional symbol
 ↓
 With built-in one-touch fittings



Piping steps and installation space are saved.

Specifications

Style	Pneumatic
Applicable size	30, 50, 63
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Auto switch	Mountable

Applicable Tube Specification

Size	30	50	63
Applicable tube O.D.	ø4	ø6	
Applicable tube materials	Nylon, Soft nylon, Polyurethane		

Refer to p.1.3-8 to 1.3-10 for dimensions.

Clean Series Rotary Actuator

11—CRA1 Mounting Shaft type Size Rotation Additional symbol
 ↓
 Clean series

Vacuum ports are equipped to prevent dust from being produced from the rod part of the rotary actuators.

Specifications

Style	Pneumatic
Applicable size	30, 50
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Auto switch	Mountable

Copper Free Rotary Actuator

No influence on cathode ray tubes by copper ion and fluorine resin. As standard models are already made applicable to copper free styles, they can be applied as they are.

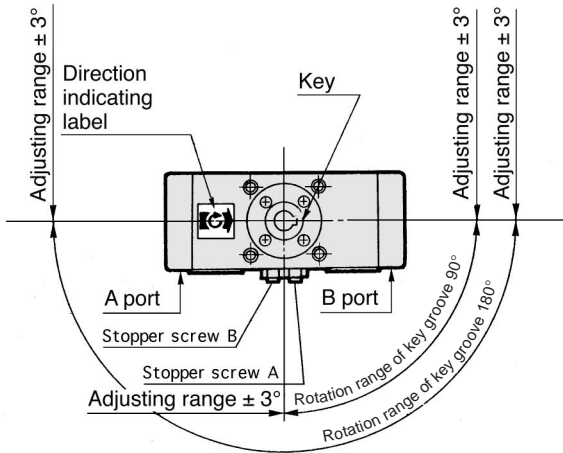
Specifications

Style	Pneumatic
Applicable size	30, 50, 63, 80, 100
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Auto switch	Mountable

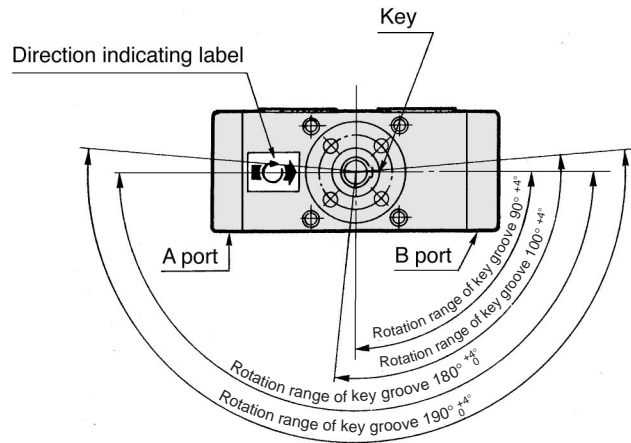
Rotation Range of Key Grooves

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



Size: 50 to 100



CRB1

CRBU

CRA1

CRQ

MRQ

MSQ

MSUB

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

How to Set The 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 p.1.0-33 and 1.0-34 for details on how to set the rotation time.

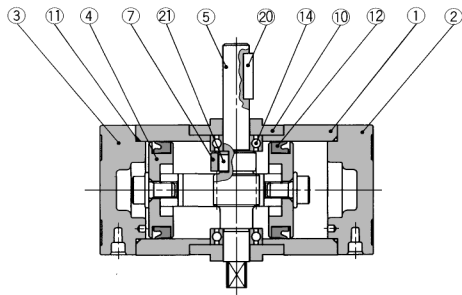
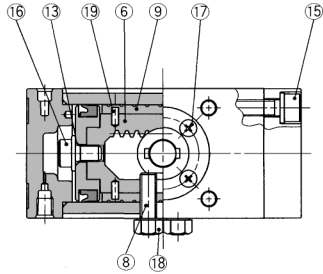
Allowable load on the shaft

Refer to the model selecting order step 3 for rotary actuators on p.1.0-14 concerning allowable loads on the shafts of series CRA1.

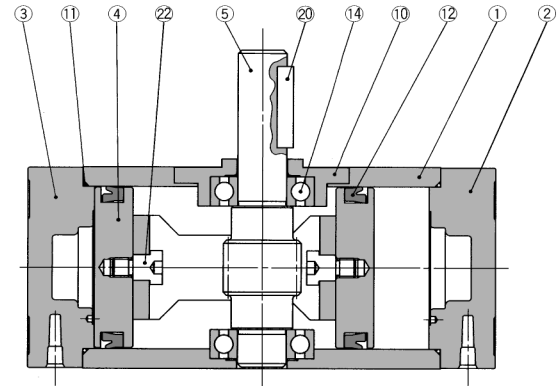
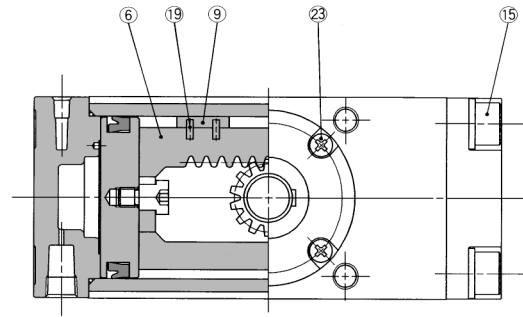
Series CRA1

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	Cover (Right)	Aluminum alloy	Black anodized
③	Cover (Left)	Aluminum alloy	Black anodized
④	Piston	Aluminum alloy	Chromated
⑤	Shaft	Chromium-molybdenum steel	
⑥	Rack	Carbon steel	Nitrided
⑦	Stopper	Chromium-molybdenum steel	
⑧	Stopper screw	Chromium-molybdenum steel	Black dyed
⑨	Slider	Resin	
⑩	Bearing retainer	Zink alloy ⁽¹⁾	Black painted
⑪	Tube gasket	NBR	

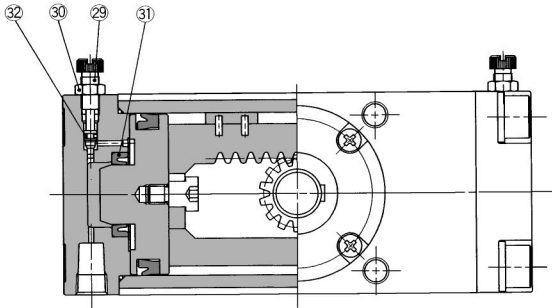
Note 1) Size 50 to 100: Aluminum alloy (Black alumite)

Component Parts

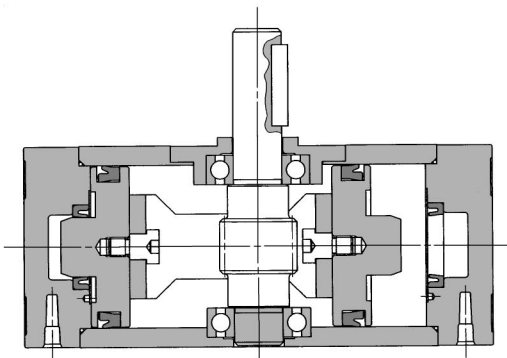
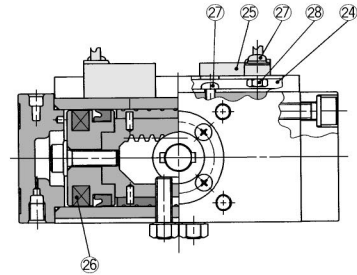
No.	Description	Material	Note
⑫	Piston packing	NBR	
⑬	O ring	NBR	
⑭	Bearing	Carbon steel	
⑮	Hexagon socket head cap screw spring washer	Chromium-molybdenum steel	Black zinc chromated
⑯	Hexagon socket head cap flange screw	Chromium-molybdenum steel	Zinc chromated
⑰	Cross-recessed countersunk head screw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

Rotary Actuator Rack Pinion Style **Series CRA1**

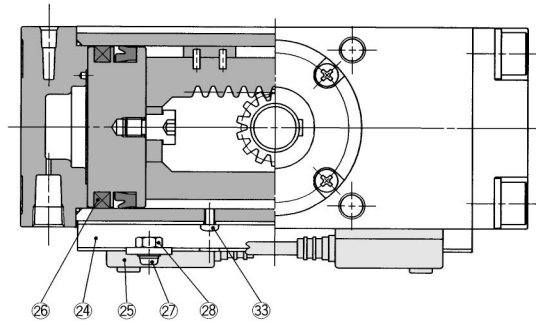
With air cushion



With auto switch
Size: 30



Size: 50 to 100



CRB1

CRBU

CRA1

CRQ

MRQ

MSQ

MSUB

Component Parts

No.	Description	Material	Note
24	Auto switch mounting rail	Aluminum alloy	
25	Auto switch	—	
26	Plastic magnet	Magnetic substance	
27	Cross-recessed head cap 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 packing	NBR	
32	O ring	NBR	
33	Cross-recessed head cap screw	Steel wire	Nickel plated

Replacement Parts (Corresponding parts shown below are set.)

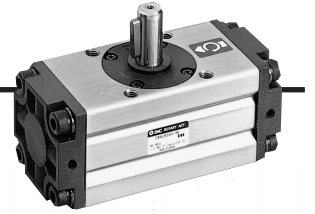
Size	Replacement parts			
	Standard	With air cushion	With auto switch	Air-hydro
CRA1□W30-90	P294010-20	—	P294010-20	—
CRA1□W30-180	P294010-21	—	P294010-21	—
CRA1□□50	P294020-20A	P294020-20A	P294020-20A	P294020-23A
CRA1□□63	P294030-20A	P294030-20A	P294030-20A	P294030-23A
CRA1□□80	P294040-20	P294040-20	P294040-20	P294040-23
CRA1□□100	P294050-20A	P294050-20A	P294050-20A	P294050-23A
Corresponding parts	⑨, ⑪, ⑫, and ⑰ are set.			



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

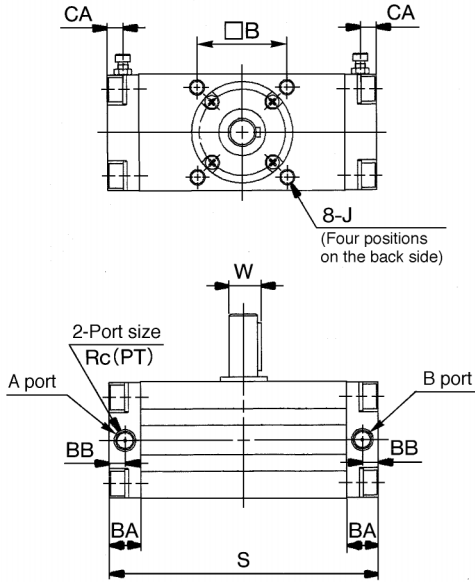
Rotary Actuator Rack Pinion Style **Series CRA1**

Size **50, 63, 80, 100**/Standard: CRA1B□

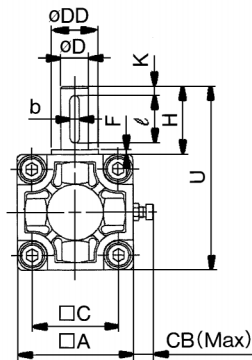


Size: 50 to 100

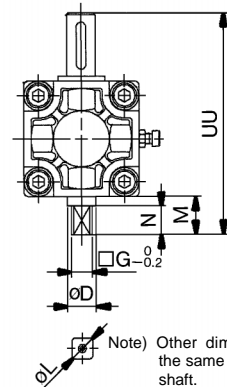
Single shaft style/CRA1BS



Single shaft



Double shaft style/CRA1BW
Double shaft

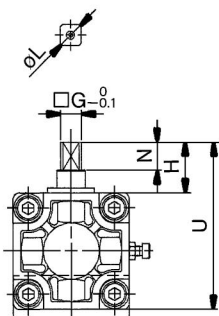


*The dimensions above show pressurization to B port.
*() are the dimensions for rotations of 180° and 190°.

Models	Port size Rc(PT)	A	B	C	D (g6)	DD (h9)	F	H	J	K	S	U	W	BA	BB	CA*	CB*	Key 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

Models	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

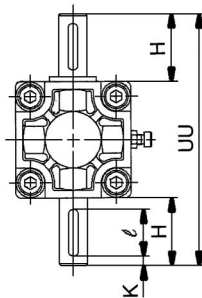
Single shaft with four
chamfers/CRA1BX



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

Models	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

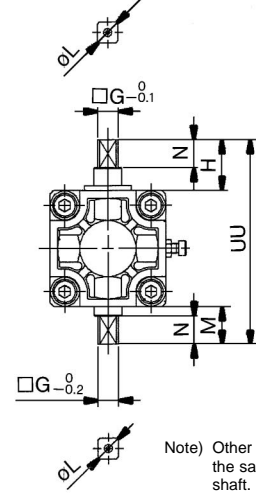
Double shaft key/CRA1BY



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

Models	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.

Models	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



Single shaft
CRA1BS[Size].....SCRA1[Size], According to #1 (#1+#16+#17), auto switch (#16) is eliminated.
Double shaft
CRA1BW[Size].....SCRA1[Size], According to #2 (#2+#16+#17), auto switch (#16) is eliminated.
Single shaft with four chamfers
CRA1BX[Size].....SCRA1[Size], 13 (Shaft only)

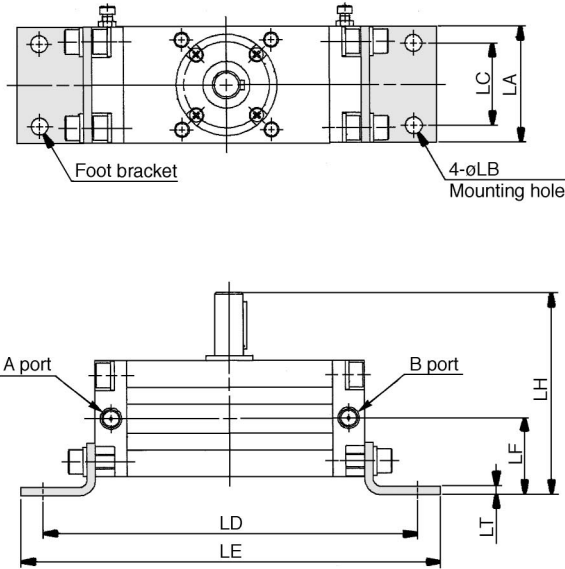
Double shaft key
CRA1BY[Size].....SCRA1[Size], #14 (Shaft only)
Double shaft with four chamfers
CRA1BZ[Size].....SCRA1[Size], #15 (Shaft only)

Series CRA1

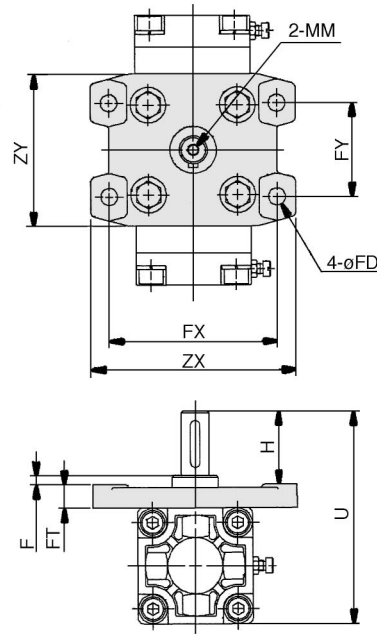
Size **50, 63, 80, 100**/Foot Style: CRA1L□, Flange Style: CRA1F□



Foot style/CRA1L□



Flange style Single shaft/CRA1FS



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

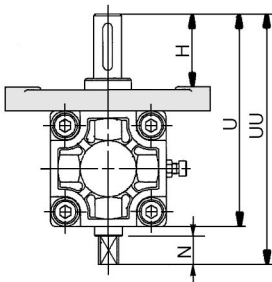
Models	LA	LB	LC	LD	LE	LF	LH	LT
CRA1L□□50	62	9	44	200 (233)	224 (257)	41	108	4.5
CRA1L□□63	76	11	55	235 (273.5)	263 (301.5)	48	127	5
CRA1L□□80	92	13	67	274 (318)	316 (360)	58	154	6
CRA1L□□100	112	13	87	333 (399)	375 (441)	73.5	189.5	6



Other dimensions are the same as standard.

Models	F	H	MM	U	FD	FT	FX	FY	ZX	ZY
CRA1F□□50	4	39	M6 X1.0 Depth12	114	9	13	90	50	110	81
CRA1F□□63	5	45	M6 X1.0 Depth12	136	11.5	15	105	59	130	101
CRA1F□□80	5	55	M8 X1.25 Depth16	165	13.5	18	130	76	160	119
CRA1F□□100	5	60	M10 X1.5 Depth20	190	13.5	18	150	92	180	133

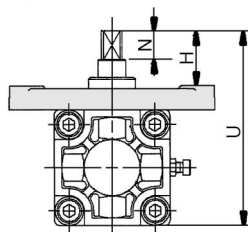
Flange style Double shaft/CRA1FW



Other dimensions are the same as the single shaft.

Models	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

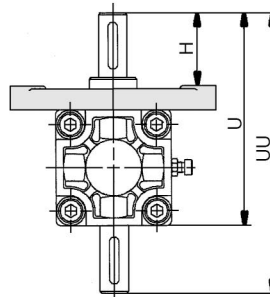
Flange style Single shaft with four chamfers/ CRA1FX



Other dimensions are the same as the single shaft.

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

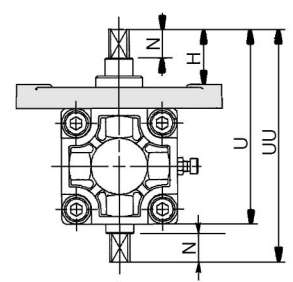
Flange style Double shaft key/ CRA1FY



Other dimensions are the same as the single shaft.

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

Flange style Double shaft with four chamfers/ CRA1FZ



Other dimensions are the same as the single shaft.

Models	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



Single shaft foot style

CRA1L **Size**SCRA1 **Size**, According to #5 (#5+#16+#17), auto switch (#16) is eliminated.

Single shaft flange style

CRA1F **Size**SCRA1 **Size**, According to #9 (#9+#16+#17), auto switch (#16) is eliminated.

Double shaft flange style

CRA1FW **Size**SCRA1 **Size**, According to #10 (#10+#16+#17), auto switch (#16) is eliminated.

Single shaft with four chamfers

CRA1FX **Size**SCRA1 **Size**, #13 (Shaft only)

Double shaft key

CRA1FY **Size**SCRA1 **Size**, #14 (Shaft only)

Double shaft with four chamfers



CRA1FZ **Size**SCRA1 **Size**, #15 (Shaft only)

Rotary Actuator with Auto Switch

Series **CDRA1**

Rack Pinion Style/Size: 30, 50, 63, 80, 100

How to Order

Mounting

B	Basic
L	Foot

Rotation angle

90	90°
180	180°

Size 30 CDRA1 B W30 — 90 — A72 S

Size 50 to 100 CDRA1 B W — 50 — 90 — A53 S

Built-in magnet

Mounting

B	Basic
L*	Foot
F	Flange

Refer to p.1.3-2 for part numbers of foot bracket.

Shaft styles

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

Size

50
63
80
100

Style

—	Pneumatic
H	Air-hydro

No. of auto switches mounted

S	1
—	2

Note) Max. no. auto switches mountable is two.

Auto switch
* Refer to the table below for part numbers of applicable auto switch.

Cushion

—	Without cushion
C	With cushion

Rotation angle

Std.	90	90°
	180	180°
Option	100	100°
	190	190°

- CRB1
- CRBU
- CRA1**
- CRQ
- MRQ
- MSQ
- MSUB

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

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch part No.			Lead wire length ⁽¹⁾ (m)				Applicable load																																																																						
					DC	AC	Size 30		Size 50 to 100	0.5 (—)	3 (L)	5 (Z)	— (N)																																																																							
							Perpendicular	In-line								In-line																																																																				
Reed switch	—	Grommet	Yes	3 wire (Equivalent to NPN)	24V	5V	—	A76H	A56	●	●	—	—	IC	Relay PLC																																																																					
										No	—	200V	A72	A72H		●	●	—	—	IC																																																																
																Yes	12V	100V	A73		A73H	●	●	●	—	PLC																																																										
																						Yes	5V,12V	≤ 100V	A80		A80H	●	●	—	—	IC																																																				
																												No	12V	—	A73C		—	●	●	●	●	—																																														
																																		Yes	12V	—	—		—	A53	●	●	●	—	PLC																																							
																																									No	5V,12V	≤ 24V	A80C		—	—	●	●	●	●	IC																																
																																																Yes	—	100V,200V	—		—	A54	●	●	●	—	Relay PLC																									
																																																							No	—	100V,200V	—		—	A67	●	●	—	—	IC																		
																																																														Yes	—	100V,200V	—		—	A64	●	●	—	—	IC											
No	—	100V,200V	—	—	A79W	●	●	—	—						Relay PLC																																																																					
						Yes	—	100V,200V	—	—	A59W	●	●	—						—																																																	—															
												No	2 wire	—		—	—	J51	●	●	○					—																																												—														
																			Yes	3wire(NPN)	5V,12V	—	—	F7NV	F79	F59	●					●																																							○	—		IC										
																											No	3wire(PNP)	12V	—	—	F7PV	F7P					F5P																																	●	●			○	—	—							
																																		Yes	2 wire	12V	—		—	F7BV					J79																										J59	●			●	○		—	—					
																																									No	3wire(NPN)	5V,12V	—		—	J79C					—																				—			●	●		●		●	—			
																																																Yes	3wire(NPN)	5V,12V	—		—	—					F7PW																F5PW	●		●		○		—	IC	
																																																							No	3wire(NPN)	5V,12V	—		—	—					F79W										F59W		●		●		○		—
																																																														Yes	2 wire	—	—		—	—					J79W					J59W		●		●		○
No	4wire(NPN)	5V,12V	—	—	—										F7BA ⁽²⁾																																																																	F5BA ⁽²⁾		—		●
						Yes	3wire(NPN)	5V,12V	—	—	—																																																										F7NT													F5NT		—
												No	4wire(NPN)	5V,12V		—	—	—																																																				F59F														—

Note 1) Symbols for wire lengths 0.5m..... (—) Ex.) A80C 3m..... L Ex.) A80CL 5m..... Z Ex.) A80CZ —N Ex.) A80CN

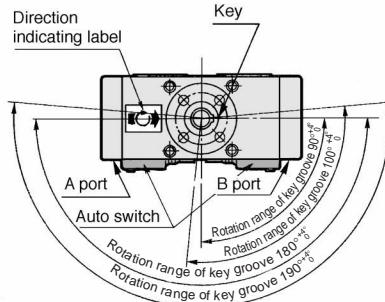
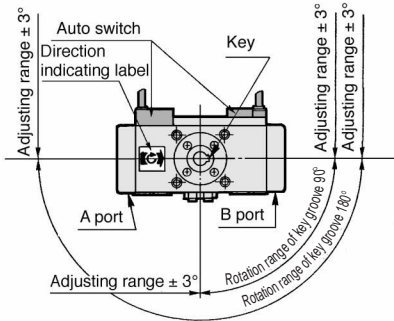
Note 2) Auto switches marked with "○" in the table are made to order specification. This rotary actuator is not a improved product in water proof. Consult SMC when using F7BA* and F5BA*.

Series CDRA1

Rotation Range of Key Grooves/Switch Mounting Positions

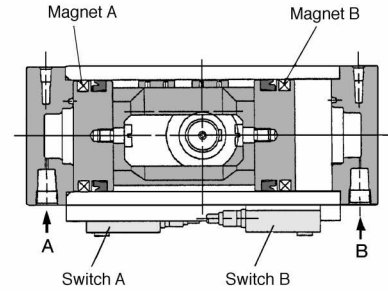
Size: 30
CDRA1□W30

Size: 50 to 100
CDRA1□□50 to 100



Operation Principles

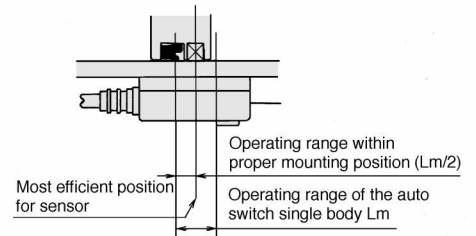
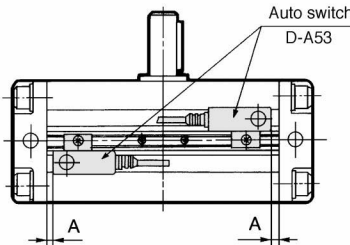
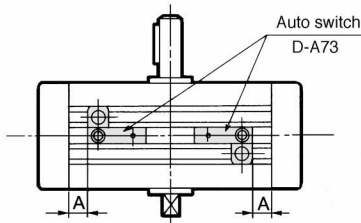
In the diagram below, switch B is ON. When pressure is applied from A, the piston moves to B, causing the shaft to rotate clockwise. At this time, magnet B goes out of the movement range of switch B, causing switch B to turn OFF. Furthermore, the piston moves to the right, causing magnet A to enter the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



Proper Mounting Positions for Auto Switches

CDRA1□W30

CDRA1□□50 to 100



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

Model	A (mm)	Operating angle θ_m	Angle of hysteresis ⁽¹⁾
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.

* Consult SMC concerning the angles for the auto switches other than the models D-A73 and D-A53.

⚠ Caution

Be sure to read before handling.
Refer to p.2.11-2 to 2.11-4 before handling auto switches.

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.

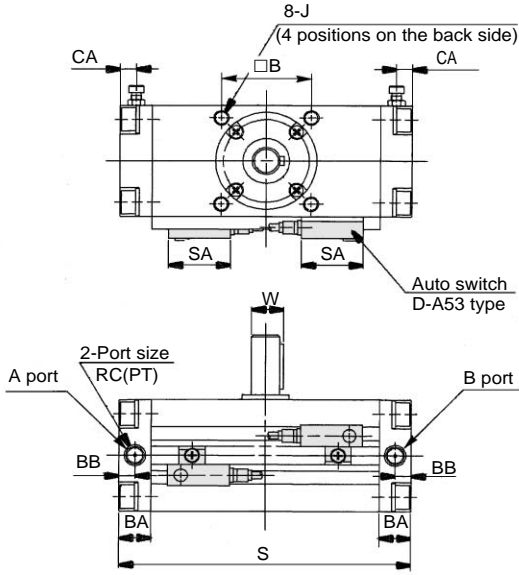
Note 2) To order a set for 1 unit, the ordering quantity should be "1".

Series CDRA1

Size 50, 63, 80, 100/Standard: CDRA1B□

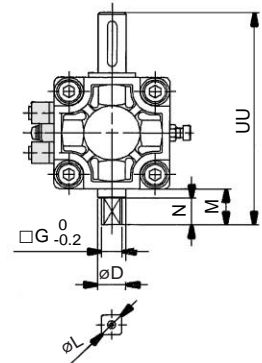
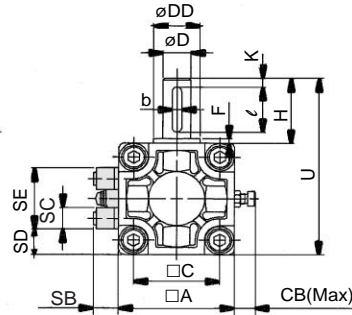


With auto switch
Single shaft/CDRA1BS



Single shaft

Double shaft/CDRA1BW
Double shaft



Double shaft

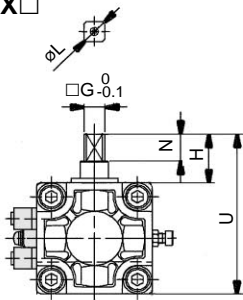
Model	D(g6)	G	M	N	UU	L
CDRA1BW50	15	11	20	15	118	14
CDRA1BW63	17	13	22	17	139	16
CDRA1BW80	20	15	25	20	167	19
CDRA1BW100	25	19	30	25	202	24

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

Single shaft

Model	Port size Rc(PT)	A	B	C	D (g6)	DD (h9)	F	H	J	K	S	U	W	BA	BB	CA	CB	SA	SB	SC	SD	SE	Key dimensions	
																							b	ℓ
CDRA1BS50	1/8	62	48	46	15	25	2.5	36	M8 X 1.25 X 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 X 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 X 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 X 14	5	259(325)	172	28	25	12.5	12.5	18	33	16	12	39	34	8 ⁰ _{-0.036}	45

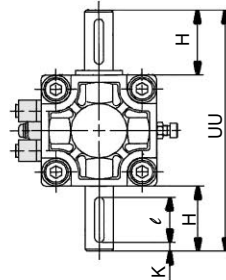
Single shaft with four chamfers/ CDRA1BX□



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

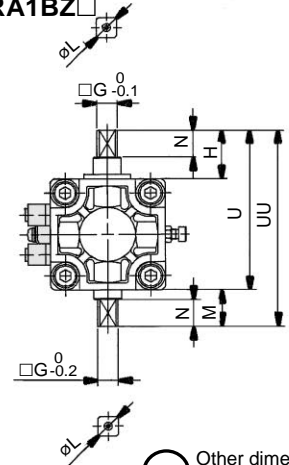
Double shaft key/CDRA1BY□



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

Double shaft with four chamfers/ CDRA1BZ□



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



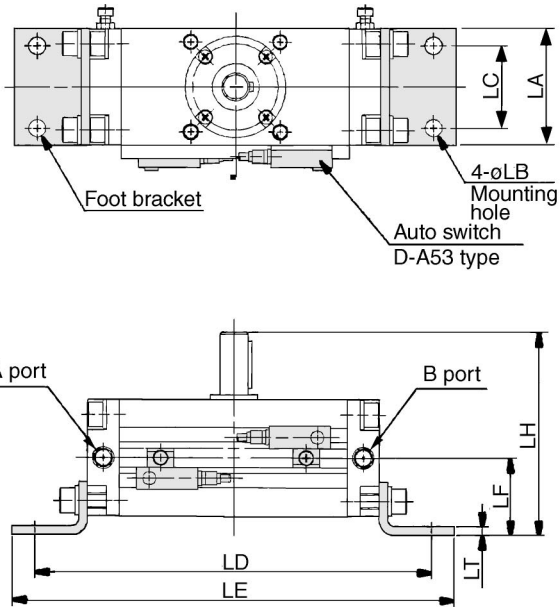
Single shaft
CDRA1BS [Size] SCRA1 [Size], #1 (#1+#16+#17)
Double shaft
CDRA1BW [Size] SCRA1 [Size], #2 (#2+#16+#17)
Single shaft with four chamfers
CDRA1BX [Size] SCRA1 [Size], #13 (Shaft only)

Double shaft key
CDRA1BY [Size] SCRA1 [Size], #14 (Shaft only)
Single shaft with four chamfers
CDRA1BZ [Size] SCRA1 [Size], #13 (Shaft only)

Size **50, 63, 80, 100**/Foot Style: CDRA1L, Flange Style: CDRA1LW



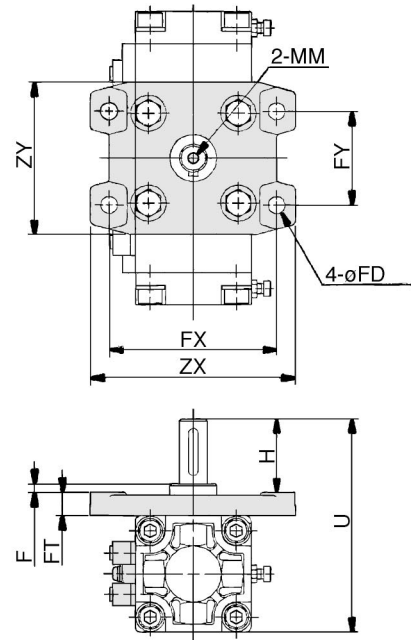
Foot style/CDRA1L□



*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

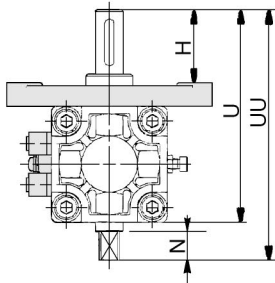


Other dimensions are the same as standard.

Model	F	H	MM	U	FD	FT	FX	FY	ZX	ZY
CDRA1F□□50	4	39	M6 X 1.0 Depth 12	114	9	13	90	50	110	81
CDRA1F□□63	5	45	M6 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

- CRB1
- CRBU
- CRA1**
- CRQ
- MRQ
- MSQ
- MSUB

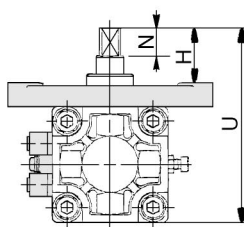
Flange style
Double shaft/CDRA1FW



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

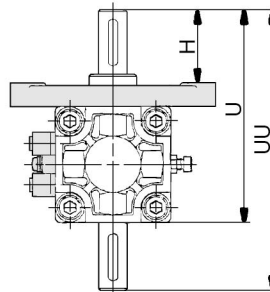
Flange style
Single shaft with four chamfers
/CDRA1FX



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

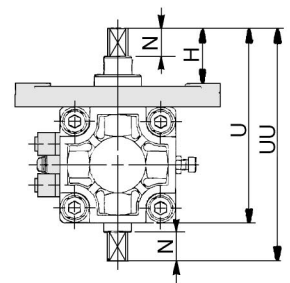
Flange style
Double shaft key
/CDRA1FY



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



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



foot style

CDRA1L [Size] SCRA1 [Size], #5 (#5+#16+#17)

Double shaft

CDRA1F [Size] SCRA1 [Size], #6 (#6+#16+#17)

Single shaft with four chamfers

CDRA1W [Size] SCRA1 [Size], #10 (#10+#16+#17)

Single shaft with four chamfers

CDRA1FX [Size] SCRA1 [Size], #13 (Shaft only)

Double shaft key

CDRA1FY [Size] SCRA1 [Size], #14 (Shaft only)

Double shaft with four chamfers

CDRA1FZ [Size] SCRA1 [Size], #15 (Shaft only)