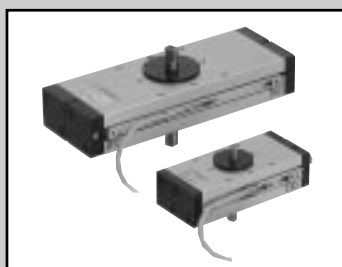
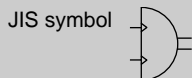


Rotary actuator Rack & pinion type

RRC Series

- Size: 8, 32, 63
- Oscillating angle: 90°, 180°, 270°



Specifications

Descriptions	RRC		
Size	8	32	63
Effective torque ^{Note 1} N·m	0.7	3.1	5.6
Actuation	Rack & pinion type		
Working fluid	Compressed air		
Max. working pressure MPa	1.0		
Min. working pressure ^{Note 2} MPa	0.1		
Withstanding pressure MPa	1.6		
Ambient temperature °C	-10 to 60 (no freezing)		
Port size	Rc1/8		
Oscillating angle tolerance Degree	90 ^{±3} , 180 ^{±3} , 270 ^{±3}		
Cushion	Rubber cushion	Air cushion	
Effective cushion length mm	-	4.8	5.8
Allowable energy absorption J	0.05	0.21	0.41
Volumetric capacity cm ³	90°	3	12
	180°	6	24
	270°	9	36
Lubrication	Not required (when lubricating, use turbine oil ISOVG32.)		

Note 1: An effective torque value is a product at working pressure 0.5MPa.

Note 2: When using RRC-8 with maximum oscillating angle, working pressure to be 0.3MPa and over.

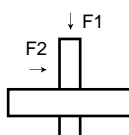
Note 3: Adjustable angle is available as an option. Refer to page 13.

Maximum load

Load which applies to shaft to be following number or less.

Unit: N

Model no.	RRC-8	RRC-32	RRC-63
Thrust load F1	9.8	39.2	58.8
Radial load F2	19.6	78.4	117.6



Switch specifications

- 1 color/2 color indicator

Descriptions	Proximity 2 wire			Proximity 3 wire		Reed 2 wire						
	T1H/T1V	T2H/T2V	T2YH/T2YV	T3H/T3V	T3YH/T3YV	T0H/T0V	T5H/T5V	T8H/T8V				
Applications	Programmable controller, relay, small solenoid valve	Programmable controller		Programmable controller, relay		Programmable controller, relay	Programmable controller, relay, IC circuit (without indicator light), serial connection	Programmable controller, relay				
Output method	-	-		NPN output		-						
Power voltage	-	-		10 to 28 VDC		-						
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less		12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA
Current consumption	-	-		10mA or less with 24 VDC		-						
Internal voltage drop	7V or less	4V or less		0.5V or less		2.4V or less		0V		3V or less		
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10μA or less		0mA						

Note 1: The maximum load current 20mA above is applied at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA when 60°C)

Note 2: Refer to Ending 1 for other switch specifications.

Cylinder weight

Unit: kg

Oscillating angle Model no.	90°	180°	270°	Switch weight (per switch)	Switch bracket		
					90°	180°	270°
RRC-8	0.39	0.43	0.49	0.018	0.005		
RRC-32	1.02	1.23	1.45		0.011	0.013	0.015
RRC-63	1.68	2.03	2.37		0.012	0.014	0.016

(E.g.) Product weight of RRC-8-90-T2H-D

Product weight: 0.39kg

Switch weight: 0.018×2 pcs. = 0.036 kg

Switch bracket weight: 0.005×2 pcs. = 0.010 kg

Product weight: 0.39 kg + 0.036 kg + 0.010 kg = 0.436 kg

How to order

Without switch



With switch



A Size

B Maximum oscillating angle

C Switch model no.

* indicates lead wire length.

D Switch quantity

E Option

<Example of model number>

RRC-8-90-T2H-R-A

Model: Rotary actuator rack & pinion type

A Size: 8

B Maximum oscillating angle: 90°

C Switch model no.: proximity T2H switch, lead wire 1m

D Switch quantity: clockwise rotation detection

E Option: adjustable angle

Symbol	Descriptions				
A Size					
Model no.	Effective torque				
8	0.7 (N·m)				
32	3.1 (N·m)				
63	5.6 (N·m)				
B Maximum oscillating angle					
90	90°				
180	180°				
270	270°				
C Switch model no.					
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire	
T0H*	T0V*	Reed	1 color indicator type	2-wire	
T5H*	T5V*		w/o light		
T8H*	T8V*		1 color indicator type		
T1H*	T1V*	Proximity	1 color indicator type	2-wire	
T2H*	T2V*			3-wire	
T3H*	T3V*		2-wire		
T2YH*	T2YV*		3-wire		
T3YH*	T3YV*		1 color indicator type (custom order)		
T3PH*	T3PV*				
*Lead wire length					
Blank	1m (standard)				
3	3m (option)				
5	5m (option)				
D Switch quantity					
R	Clockwise rotation detection				
L	Counterclockwise rotation detection				
D	Two				
E Option					
A	Adjustable angle				
P6	Copper and PTFE free				

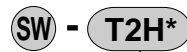
How to order switch

● Switch body + mounting bracket (including rail)



Switch model no. (Item C above) Size (Item A above) Maximum oscillating angle (Item B above)

● Only switch body



Switch model no. (Item C above)

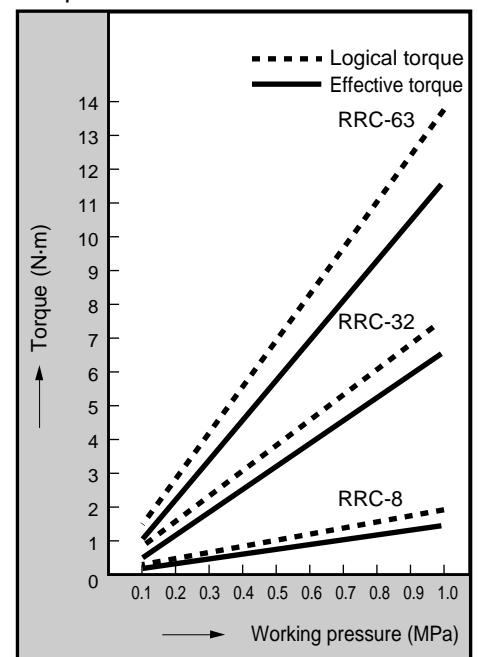
● Mounting bracket (including rail)



Bracket

Size (Item A above) Maximum oscillating angle (Item B above)

Torque

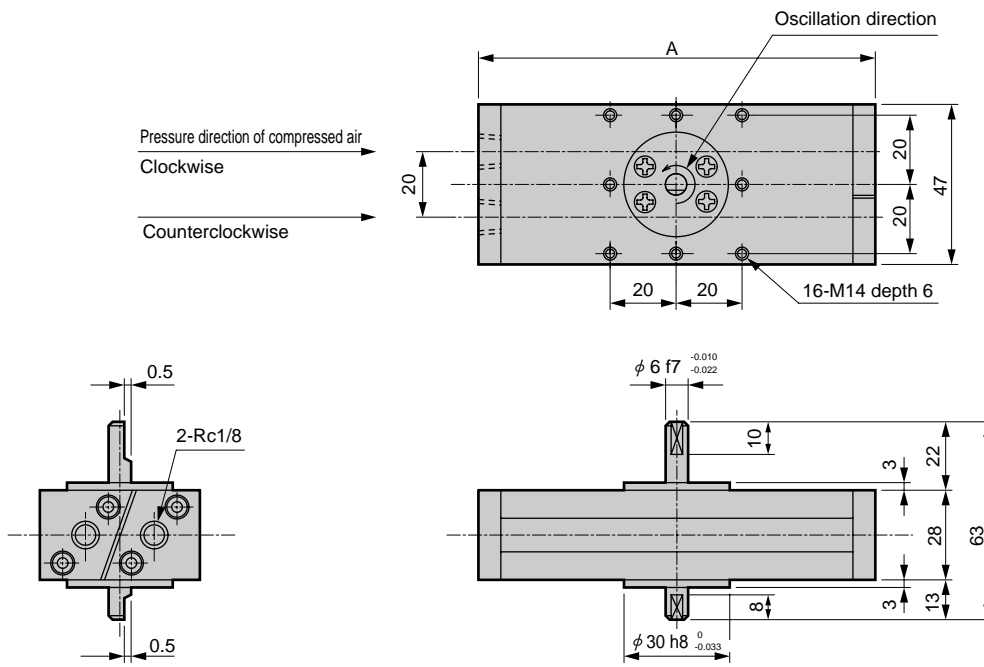


- RRC
- GRC
- RV3*
- NHS
- HR
- LN
- FH100
- HAP
- BSA2
- BHA/BHG
- LHA
- LHAG
- HKP
- HLA/HLB
- HLAG/HLBG
- HEP
- HCP
- HMF
- HMFB
- HFP
- HLC
- HGP
- FH500
- HLB
- HDL
- HMD
- HJL
- BHE
- CKG
- CK
- CKA
- CKS
- CKF
- CKJ
- CKL2
- CKL2 *-HC
- CKH2
- CKLB2
- NCK/SCK/FCK
- FJ
- FK
- Ending
- Rotary actuator
- Oscillation, rotation drive type

Dimensions

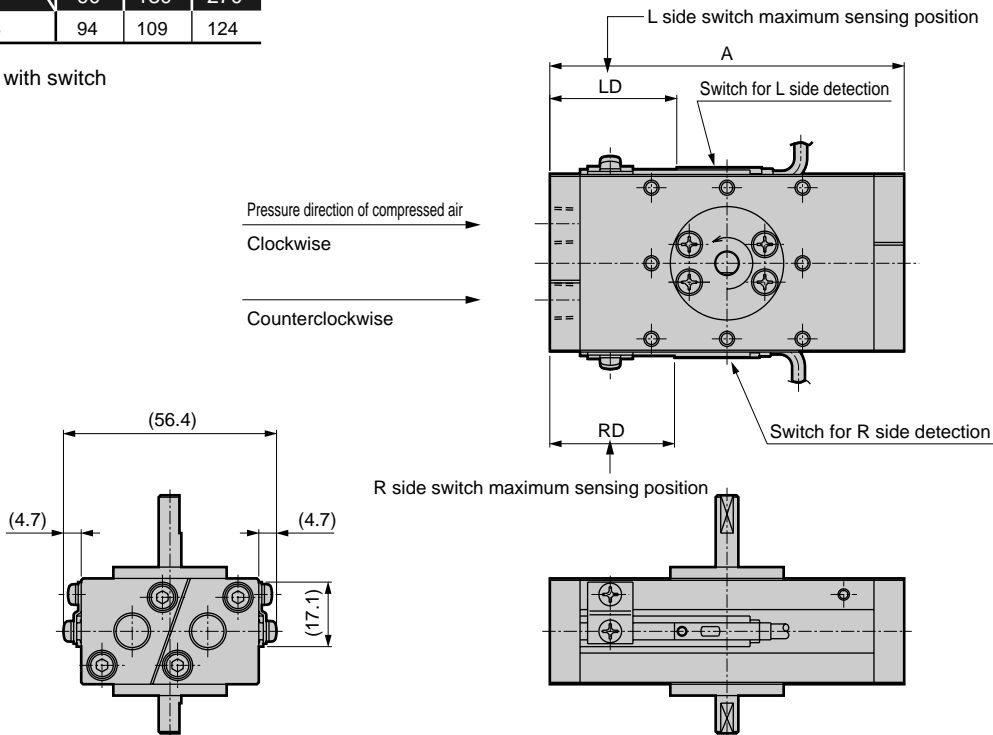


● RRC-8



Symbol	A		
	Oscillating angle		
Model no.	90°	180°	270°
RRC-8	94	109	124

● RRC-8 with switch



Symbol	A			RD												T2Y*/T3Y*		
	Oscillating angle			T1*			T2*/T3*			T0*/T5*			T8*			Oscillating angle		
Model no.	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
RRC-8	94	109	124	30.8	35.5	40.2	32.2	37	41.6	30	34.3	41	24	28.3	35	30.8	35.5	40.2

Symbol	LD									T2Y*/T3Y*					
	T1*			T2*/T3*			T0*/T5*			T8*			Oscillating angle		
Model no.	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
RRC-8	30.8	35.5	40.2	32.2	37	41.6	30	34.3	41	24	28.3	35	30.8	35.5	40.2

Note: Dimensions other than above are same as the type without switch.

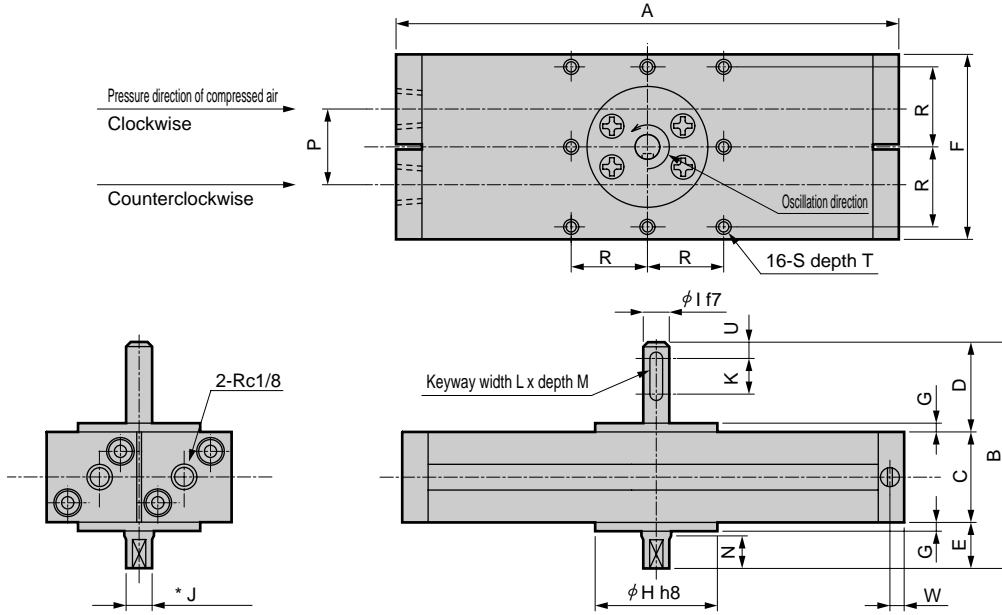
RRC
GRC
RV3*
NHS
HR
LN
FH100
HAP
BSA2
BHA/BHG
LHA
LHAG
HKP
HLA/HLB
HLAG/HLBG
HEP
HCP
HMF
HMFB
HFP
HLC
HGP
FH500
HLB
HDL
HMD
HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2*-HC
CKH2
CKLB2
NCK/SCK/FCK
FJ
FK
Ending

Rotary actuator
Oscillation, rotation drive type

Dimensions



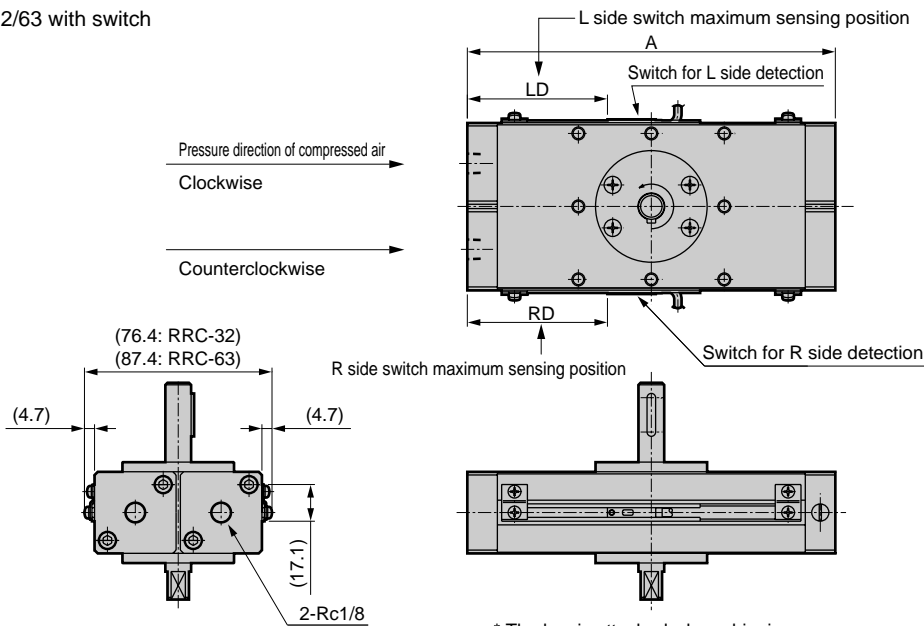
● RRC-32/63



* The key is attached when shipping.

Symbol	A			B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	W
	Oscillating angle																					
Model no.	90°	180°	270°																			
RRC-32	153	191	229	84	33	31	20	67	3	44	10	8	13	3	1.8	10	34	29	M5	8	4.5	6
RRC-63	172	216	260	101	38	41.5	21.5	78	4.5	52	12	10	16	4	2.5	13	40	34	M6	9	7	7

● RRC-32/63 with switch



* The key is attached when shipping.

Symbol	A			RD														
	Oscillating angle			T1*			T2*/T3*			T0*/T5*			T8*			T2Y*/T3Y*		
	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
RRC-32	153	191	229	56.8	66.3	75.5	58.2	67.7	77.1	57.6	67.1	76.5	51.6	61.1	70.5	56.8	66.3	75.5
RRC-63	172	216	260	64.5	75.5	86.5	65.9	76.9	87.9	65.3	76.3	87.3	59.3	70.3	81.3	64.5	75.5	86.5

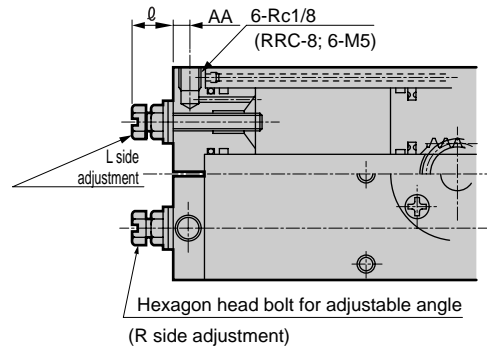
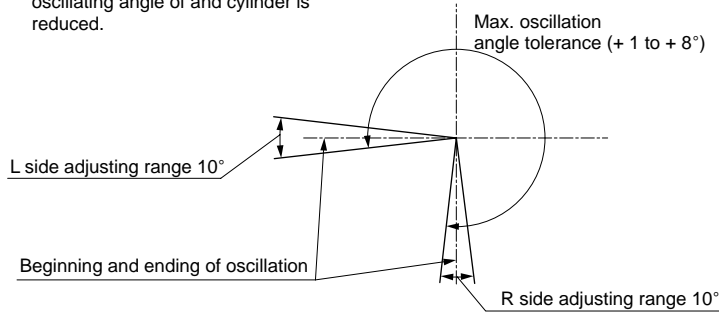
Symbol	LD														
	T1*			T2*/T3*			T0*/T5*			T8*			T2Y*/T3Y*		
	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°	90°	180°	270°
RRC-32	56.8	66.3	75.5	58.2	67.7	77.1	57.6	67.1	76.5	51.6	61.1	70.5	56.8	66.3	75.5
RRC-63	64.5	75.5	86.5	65.9	76.9	87.9	65.3	76.3	87.3	59.3	70.3	81.3	64.5	75.5	86.5

Note: Dimensions other than above are same as the type without switch.

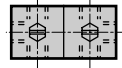
Dimensions: Option

● Adjustable angle

* When rotating hexagon head bolt for adjustable angle clockwise, oscillating angle of and cylinder is reduced.



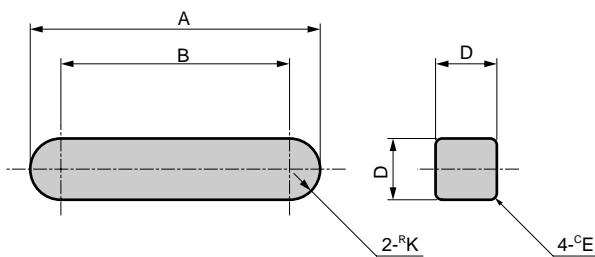
L side R side



3 port positions are provided as the figure above both on R side / L side.

Symbol Model no.	ℓ		AA	Allowable energy absorption J (For adjustable angle single 10°)	Hexagon head bolt dimension for adjustable angle (Common for R and L)
	MIN	MAX			
RRC-8	10.7	11.5	4	0.02	M5×0.5
RRC-32	13.4	15.5	6	0.06	M6×0.75
RRC-63	13.5	16.0	7	0.13	M6×0.75

● Key dimensional drawing



Model no.	Symbol	A	B	K	D	E
RRC-32		16 ^{-0.4} _{-0.5}	13	1.5	3 ⁰ _{-0.025}	0.2
RRC-63		20 ^{-0.5} _{-0.6}	16	2	4 ⁰ _{-0.030}	0.2

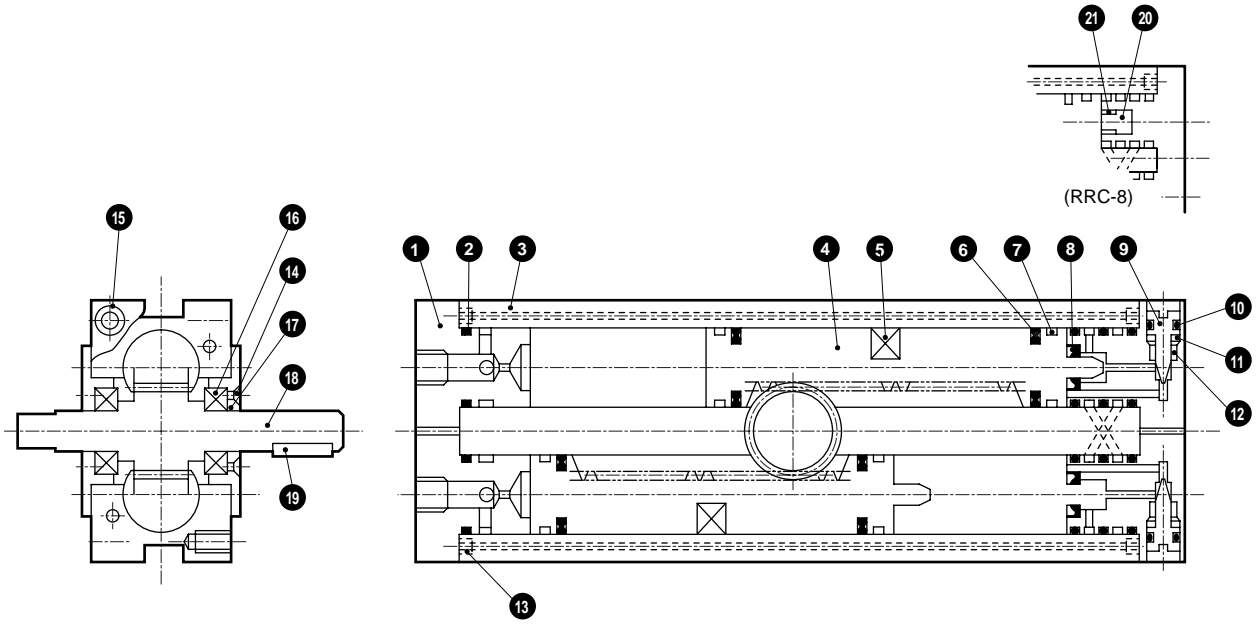
* The key is attached when shipping.

RRC
GRC
RV3*
NHS
HR
LN
FH100
HAP
BSA2
BHA/ BHG
LHA
LHAG
HKP
HLA/ HLB
HLAG/ HLBG
HEP
HCP
HMF
HMFB
HFP
HLC
HGP
FH500
HLB
HDL
HMD
HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2 *-HC
CKH2
CKLB2
NCK/ SCK/FCK
FJ
FK
Ending

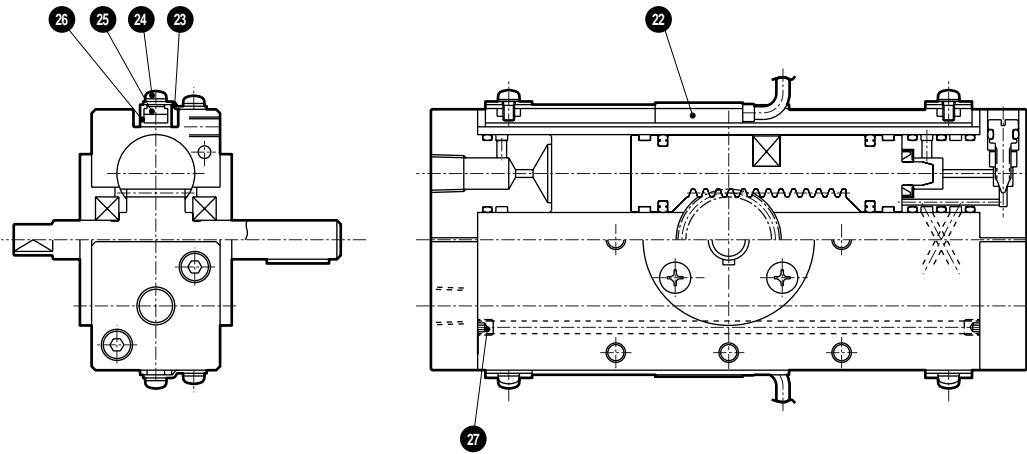
Rotary actuator
Oscillation, rotation drive type

Internal structure and parts list

● Standard type



● With switch



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Cap (2)	Aluminum alloy		16	Bearing	--	
2	Cap gasket	Nitrile rubber		17	Cover	Aluminum alloy	
3	Body	Aluminum alloy		18	Shaft	Steel	
4	Piston	Stainless steel		19	Key	Steel	
5	Magnet	Plastic		20	Cushion rubber	Urethane rubber	Only RRC-8
6	Piston packing seal	Nitrile rubber		21	DU bush	--	Only RRC-8
7	Wear ring	Acetar resin		22	Switch	--	
8	Cushion packing seal	Nitrile rubber	RRC-8 is excluded.	23	Stop plate	Stainless steel	
9	Needle	Copper alloy	RRC-8 is excluded.	24	Washer assembly cross headed pan	Steel	
10	Needle gasket	Nitrile rubber	RRC-8 is excluded.	25	Lock nut	Stainless steel	
11	Cap (1)	Aluminum alloy		26	Switch rail	Aluminum alloy	
12	U nut	Steel	RRC-8 is excluded.	27	Hexagon socket head set screw	Steel	
13	Hexagon socket head set screw	Alloy steel					
14	Cross headed flat head screw	Steel					
15	Hexagon socket bolt	Alloy steel					

Repair parts list

Model no.	Kit No.	Repair parts number
RRC-8	RRC-8K	
RRC-32	RRC-32K	2 6 7 8 10
RRC-63	RRC-63K	

Note: Specify the kit no. when placing an order.