



Table rotary actuator  
Basic/high accuracy

# GRC/GRC-K Series

● Size: 5/10/20/30/50/80

JIS symbol



## Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item		GRC-5	GRC-10 GRC-K-10	GRC-20 GRC-K-20	GRC-30 GRC-K-30	GRC-50 GRC-K-50	GRC-80 GRC-K-80					
Size		5	10	20	30	50	80					
Theoretical torque *1		N·m	0.5	1.0	2.0	3.0	5.2	8.1				
Actuation		Rack and pinion mechanism										
Working fluid		Compressed air										
Max. working pressure		MPa						1.0 (≈150 psi, 10 bar)				
Min. working pressure *2		Basic						0.10 (≈15 psi, 1 bar)				
		MPa		High accuracy		0.10 (≈15 psi, 1 bar)						
		With external shock absorber		0.25		0.20		0.15 (≈22 psi, 1.5 bar)				
Proof pressure		MPa						1.6 (≈230 psi, 16 bar)				
Ambient temperature		°C						0 (32°F) to 60 (140°F) (no freezing)				
Port size		M5				Rc1/8						
Cushion		Basic/high accuracy						Rubber cushion				
		With external shock absorber						Shock absorber				
		Shock absorber model No.		NCK-0.3		NCK-0.7		NCK-1.2	NCK-2.6			
Allowable absorbed energy		Basic/high accuracy						0.005	0.008	0.03	0.04	0.11
		J		With external shock absorber *7		0.46	0.59	1.15	1.71	2.33	2.78	
Shock absorber stroke length		mm		3.5	3.5	5	5	5.5	6.5			
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)										
Volumetric capacity *3		cm <sup>3</sup>		90°	1.3	3.5	7.0	10.5	18.1	28.3		
				180°	3.4	6.6	13.4	20.0	34.4	53.7		
Oscillating angle adjusting range *4		Basic/high accuracy		90°	0° to 100°							
				180°	90° to 190°							
		With external shock absorber		90°	90° ± 6°							
				180°	180° ± 6°							
Oscillating time adjusting range *5 *8		s/90°		0.2 to 1.5								
Table deflection (reference value) *6		Basic		±0.17°			±0.23°	±0.26°	±0.32°			
		High accuracy		-		±0.026°						

\*1 : The theoretical torque is value at working pressure 0.5 MPa.

\*2 : To push through the rubber cushion integrated in basic and high accuracy, 0.3 MPa and over working pressure is required.

\*3 : Volumetric capacity is value within oscillating angle adjusting range when max. oscillating angle.

\*4 : Oscillating angle adjusting range is value when adjusted by both side stopper bolts (shock absorber).

\*5 : Oscillating time adjusting range is value at working pressure 0.5 MPa.

\*6 : Displacement of table at 100 mm away from the center of rotation is shown in technical data (page 1327).

\*7 : The values in the table indicate the absorbed energy at the maximum oscillation speed. The absorbed energy varies depending on the oscillation speed. Refer to the graph of "Absorbed energy and oscillating time" on page 1324 for details.

\*8 : For the type with shock absorber, the time until the unit hits the end of shock absorber (end of rod). (Not the oscillating time until the unit reaches the stroke end of the shock absorber.)

### Switch specifications

- 1-color/2-color display

Item	Proximity 2-wire				Proximity 3-wire			
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV	T3YH/T3YV	T3WH/T3WV
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay			
Output method	-				NPN output	PNP output	NPN output	
Pwr. supp. V.	-				10 to 28 VDC			
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less			
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	
Leakage current	1 mA or less at 100 VAC 2 mA or less at 200 VAC	1 mA or less			10 µA or less			
Weight g	1 m: 33 3 m: 87 5 m: 142	1 m: 18 3 m: 49 5 m: 80	1 m: 33 3 m: 87 5 m: 142	1 m: 18 3 m: 49 5 m: 80	1 m: 18 3 m: 49 5 m: 80		1 m: 33 3 m: 87 5 m: 142	1 m: 18 3 m: 49 5 m: 80

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

### Min. oscillating angle with switch

Size	5	10	20	30	50	80
T type proximity 2-color display	20°	15°	17.5°	12.5°	12.5°	12.5°

### Theoretical torque table

(Unit: N·m)

Size	Working pressure (MPa)									
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
5	-	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
10	-	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0
20	-	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0
30	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
50	1.0	2.1	3.1	4.1	5.2	6.2	7.3	8.3	9.3	10.4
80	1.6	3.2	4.9	6.5	8.1	9.7	11.3	13.0	14.6	16.2

### Product weight

(Unit: kg)

Oscillating angle Model No.	90°		180°		Outer mount shock absorber weight	Switch weight (per switch)
	Basic	High accuracy	Basic	High accuracy		
GRC- 5	0.39	-	0.43	-	0.20	0.02
GRC-10	0.48	0.50	0.56	0.58	0.30	
GRC-20	0.78	0.80	0.88	0.90	0.40	
GRC-30	1.05	1.30	1.25	1.50	0.50	
GRC-50	1.80	2.10	2.10	2.40	0.60	
GRC-80	2.30	2.60	2.70	3.00	0.70	

### Clean-room specifications (Catalog No. CB-033SA)

- Anti-dust generation structure for use in cleanrooms

GRC ..... - **P73**

GRC ..... - **P53**

GRC-K ..... - **P73**

GRC-K ..... - **P53**

### Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

GRC - ... - **P4\***

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MechAnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

# GRC/GRC-K Series

## How to order

● Without switch (built-in magnet for switch)

**GRC - 10 - 90 - A1**

● With switch (built-in magnet for switch)

**GRC - 30 - 180 - T2H\* - R - A2**

**A** Model No.

**B** Size

**C** Port thread

**D** Oscillating angle

**E** Switch model No.

**F** Switch quantity

**G** Option

## ⚠ Precautions for model No. selection

- \*1 : Port position of basic/high accuracy is provided on the side surface. Other ports are plugged.
- \*2 : The external shock absorber cannot be retrofitted onto the basic/high accuracy. Select the A3 type as an option if retrofitting.
- \*3 : If an external shock absorber is retrofit on the A3 type, the features will be the same as the A1 type. Consult CKD for A2 type.

## [Example of model No.]

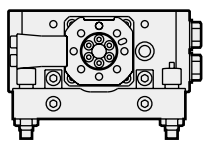
**GRC-10-180-T2V-D-A1**

Double acting

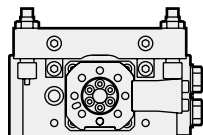
- A** Model No. : Basic
- B** Size : 10
- C** Port thread : Rc thread
- D** Oscillating angle : 180°
- E** Switch model No. : Proximity/2-wire radial lead wire/lead wire 1 m
- F** Switch quantity : 2
- G** Option : External shock absorber mounting position (1)

## Outer mount shock absorber installation drawing

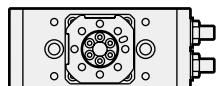
GRC-\*-A1  
(Installation position (1))



GRC-\*-A2  
(Installation position (2))



GRC-\*-A3  
(Installation position (3))



Code	Description
<b>A Model No.</b>	
<b>GRC</b>	Basic
<b>GRC-K</b>	High accuracy

<b>B Size (0.5 MPa)</b>			
Model No.	Theoretical torque	GRC	GRC-K
<b>5</b>	0.5 [N·m]	●	-
<b>10</b>	1.0 [N·m]	●	●
<b>20</b>	2.0 [N·m]	●	●
<b>30</b>	3.0 [N·m]	●	●
<b>50</b>	5.2 [N·m]	●	●
<b>80</b>	8.1 [N·m]	●	●

<b>C Port thread</b>	
<b>Blank</b>	Rc thread
<b>NN</b>	NPT thread (ø50 and over) (made-to-order product)
<b>GN</b>	G thread (ø50 and over) (made-to-order product)

<b>D Oscillating angle</b>	
<b>90</b>	90°
<b>180</b>	180°

<b>E Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
<b>T1H*</b>	<b>T1V*</b>	Proximity	●		1-color display	2-wire
<b>T2H*</b>	<b>T2V*</b>			●		2-wire
<b>T3H*</b>	<b>T3V*</b>			●		3-wire
<b>T3PH*</b>	<b>T3PV*</b>			●	1-color display	3-wire
<b>T2WH*</b>	<b>T2WV*</b>			●		2-wire
<b>T2YH*</b>	<b>T2YV*</b>			●	2-color display	2-wire
<b>T3WH*</b>	<b>T3WV*</b>			●		3-wire
<b>T3YH*</b>	<b>T3YV*</b>			●		3-wire

<b>* Lead wire length</b>	
<b>Blank</b>	1 m (standard)
<b>3</b>	3 m (option)
<b>5</b>	5 m (option)

<b>F Switch quantity</b>	
<b>R</b>	With clockwise rotation detection 1 piece
<b>L</b>	With counterclockwise rotation detection 1 piece
<b>D</b>	2

<b>G Option</b>	
<b>Blank</b>	Hexagon socket set screw stopper screw with urethane
<b>A With outer mount shock absorber</b>	
<b>A1</b>	Installation position (1)
<b>A2</b>	Installation position (2)
<b>A3</b>	External shock absorber retrofitting (Installation groove machined)

## Clean-room specifications (Catalog No. CB-033SA)

- Anti-dust generation structure for use in cleanrooms

**GRC** ..... - **P73**    **GRC-K** ..... - **P73**

**GRC** ..... - **P53**    **GRC-K** ..... - **P53**

## Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

**GRC** - .... - **P4\***

### How to order switch

- Switch body only

**SW - T2H3**

Switch model No.  
(Item **B** on the previous page)

### How to order repair parts kit

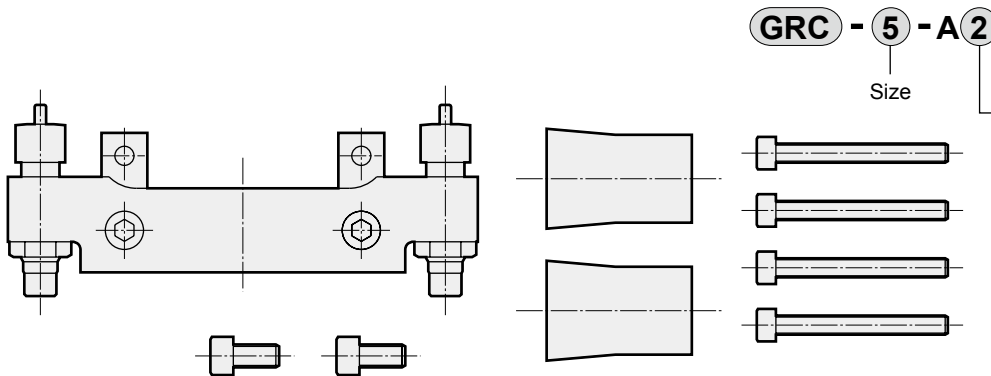
- Set of repair parts (packing, etc.)

**GRC - 5 K**

Size  
(Item **B** on the previous page)

### How to order external shock absorber set

- Sets of plate, shock absorber and lever
- Used when retrofitting external shock absorber onto A3 type



### How to order stopper bolt set for adjustable angle

- Sets of hexagon socket set screw with urethane hexagon nut and plain washer
- Used with external shock absorber removed

**GRC - 5 S**

Size  
(Item **B** on the previous page)

Size	Weight g
5	4
10	7
20	14
30	19
50	32
80	

### How to order seal washer set

- Used at seal washer replacement
- Seal washer 2 pcs.

**GRC - 5 D**

Size  
(Item **B** on the previous page)

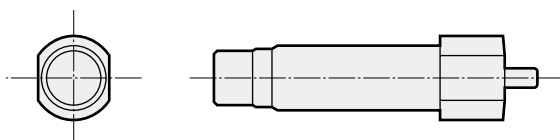
Size	Weight g
5	2
10	4
20	
30	8
50	
80	

### How to order shock absorber set for adjustable angle

- Sets of shock absorber and stopper

**GRC - 5 - A01**

Size  
(Item **B** on the previous page)



### Applicable shock absorber model No.

Model	Shock absorber model No.	Weight g
GRC-5	NCK-00-0.3	12
GRC-10	NCK-00-0.3	
GRC-20	NCK-00-0.7	20
GRC-30	NCK-00-0.7	
GRC-50	NCK-00-1.2	40
GRC-80	NCK-00-2.6	70

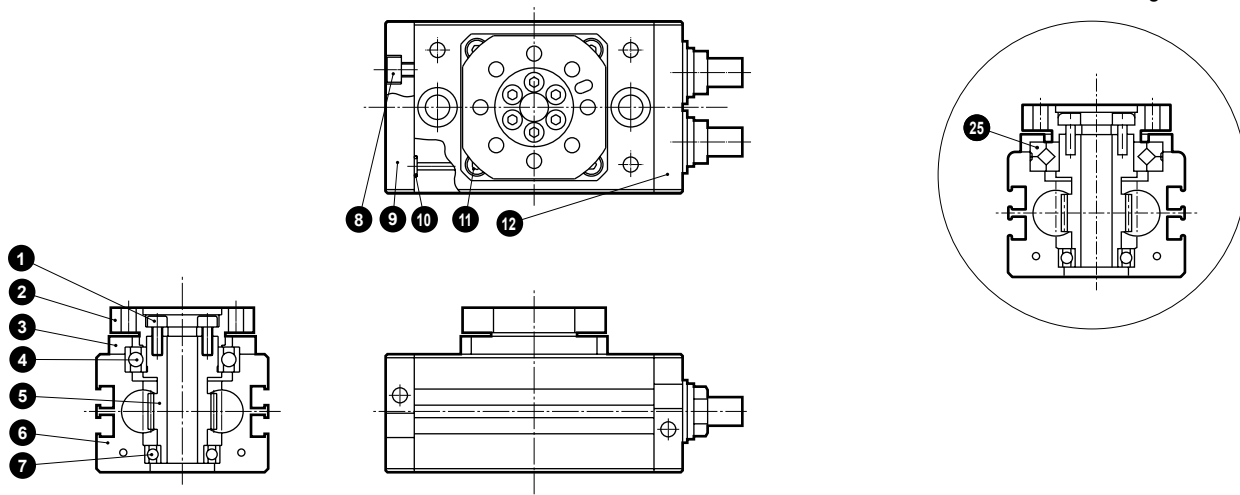
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
<b>GRC</b>
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# GRC/GRC-K Series

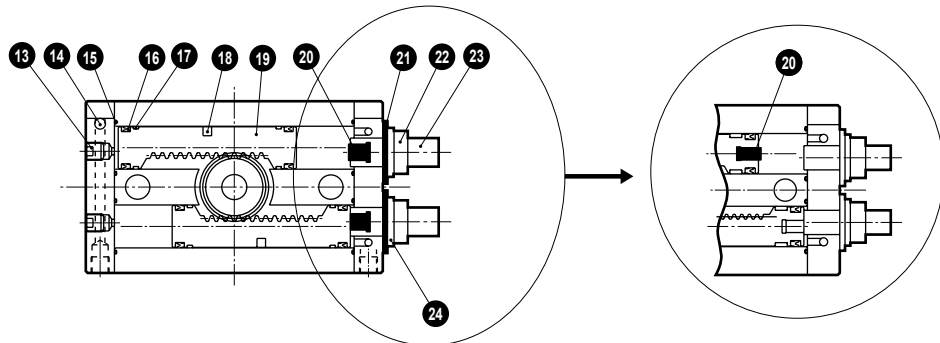
## Internal structure and parts list

- GRC (basic)
- GRC-K (high accuracy)

Cross-section view of the high accuracy



Cushion rubber position differs for GRC-□-5.



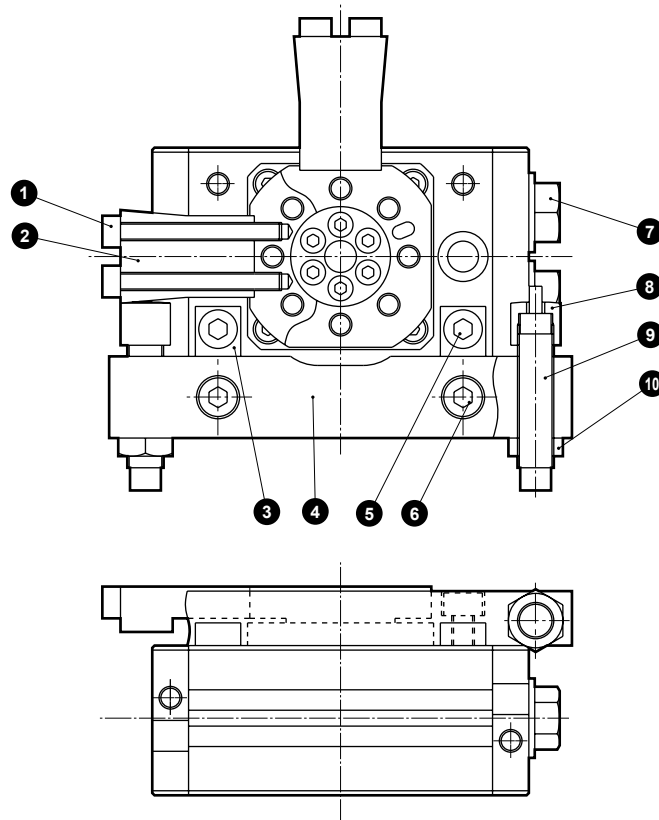
## Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel		13	Hexagon socket set screw	Stainless steel	
2	Table	Aluminum alloy	Alumite	14	Steel ball	Stainless steel	
3	Bearing cover	Aluminum alloy (hi accuracy uses SS)	Alumite	15	Cylinder gasket	Nitrile rubber	
4	Ball bearing (1)	Alloy steel		16	Piston packing	Nitrile rubber	
5	Shaft	Alloy steel		17	Wear ring	Acetal resin	
6	Cylinder body	Aluminum alloy	Hard alumite	18	Magnet	Plastic (5.10 is special alloy.)	
7	Ball bearing (2)	Alloy steel		19	Piston	Stainless steel	
8	Hexagon socket head cap screw	Stainless steel		20	Cushion rubber	Urethane rubber	
9	Head cover (1)	Aluminum alloy	Alumite	21	Seal washer	Steel + nitrile rubber	Zinc plated
10	Gasket	Nitrile rubber		22	Hexagon nut	Steel	Nickeling
11	Hexagon socket head cap screw	Stainless steel		23	Stopper bolt	Alloy steel	Nickeling
12	Head cover (2)	Aluminum alloy	Alumite	24	Plain washer	Stainless steel	
				25	Cross roller bearing	Alloy steel	

## Internal structure and parts list

● GRC-□-A (with external shock absorber)

Note: The figure shows 90° specifications. 180° specifications use the same material, etc.



## Parts list

No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel	
2	Lever	Carbon steel or alloy steel	Nickel/phosphorous plating
3	Connector	Steel	Nickeling
4	Plate	Aluminum alloy	Alumite
5	Hexagon socket head cap screw	Stainless steel	
6	Hexagon socket head cap screw	Stainless steel	
7	Hexagon head bolt	Stainless steel	
8	Stopper	Stainless steel	
9	Shock absorber		
10	Hexagon nut	Steel	Nickeling

## Repair parts kit

Kit No.	Repair parts No.
GRC-5K	
GRC-10K	
GRC-20K	10 15 16 17 21
GRC-30K	
GRC-50K	
GRC-80K	

\*1: Specify the kit No. when ordering repair parts.

\*2: Avoid disassembly/repair, since high accuracy uses highly controlled precision parts.  
When repairing high accuracy, consult with CKD.

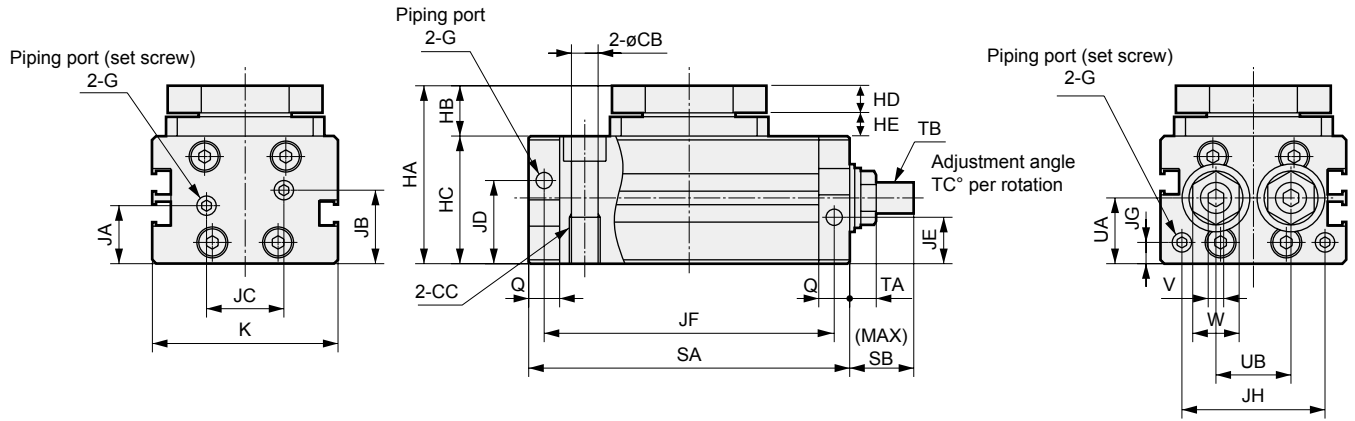
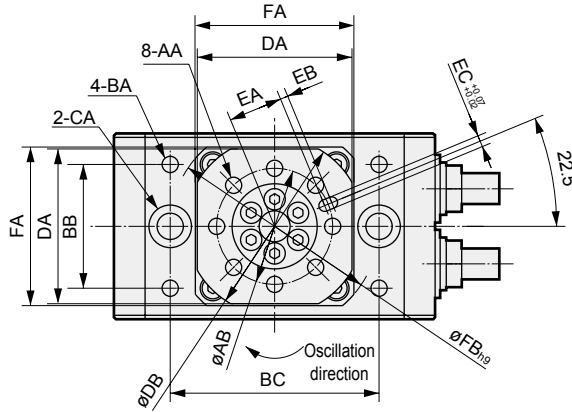
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
<b>RV3*</b>
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

# GRC/GRC-K Series

## Dimensions



- GRC basic
- GRC-K high accuracy

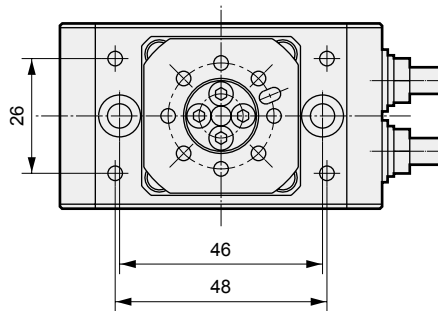


Size	AA	AB	BA	BB	BC	CA	CB	CC	DA	DB	EA	EB	EC	FA	FB	G	HA	HB
5	M4 depth 7	24	M4 depth 6.5	26	48	Spot face $\phi 9.5$ depth 5.4	5.2	M6 depth 12	35	42	11	2	3 depth 3.5	36	48	M5	43	13
10	M5 depth 7	30	M5 depth 7	32	54	Spot face $\phi 11$ depth 6.5	6.6	M8 depth 12	40	46	14	2	3 depth 3.5	41	54	M5	46	13
20	M6 depth 9	36	M6 depth 8	42	62	Spot face $\phi 11$ depth 6.5	6.9	M8 depth 12	47	55	17	2	4 depth 4.5	48	64	M5	53	16
30	M6 depth 9	44	M6 depth 8	52	74	Spot face $\phi 14$ depth 8.6	8.7	M10 depth 15	58	67	21	2	4 depth 4.5	59	78	M5	55	18
50	M8 depth 13	50	M8 depth 12	60	88	Spot face $\phi 17.5$ depth 10.8	10.5	M12 depth 18	66	74	24	2	5 depth 5.5	69	92	Rc1/8	71	23
80	M8 depth 13	54	M8 depth 12	66	94	Spot face $\phi 17.5$ depth 10.8	10.5	M12 depth 18	69	80	26	2	5 depth 5.5	76	101	Rc1/8	80	25

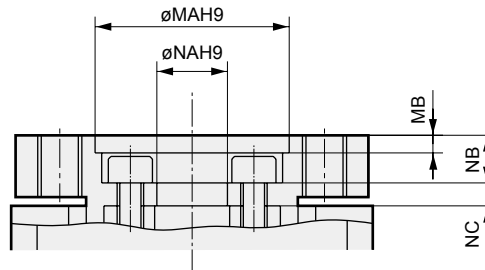
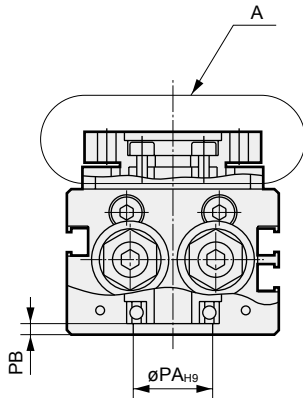
Size	SA		SB	TA	TB	TC	UA	UB	V	W	X	LD		RD	
	90°	180°										90°	180°	90°	180°
5	73	90	14	6.5	M6×1	8.7	16.6	16	3	10	12.6	21.5	25.5	22.5	25.5
10	83	107	15	4.9	M8×0.75	4.9	17.1	19.4	4	11	13.1	24.5	30.5	26	30.5
20	96	125	17	6.1	M10×1	5.7	17.6	24	5	13	13.6	31	37.5	31	37.5
30	121	165	25	6.1	M10×1	3.8	17.6	34	5	13	13.6	38.5	49.5	40	49.5
50	144	192	29.5	7	M12×1	3.5	24.6	35	6	14	20.6	48.5	61	51	61
80	150	198	29.5	7	M12×1	3.5	27.1	36	6	14	23.1	51.5	64	54	64

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
<b>RV3*</b>
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

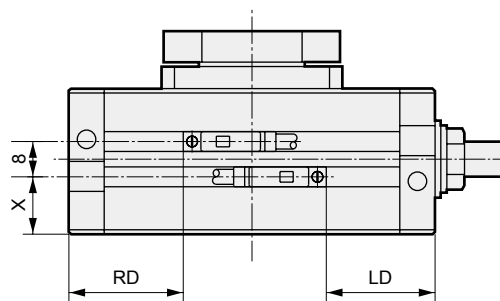
GRC-5



Position of 4-BA and 2-CA differ for GRC-5 only.



A section details



Switch mounting position

	HC	HD	HE	JA	JB	JC	JD	JE	JF		JG	JH	K	MA	MB	NA	NB	NC	PA	PB	Q
									90°	180°											
	30	7	6	15	18	16	21	11.5	65	82	5.6	29	42	17	2	4	5.5	2.4	12	3.5	8
	33	7	6	15	19	20	21.5	12	75	99	5.6	37	48	22	2	8	5.5	2.4	18	2.5	8
	37	9	7	14.5	20.5	27	22	13	86	115	5.6	47	58	27	2	11	6.5	3.9	20	2.5	10
	37	9	9	14.5	20.5	37	22	13	111	155	5.6	57	68	32	2	13	7.5	2.9	26	2.5	10
	48	13	10	21.5	27.5	36	32.5	17.5	129	177	8.1	58	75	37	4	14	10.5	5.3	28	4.5	15
	55	13	12	24	30	40	35	19	135	183	8.1	58	80	40	3	17	9.5	4.4	36	3.5	15

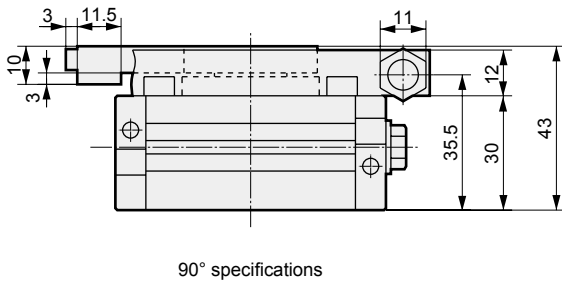
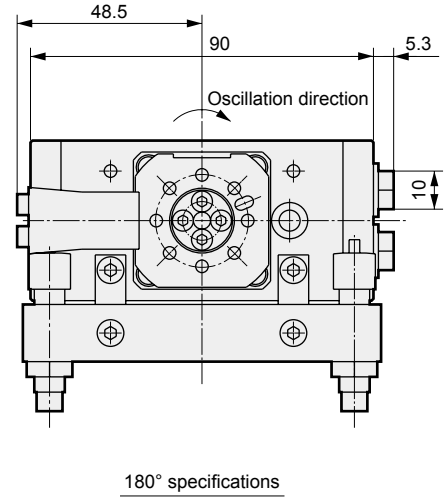
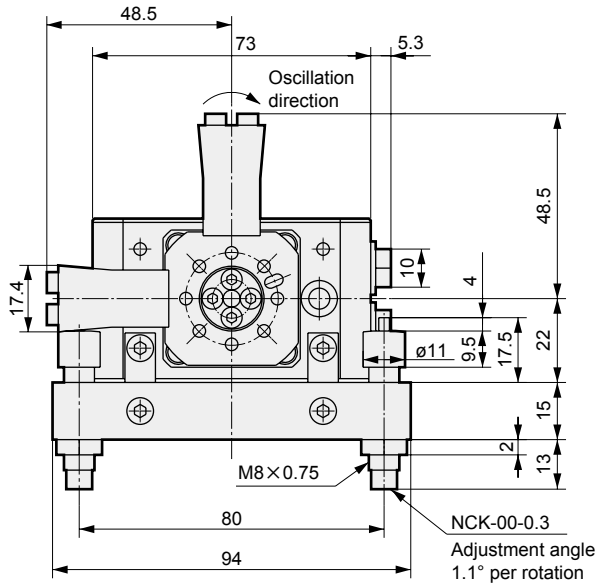


## Dimensions: With external shock absorber size 5

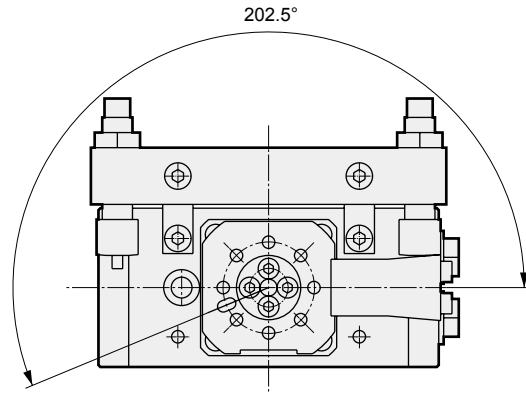
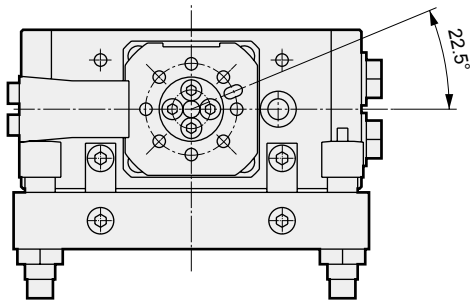


### ● GRC-5\*-A1/A2

Note: The drawing is for A1 type (mounting position (1))



Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position.



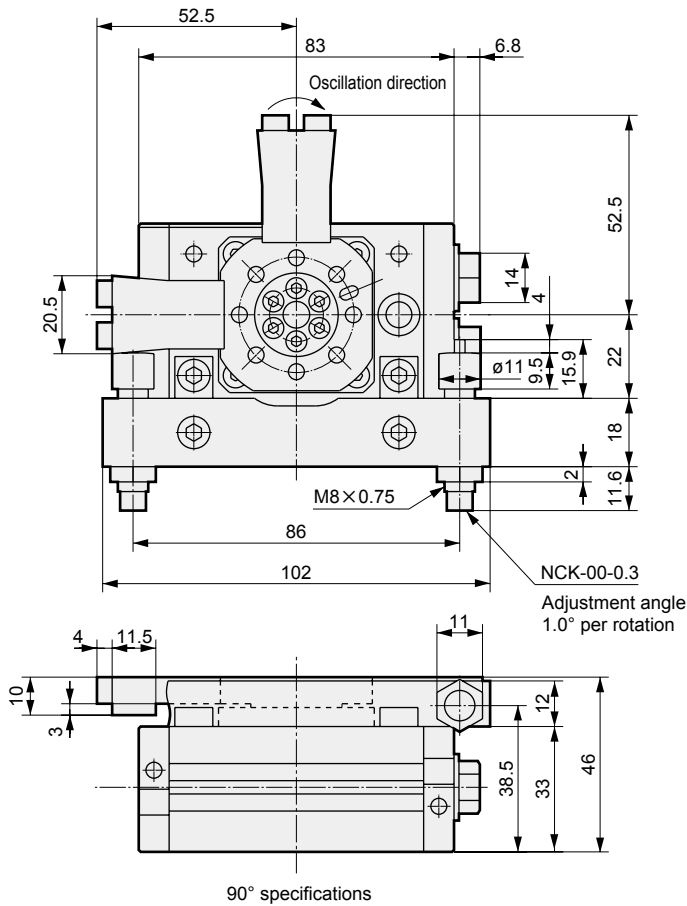
LCM
LCR
LCG
LCW
L CX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

## Dimensions: With external shock absorber size 10, 20



### ● GRC-10-\*-A1/A2

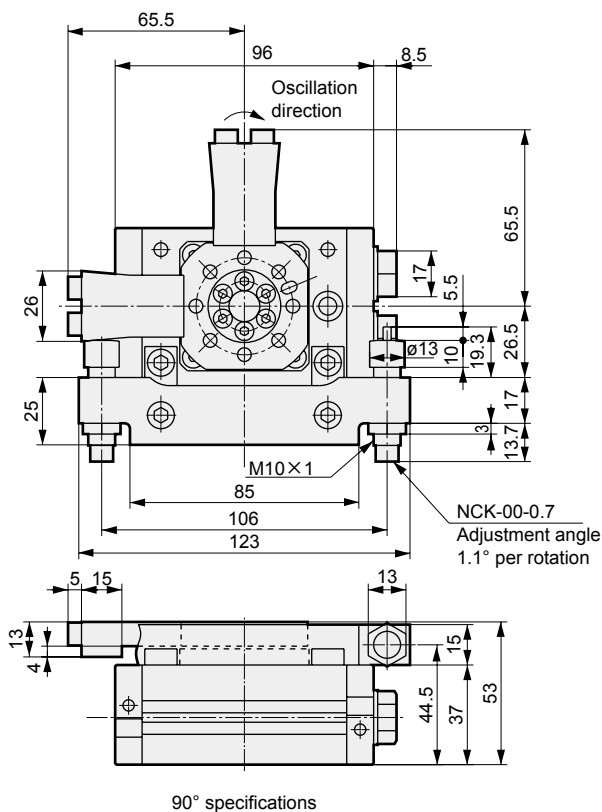
Note: The drawing is for A1 type (mounting position (1))



Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position. (Refer to GRC-5-\*-A1/A2.)

### ● GRC-20-\*-A1/A2

Note: The drawing is for A1 type (mounting position (1))



Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position. (Refer to GRC-5-\*-A1/A2.)

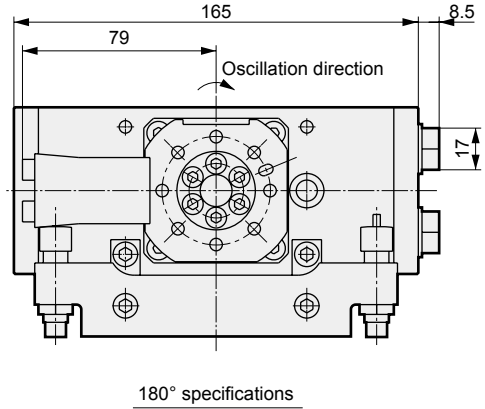
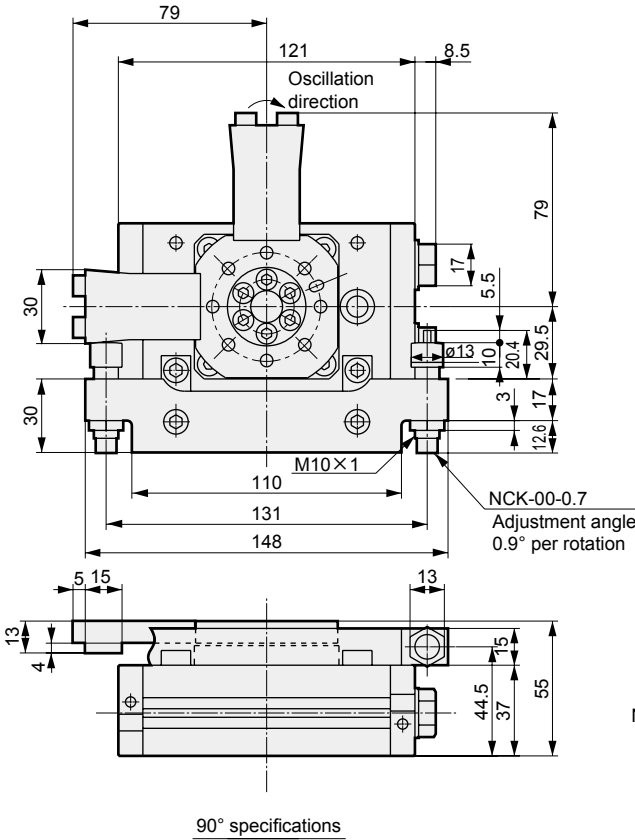
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
<b>RV3*</b>
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Dimensions: With external shock absorber size 30, 50

## ● GRC-30-\*-A1/A2

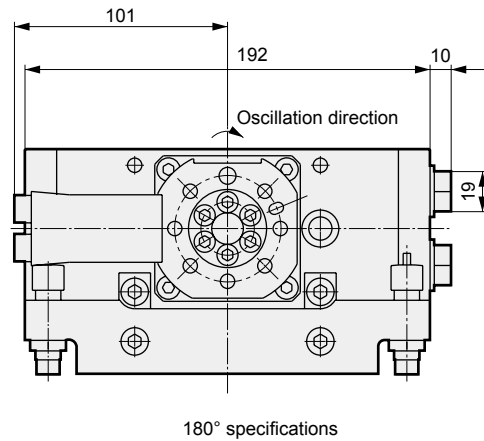
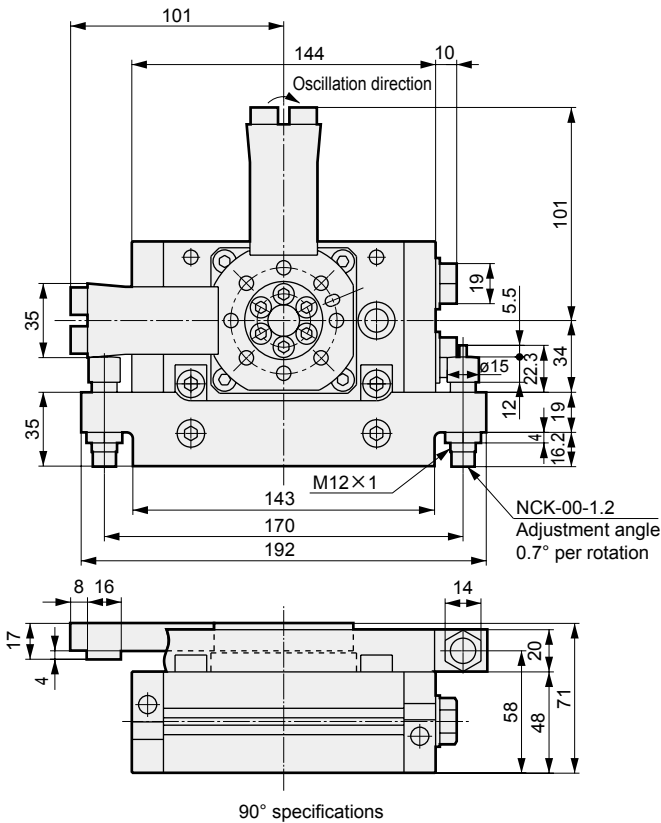
Note: The drawing is for A1 type (mounting position (1))



Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position. (Refer to GRC-5-\*-A1/A2.)

## ● GRC-50-\*-A1/A2

Note: The drawing is for A1 type (mounting position (1))



Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position. (Refer to GRC-5-\*-A1/A2.)

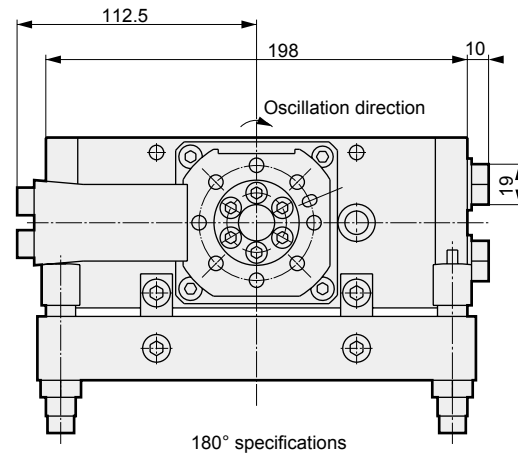
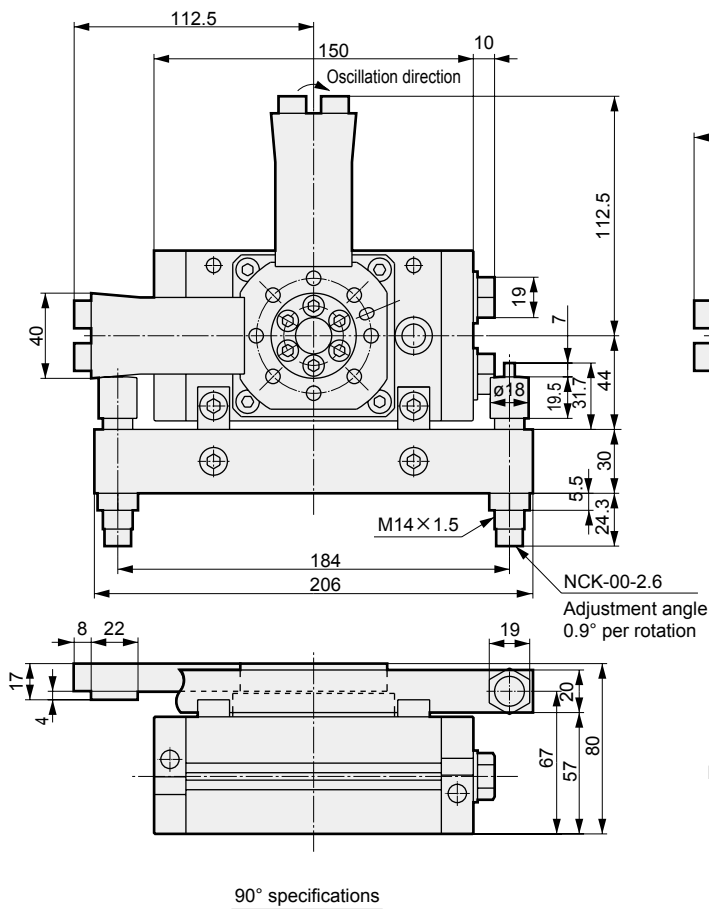
- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC**
- GRC**
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

## Dimensions: With external shock absorber size 80



### ● GRC-80-\*-A1/A2

Note: The drawing is for A1 type (mounting position (1))



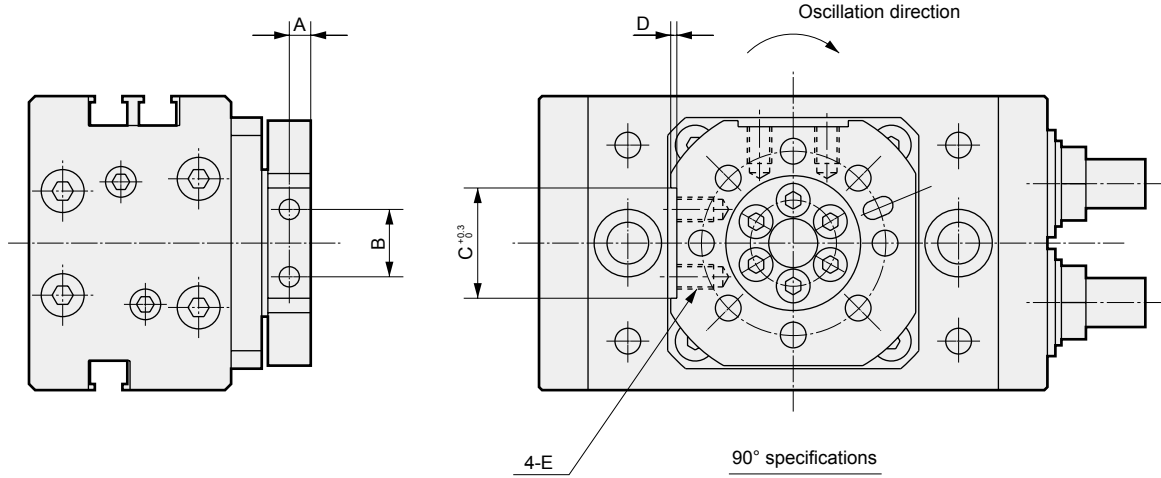
Note: Dimensions of rotary actuator main body are the same as the basic; however, the body cannot be fixed using the 4 screw holes on the top. As well, positioning pin hole position on tabletop differs according to external shock absorber mounting position. (Refer to GRC-5-\*-A1/A2.)

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
<b>RV3*</b>
NHS
HRL
LN
Hand
Chuk
MechMod/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

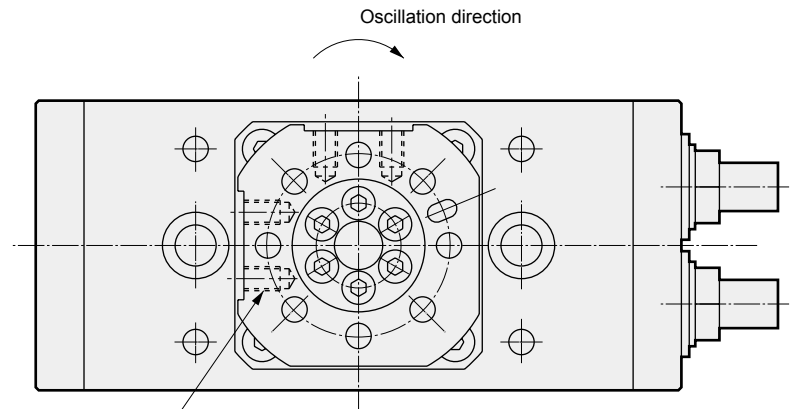


Dimensions: For retrofitting of external shock absorber size 5 to 80

● GRC\*-A3



4-E 90° specifications

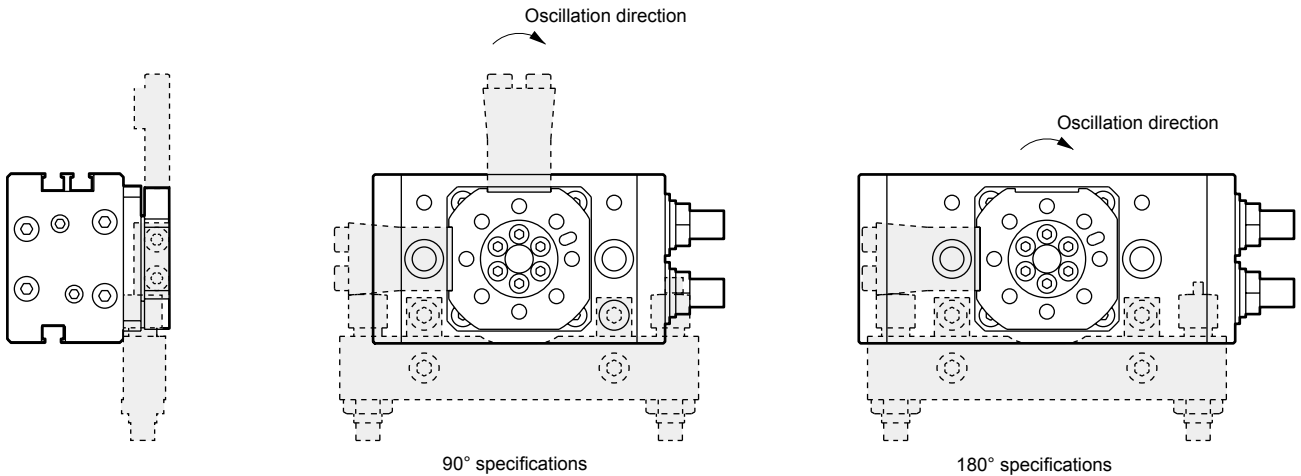


4-E 180° specifications

Size	A	B	C	D	E
5	3.5	8.4	15	1	M3 depth 6.5
10	3.8	11	18	1	M4 depth 6
20	4.5	13.4	23	1	M5 depth 7.5
30	4.5	17	27	2	M5 depth 8.5
50	6.9	18.4	32	2	M8 depth 9
80	6.9	20	36	2	M8 depth 9

When external shock absorber set is installed. ( [ ] shows external shock absorber set.)

Note: If an external shock absorber is retrofit on the A3 type, the features will be the same as the A1 type.  
Consult with CKD for A2 type. (Refer to page 1310 for mounting position)



90° specifications

180° specifications

- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC**
- RV3\*
- NHS
- HRL
- LN
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

---

# MEMO

---

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
<b>RRC</b>
<b>GRC</b>
<b>RV3*</b>
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

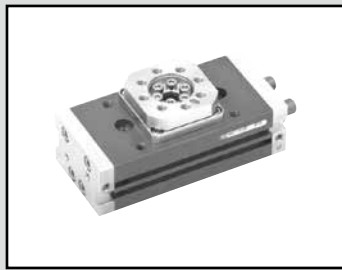


Table rotary actuator  
Fine speed/high accuracy fine speed

# GRC-F/GRC-KF Series

● Size: 5/10/20/30/50/80

JIS symbol



## Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Item	GRC-F-5	GRC-F-10 GRC-KF-10	GRC-F-20 GRC-KF-20	GRC-F-30 GRC-KF-30	GRC-F-50 GRC-KF-50	GRC-F-80 GRC-KF-80	
Size	5	10	20	30	50	80	
Theoretical torque *1	N·m						
	0.5	1.0	2.0	3.0	5.2	8.1	
Actuation	Rack and pinion mechanism						
Working fluid	Compressed air						
Max. working pressure	MPa						
	1.0 (≈150 psi, 10 bar)						
Min. working pressure	MPa						
	0.10 (≈15 psi, 1 bar)						
MPa	Basic						
	High accuracy	-	0.15 (≈22 psi, 1.5 bar)	0.10 (≈15 psi, 1 bar)			
	With external shock absorber	0.25	0.20	0.15 (≈22 psi, 1.5 bar)			
Proof pressure	MPa						
	1.6 (≈230 psi, 16 bar)						
Ambient temperature	°C						
	5 (41°F) to 60 (140°F)						
Allowable absorbed energy	J						
	Basic/high accuracy	0.005	0.008	0.03		0.04	0.11
	With external shock absorber *3	0.46	0.59	1.15	1.71	2.33	2.78
Cushion	Basic/high accuracy						
	With external shock absorber						
	Shock absorber model No.						
	NCK-0.3		NCK-0.7		NCK-1.2	NCK-2.6	
Oscillating angle adjusting range *2	Basic/high accuracy		90° specifications		0° to 100°		
			180° specifications		90° to 190°		
	With external shock absorber		90° specifications		90° ±6°		
			180° specifications		180° ±6°		
Oscillating time adjusting range	S/90°					0.2 to 25	
Port size	M5				Rc1/8		
Lubrication	Lubrication not possible						

\*1 : The theoretical torque is value at working pressure 0.5 MPa.

\*2 : The angle adjusting range applies when adjusted with the stopper bolts (shock absorbers) on both sides.  
If a shock absorber is provided, the fine speed specifications will not apply to the shock absorber section.

\*3 : The values in the table indicate the absorbed energy at the maximum oscillation speed. The absorbed energy varies depending on the oscillation speed. Refer to the graph of "Absorbed energy and oscillating time" on page 1324 for details.

## Switch specifications

● 1-color/2-color display

Item	Proximity 2-wire				Proximity 3-wire			
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV	T3YH/T3YV	T3WH/T3WV
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay			
Output method	-				NPN output	PNP output	NPN output	
Pwr. supp. V.	-				10 to 28 VDC			
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%			
Load current	5 to 100 mA (*3)		5 to 20 mA (*3)		100 mA or less		50 mA or less	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	
Leakage current	1 mA or less at 100 VAC 2 mA or less at 200 VAC		1 mA or less		10 µA or less			
Weight g	1 m: 33	1 m:18	1 m: 33	1 m:18	1 m:18		1 m: 33	1 m:18
	3 m: 87	3 m:49	3 m: 87	3 m:49	3 m:49		3 m: 87	3 m:49
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80

\*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

\*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.  
(5 to 10 mA at 60°C)

## Dimensions

Dimensions are the same as the basic GRC Series or the high load GRC-K Series. Refer to pages 1308 to 1314.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFCD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

### How to order

- Without switch (built-in magnet for switch)

**GRC-F - 10 - 90 - A1**

- With switch (built-in magnet for switch)

**GRC-F - 30 - 180 - T2H\* - R - A2**

**A** Model No.

**B** Size

**C** Port thread

**D** Oscillating angle

**E** Switch model No.

### ⚠ Precautions for model No. selection

- \*1 : Port position of basic/high accuracy is provided on the side surface. Other ports are plugged.
- \*2 : The external shock absorber cannot be retrofitted onto the basic/high accuracy. Select the A3 type as an option if retrofitting.
- \*3 : If an external shock absorber is retrofit on the A3 type, the features will be the same as the A1 type. Consult CKD for A2 type.
- \*4 : For discrete switches and options, refer to page 1305.

### [Example of model No.]

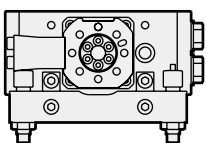
**GRC-F-10-180-T2V-D-A1**

Double acting

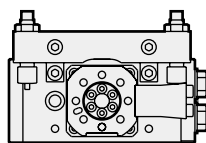
- A** Model No. : Basic
- B** Size : 10
- C** Port thread : Rc thread
- D** Oscillating angle : 180°
- E** Switch model No. : Proximity/2-wire radial lead wire/lead wire 1 m
- F** Switch quantity : 2
- G** Option : External shock absorber mounting position (1)

### Outer mount shock absorber installation drawing

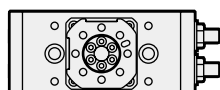
Installation position (1)  
GRC-□-A1



Installation position (2)  
GRC-□-A2



Retrofitting of external shock absorber  
GRC-□-A3



Code	Description					
<b>A Model No.</b>						
GRC-F	Basic					
GRC-KF	High accuracy					
<b>B Size</b>						
Model No.	Theoretical torque	GRC-F	GRC-KF			
5	0.5 [N·m]	●	-			
10	1.0 [N·m]	●	●			
20	2.0 [N·m]	●	●			
30	3.0 [N·m]	●	●			
50	5.2 [N·m]	●	●			
80	8.1 [N·m]	●	●			
<b>C Port thread</b>						
Blank	Rc thread					
NN	NPT thread (ø50 and over) (made-to-order product)					
GN	G thread (ø50 and over) (made-to-order product)					
<b>D Oscillating angle</b>						
90	90°					
180	180°					
<b>E Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage	Indicator	Lead wire	
			AC	DC		
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color display	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●	3-wire	3-wire
T3YH*	T3YV*			●		
<b>* Lead wire length</b>						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
<b>F Switch quantity</b>						
R	With clockwise rotation detection 1 piece					
L	With counterclockwise rotation detection 1 piece					
D	2					
<b>G Option</b>						
Blank	Hexagon socket set screw stopper screw with urethane					
<b>A With outer mount shock absorber</b>						
A1	Installation position (1)					
A2	Installation position (2)					
A3	External shock absorber retrofitting (Installation groove machined)					

### Clean-room specifications (Catalog No. CB-033SA)

- Anti-dust generation structure for use in cleanrooms

GRC-F ..... **P73**

GRC-KF ..... **P73**

### Specifications for rechargeable battery (Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

GRC - ... - **P4\***

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending