

# Stopper Cylinder: Adjustable Mounting Height

## Series RSG

ø40, ø50

### How to Order

**Without auto switch**

**RSG** [40] [ ] [30] [D] [ ]

**With auto switch**

**RSDG** [40] [ ] [30] [D] [ ] [H7BW] [ ]

**Number of auto switches**

Nil	2 pcs.
S	1 pc.

**Auto switch**

Nil	Without auto switch
-----	---------------------

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

**Rod end configuration**

Symbol	Configuration	Application
Nil	Round bar type	—
K	Chamfered type	—
R	Roller type	—
L	Lever type (Non-adjustable)	Basic style
B	Lever type (Energy absorbing Adjustable deformation)	—
C		With cancel cap
D		With lock mechanism
E		With lock & cancel

**Action**

D	Double acting
B	Double acting with spring loaded
T	Single acting (Spring extend)

**Bore size**

40	40 mm
50	50 mm

**Piping**

Nil	Screw-in piping
F	Built-in One-touch fittings

**Cylinder stroke (mm)**

40, 50	20, 25, 30
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**Auto Switch Mounting Bracket Part No.**

Auto switch model	Bore size (mm)	
	40	50
D-C7/C8	BMA2-040	BMA2-050
D-H7	BMA2-040	BMA2-050

[Mounting screws set made of stainless steel]  
The following stainless steel mounting screw kit is available and may be used depending on the operating environment.  
(A switch mounting band is not included, so please order it separately.)  
BBA4: For D-C7/C8/H7  
"D-H7BAL" switch is set on the cylinder with the stainless steel screws above when shipped.  
When a switch is shipped independently, "BBA4" screws are attached.

### Applicable Auto Switch/Refer to page 10-20-1 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		0.5 (Nil)	3 (L)	5 (Z)	None (N)		IC circuit	Relay, PLC	
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	C76	●	●	—	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	C73	●	●	●	—	—	—	Relay, PLC
		Connector			—	—	—	C73C	●	●	●	●	—	—	—
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	H7A1	●	●	○	—	○	IC circuit	—
				3-wire (PNP)				H7A2	●	●	○	—	○	—	
		2-wire		H7B				●	●	○	—	○	—		
				H7C				●	●	●	●	—	—		
		Grommet		3-wire (NPN)				H7NW	●	●	○	—	○	IC circuit	Relay, PLC
				3-wire (PNP)				H7PW	●	●	○	—	○	—	
		2-wire		H7BW				●	●	○	—	○	—		
				H7BA				—	●	○	—	○	—		
		Connector		4-wire (NPN)				H7NF	●	●	○	—	○	IC circuit	—

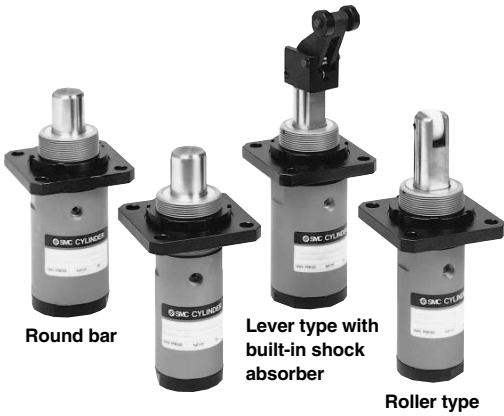
\* Lead wire length symbols: 0.5 m ..... Nil (Example) C73C  
 3 m ..... L (Example) C73CL  
 5 m ..... Z (Example) C73CZ  
 None ..... N (Example) C73CN

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

- Since there are other applicable auto switches than listed, refer to page 10-8-24 for details.
- For details about auto switches with pre-wire connector, refer to page 10-20-66.

- RE<sup>A</sup><sub>B</sub>
- REC
- C□X
- C□Y
- MQ<sup>Q</sup><sub>M</sub>
- RHC
- MK(2)
- RS<sup>Q</sup><sub>G</sub>
- RS<sup>H</sup><sub>A</sub>
- RZQ
- MI<sup>W</sup><sub>S</sub>
- CEP1
- CE1
- CE2
- ML2B
- C<sup>1</sup>/<sub>5</sub>-S
- CV
- MVGQ
- CC
- RB
- J
- D-
- X
- 20-
- Data

# Series RSG



## Model

Bore size (mm)		40	50
Mounting	Flange	●	●
Built-in magnet		●	●
Piping	Screw-in type	Rc 1/8	
	Built-in One-touch fittings	ø6/4	ø8/6
Action		Double acting, Single acting (Spring extended), Double acting with spring loaded	
Rod end configuration	Round bar type	●	●
	Chamfered type	●	●
	Roller type	●	●
	Lever type	●	●

## Spring Force (Single acting)

Bore size (mm)	Extended	Compressed
40, 50	13.7	27.5

(N)

\* For Round bar type, Chamfered type and Roller type.

## Specifications

Action	Double acting, Double acting with spring loaded, Single acting (Spring extended)
Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Ambient and fluid temperature	Without auto switch -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)
Lubrication	Not required (Non-lube)
Cushion	Rubber bumper
Stroke length tolerance	+1.4 0
Mounting	Flange style
Auto switch	Mountable



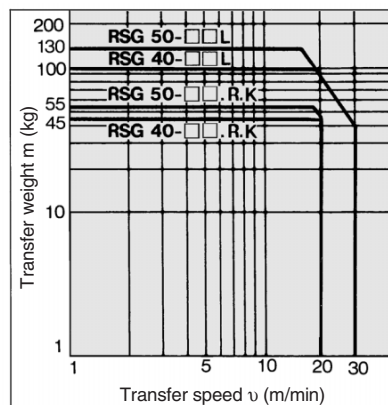
**Made to Order Specifications**  
(For details, refer to page 10-21-1.)

Symbol	Specifications
-XA□	Change of rod end shape
-XC3	Special port position

## Bore Size/Standard Stroke

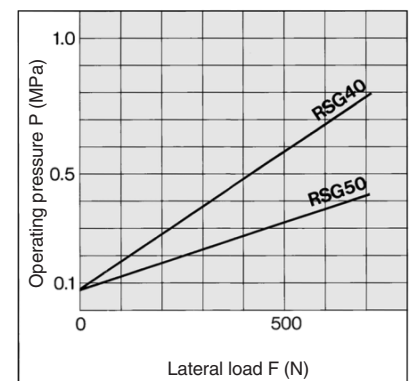
Bore size (mm)	Rod end configuration
	Round bar type, Chamfered type, Roller type, Lever type with shock absorber
40	20, 25, 30
50	20, 25, 30

## Operating Range



## Lateral Load and Operating Pressure

Greater lateral loads need higher stopper cylinder operation pressures. Set the operation pressure by using the graph as guidelines. (Applicable to the round bar, roller, and chamfered type.)



# Stopper Cylinder: Adjustable Mounting Height Series RSG

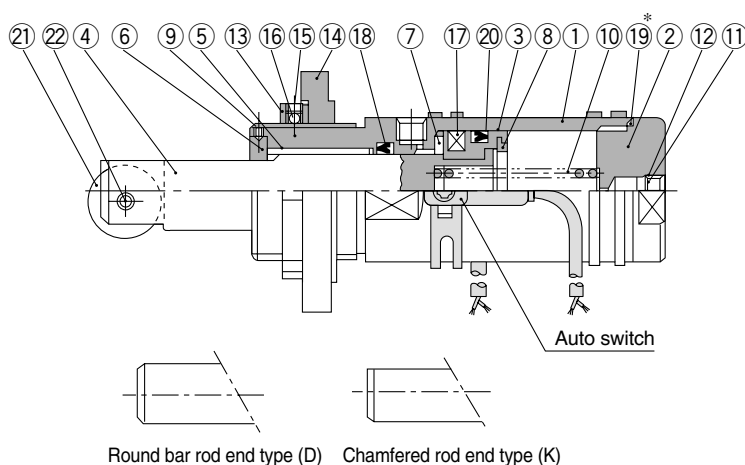
## Weight

Action	Bore size (mm)	Rod end configuration	Cylinder stroke (mm)		
			20	25	30
Double acting	40	Round bar type, Chamfered type, Roller type	1.14	1.17	1.2
		Lever type with built-in shock absorber	1.38	1.41	1.44
Single acting, Spring extend	50	Round bar type, Chamfered type, Roller type	1.34	1.37	1.4
Double acting with spring loaded		Lever type with built-in shock absorber	1.56	1.59	1.62

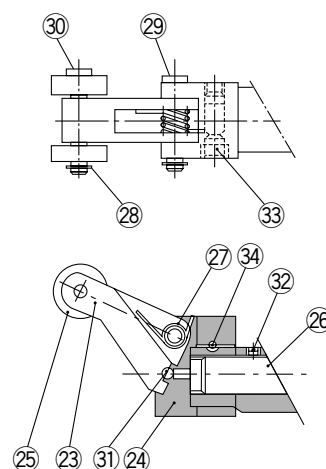
(kg)

## Construction

### Single acting, Roller rod end



### Lever rod end with shock absorber type



### Component Parts (For single acting)

No.	Description	Material	Note
①	Tube cover	Aluminum alloy	Hard anodized
②	Head cover	Aluminum alloy	Anodized
③	Piston	Aluminum alloy	Chromated
④	Piston rod	Carbon steel	Hard chrome plated
⑤	Bushing	Lead-bronze casted	
⑥	Non-rotating guide	Rolled steel	Use collar for round bar type.
⑦	Bumper A	Urethane	
⑧	Bumper B	Urethane	
⑨	Hexagon socket head set screw	Chromium molybdenum steel	
⑩	Return spring	Steel wire	Zinc chromated
⑪	Snap ring	Carbon tool steel	
⑫	Element	Sintered metallic BC	
⑬	lock nut	Carbon steel	
⑭	Flange	Cast iron	
⑮	Hexagon socket head set screw	Chromium molybdenum steel	
⑯	Ball	Resin	
⑰	Magnet	Synthetic rubber	
⑱	Rod seal	NBR	
⑲	Gasket	NBR	Used Only for double acting and double acting with spring loaded.
⑳	Piston seal	NBR	

### Replacement Parts: Seal Kit

Bore size (mm)	Kit no.			Contents
	Double acting	Double acting with spring loaded	Single acting	
40	RSG40D-PS	RSG40B-PS	RSG40T-PS	Set of above nos.
50	RSG50D-PS	RSG50B-PS	RSG50T-PS	⑱, ⑲, ⑳

\* Seal kit includes ⑱, ⑲, ⑳. Order the seal kit, based on each bore size.

### Component Parts (For single acting)

No.	Description	Material	Note
<b>In the case of roller type</b>			
⑲	Roller A	Resin	
⑳	Spring pin	Carbon tool steel	
<b>Lever type</b>			
㉓	Lever	Cast iron	
㉔	Lever holder	Rolled steel	
㉕	Roller B	Resin	
㉖	Shock absorber	—	RB1407-X552
㉗	Lever spring	Stainless steel wire	
㉘	Type C snap ring for shaft	Carbon tool steel	
㉙	Lever pin	Carbon steel	
㉚	Roller pin	Carbon steel	
㉛	Steel balls	High carbon chrome bearing steel	
㉜	Hexagon socket head set screw	Chromium molybdenum steel	
㉝	Hexagon socket head set screw	Chromium molybdenum steel	
㉞	One-side tapered pin	Carbon steel	

### Replacement Parts: Shock Absorber

Bore size (mm)	Kit no.
40, 50	RB1407-X552

RE<sub>B</sub><sup>A</sup>

REC

C□X

C□Y

MQ<sub>M</sub><sup>Q</sup>

RHC

MK(2)

RS<sub>G</sub><sup>Q</sup>

RS<sub>A</sub><sup>H</sup>

RZQ

MI<sub>S</sub><sup>W</sup>

CEP1

CE1

CE2

ML2B

C<sub>5</sub>-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

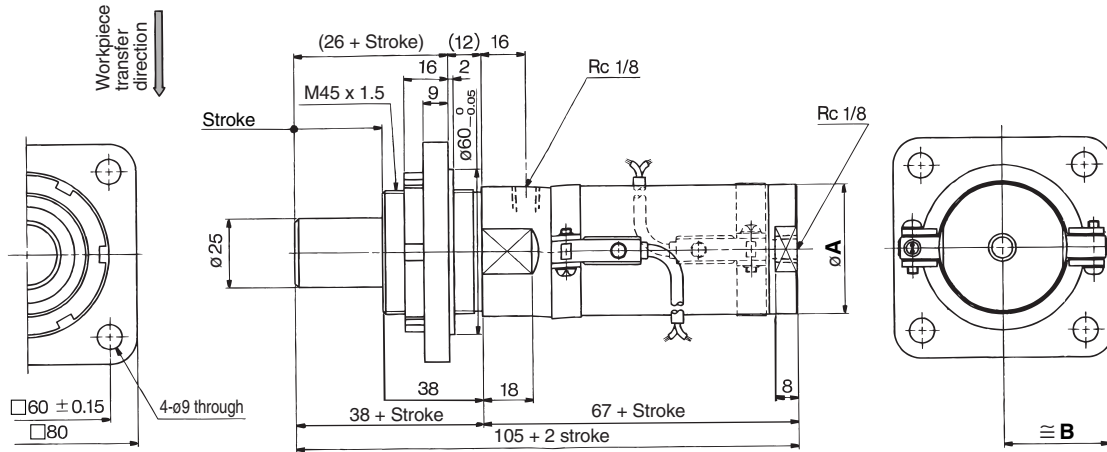
# Series RSG

## Rod End Configuration: Round Bar Type

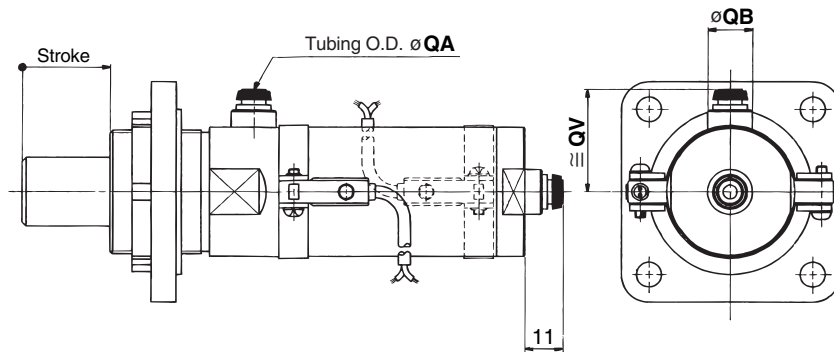
### Basic style: Flange mounting

These 2 figures show the piston rod extended.

Bore size:  $\phi 40, \phi 50$  RS□G□-□□



### Built-in One-touch fittings



Bore size (mm)	A	B	QA	QB	QV
40	47	35	6	13	33
50	58	40.5	8	16	38.5



- Note 1) Body dimensions without auto switch are the same as drawing above.  
 Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.  
 Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.  
 Note 4) These figures show the piston rod extended.  
 Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.

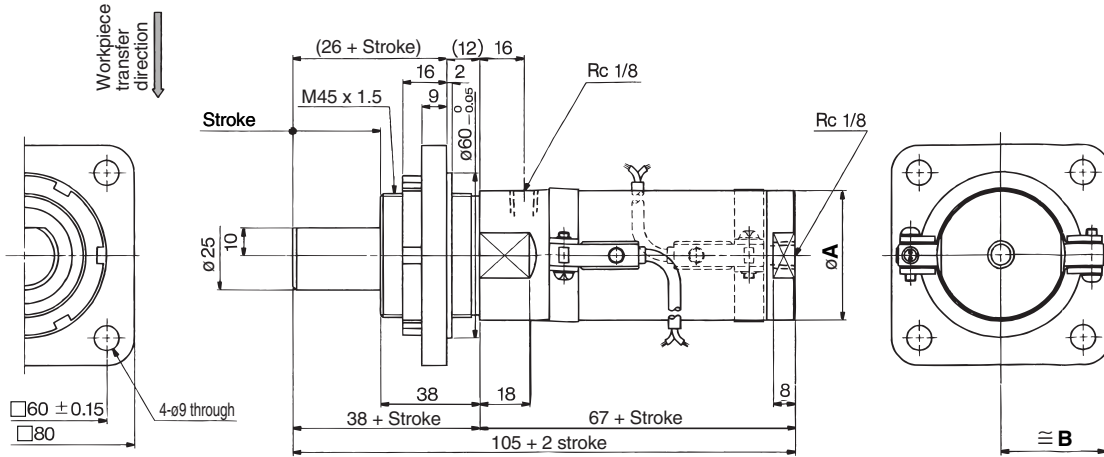
# Stopper Cylinder: Adjustable Mounting Height Series RSG

## Rod End Configuration: Chamfered Type (Non-rotating piston rod)

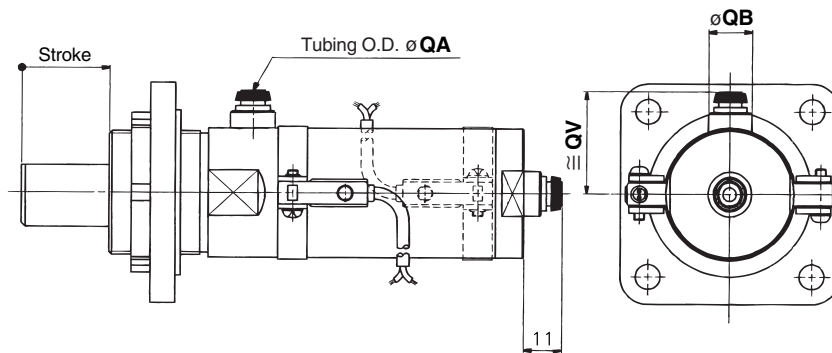
Basic style: Flange mounting

These 2 figures show the piston rod extended.

Bore size:  $\phi 40, \phi 50$  RS□G□-□□K



## Built-in One-touch fittings



Bore size (mm)	A	B	QA	QB	QV
40	47	35	6	13	33
50	58	40.5	8	16	38.5



- Note 1) Body dimensions without auto switch are the same as drawing above.
- Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.
- Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.
- Note 4) These figures show the piston rod extended.
- Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.

RE<sub>B</sub><sup>A</sup>

REC

C□X

C□Y

MQ<sub>M</sub><sup>Q</sup>

RHC

MK(2)

RS<sub>G</sub><sup>Q</sup>

RS<sub>A</sub><sup>H</sup>

RZQ

MI<sub>S</sub><sup>W</sup>

CEP1

CE1

CE2

ML2B

C<sub>6</sub>5-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

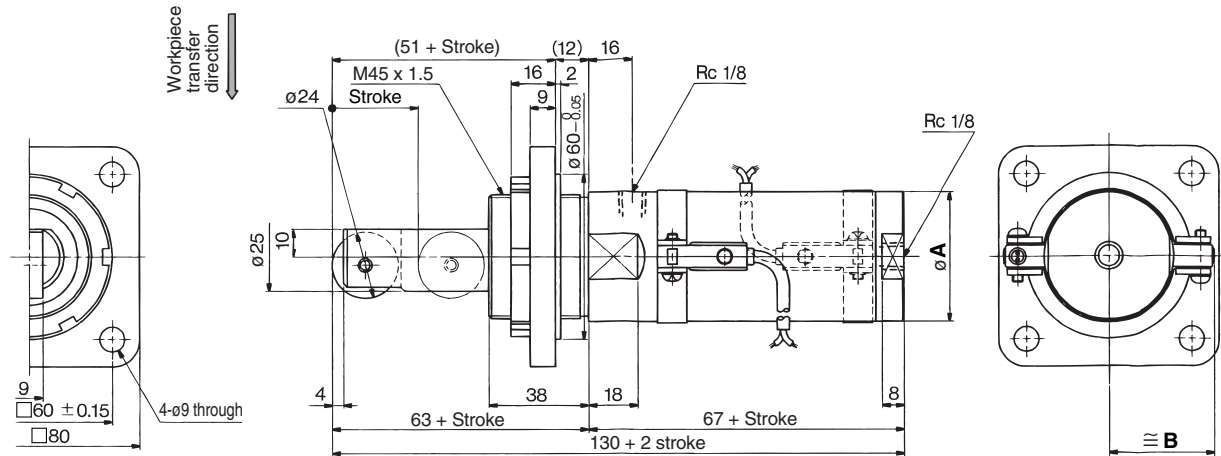
# Series RSG

## Rod End Configuration: Roller Type

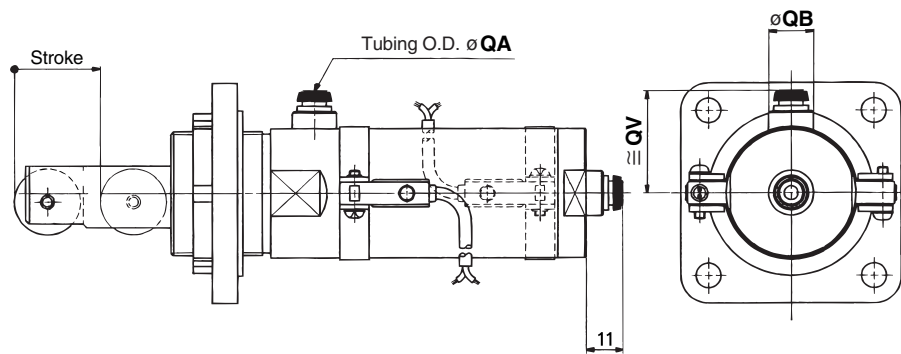
Basic style: Flange mounting

These 2 figures show the piston rod extended.

Bore size:  $\varnothing 40$ ,  $\varnothing 50$  RS□G□-□□R



### Built-in One-touch fittings



Bore size (mm)	A	B	QA	QB	QV
40	47	35	6	13	33
50	58	40.5	8	16	38.5



Note 1) Body dimensions without auto switch are the same as drawing above.

Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.

Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.

Note 4) These figures show the piston rod extended.

Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.

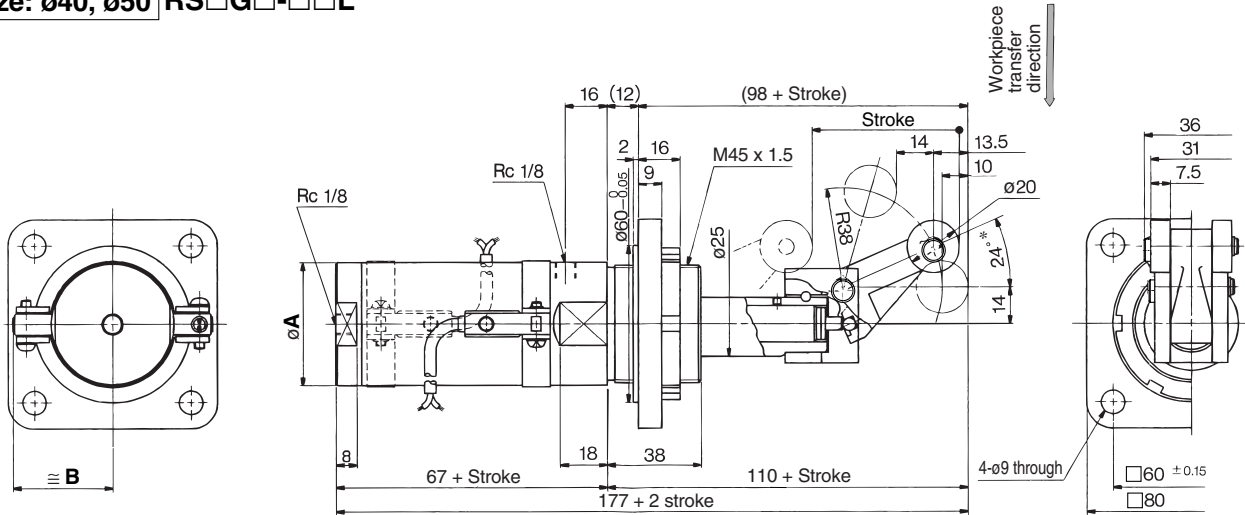
# Stopper Cylinder: Adjustable Mounting Height Series RSG

## Rod End Configuration: Lever Type with Shock Absorber

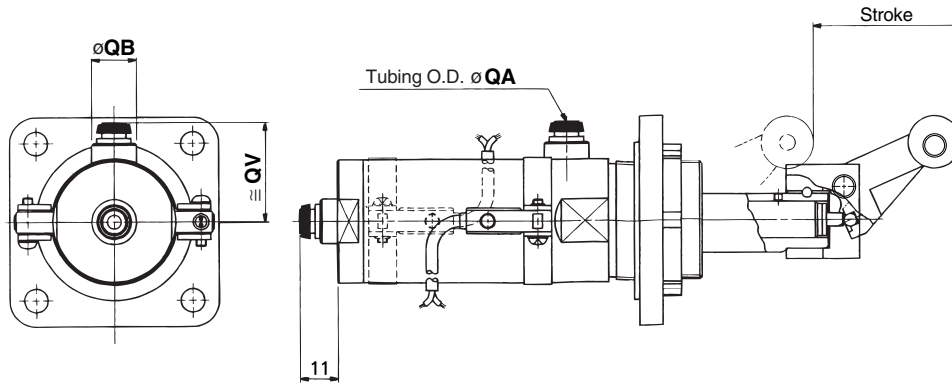
Basic style: Flange mounting

These 2 figures show the piston rod extended.

Bore size:  $\phi 40, \phi 50$  RS□G□-□□L



### Built-in One-touch fittings



Bore size (mm)	A	B	QA	QB	QV
40	47	35	6	13	33
50	58	40.5	8	16	38.5



- Note 1) Body dimensions without auto switch are the same as drawing above.  
 Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.  
 Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.  
 Note 4) These figures show the piston rod extended.  
 Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.

RE<sup>A</sup><sub>B</sub>

REC

C□X

C□Y

MQ<sup>Q</sup><sub>M</sub>

RHC

MK(2)

RS<sup>Q</sup><sub>G</sub>

RS<sup>H</sup><sub>A</sub>

RZQ

MI<sup>W</sup><sub>S</sub>

CEP1

CE1

CE2

ML2B

C<sub>6</sub>5-S

CV

MVGQ

CC

RB

J

D-

-X

20-

Data

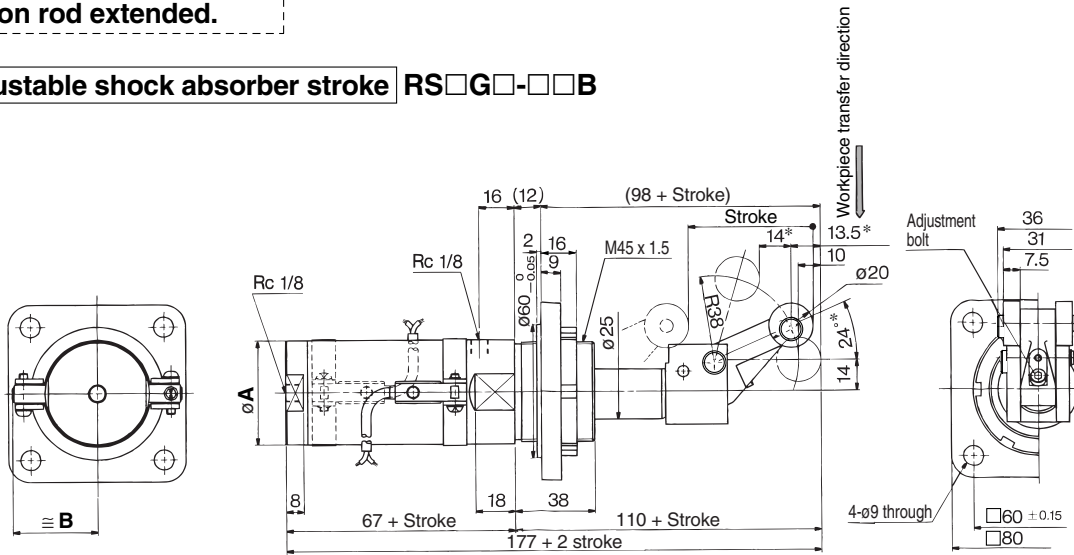
# Series RSG

## Rod End Configuration: Lever Type with Shock Absorber

### Variable energy absorbing type/Flange mounting style

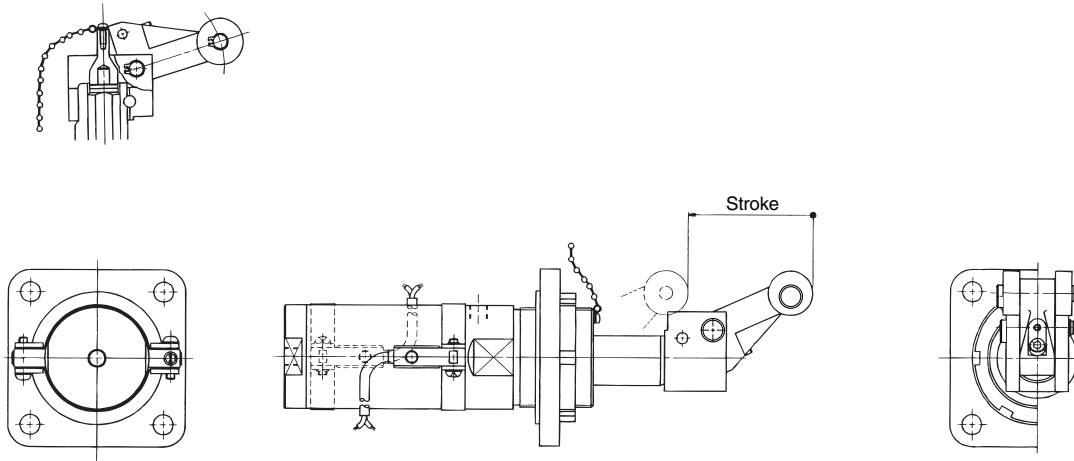
These 2 figures show the piston rod extended.

Adjustable shock absorber stroke **RS□G□-□□B**



With cancel cap **RS□G□-□□C**

\* Dimensions when equipped with cancel cap are the same as the drawing above.



Bore size (mm)	A	B
40	47	35
50	58	40.5



- Note 1) Body dimensions without auto switch are the same as drawing above.
- Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.
- Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.
- Note 4) These figures show the dimensions when the piston rod is extended.
- Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.
- Note 6) The figure shows these dimensions when the adjustment bolt is lowered (when energy absorption is at its maximum). However, these dimensions change within the ranges shown below as the adjusting bolt is raised (energy absorption is reduced).  
 $24^{\circ*} \rightarrow 16^{\circ*}$ ,  $13.5^{\circ*} \rightarrow 11.5^{\circ*}$ ,  $14^{\circ*} \rightarrow 16^{\circ*}$



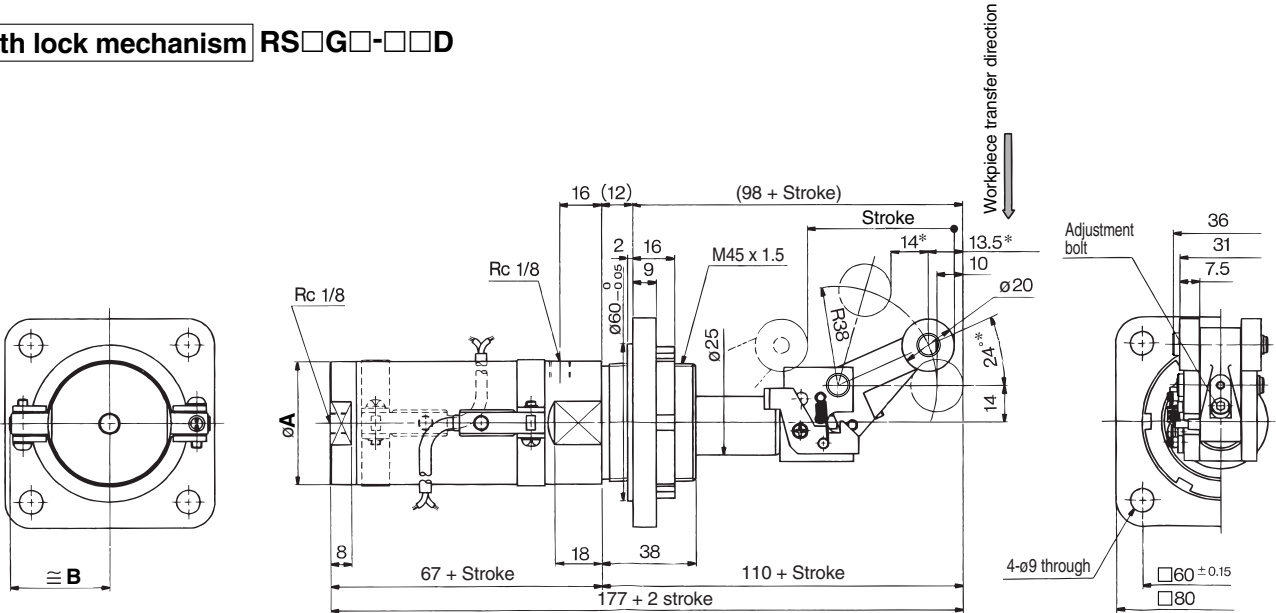
# Stopper Cylinder: Adjustable Mounting Height Series RSG

## Rod End Configuration: Lever Type with Shock Absorber

Variable energy absorbing type/Flange mounting style

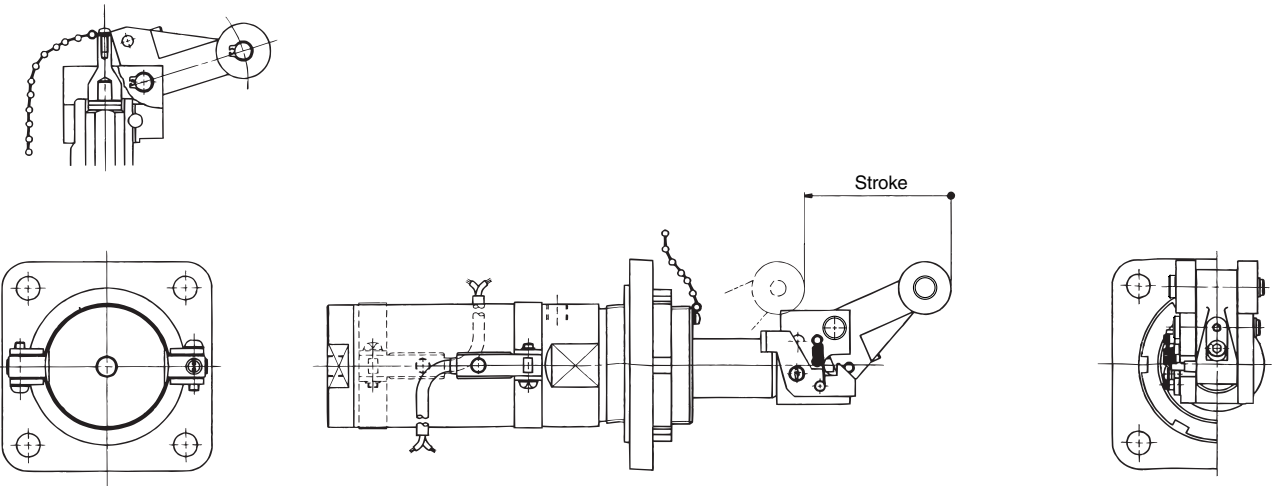
These 2 figures show the piston rod extended.

With lock mechanism RS□G□-□□D



With lock mechanism + Cancel cap RS□G□-□□E

\* Dimensions when equipped with lock and cancel cap are the same as the figure drawing.



Bore size (mm)	A	B
40	47	35
50	58	40.5



- Note 1) Body dimensions without auto switch are the same as drawing above.
- Note 2) In the case of single acting type, a One-touch fitting is on the rod side only.
- Note 3) These figures show the dimensions when equipped with D-C7/C8 type auto switches.
- Note 4) These figures show the piston rod extended.
- Note 5) For the auto switch mounting position and its mounting height, refer to page 10-8-24.
- Note 6) The figure shows these dimensions when the adjustment bolt is lowered (when energy absorption is at its maximum). However, these dimensions change within the ranges shown below as the adjusting bolt is raised (energy absorption is reduced).  
 $24^{\circ*} \rightarrow 16^{\circ*}$ ,  $13.5^{\circ*} \rightarrow 11.5^{\circ*}$ ,  $14^{\circ*} \rightarrow 16^{\circ*}$

RE<sub>B</sub><sup>A</sup>

REC

C□X

C□Y

MQ<sub>M</sub><sup>Q</sup>

RHC

MK(2)

RS<sub>G</sub><sup>Q</sup>

RS<sub>A</sub><sup>H</sup>

RZQ

MI<sub>S</sub><sup>W</sup>

CEP1

CE1

CE2

ML2B

C<sub>5</sub>-S

CV

MVGQ

CC

RB

J

D-

-X

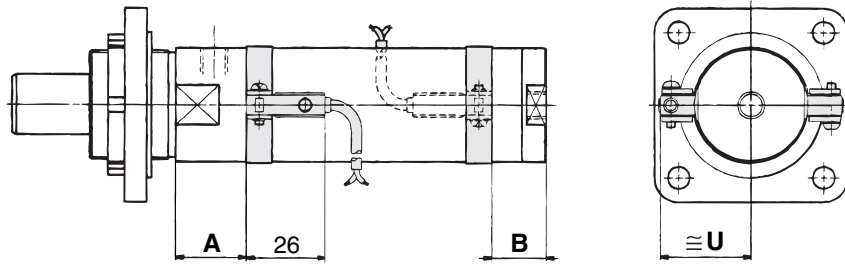
20-

Data

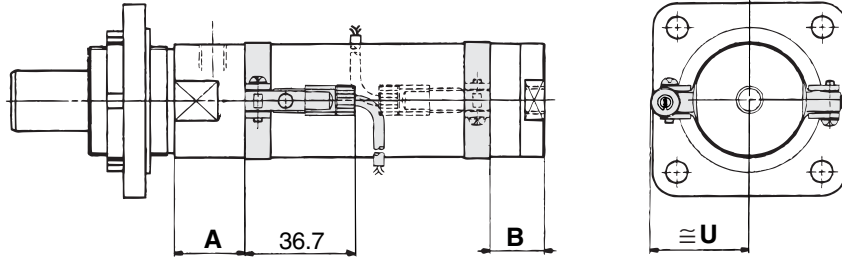
# Series RSG

## Proper Auto Switch Mounting position (Detection at stroke end) and Its Mounting Height

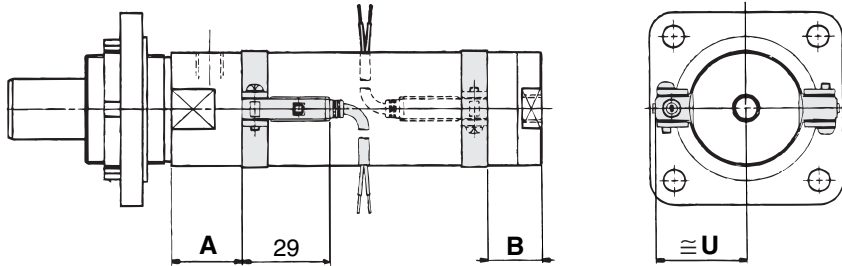
D-C7  
D-C8



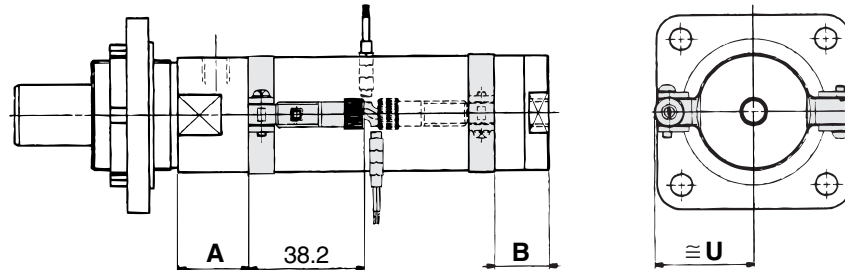
D-C73C  
D-C80C



D-H7  
D-H7□W  
D-H79F  
D-H7BAL



D-H7C



### Proper Auto Switch Mounting Position

### Auto Switch Mounting Height

Auto switch model	D-C7 D-C8		D-H7BAL D-H7□W D-H7 D-H7C		D-H7NF		D-C7 D-C8 D-H7 D-H7□W D-H79F D-H7BAL	D-H7C	D-C73C D-C80C
	A	B	A	B	A	B			
Bore size (mm)							U	U	U
40	22.0	26.0	21.0	25.0	19.5	23.5	35.0	38.0	37.5
50	30.0	18	29.0	17.0	27.5	15.5	40.5	43.5	43.0

### Operating Range

Auto switch model	Bore size (mm)	
	40	50
D-C7□/C80 D-C73C/C80C	10	10
D-H7□/H7□W D-H7BAL/H7NF	5	6
D-H7C	10	9.5

Other than the models listed in "How to Order", the following auto switches are applicable. For detailed specifications, refer to page 10-20-1.

Type	Model	Electrical entry	Features
Reed switch	D-C80	Grommet	Without indicator light
	D-C80C	Connector	

\* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately ±30% dispersion)  
There may be the case to change substantially depending on an ambient environment.