

# Stopper Cylinder

**Series RSQ** (Fixed mounting height)  
 ø12, ø16, ø20, ø32, ø40, ø50

**Series RSG** (Adjustable mounting height)  
 ø40, ø50

## Realise Labour Saving and Automation of Conveyor Line

*A through hole style and a both ends tapped style are available.*  
**Series RSQ** (Fixed mounting height)  
 ø12, ø16, ø20, ø32, ø40, ø50

*Mounting position can be adjusted by changing the attached flange height.*  
**Series RSG** (Adjustable mounting height)  
 ø40, ø50

### Available Styles

It is possible to select options for many applications.  
 Style: Fixed mounting height (RSQ), Adjustable mounting height (RSG)  
 Action: Double acting, Single acting (spring extend), Double acting with spring  
 Rod end configuration: Round bar, Non-rotating, Roller, Lever  
 Mounting: Through hole, Both ends tapped

### Equipped with an easy-to-maintain shock absorber.

The shock absorber incorporated in the lever style is adjustment-free and easy-to-maintain. (ø32, ø40, ø50)

### Auto Switch Option Available

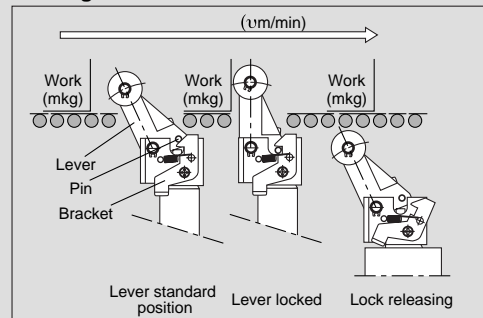
Compact auto switch mounting to enable miniaturization of machines and designs.

### Lever style selected according to applications

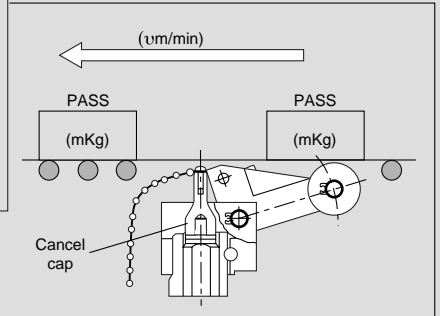
- Prevention of repulsion by light pallets.....Locking mechanism
- Partial passing of work.....With cancel cap



#### Locking mechanism



#### Cancel cap (mechanism to hold lever horizontally)



### Variations

Series	Mounting	Action	Rod end configuration	Variations				Bore size (mm)	Standard stroke (mm)								
				Magnet	Locking mechanism	Cancel	One-touch fitting		10	15	20	25	30				
RSQ	Through hole	Double	Round bar	•	•	•	•	12	•	•	•	•	•				
			Roller	•	•	•	•		•	•	•	•	•				
	Both ends tapped	Double with spring	Non-rotating	•	•	•	•		20	•	•	•	•	•			
			Lever	•	•	•	•			•	•	•	•	•			
		Single	Fixed	Adjustable	•	•	•			•	40	•	•	•	•	•	
				Adjustable	•	•	•			•		•	•	•	•	•	
RSG	Flange style	Double	Round bar	•	•	•	•	40		•		•	•	•	•		
			Roller	•	•	•	•			•		•	•	•	•		
			Non-rotating	•	•	•	•		50	•		•	•	•	•		
			Lever	•	•	•	•			•		•	•	•	•		
				Double with spring	Fixed	Adjustable	•			•	•	•	•	•	•	•	•
						Adjustable	•			•	•	•	•	•	•	•	•



# Series RSQ/RSG Precautions

Be sure to read before handling. Refer to p.0-39 to 0-46 for Safety Instructions, actuator and auto switch precautions.

## Selection

### ⚠ Caution

- ① **Do not allow a pallet to strike the lever when it is standing up.**

In the case of the lever style with built-in shock absorber, if the next pallet runs into the lever when it is in the upright position (after the shock absorber has assimilated energy), the cylinder body will receive the full energy of the impact, and this should not be permitted.

- ② **Do not apply pressure from the head side of a single acting style cylinder.**

If air is supplied from the head side of a single acting cylinder, blow-by of the air will occur.

- ③ **Do not scratch or nick the sliding parts of the piston.**

Quenching of the piston rod has not been performed. If there is a danger of scratching or nicking the piston rod due to sharp edges, etc. on the contact area of a pallet, the pallet should not be used, as this can cause a malfunction.

- ④ **When using a stopper cylinder for intermediate stopping of a load connected directly to a cylinder, etc.**

The operating ranges shown in this catalog apply only for stopping of a pallet on a conveyor. When using a stopper cylinder to stop a load connected directly to a cylinder, etc., the cylinder thrust will become a lateral load. In this case, refer to the instruction manual and select a cylinder remaining within the allowable energy and allowable lateral load ranges.

## Mounting

### ⚠ Caution

- ① **Do not apply rotational torque to the cylinder rod.**

In order to prevent rotational torque from acting upon the cylinder rod, mount it so that the contacting surfaces of the pallet and cylinder are parallel to one another.

When mounting a cylinder, tighten the body lock nut, and then tighten the set screws (2 locations) which are included with the lock nut (except RSG).

## Operation

### ⚠ Caution

- ① **When it is locked, do not apply an external force from the opposite direction to the locking mechanism of the end lever style.**

When moving pallets during conveyor adjustments, first lower the cylinder.

- ② **Do not use oil, etc. on the sliding parts of the piston rod.**

This can cause trouble with retraction or other malfunctions.

- ③ **Keep hands away when the cylinder is in operation.**

Since the lever section moves up and down when the cylinder is in operation, be careful that hands do not get caught between the rod cover and lever holder.

## Maintenance

### ⚠ Caution

- ① **After the shock absorber has been replaced, tighten the set screw securely so that it makes contact with the threaded section of the shock absorber.**

Tightening torque: 0.29Nm

- ② **When changing the non-rotating direction, loosen the set screws (2 locations) in the cover (tube cover or rod cover), change the detent to the desired position, and then retighten.**

# Stopper Cylinder/Fixed Mounting Height

## Series RSQ

ø20, ø16, ø20, ø32, ø40, ø50

### How to Order

**Standard** RSQ **B** **20** **15** **D**

**With auto switch** RSDQ **B** **20** **15** **D** **A73**

**Port size** (ø20 to ø50)  

—	Rc(PT)
<b>E</b>	G(PF)

**Bore size**  

<b>12</b>	12mm
<b>16</b>	16mm
<b>20</b>	20mm
<b>32</b>	32mm
<b>40</b>	40mm
<b>50</b>	50mm

**Mounting**  

<b>B</b>	Through hole (standard)
<b>A</b>	Both ends tapped

Note 1) Since ø12 uses a common tube for both A and B, only B is used for part no. denotation.

**Piping**  

—	Screw-in piping
<b>F</b>	Integrated One-touch fitting (2)

Note 2) The built-in One-touch fitting is available in bore sizes ø20 to ø50.

**Cylinder stroke (mm)**  

<b>12</b>	10
<b>16</b>	10, 15
<b>20</b>	10, 15, 20
<b>32</b>	10, 15, 20
<b>40, 50</b>	20, 25, 30

**Auto switch**  

—	Without auto switch
<b>S</b>	1

\*Select applicable auto switches from the table below.

**Rod end configuration**

Symbol	Rod end configuration	Application
—	Round bar	—
<b>K</b>	Non-rotating	—
<b>R</b>	Roller	—
<b>L</b>	Lever (non-adjustable) (3)	Basic
<b>B</b>	Lever (3) (Energy absorbing Adjustable deformation)	—
<b>C</b>		With cancel cap
<b>D</b>		With lock mechanism
<b>E</b>		With lock & cancel

Note 3) The lever styles are applicable only to bore sizes ø32, ø40 and ø50.

**Action**

<b>D</b>	Double acting
<b>B</b>	Double acting/spring loaded
<b>T</b>	Single acting/spring extend

### Applicable Auto Switches/Refer to p.5.3-2 for further Information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Rail mounting		Direct mounting		Lead wire (m)*				Applicable load										
					DC	AC	ø16 to ø50	ø12, ø32 to ø50	0.5 (—)	3 (L)	5 (Z)	None (N)													
Reed switch	—	Grommet	Yes	3 wire (Equiv. NPN)	—	5V	—	A76H	A96V	A96	●	●	—	—	IC circuit	—									
											24V	200V	A72	A72H			—	—	●	●	—	—	—		
													12V	100V			A73	A73H	—	—	●	●		●	—
																	—	—	A93V	A93	●	●		—	—
Connector	Yes	2 wire	5V, 12V	≤100V	A80	A80H	A90V	A90	●	●	—	—	—	—	IC circuit	Relay, PLC									
					12V	—	A73C	—	—	—	●	●	●	●			—								
					5V, 12V	≤24V	A80C	—	—	—	—	—	●	●			●	●	—						
Diagnostic(2 colour)	—	Grommet	Yes	—	—	—	A79W	—	—	—	●	●	—	—	—	—									
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	5V, 12V	—	F7NV	F79	—	—	●	●	○	—	IC circuit	Relay, PLC								
								—	—	M9NV	M9N	●	●	—	—	—									
								F7PV	F7P	—	—	●	●	○	—	—									
								—	—	M9PV	M9P	●	●	—	—	—									
								F7BV	J79	—	—	●	●	○	—	—									
								—	—	M9BV	M9B	●	●	—	—	—									
	Diagnostic (2 colour)	Grommet	Yes	2 wire	24V	12V	—	J79C	—	—	—	●	●	●	●	—		—							
								—	—	M9NWV	M9NW	●	●	○	—	—									
								F7NWV	F79W	—	—	●	●	○	—	—		IC circuit							
								—	F7PW	—	—	●	●	○	—	—									
								—	—	M9PWV	M9PW	●	●	○	—	—									
								F7BWV	J79W	M9BWV	M9BW	●	●	○	—	—									
Water resistant (2 colour)	—	Grommet	Yes	2 wire	12V	—	—	—	—	—	●	○	—	—	—										
With timer	—	Grommet	Yes	3 wire (NPN)	5V, 12V	—	—	—	—	—	●	○	—	—	—										
Diagnostic output (2 colour)	—	Grommet	Yes	3 wire (PNP)	5V, 12V	—	—	—	—	—	●	○	—	—	—										
Latch with diagnostic output (2 colour)	—	Grommet	Yes	4 wire (NPN)	5V, 12V	—	—	—	—	—	●	●	○	—	IC circuit	—									
—	—	Grommet	Yes	—	—	—	—	—	—	—	●	●	○	—	—	—									

\*Lead wire length 0.5m.....— (Ex.) A80C  
 3m.....L (Ex.) A80CL

5m.....Z (Ex.) A80CZ  
 None.....N (Ex.) A80CN

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

# Series R5Q



## Model

Bore size (mm)		12	16	20	32	40	50
Mounting	Through hole	●*	●	●	●	●	●
	Both ends tapped	●	●	●	●	●	●
Built-in magnet		●	●	●	●	●	●
Piping	Screw-in	M5		1/8			
	Integrated One-touch fitting	—		ø6/4		ø8/6	
Action		Double acting, Single acting, Double acting/spring loaded					
Rod end configuration	Round bar	●		●			
	Non-rotating	●		●			
	Roller	●		●			
	Lever	—		●			

\*ø12 tubes can have both through hole and tap mountings in the same tube.

## Specifications

Action	Double, Double/spring loaded, Single/spring extend
Fluid	Air
Proof pressure	1.5MPa
Maximum operating pressure	1.0MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C/With auto switch: -10°C to 60°C*
Lubrication	Not required (Non-lube)
Cushion	Rubber bumper
Stroke length tolerance	+1.4 0
Mounting configurations	Through hole, Both ends tapped
Auto switches	Mountable

\*Without freezing (for both with and without auto switches)

## Bore Size/Standard Stroke

Bore size (mm)	Rod end configuration		
	Round bar, Non-rotating	Roller	Lever with integrated shock absorber
12	10	10	—
16	10, 15	10, 15	—
20	10, 15, 20	10, 15, 20	—
32			10, 15, 20
40	20, 25, 30	20, 25, 30	20, 25, 30
50			20, 25, 30

## Auto Switch Mounting Bracket Part No.

Bore size (mm)	Mounting bracket part No.	Note	Applicable auto switches
16 20	BQ-1	<ul style="list-style-type: none"> <li>Switch mounting screw (M3 X 8ℓ)</li> <li>Square nut</li> </ul>	D-A7, A8 D-A7□H D-A73C, A80C D-F7□ D-F7□V, D-F7NTL D-F7□W, J79W
32 40 50	BQ-2	<ul style="list-style-type: none"> <li>Switch mounting nut</li> <li>Switch mounting screw (M3 X 10ℓ)</li> <li>Switch spacer</li> </ul>	D-F7□WV D-F7□F D-J79, J79C D-F7BAL

[Stainless steel mounting screw kit]

The following stainless steel mounting screw kit (including nuts) is available and may be used depending on the operating environment.

(Contact SMC regarding the auto switch spacer, which is not included.)

BBA2: For D-A7/A8/F7/J7

The above stainless steel screws are used when a D-F7BAL switch is mounted on a cylinder at the time of shipment.

The BBA2 kit is attached when an auto switch unit is shipped alone.

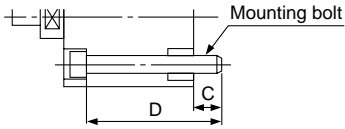
## Spring Force (Single acting)

Bore size (mm)	Extended	Compressed
12	3.9	9.6
16	4.9	14.9
20	3.4	14.9
32	8.8	18.6
40, 50	13.7	27.5

\*Applicable only to round bar, non-rotating and roller end configurations.

## Mounting Bolts for RSQB

Mounting: Mounting bolts are available for the through hole style RSQB.  
 Ordering: Add the word "Bolt" in front of the bolts to be used.  
 Example) Bolt M5 X 65ℓ 4pcs.



Model	C	D	Mounting bolt
RSQB12-10□ <sup>(1)</sup>	5	40	M3 X 45ℓ
RSQB16-10□	7	48	M3 X 55ℓ
-15□		53	M3 X 60ℓ
RSQB20-10□		55	M5 X 55ℓ
-15□	9	60	M5 X 60ℓ
-20□		65	M5 X 65ℓ
RSQB32-10□		60	M5 X 60ℓ
-15□	9.5	65	M5 X 65ℓ
-20□		70	M5 X 70ℓ
RSQB40-20□		75	M5 X 75ℓ
-25□	9	80	M5 X 80ℓ
-30□		85	M5 X 85ℓ
RSQB50-20□		75	M6 X 75ℓ
-25□	9	80	M6 X 80ℓ
-30□		85	M6 X 85ℓ

## Weight

Action	Bore size (mm)	Rod end configuration	Cylinder stroke (mm)				
			10	15	20	25	30
Double acting	12	Round bar, Non-rotating, Roller	0.07	—	—	—	—
	16	Round bar, Non-rotating, Roller	0.14	0.15	—	—	—
	20	Round bar, Non-rotating, Roller	0.23	0.24	0.25	—	—
Single acting	32	Round bar, Non-rotating, Roller	0.42	0.44	0.46	—	—
		Lever with integrated shock absorber	0.51	0.53	0.55	—	—
Double acting/ spring loaded	40	Round bar, Non-rotating, Roller	—	—	0.74	0.80	0.86
		Lever with integrated shock absorber	—	—	0.97	1.01	1.05
	50	Round bar, Non-rotating, Roller	—	—	1.03	1.07	1.11
		Lever with integrated shock absorber	—	—	1.26	1.30	1.34

Note 1) When using the through hole mounting for a size  $\phi 12$  cylinder, be sure to use the flat washer which is attached.

## Operating Ranges by Rod End Configuration

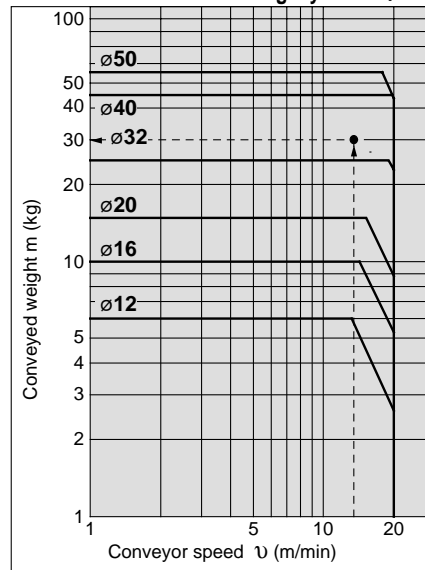
(Example)

For roller style with conveyor speed of 15m/min. and conveyed weight of 30kg.

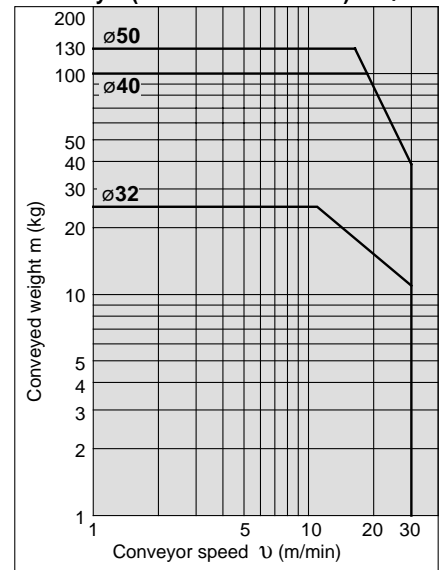
<How to use the graphs>

To select a cylinder based on the above specifications, find the intersection of the speed of 15m/min. on the horizontal axis, and the weight of 30kg on the vertical axis of Graph 1 to the right, and choose the model RSQ□40 within whose operating range the intersection point falls.

Roller/Round bar/Non-rotating styles Graph 1



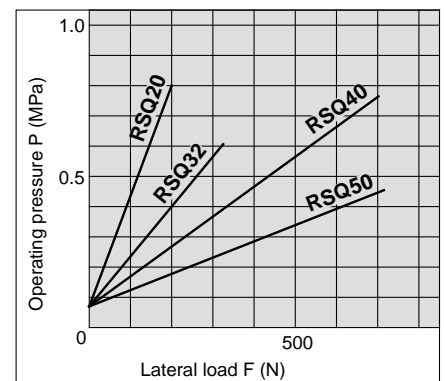
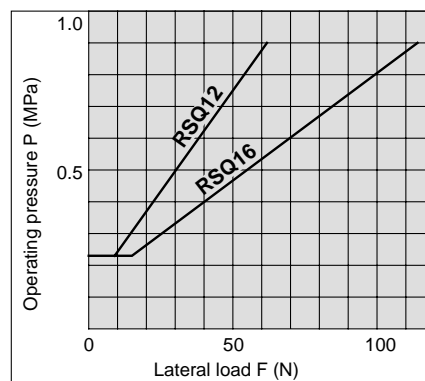
Lever style (with shock absorber) Graph 2



## Lateral Load and Operating Pressure

The larger the lateral load, the higher the operating pressure required for the stopper cylinder. Set the operating pressure using the graphs as a guide.

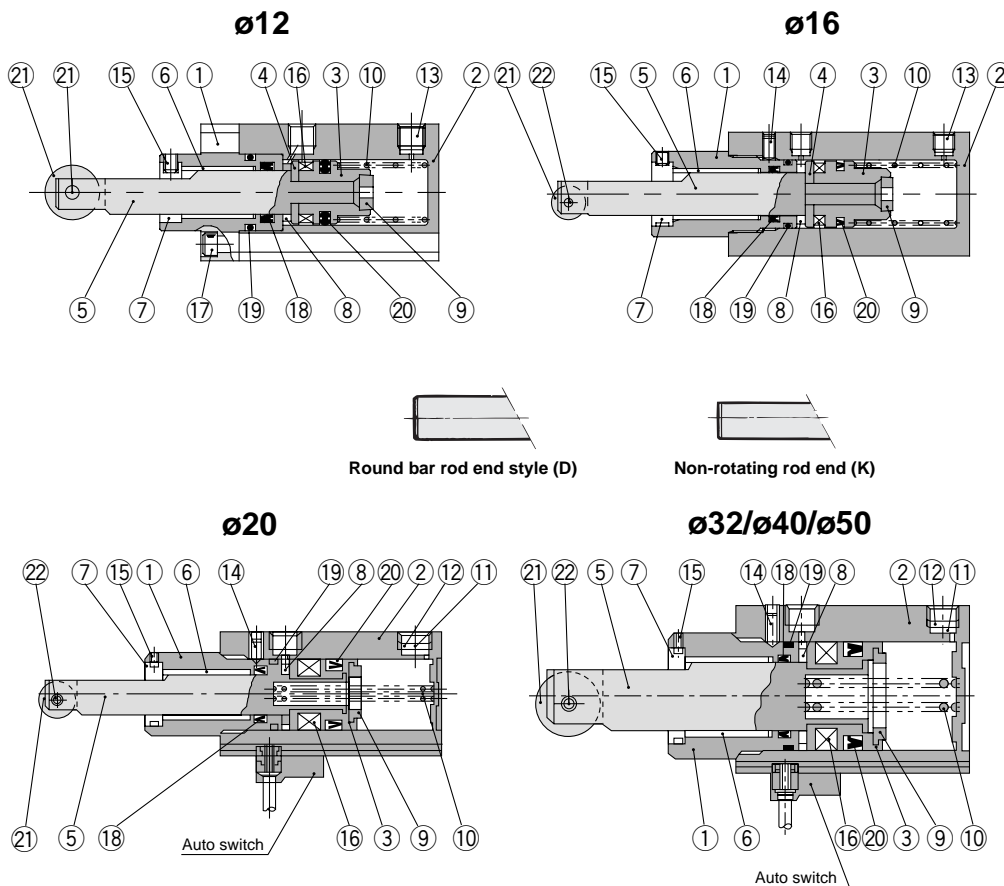
(Applicable for round shaft, roller and non-rotating rod end configurations.)



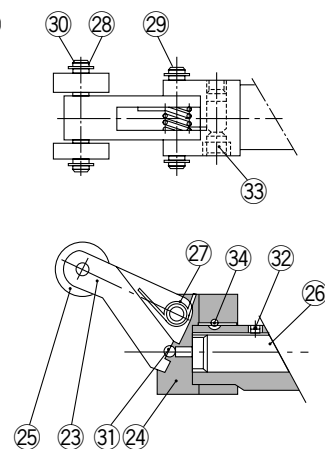
# Series RSQ

## Construction

### Single acting/Roller rod end



### Lever rod end with built-in shock absorber (ø32/ø40/ø50)



Only one roller is provided for ø32.

### Component Parts (Single acting)

No.	Description	Material	Remarks
①	Rod cover	Aluminum alloy	Anodized
②	Cylinder tube	Aluminum alloy	Hard anodized
③	Piston	Aluminum alloy	Chromated
④	Spacer for switch	Aluminum alloy	only for ø12 and ø16
⑤	Piston rod	ø12, ø16, ø20: Sus ø32, ø40, ø50: Steel	Hard chrome plated
⑥	Bush	Lead bronze casting	
⑦	Non-rotating guide	Rolled steel	Non-rotating style only
⑧	Damper A	Urethane	
⑨	Damper B	Urethane	
⑩	Return spring	Steel wire	Zinc chromated
⑪	Element	Sintered metallic BC	ø32 to ø50
⑫	Snap ring	Carbon tool steel	ø32 to ø50
⑬	Plug with fixed throttle	Alloy steel	ø12 to ø16
⑭	Hexagon socket set screw	Chrome-molybdenum steel	except ø12
⑮	Hexagon socket set screw	Chrome-molybdenum steel	
⑯	Chrome-molybdenum steel	Synthetic rubber	
⑰	Hexagon socket bolt	Alloy steel	only ø12
⑱	Rod seal	NBR	
⑲	Gasket	NBR	
⑳	Piston seal	NBR	

### Roller style

㉑	Roller A	Resin	
㉒	Spring pin	Carbon tool steel	

### Component Parts (Single acting)

No.	Description	Material	Remarks
<b>Lever style</b>			
㉓	Lever	Cast iron	
㉔	Lever holder	Rolled steel	
㉕	Roller B	Resin	
㉖	Shock absorber	—	ø32-RB1007-X225 ø40, 50-RB1407-X552
㉗	Lever spring	Stainless steel wire	
㉘	C type snap ring for shaft	Carbon tool steel	
㉙	Lever pin	Carbon steel	
㉚	Roller pin	Carbon steel	
㉛	Steel ball	High carbon chromium bearing	
㉜	Hexagon socket set screw	Chrome-molybdenum steel	
㉝	Hexagon socket set screw	Chrome-molybdenum steel	
㉞	One-side tapered pin	Carbon steel	

### Replacement Parts: Seal Kits

Bore size (mm)	Kit No.			Contents
	Double acting	Double with spring	Single acting	
12	RSQ12D-PS	RSQ12T-PS		Set of above ⑱, ⑲ and ⑳
16	RSQ16D-PS	RSQ16B-PS	RSQ16T-PS	
20	RSQ20D-PS	RSQ20B-PS	RSQ20T-PS	
32	RSQ32D-PS	RSQ32B-PS	RSQ32T-PS	
40	RSQ40D-PS	RSQ40B-PS	RSQ40T-PS	
50	RSQ50D-PS	RSQ50B-PS	RSQ50T-PS	

\*Seal kit includes rod seal ⑱, gasket ⑲ and piston seal ⑳. Order a seal kit according to applicable bore size.

### Replacement Parts: Shock Absorber

Bore size (mm)	Part No.
32	RB1007-X225
40, 50	RB1407-X552

## Rod End Configuration Round Bar

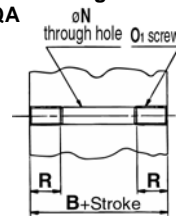
### Basic/Through hole mounting, Screw mounting

These 5 figures show an extended piston rod.

Bore size:  $\phi 12$  RS□QB12-10□

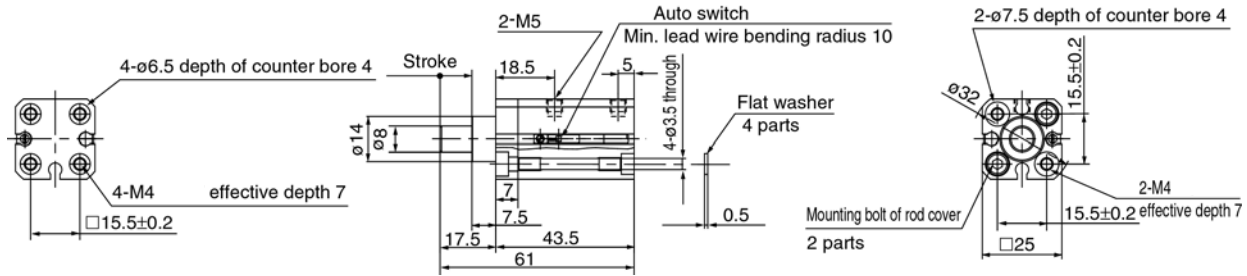
#### Screw mounting/Both ends tapped (mm)

RS□QA

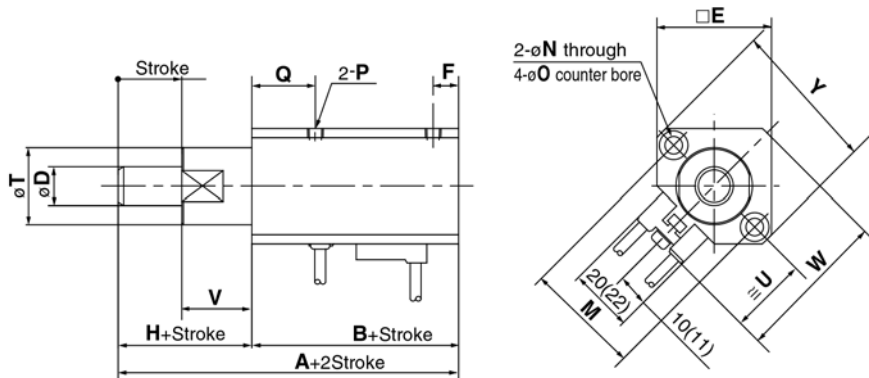


Model	B	N	O <sub>1</sub>	R
RS□QA16	41.5	3.5	M4	7
RS□QA20	45	5.5	M6	10
RS□QA32	48	5.5	M6	10
RS□QA40	52.5	5.5	M6	10
RS□QA50	54	6.6	M8	14

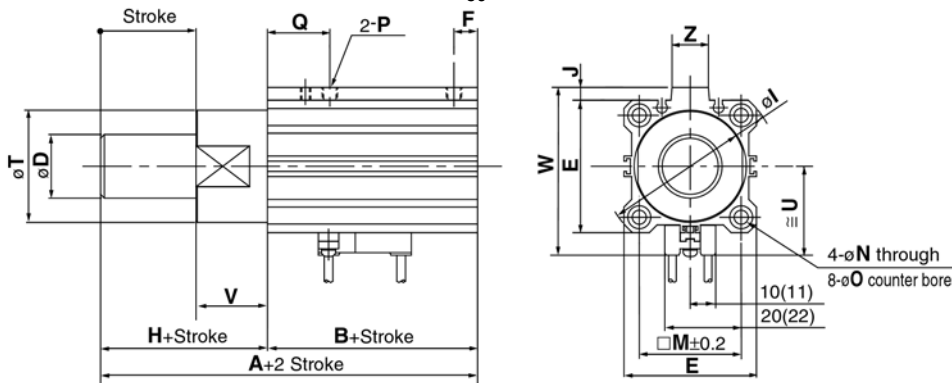
\*Dimensions other than above are the same as those of the basic style (on the left).



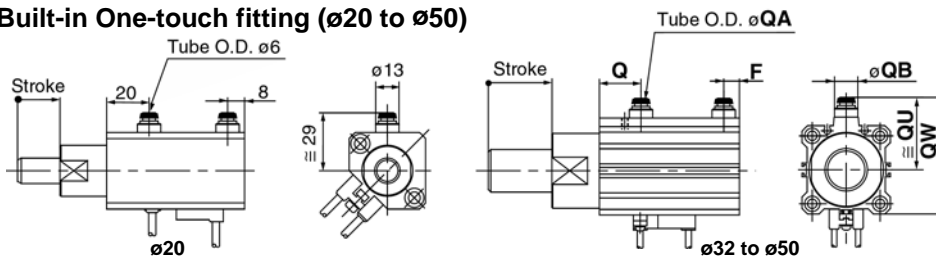
Bore size:  $\phi 16, \phi 20$  RS□QB<sup>16</sup>/<sub>20</sub>-□□



Bore size:  $\phi 32, \phi 40, \phi 50$  RS□QB<sup>32</sup>/<sub>40</sub>/<sub>50</sub>-□□



### Built-in One-touch fitting ( $\phi 20$ to $\phi 50$ )



#### Built-in One-touch fitting (mm)

Bore (mm)	Tube O.D. QA	F	Q	QB	QU	QW
32	6	7.5	20	13	38	60.5
40	6	8	24.5	13	42	68
50	8	9.5	26	16	50	82

Bore (mm)	A	B	D	E	F	H	I	J	M	N	O counter bore	P	Q	T	U	V	W	Y	Z
16	59.5	41.5	10	29	6	18	—	—	28	3.5	6.5 Depth 4	M5	17	20	22.5	18	41.5	38	—
20	67	45	12	36	8	22	—	—	36	5.5	9 Depth 7	1/8	20	24	24.5	22	48	47	—
32	68	48	20	45	7.5	20	60	4.5	34	5.5	9 Depth 7	1/8	20	36	31.5	20	58.5	—	14
40	80.5	52.5	25	52	8	28	69	5	40	5.5	9 Depth 7	1/8	24.5	44	35	28	66	—	14
50	82	54	25	64	8	28	86	7	50	6.6	11 Depth 8	1/8	24.5	56	41	28	80	—	19

Note 1) Dimensions for models without an auto switch are the same as the above.  
 Note 2) The figures show the dimensions of auto switches D-A73 and D-A80.  
 Note 3) Refer to p.4.2-14 regarding mounting position and mounting height for auto switches.

Note 4) The figure shows an extended piston rod.  
 Note 5) For single acting styles, One-touch fittings are provided only on the rod side.

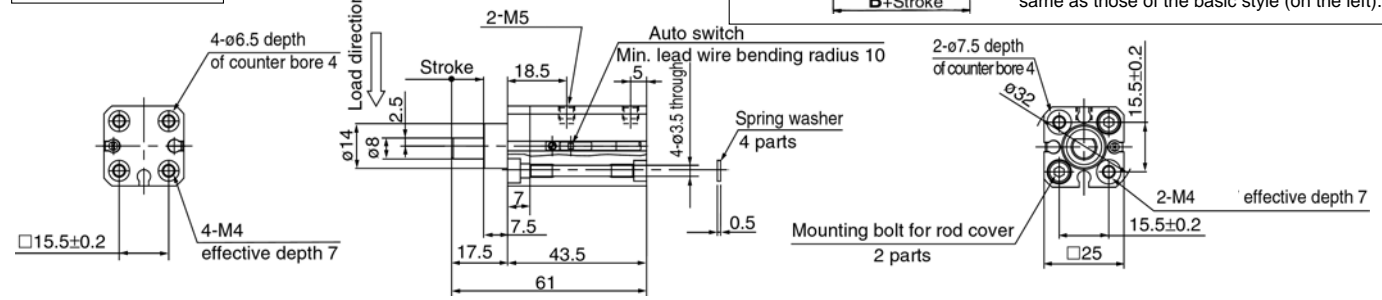
# Series R5Q

## Rod End Configuration Non-rotating

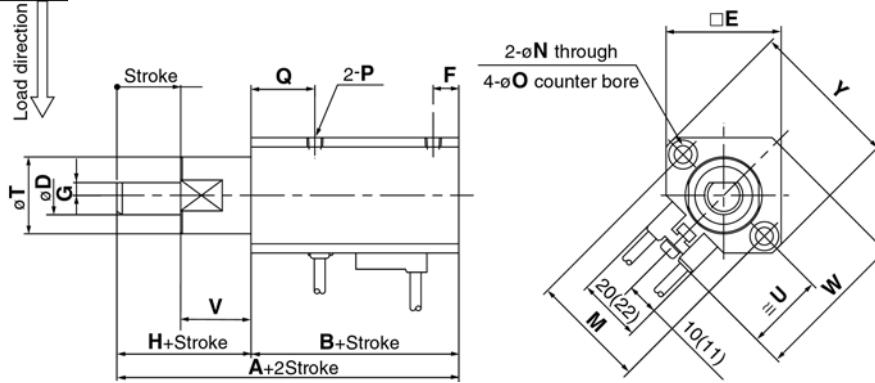
### Basic/Through hole mounting, Screw mounting

These 5 figures show an extended piston rod.

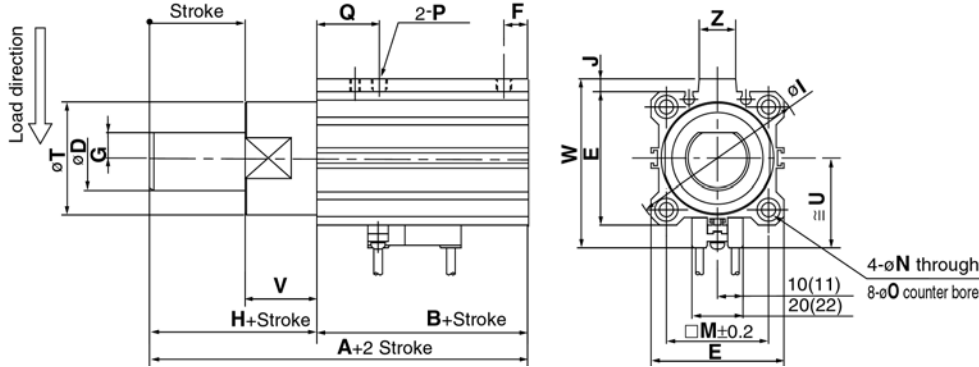
Bore size:  $\phi 12$  RS□QB12-10□K



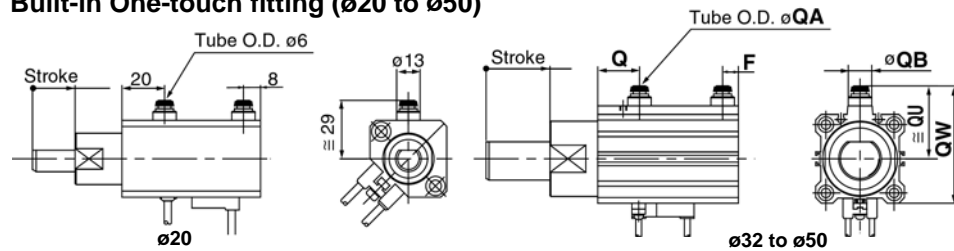
Bore size:  $\phi 16, \phi 20$  RS□QB<sup>16</sup>/<sub>20</sub>-□□K



Bore size:  $\phi 32, \phi 40, \phi 50$  RS□QB<sup>32</sup>/<sub>40</sub>/<sub>50</sub>-□□K



### Built-in One-touch fitting ( $\phi 20$ to $\phi 50$ )



### Built-in One-touch fitting (mm)

Bore (mm)	Tube O.D. QA	F	Q	QB	QU	QW
32	6	7.5	20	13	38	60.5
40	6	8	24.5	13	42	68
50	8	9.5	26	16	50	82

Bore (mm)	A	B	D	E	F	G	H	I	J	M	N	O counter bore	P	Q	T	U	V	W	Y	Z
16	59.5	41.5	10	29	6	3	18	—	—	28	3.5	6.5 Depth 4	M5	17	20	22.5	18	41.5	38	—
20	67	45	12	36	8	4	22	—	—	36	5.5	9 Depth 7	1/8	20	24	24.5	22	48	47	—
32	68	48	20	45	7.5	8	20	60	4.5	34	5.5	9 Depth 7	1/8	20	36	31.5	20	58.5	—	14
40	80.5	52.5	25	52	8	10	28	69	5	40	5.5	9 Depth 7	1/8	24.5	44	35	28	66	—	14
50	82	54	25	64	8	10	28	86	7	50	6.6	11 Depth 8	1/8	24.5	56	41	28	80	—	19

Note 1) Dimensions for models without an auto switch are the same as the above.  
 Note 2) The figures show the dimensions of auto switches D-A73 and D-A80.  
 Note 3) Refer to p.4.2-14 regarding mounting position and mounting height for auto switches.

Note 4) The figure shows an extended piston rod.  
 Note 5) For single acting styles, One-touch fittings are provided only on the rod side.

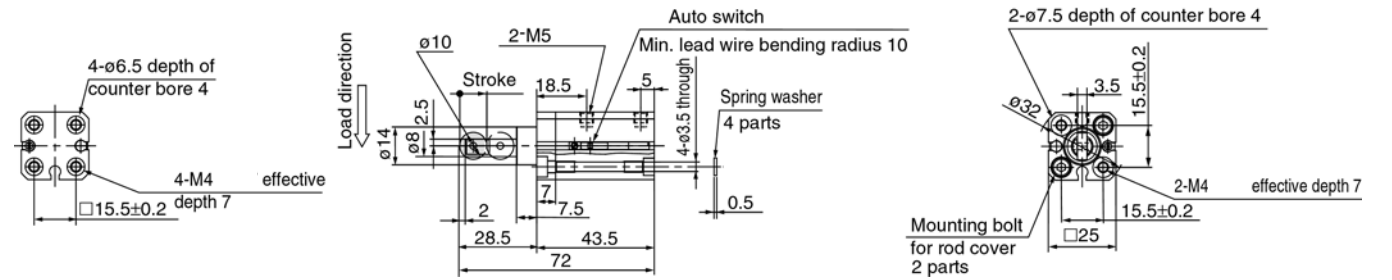


## Rod End Configuration Roller

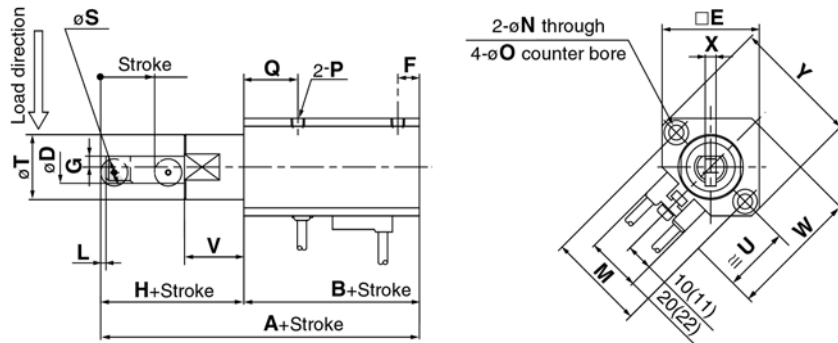
### Basic/Through hole mounting, Screw mounting

These 5 figures show an extended piston rod.

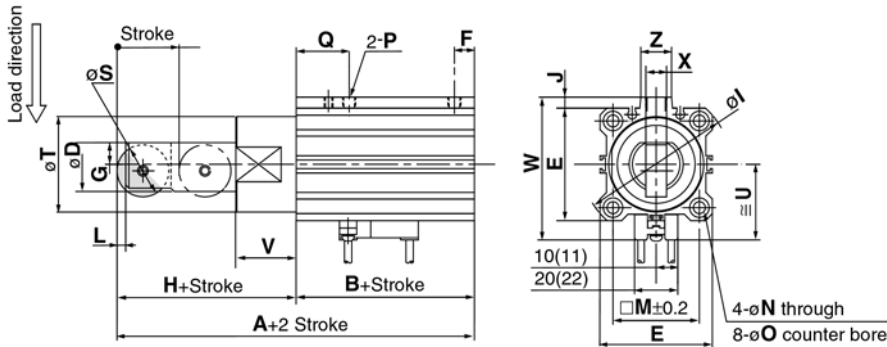
Bore size:  $\phi 12$  RS□QB12-10□R



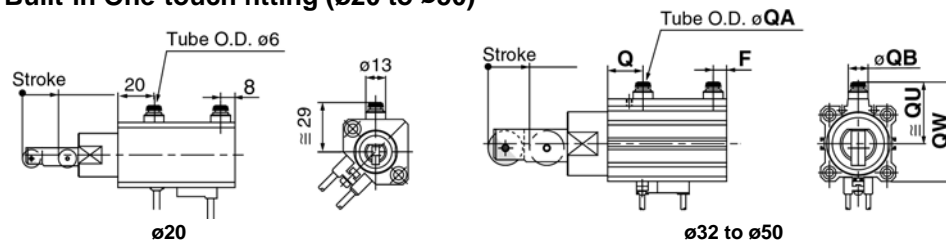
Bore size:  $\phi 16, \phi 20$  RS□QB<sup>16</sup>/<sub>20</sub>-□□R



Bore size:  $\phi 32, \phi 40, \phi 50$  RS□QB<sup>32</sup>/<sub>40</sub>/<sub>50</sub>-□□R



### Built-in One-touch fitting ( $\phi 20$ to $\phi 50$ )



### Built-in One-touch fitting (mm)

Bore (mm)	Tube O.D. QA	F	Q	QB	QU	QW
32	6	7.5	20	13	38	60.5
40	6	8	24.5	13	42	68
50	8	9.5	26	16	50	82

Bore (mm)	A	B	D	E	F	G	H	I	J	L	M	N	O counter bore	P	Q	S	T	U	V	W	X	Y	Z
16	68	41.5	10	29	6	3	26.5	—	—	2	28	3.5	6.5 Depth 4	M5	17	8	20	22.5	18	41.5	3.5	38	—
20	78	45	12	36	8	4	33	—	—	2	36	5.5	9 Depth 7	1/8	20	10	24	24.5	22	48	4	47	—
32	87	48	20	45	7.5	8	39	60	4.5	3	34	5.5	9 Depth 7	1/8	20	18	36	31.5	20	58.5	8	—	14
40	105.5	52.5	25	52	8	10	53	69	5	4	40	5.5	9 Depth 7	1/8	24.5	24	44	35	28	66	9	—	14
50	107	54	25	64	8	10	53	86	7	4	50	6.6	11 Depth 8	1/8	24.5	24	56	41	28	80	9	—	19

Note 1) Dimensions for models without an auto switch are the same as the above.  
 Note 2) The figures show the dimensions of auto switches D-A73 and D-A80.  
 Note 3) Refer to p.4.2-14 regarding mounting position and mounting height for auto switches.

Note 4) The figure shows an extended piston rod.  
 Note 5) For single acting styles, One-touch fittings are provided only on the rod side.

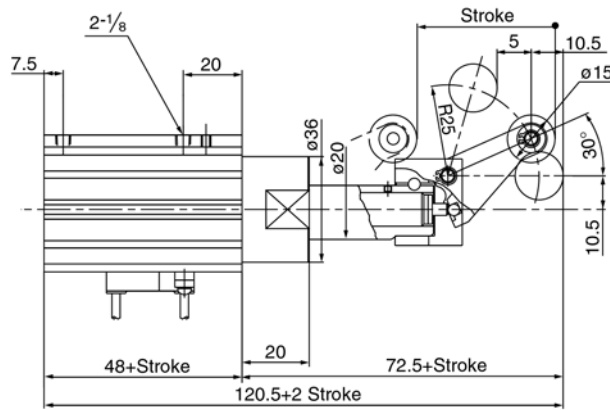
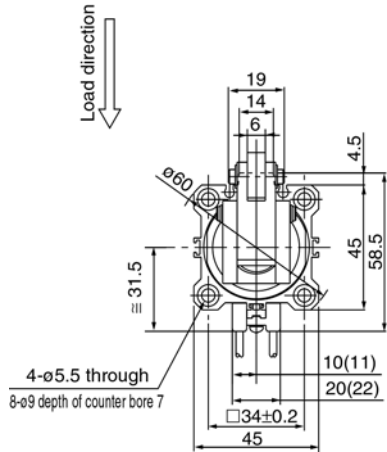
# Series RSQ

## Rod End Configuration **Lever with Built-in Shock Absorber**

### Basic/Through hole mounting, Screw mounting

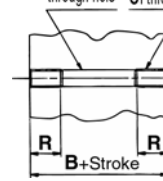
These 3 figures show an extended piston rod.

Bore size:  $\phi 32$  RS□QB32-□L



#### Screw mounting/Both ends tapped

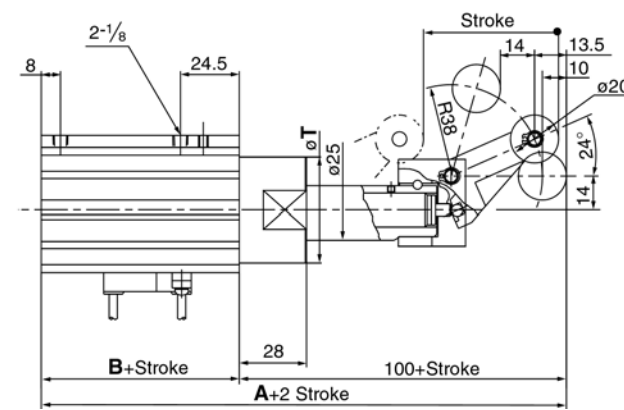
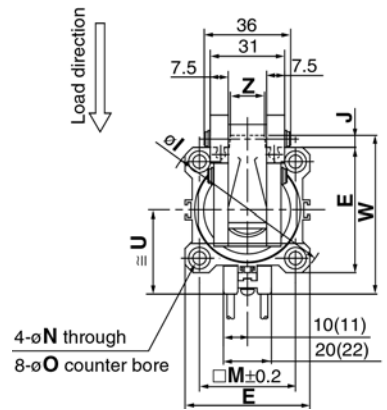
RS□QA



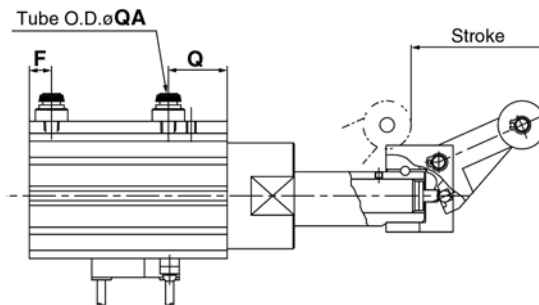
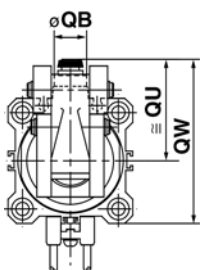
Model	B	N	O <sub>1</sub>	R
RS□QA32	48	5.5	M6	10
RS□QA40	52.5	5.5	M6	10
RS□QA50	54	6.6	M8	14

\*Dimensions other than above are the same as the drawing below.

Bore size:  $\phi 40, \phi 50$  RS□QB<sup>40</sup>/<sub>50</sub>-□□L



### Built-in One-touch fitting



#### Built-in One-touch fitting (mm)

Bore (mm)	Tube O.D. QA	F	Q	QB	QU	QW
32	6	7.5	20	13	38	60.5
40	6	8	24.5	13	42	68
50	8	9.5	26	16	50	82

(mm)

Bore (mm)	A	B	E	I	J	M	N	O counter bore	T	U	W	Z
40	152.5	52.5	52	69	5	40	5.5	9 Depth 7	44	35	66	14
50	154	54	64	86	7	50	6.6	11 Depth 8	56	41	80	19

Note 1) Dimensions for models without an auto switch are the same as the above.

Note 4) The figure shows an extended piston rod.

Note 2) The figures show the dimensions of auto switches D-A73 and D-A80.

Note 5) For single acting styles, One-touch fittings are provided only on the rod side.

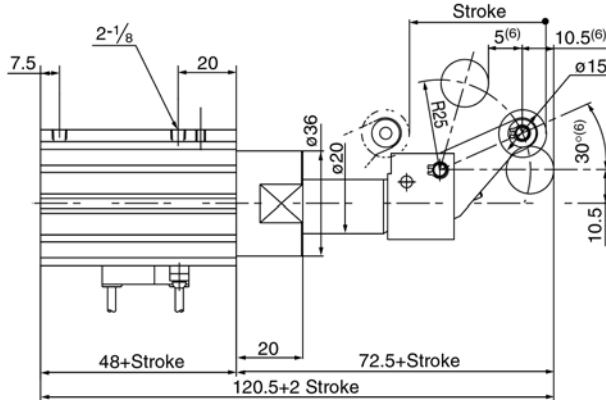
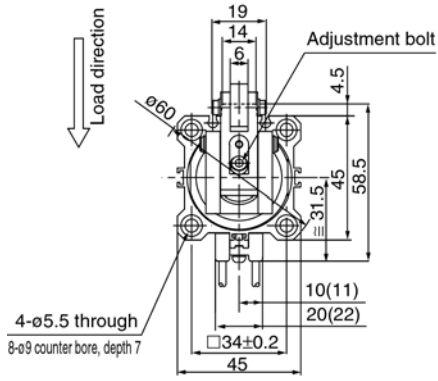
Note 3) Refer to p.4.2-14 regarding mounting position and mounting height for auto switches.

# Rod End Configuration **Lever with Built-in Shock Absorber**

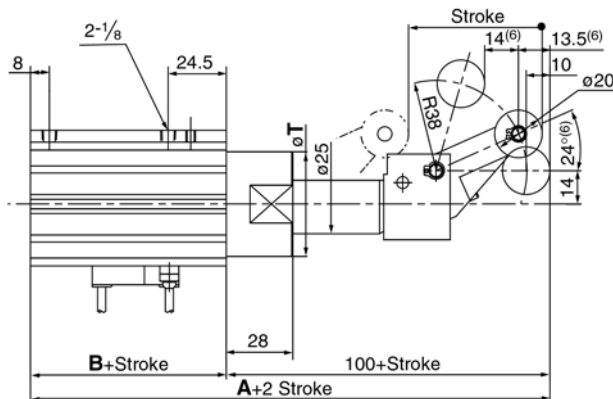
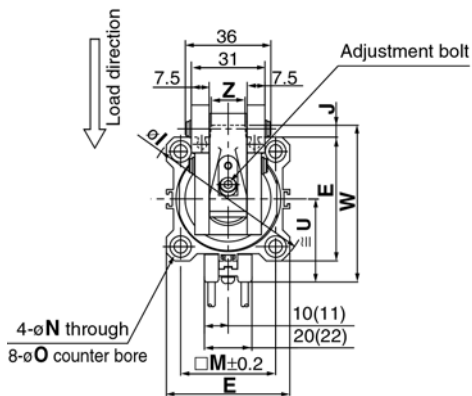
**Variable energy absorbing/Through hole mounting, Screw mounting Adjustable shock absorber stroke style**

These 3 figures show an extended piston rod.

**Bore size:  $\phi 32$  RS□QB32□□B**

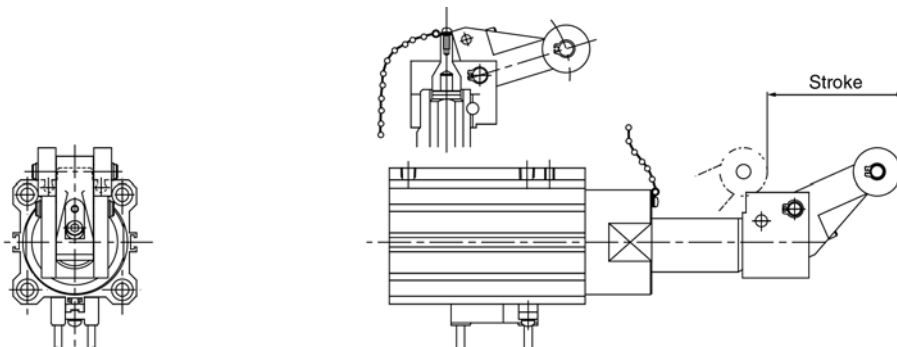


**Bore size:  $\phi 40, \phi 50$  RS□QB<sup>40</sup>/<sub>50</sub>□□□B**



**With cancel cap RS□QB□-□□C**

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



\*These drawings show dimensions when set for maximum energy absorbing capacity. (mm)

Bore (mm)	A	B	E	I	J	M	N	O Counter bore	T	U	W	Z
40	152.5	52.5	52	69	5	40	5.5	9 Depth 7	44	35	66	14
50	154	54	64	86	7	50	6.6	11 Depth 8	56	41	80	19

Note 1) Dimensions when not equipped with auto switches are the same as the drawings above.  
 Note 2) These drawings show dimensions when equipped with D-A73 or D-A80 type auto switches.  
 Note 3) Refer to p.4.2-14 for auto switch mounting positions and mounting height.

Note 4) These drawings show the piston rod extended.  
 Note 5) In the case of single acting styles, a One-touch fitting is on the rod side only.  
 Note 6) The drawing shows these three 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 adjustment bolt is raised (energy absorption is reduced).  
 $\phi 32$ .....\*30°→\*20°, \*10.5→\*9, \*5→\*6  
 $\phi 40, 50$ ....\*24°→\*16°, \*13.5→\*11.5, \*14→\*16

Screw mounting/Both end tapped (mm)

Model	B	N	O <sub>1</sub>	R
RS□QA32	48	5.5	M6	10
RS□QA40	52.5	5.5	M6	10
RS□QA50	54	6.6	M8	14

\*Dimensions other than above are the same as the drawings below.

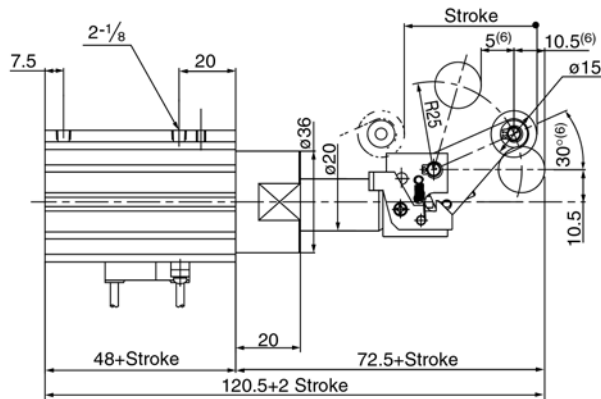
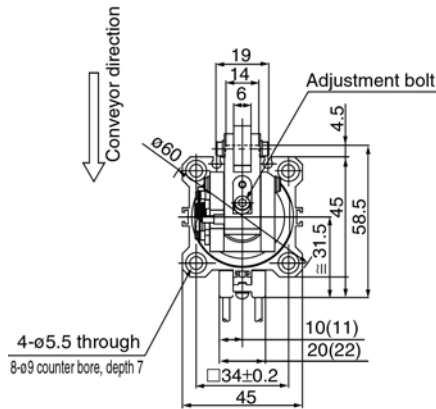
# Series R5Q

## Rod End Configuration **Lever with Built-in Shock Absorber**

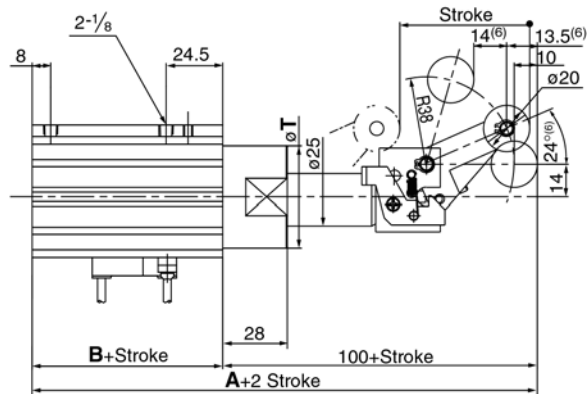
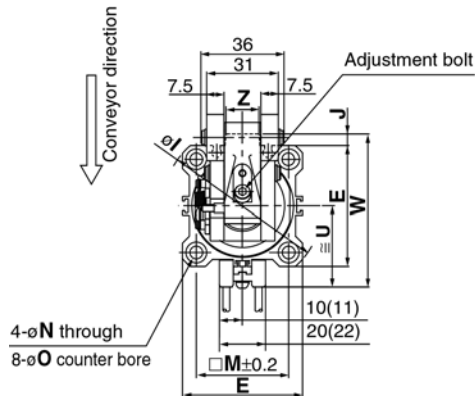
**Variable energy absorbing/Through hole mounting, Screw mounting With lock mechanism**

These 3 figures show an extended piston rod.

**Bore size:  $\phi 32$  RS□QB32□□D**

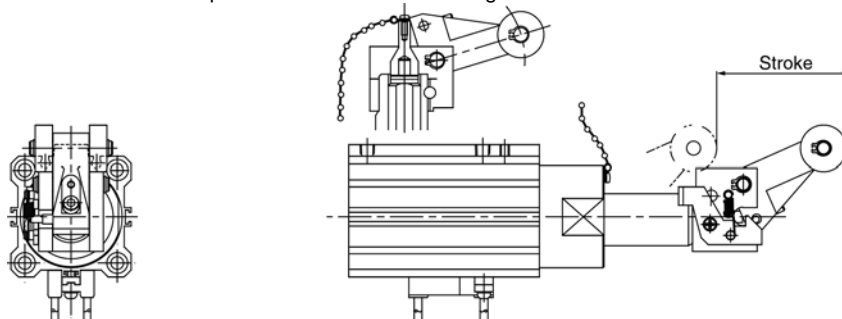


**Bore size:  $\phi 40, \phi 50$  RS□QB  $\frac{40}{50}$ -□□D**



**With lock mechanism + cancel cap RS□QB□□-□□E**

\*Dimensions when equipped with lock + cancel cap are the same as the drawings above.



\*These drawings show dimensions when set for maximum energy absorbing capacity. (mm)

Bore (mm)	A	B	E	I	J	M	N	O Counter bore	T	U	W	Z
40	152.5	52.5	52	69	5	40	5.5	9 Depth 7	44	35	66	14
50	154	54	64	86	7	50	6.6	11 Depth 8	56	41	80	19

Note 1) Dimensions when not equipped with auto switches are the same as the drawings above.

Note 2) These drawings show dimensions when equipped with D-A73 or D-A80 auto switches.

Note 3) Refer to p.4.2-14 for auto switch mounting positions and mounting height.

Note 4) These drawings show the piston rod extended.

Note 5) In the case of single acting styles, a One-touch fitting is on the rod side only.

Note 6) The drawing shows these three 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 adjustment bolt is raised (energy absorption is reduced).

$\phi 32$ ..... $30^\circ \rightarrow 20^\circ$ ,  $10.5 \rightarrow 9$ ,  $5 \rightarrow 6$

$\phi 40, 50$ ..... $24^\circ \rightarrow 16^\circ$ ,  $13.5 \rightarrow 11.5$ ,  $14 \rightarrow 16$

# Auto Switch Specifications

Refer to p.5.3-2 for details of the auto switch.



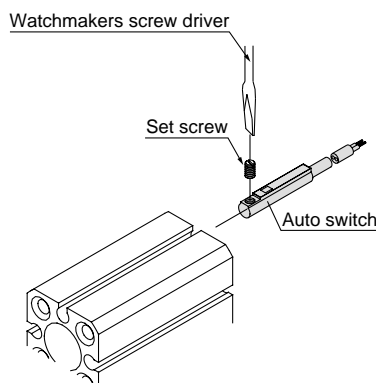
## Applicable Auto Switch

Style	Auto switch model	Electrical entry (Function)	Bore size	Page
Reed switch	D-A7□, A80	Grommet (Perpendicular)	ø16 to ø50	5.3-14
	D-A7□H, A80H	Grommet (In-line)		5.3-15
	D-A73C, A80C	Connector		5.3-16
	D-A79W	Grommet (2 colour indicator, Perpendicular)	ø12, ø32 to ø50	5.3-26
	D-A9□	Grommet (In-line)		5.3-19
	D-A9□V	Grommet (Perpendicular)		5.3-20
Solid state switch	D-F7□, J79	Grommet (In-line)	ø16 to ø50	5.3-34
	D-F7□V	Grommet (Perpendicular)		5.3-35
	D-J79C	Connector		5.3-36
	D-F7□W, J79W	Grommet (2 colour indicator, In-line)		5.3-44
	D-F7□WV	Grommet (2 colour indicator, Perpendicular)		5.3-45
	D-F7NTL	Grommet (with timer, In-line)		5.3-60
	D-F7BAL	Grommet (2 colour indicator, water resistant, In-line)		5.3-57
	D-F7□F	Grommet (2 colour indicator, with diagnostic output, In-line)	5.3-53	
	D-M9□	Grommet (In-line)	ø12, ø32 to ø50	5.3-39
	D-M9□V	Grommet (Perpendicular)		5.3-39
	D-M9□W	Grommet (2 colour indicator, In-line)		5.3-66
	D-M9□WV	Grommet (2 colour indicator, Perpendicular)		5.3-66
	D-M9BAL	Grommet (2 colour indicator, water resistant, In-line)		5.3-67

## Auto Switch Mounting

Mount auto switches following the procedures shown below.

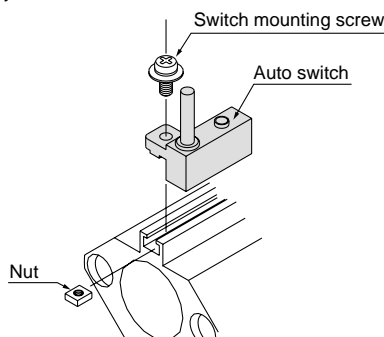
### ø12, ø32 to ø50



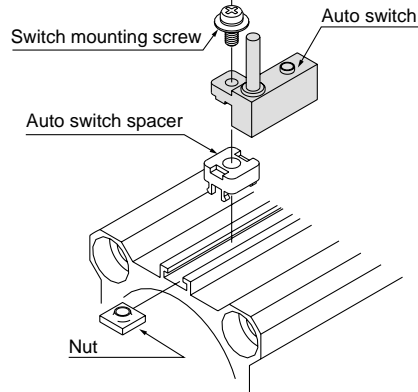
When tightening the auto switch mounting screw, use a watchmakers screw driver with a handle 5 to 6mm in diameter. The tightening torque should be 0.1 to 0.2Nm.

- ① Insert an auto switch into one of the cylinder's switch mounting grooves, as shown in the drawing, and place it in the approximate mounting position.
- ② After confirming the detection position, secure the auto switch by tightening the mounting screw.
- ③ Perform changes of the detection position under the same conditions as step 1.

### ø16, ø20



### ø32 to ø50

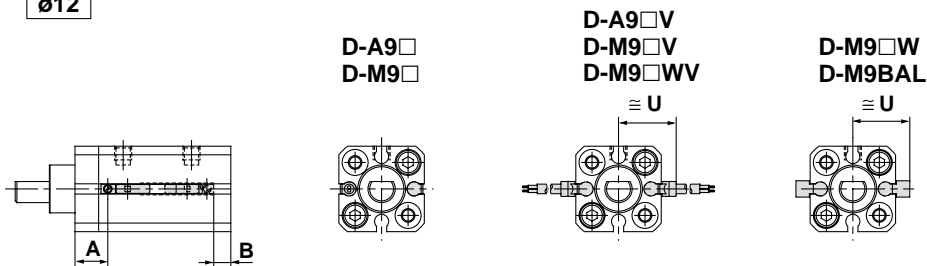


- ① Slide the auto switch mounting nut, which is inserted into the auto switch mounting rail, to the approximate mounting position.
- ② Insert the projection on the auto switch mounting arm into the groove of the rail, and slide the unit to the position of the nut. (This may be inserted into the rail groove through the auto switch spacer.)
- ③ Pass the auto switch mounting screw through the mounting hole in the auto switch mounting arm, and gently screw it into the auto switch mounting nut.
- ④ After reconfirming the detection position, secure the auto switch by tightening the mounting screw. (The tightening torque for the M3 screw should be 0.5 to 0.7Nm.)
- ⑤ Perform changes of the detection position under the same conditions as step 3.

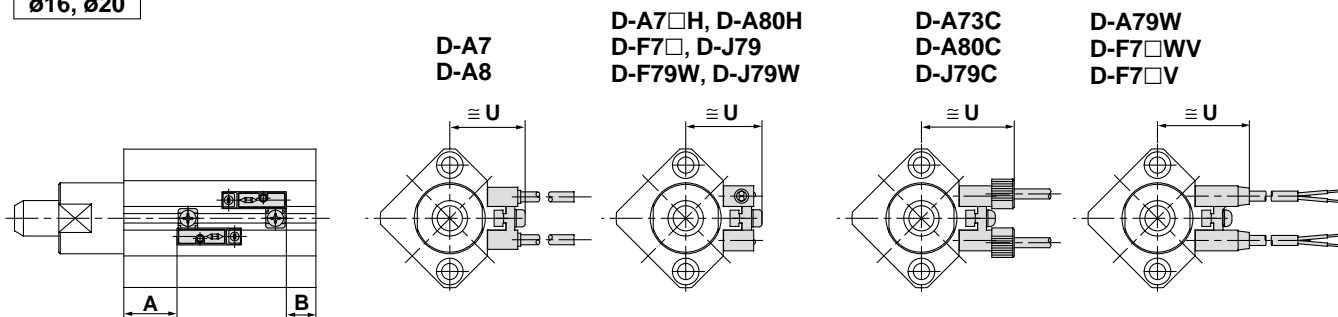
# Series RSDQ

## Auto Switch Suitable Mounting Position (Stroke End) and Mounting Height

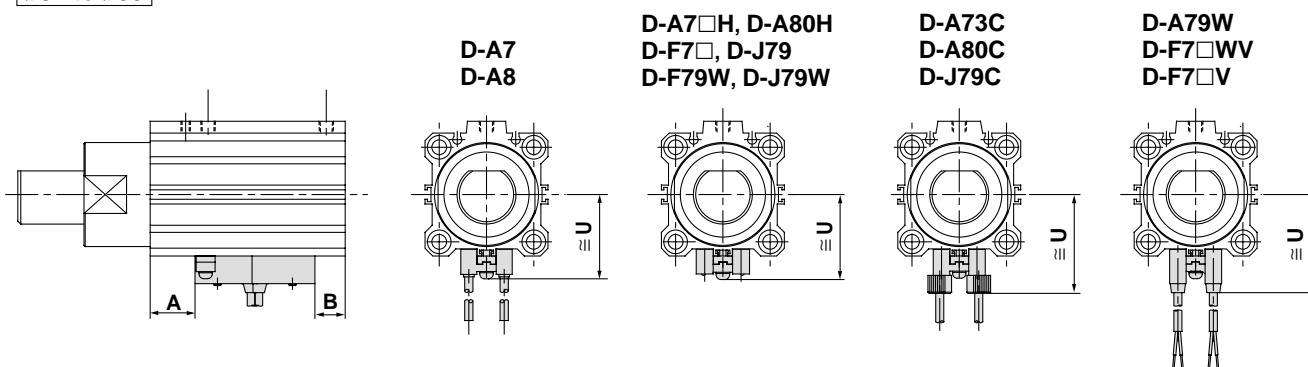
ø12



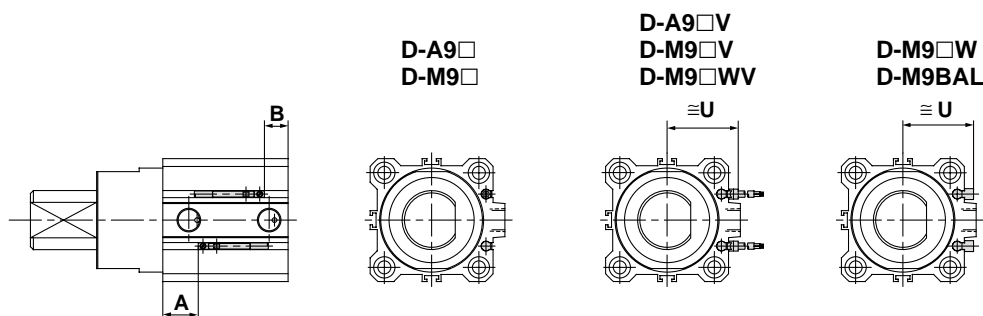
ø16, ø20



ø32 to ø50



ø32 to ø50



### Auto Switch Mounting Position

Bore size (mm)	D-A7□ D-A80		D-A7□H D-A80H D-A73C D-A80C D-F7□ D-J79 D-F7□V D-J79C		D-A79W		D-F7□W D-F7□F D-J79W D-F7□WV		D-A9□ D-A9□V		D-M9□ D-M9□V D-M9□WV		D-M9BAL D-M9□W	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
12	—	—	—	—	—	—	—	—	9	4	13	8	12	7
16	11.5	11.5	12	12	9	9	16	16	—	—	—	—	—	—
20	17.5	9.5	18	10	15	7	22	14	—	—	—	—	—	—
32	18	12	18.5	12.5	15.5	9.5	22.5	16.5	17	11	21	15	20	14
40	22.5	12	23	12.5	20	9.5	27	16.5	21.5	11	25.5	15	24.5	14
50	30.5	5.5	31	6	28	3	35	10	29.5	4.5	33.5	8.5	32.5	7.5

### Auto Switch Mounting Height

									(mm)	
D-A7□ D-A80		D-A7□H D-A80H D-F7□ D-J79 D-F7□W D-F7BAL D-J79W D-F7□F D-F7NTL		D-A73C D-A80C	D-F7□V D-F7□WV	D-J79C	D-A79W	D-A9□V	D-M9□V D-M9□WV	D-M9BAL D-M9□W
U		U		U	U	U	U	U	U	U
—	—	—	—	—	—	—	—	17	19.5	16.5
22.5	23.5	29.5	26	29	25	—	—	—	—	—
24.5	25.5	31.5	28	31	27	—	—	—	—	—
31.5	32.5	38.5	35	38	34	27	29	29	26.5	—
35	36	42	38.5	41.5	37.5	30.5	32.5	30	—	—
41	42	48	44.5	47.5	43.5	36.5	38.5	36	—	—

# Stopper Cylinder/Adjustable Mounting Height

## Series RSG

ø40, ø50

### How to Order

**Standard**

RSG 40 [ ] 30 D [ ]

**With auto switch**

RSDG 40 [ ] 30 D [ ] C73 [ ]

**With auto switch**  
(Built-in magnet)

**Bore size**

40	40mm
50	50mm

**Piping**

—	Screw-in piping Rc(PT)
F	Integrated One-touch fitting
TF	Screw-in piping G(PF)

**Cylinder stroke (mm)**

40, 50	20, 25, 30
--------	------------

**Auto Switch Mounting Bracket Part No.**

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

[Stainless steel mounting screw kit]  
The following stainless steel mounting screw kit is available and may be used depending on the operating environment.  
(Contact SMC regarding the switch mounting band, which is not included.)  
BBA4: For D-C7/C8/H7  
The above stainless steel screws are used when a D-H7BA switch is mounted on a cylinder at the time of shipment.  
The BBA4 kit is attached when an auto switch unit is shipped alone.

**Number of auto switches**

—	2
S	1

**Auto switch**

—	Without auto switch
---	---------------------

\*Select applicable auto switches from the table below.

**Rod end configuration**

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

**Action**

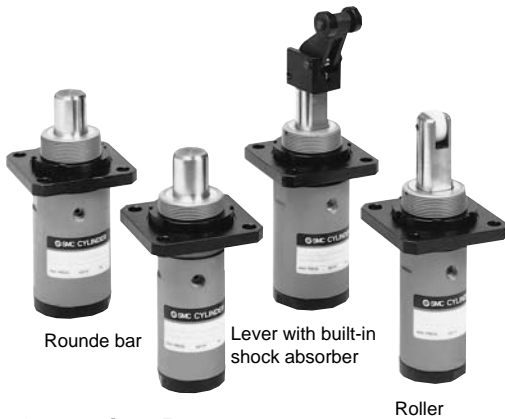
D	Double acting
B	Double acting/spring loaded
T	Single acting/spring extend

### Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model	Lead wire (m)*				Applicable load			
					DC	AC		0.5 (—)	3 (L)	5 (Z)	None (N)	IC circuit	Relay, PLC		
Reed switch	—	Grommet	Yes	3 wire (Equiv. NPN)	24V	5V	—	C76	●	●	—	—	IC circuit	Relay, PLC	
						12V	100V	C73	●	●	●	—	—		
		Connector	No	2 wire		5V, 12V	≤100V	C80	●	●	—	—	IC circuit		
						12V	—	C73C	●	●	●	●	—		—
Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	5V, 2V	—	H7A1	●	●	○	—	IC circuit	Relay, PLC	
				3 wire (PNP)				H7A2	●	●	○	—	—		
		Connector	No	2 wire				12V	H7B	●	●	○	—		—
								5V, 12V	≤24V	C80C	●	●	●		●
	Diagnostic (2 colour)	Grommet	Yes	3 wire (NPN)	24V	5V, 12V	—	H7NW	●	●	○	—	IC circuit		
				3 wire (PNP)				H7PW	●	●	○	—	—		
				2 wire				H7BW	●	●	○	—	—		
								H7BA	—	●	○	—	—		
				Water resistant (2 colour)				2 wire	H7NF	●	●	○	—		IC circuit
									H7LF	●	●	○	—		—
Diagnostic output (2 colour)	4 wire (NPN)	No	—	5V, 12V	—	—	—	—	—	—					
				—	—	—	—	—	—						

\*Lead wire length 0.5m.....— (Ex.) C80C 5m.....Z (Ex.) C80CZ \*\*Solid state switches marked with ○ are manufactured upon receipt of order.  
3m.....L (Ex.) C80CL None.....N (Ex.) C80CN

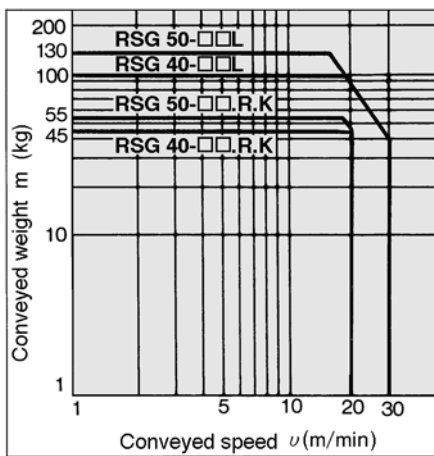
# Series RSG



## Model

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

## Operating Range



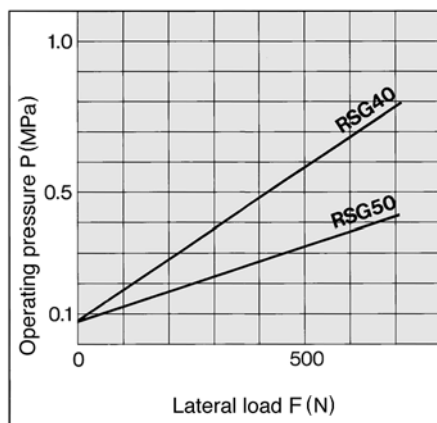
## Specifications

<b>Action</b>	Double acting, Double acting with spring, Single acting/spring extended
<b>Fluid</b>	Air
<b>Proof pressure</b>	1.5MPa
<b>Max. operating pressure</b>	1.0MPa
<b>Ambient and fluid temperature</b>	Without auto switch: -10°C to 70°C/With auto switch: -10°C to 60°C*
<b>Lubrication</b>	Not required (Non-lube)
<b>Cushion</b>	Rubber bumper
<b>Stroke length tolerance</b>	$+1.4$ $0$
<b>Mounting</b>	Flange
<b>Auto switch</b>	Available

\*No freezing (without auto switch, with auto switch)

## Lateral Load and Operating Pressure

Greater lateral loads need higher stopper cylinder operation pressures. Set the operation pressure by using the diagram as guidelines. (Applicable to the round bar, roller, and non-rotating styles)



## Bore Size/Standard stroke

Bore size (mm)	Rod end configuration	
	Round bar, Non-rotating, Roller, Lever with built-in shock absorber	
40	20, 25, 30	
50	20, 25, 30	

## Weight

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

## Spring Force (Single acting)

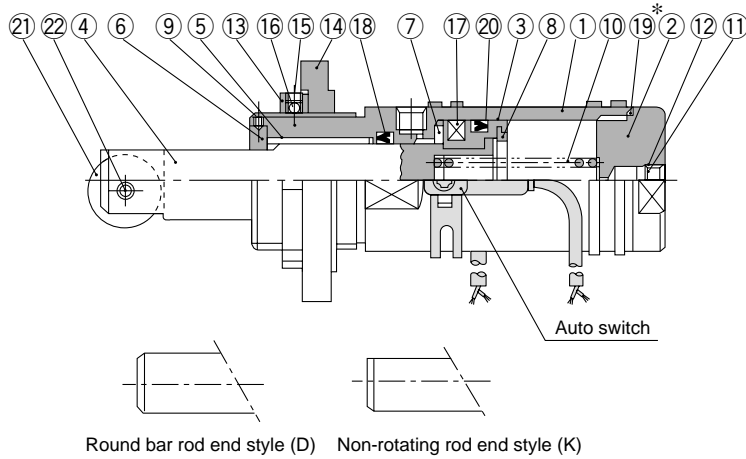
Bore size (mm)	When extended	When compressed
40, 50	13.7	27.5

\*For round bar, non-rotating and roller styles.

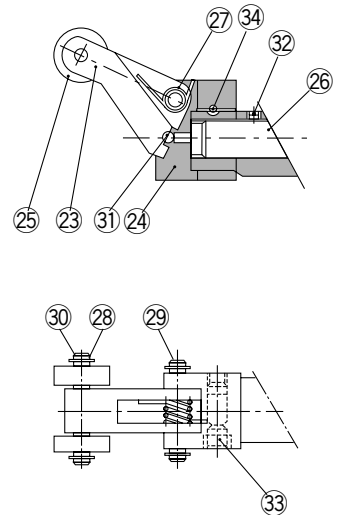


## Construction

### Single acting/Roller rod end



### Lever rod end with built-in shock absorber



### Component Parts

No.	Description	Material	Remarks
①	<b>Tube cover</b>	Aluminum alloy	Hard anodized
②	<b>Head cover</b>	Aluminum alloy	Anodized
③	<b>Piston</b>	Aluminum alloy	Chromated
④	<b>Piston rod</b>	Carbon steel	Hard chrome plated
⑤	<b>Bush</b>	Lead bronze casting	
⑥	<b>Non-rotating guide</b>	Rolled steel	Use collar for round bar type.
⑦	<b>Damper A</b>	Urethane	
⑧	<b>Damper B</b>	Urethane	
⑨	<b>Hexagon socket set screw</b>	Chrome-molybdenum steel	
⑩	<b>Extend spring</b>	Steel wire	Zinc chromated
⑪	<b>Snap ring</b>	Carbon tool steel	
⑫	<b>Element</b>	Sintered metallic BC	
⑬	<b>Lock nut</b>	Carbon steel	
⑭	<b>Flange</b>	Cast iron	
⑮	<b>Hexagon socket set screw</b>	Chrome-molybdenum steel	
⑯	<b>Ball</b>	Resin	
⑰	<b>Rubber magnet</b>	Synthetic rubber	
⑱	<b>Rod seal</b>	NBR	
⑲*	<b>Gasket</b>	NBR	Used only for double acting and double acting with spring.
⑳	<b>Piston seal</b>	NBR	

### Replacement Parts: Seal Kits

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

\*Seal kit includes rod seal ⑱, gasket ⑲ and piston seal ⑳.  
Order a seal kit according to applicable bore size.

### Component Parts

No.	Description	Material	Remarks
<b>Roller style</b>			
⑲	<b>Roller A</b>	Resin	
⑳	<b>Spring pin</b>	Carbon tool steel	
<b>Lever style</b>			
⑳	<b>Lever</b>	Cast iron	
㉑	<b>Lever holder</b>	Rolled steel	
㉒	<b>Roller B</b>	Resin	
㉓	<b>Shock absorber</b>	—	RB1407-X552
㉔	<b>Lever spring</b>	Stainless steel wire	
㉕	<b>C retaining ring for shaft</b>	Carbon tool steel	
㉖	<b>Lever pin</b>	Carbon steel	
㉗	<b>Roller pin</b>	Carbon steel	
㉘	<b>Steel ball</b>	High carbon chromium bearing	
㉙	<b>Hexagon socket set screw</b>	Chrome-molybdenum steel	
㉚	<b>Hexagon socket set screw</b>	Chrome-molybdenum steel	
㉛	<b>One-side tapered pin</b>	Carbon steel	

### Replacement Parts: Shock Absorber

Bore size (mm)	Part No.
40, 50	RB1407-X552

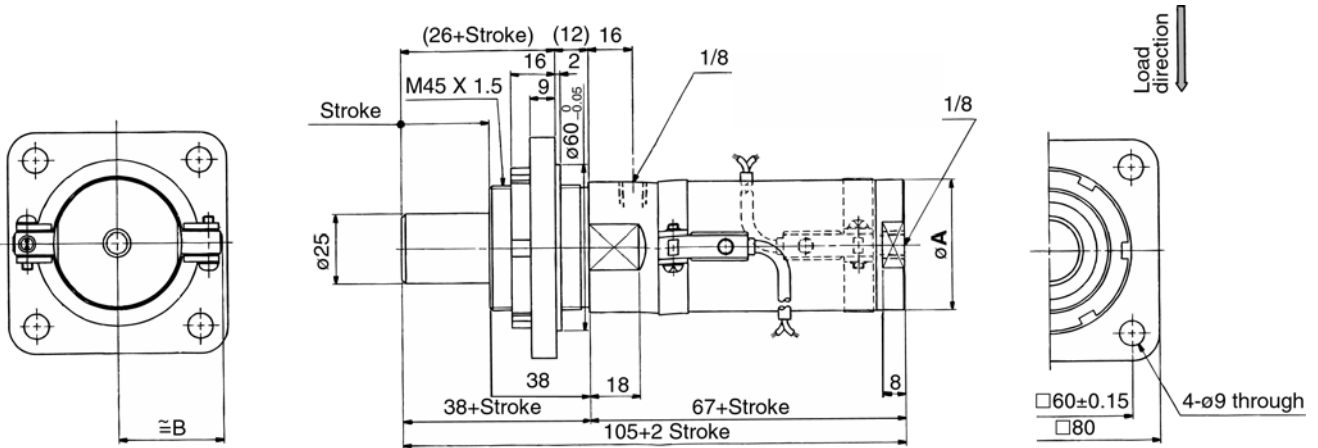
# Series RSG

## Rod End Configuration Round Bar

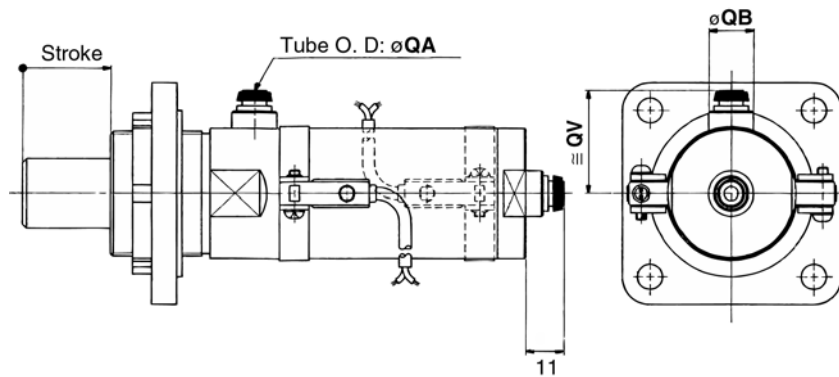
### Basic/Flange mounting

These 2 figures show an extended piston rod.

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



### Built-in One-touch fitting



(mm)

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



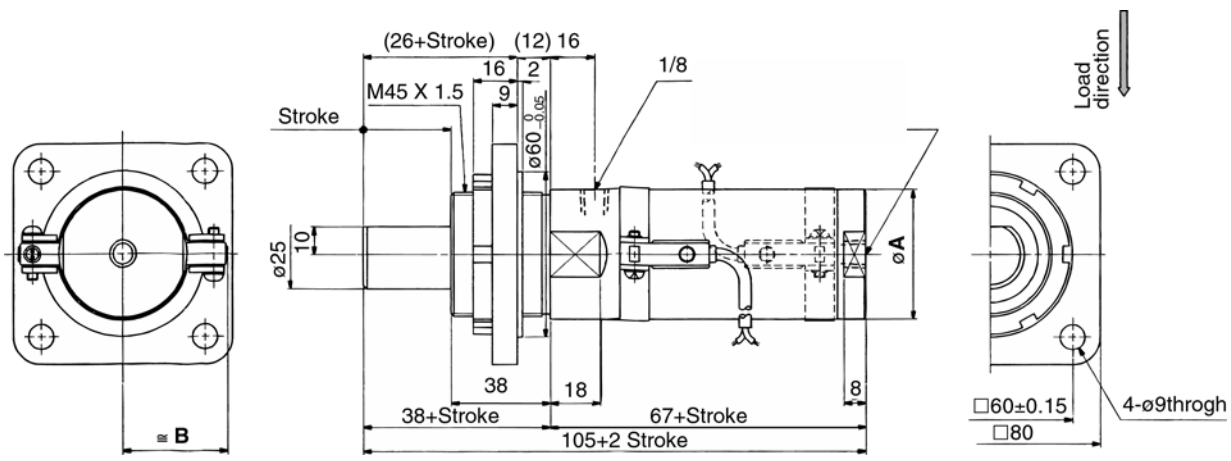
- Note 1) Dimensions for models without an auto switch are the same as the above.  
 Note 2) For single acting styles, One-touch fittings are provided only on the rod side.  
 Note 3) The figures show the dimensions of auto switches D-C7 and D-C8.  
 Note 4) The figure shows an extended piston rod.  
 Note 5) Refer to p.4.2-25 regarding mounting position and mounting height for auto switches.

Rod End Configuration **Non-rotating** (Non-rotating piston rod)

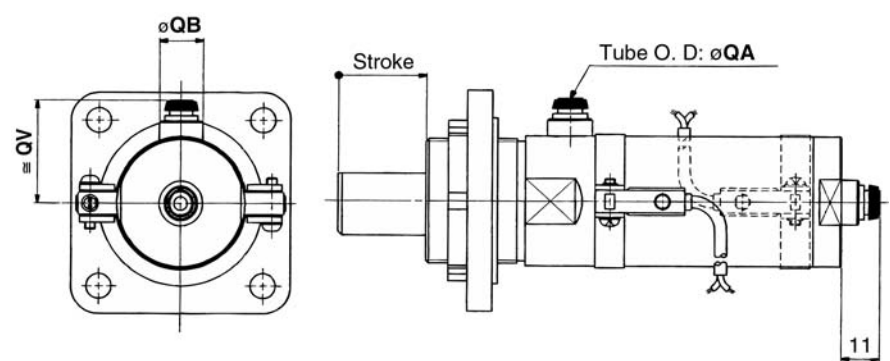
Basic/Flange mounting

These 2 figures show an extended piston rod.

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



Built-in One-touch fitting



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

- Note 1) Dimensions for models without an auto switch are the same as the above.
- Note 2) For single acting styles, One-touch fittings are provided only on the rod side.
- Note 3) The figures show the dimensions of auto switches D-C7 and D-C8.
- Note 4) The figure shows an extended piston rod.
- Note 5) Refer to p.4.2-25 regarding mounting position and mounting height for auto switches.

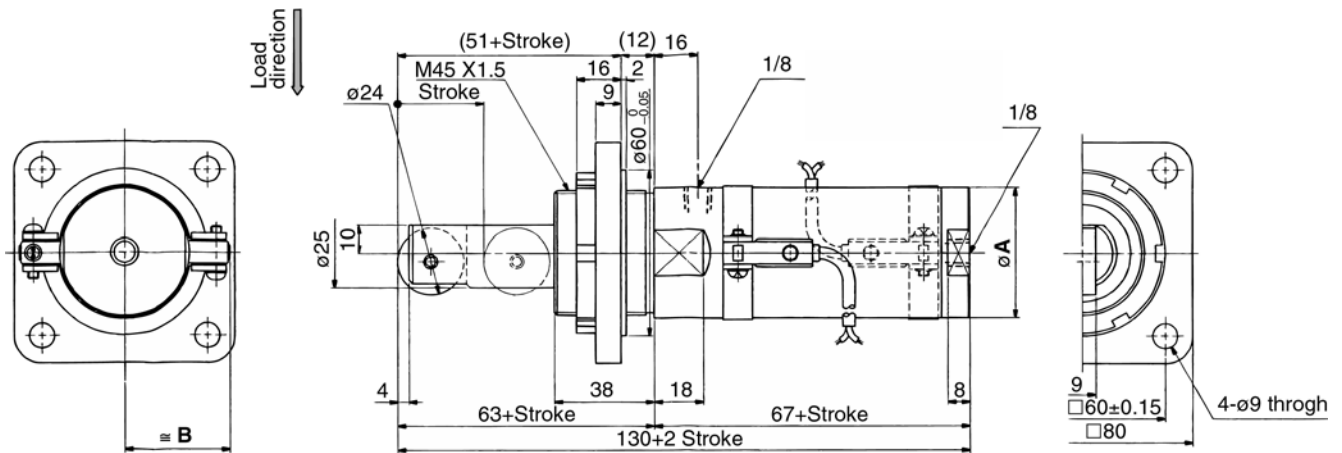
# Series RSG

## Rod End Configuration Roller Style

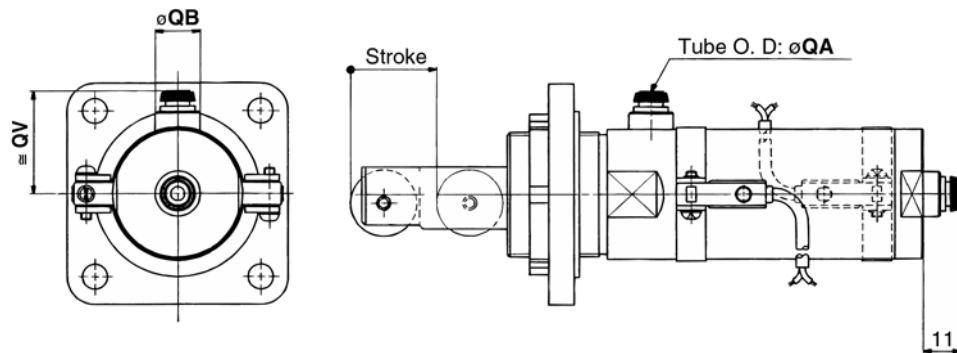
### Basic/Flange mounting

These 2 figures show an extended piston rod.

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



### Built-in One-touch fitting



(mm)

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



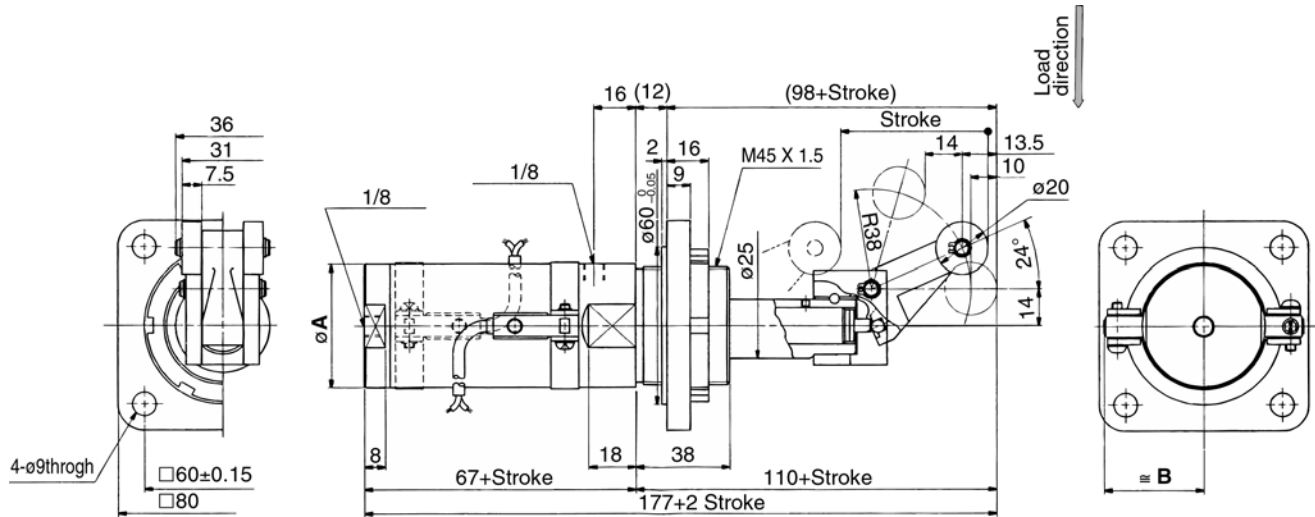
- Note 1) Dimensions for models without an auto switch are the same as the above.  
 Note 2) For single acting styles, One-touch fittings are provided only on the rod side.  
 Note 3) The figures show the dimensions of auto switches D-C7 and D-C8.  
 Note 4) The figure shows an extended piston rod.  
 Note 5) Refer to p.4.2-25 regarding mounting position and mounting height for auto switches.

# Rod End Configuration **Lever with Built-in Shock Absorber**

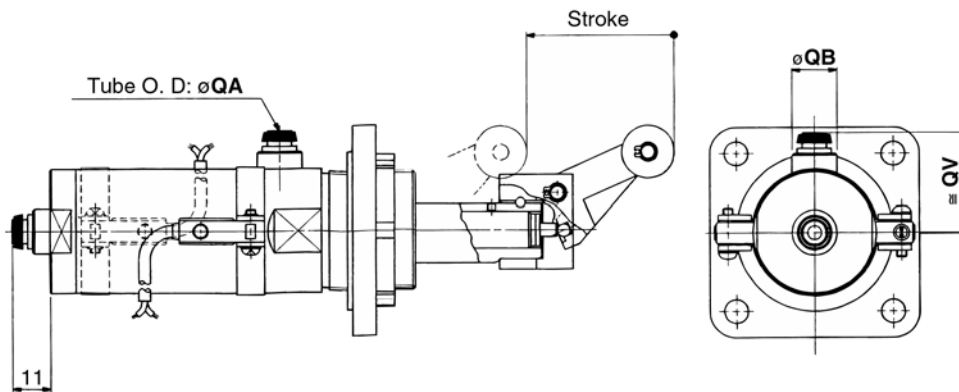
## Basic/Flange mounting

These 2 figures show an extended piston rod.

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



## Built-in One-touch fitting



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



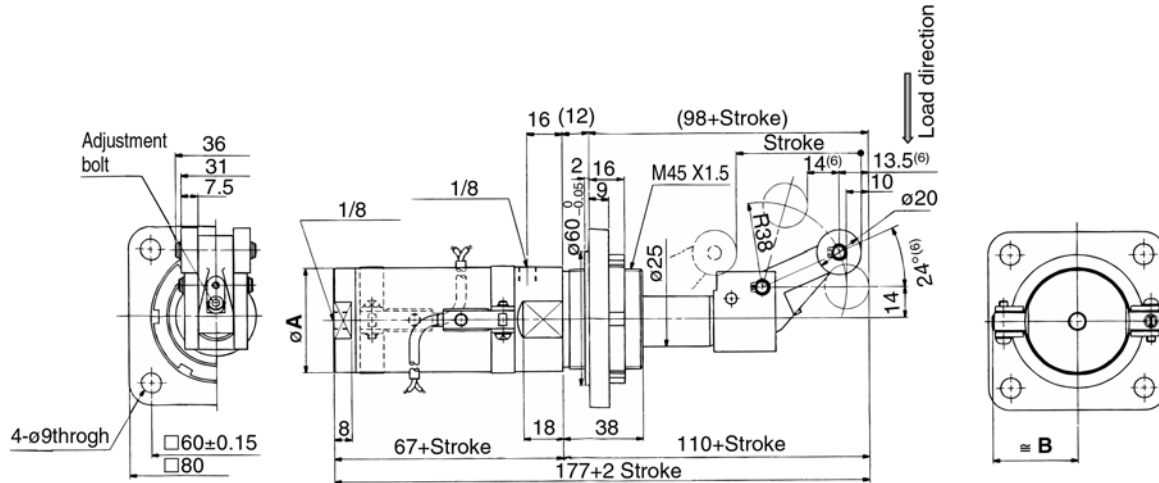
- Note 1) Dimensions for models without an auto switch are the same as the above.
- Note 2) For single acting styles, One-touch fittings are provided only on the rod side.
- Note 3) The figures show the dimensions of auto switches D-C7 and D-C8.
- Note 4) The figure shows an extended piston rod.
- Note 5) Refer to p.4.2-25 regarding mounting position and mounting height for auto switches.

## Rod End Configuration **Lever with Built-in Shock Absorber**

### Variable energy absorbing style/Flange mounting

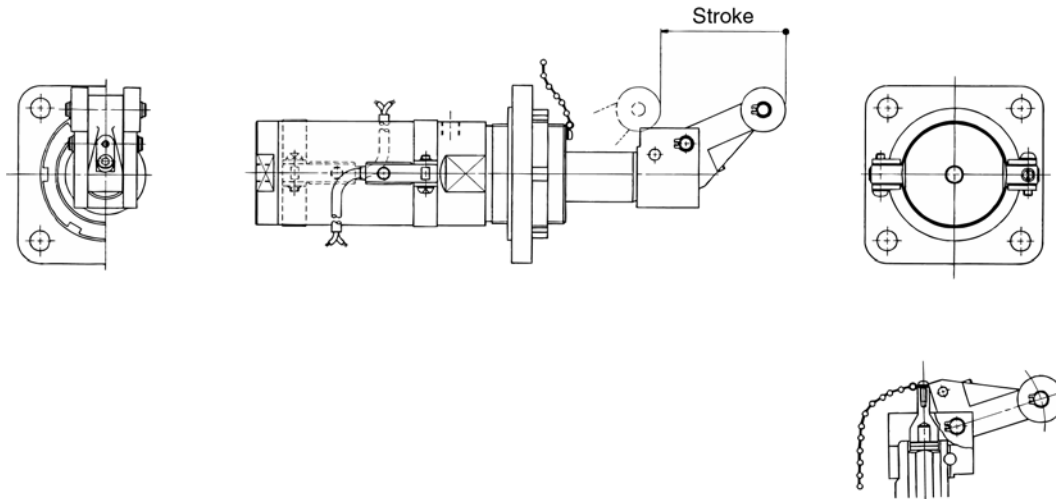
These 2 figures show an extended piston rod.

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 (mm)	A	B
40	47	35
50	58	40.5



Note 1) Body dimensions when not equipped with auto switches are the same as in the drawings above.

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

Note 3) These drawings show dimensions when equipped with D-C7, C8 type auto switches.

Note 4) These drawings show the piston rod extended.

Note 5) Refer to p.4.2-25 for auto switch mounting positions and mounting height.

Note 6) The drawing shows these three 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 adjustment bolt is raised (energy absorption is reduced).

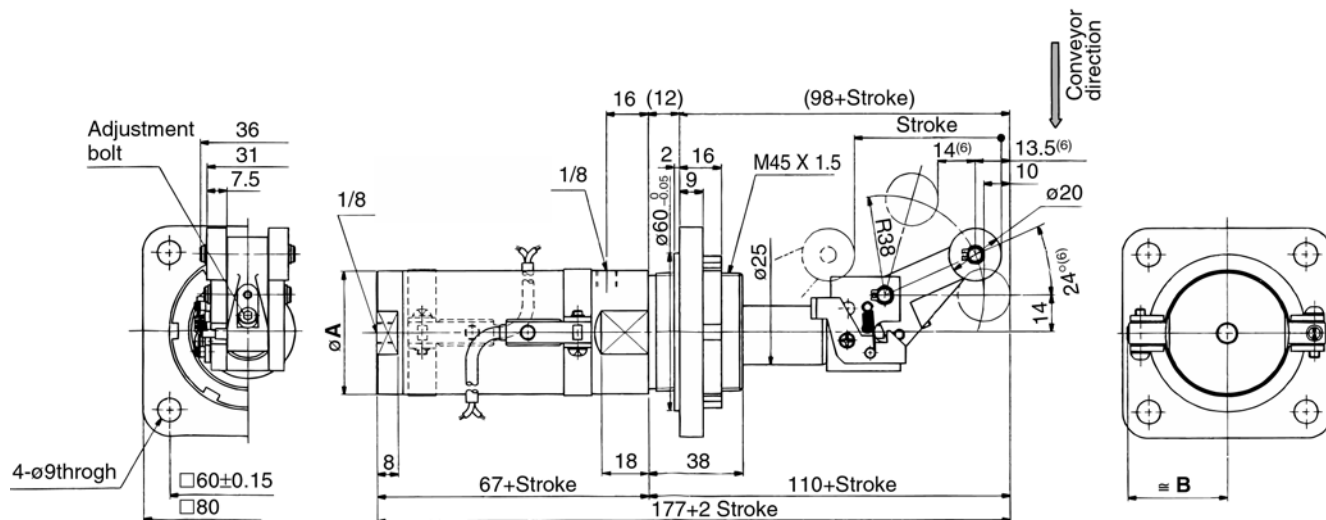
\*24° → \*16°, \*13.5 → \*11.5, \*14 → \*16

# Rod End Configuration **Lever with Built-in Shock Absorber**

## Variable energy absorbing style/Flange mounting

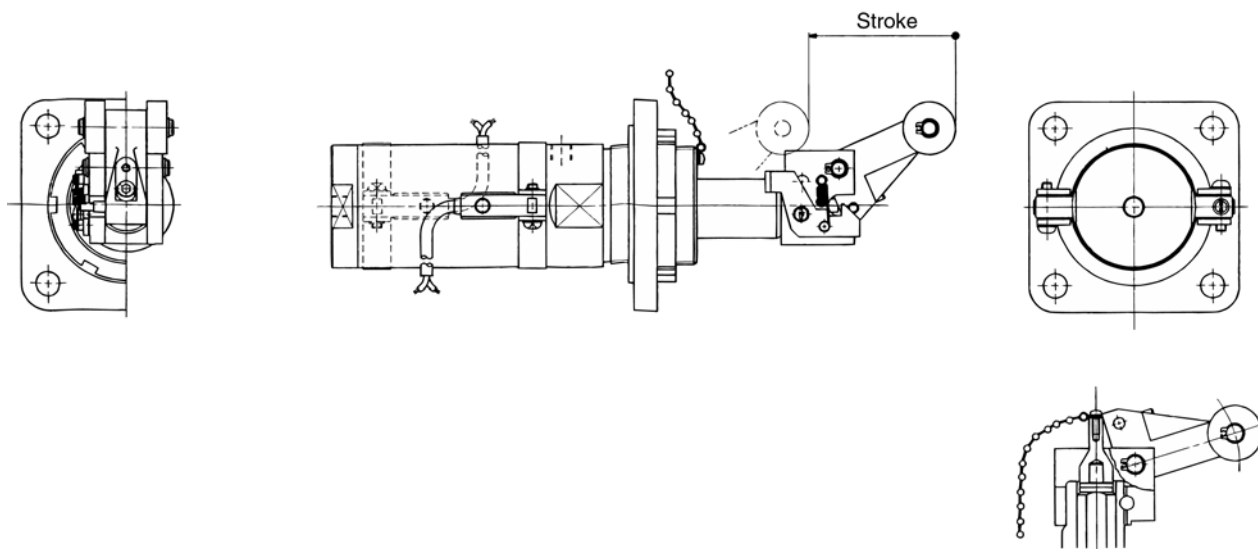
These 2 figures show an extended piston rod.

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 above drawing.



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



- Note 1) Body dimensions when not equipped with auto switches are the same as in the drawings above.
- Note 2) In the case of single acting styles, a One-touch fitting is on the rod side only.
- Note 3) These drawings show dimensions when equipped with D-C7, C8 type auto switches.
- Note 4) These drawings show the piston rod extended.
- Note 5) Refer to p.4.2-25 for auto switch mounting positions and mounting height.
- Note 6) The drawing 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 adjustment bolt is raised (energy absorption is reduced).  
\*24° → \*16°, \*13.5 → \*11.5, \*14 → \*16

# Auto Switch Specifications

Refer to p.5.3-2 for details of the auto switch.



## Applicable Auto Switch

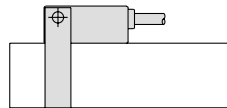
Auto switch models		Electrical entry (Function)	Page
Reed switch	D-C7, C8	Grommet	5.3-9
	D-C73C, C80C	Connector	5.3-11
Solid state switch	D-H7	Grommet	5.3-29
	D-H7□W	Grommet (2 colour indicator)	5.3-42
	D-H7□F	Grommet (2 colour indicator, with diagnostic output)	5.3-50
	D-H7BAL	Grommet (2 colour indicator, water resistant)	5.3-55
	D-H7C	Connector	5.3-31

## Auto Switch Mounting

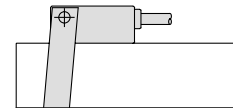
Mount auto switches following the procedures shown below.

### ⚠ Caution

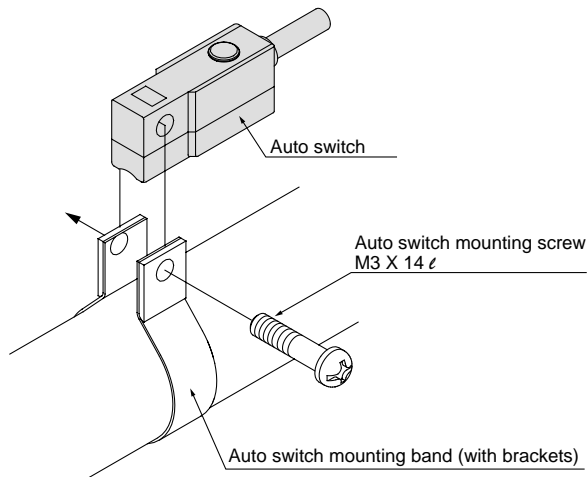
- ① Do not tighten beyond the prescribed tightening torque.
- ② Mount it so that the band does not run at a diagonal when completed.



Correct mounting



Incorrect mounting

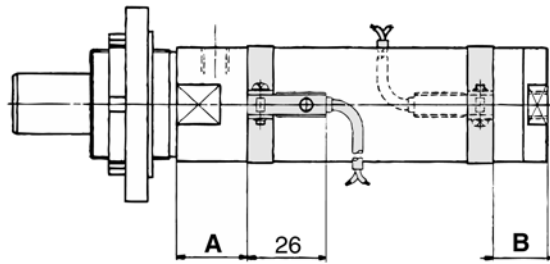
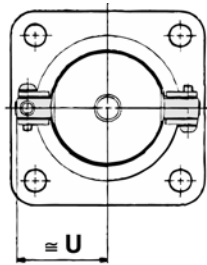


- ① Wrap the mounting band around the cylinder tube, and place it in the approximate auto switch mounting position.
- ② Insert the mounting area of the auto switch between the band's holding brackets, and align its mounting hole with the holes in the holding brackets.
- ③ Pass the mounting screw through the mounting hole and gently screw it into the threaded section of the band's bracket.
- ④ After sliding the entire assembly to the detection position, secure the auto switch by tightening the mounting screw.  
(The tightening torque for the M3 screw should be 0.8 to 1 Nm.)
- ⑤ Perform changes of the detection position under the same conditions as step 3.

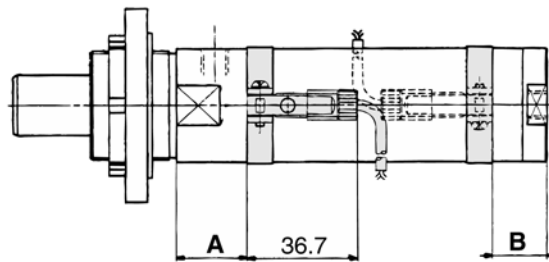
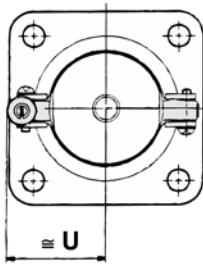


## Auto Switch Suitable Mounting Position (Stroke End) and Mounting Height

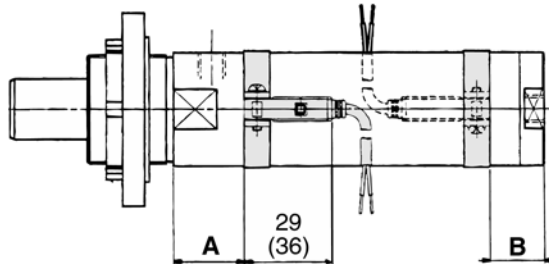
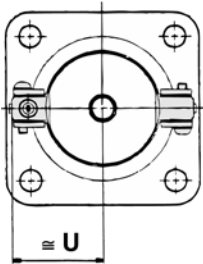
**D-C7  
D-C8**



**D-C73C  
D-C80C**

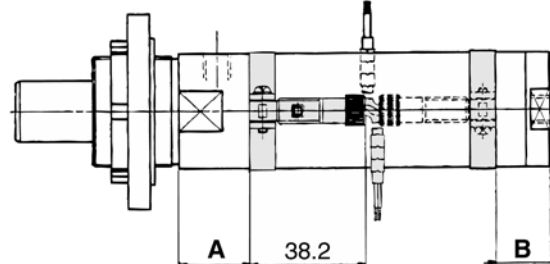
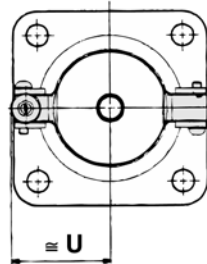


**D-H7  
D-H7□W  
D-H7□F  
D-H7BAL**



\*( ) : For D-H7LF

**D-H7C**



**Auto Switch Mounting Position**

Auto switch Model Bore size (mm)	D-C7 D-C8 D-C73C D-C80		D-H7 D-H7C		D-H7BAL D-H7□W D-H7□F	
	A	B	A	B	A	B
40	22.0	26.0	21.0	25.0	19.5	23.5
50	30.0	18	29.0	17.0	27.5	15.5

**Auto Switch Mounting Height (mm)**

D-C7 D-C8 D-H7 D-H7□W D-H7□F D-H7BAL	D-H7C	D-C73C D-C80C
U	U	U
35.0	38.0	37.5
40.5	43.5	43.0

