Stopper Cylinder / Fixed Mounting Height

Series RSQ

ø12, ø16, ø20, ø32, ø40, ø50

How to Order

Standard RSQ B 20 ☐ – 15 D ☐ – ☐

With auto switch RSDQ B 20 ☐ – 15 D ☐ – M9BW ☐ – ☐

With auto switch
(Built-in magnet)

Mounting bracket

B	Through-hole (Standard)
A	Both ends tapped style

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

Bore size

12	12 mm
16	16 mm
20	20 mm
32	32 mm
40	40 mm
50	50 mm

Port thread type

Nil	M thread	ø12, ø16
	Rc	ø20 to ø50
TN	NPT	
TF	G	
F	Built-in One-touch fittings (2)	

Note 2) Bore sizes available w/ One-touch fittings are ø20 to ø50.
Note 3) TF for ø20 indicates M5.

Cylinder stroke (mm)

12	10
16	10, 15
20	10, 15, 20
32	10, 15, 20
40	20, 25, 30
50	20, 25, 30

Auto switch

Nil	Without auto switch

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

Number of auto switches

Nil	2 pcs.
S	1 pc.

Rod end configuration

Symbol	Configuration	Application
Nil	Rounde bar type	—
K	Chamfered type	—
R	Roller type	—
L	Lever type (Non-adjustable) (4)	Basic style
B	Lever type (4) (Energy absorbing / Adjustable deformation)	—
C		With cancel cap
D		With lock menchanism
E		With lock & cancel

Note 4) The lever types are applicable only to bore sizes ø32, ø40 and ø50.

Action

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

Made to Order Specifications
For details, refer to page 1374.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) RSDQB32-15D

Applicable Auto Switch
/Refer to pages 1719 to 1827 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC	Load voltage AC	Auto switch model: Perpendicular ø12	Perpendicular ø16, ø20, ø32 to ø50	In-line ø12	In-line ø16, ø20, ø32 to ø50	Lead wire length (m): 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)	Pre-wired connector	Applicable load	
Solid state switch	——	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	M9NV		M9N		●	●	●	○	—	○	IC circuit	Relay, PLC
				3-wire (PNP)			M9PV		M9P		●	●	●	○	—	○		
				2-wire		12 V	M9BV		M9B		●	●	●	○	—	○	—	
		Connector					—	J79C	—		●	—	●	●	●	—		
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)		5 V, 12 V	M9NWV		M9NW		●	●	●	○	—	○	IC circuit	
				3-wire (PNP)			M9PWV		M9PW		●	●	●	○	—	○		
				2-wire		12 V	M9BWV		M9BW		●	●	●	○	—	○	—	
	Water resistant (2-color indication)			3-wire (NPN)		5 V, 12 V	M9NAV		M9NA		○	○	●	○	—	○	IC circuit	
				3-wire (PNP)			M9PAV		M9PA		○	○	●	○	—	○		
				2-wire		12 V	M9BAV		M9BA		○	○	●	○	—	○	—	
	With diagnostic output (2-color indication)			4-wire		5 V,12 V	—		—	F79F	●	—	●	○	—	○	IC circuit	
Reed switch	——	Grommet	Yes	3-wire (NPN equivalent)	—	5V	A96V		A96		●	—	●	—	—	—	IC circuit	—
				2-wire		—	—	200 V	—	A72	—	A72H	●	—	●	—	—	—	—	Relay, PLC
			No		24 V	12 V	100 V	A93V		A93		●	—	●	—	—	—	
						5 V,12 V	100 V or less	A90V		A90		●	—	●	—	—	—	IC circuit
		Connector	Yes			12 V	—	—	A73C	—		●	—	●	●	●	—	—
			No			5 V,12 V	24 V or less	—	A80C	—		●	—	●	●	●	—	IC circuit
	Diagnostic indication (2-color indication)	Grommet	Yes			—	—	—	A79W	—		●	—	●	—	—	—	—

∗ Lead wire length symbols: 0.5 m ····· Nil (Example) M9NW
1 m ····· M (Example) M9NWM
3 m ····· L (Example) M9NWL
5 m ····· Z (Example) M9NWZ
None ····· N (Example) J79CN

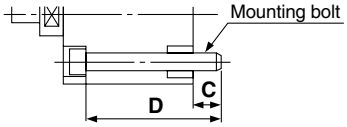
∗ Solid state auto switches marked with "○" are produced upon receipt of order.

∗ Since there are other applicable auto switches than listed, refer to page 1386 for details.
∗ For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.
∗ When D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V)L types with ø32 to ø50 are mounted on a side other than the port side, order auto switch mounting brackets separately. Refer to page 1386 for details.

Mounting Bolt for RSQB

Mounting method: Mounting bolt for through-hole mounting style of RSQB is available as an option.
Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M5 x 65L 4 pcs.



(mm)

Cylinder model	C	D	Mounting bolt
RSQB12-10□ Note)	5	40	M3 x 45L
RSQB16-10□	7	48	M3 x 55L
-15□		53	M3 x 60L
RSQB20-10□		55	M5 x 55L
-15□		60	M5 x 60L
-20□		65	M5 x 65L
RSQB32-10□	9	60	M5 x 60L
-15□		65	M5 x 65L
-20□		70	M5 x 70L

Cylinder model	C	D	Mounting bolt
RSQB40-20□	9.5	75	M5 x 75L
-25□	9	80	M5 x 80L
-30□		85	M5 x 85L
RSQB50-20□		75	M6 x 75L
-25□		80	M6 x 80L
-30□		85	M6 x 85L

Note) When using the through-hole mounting for a size ø12 cylinder, be sure to use the flat washer which is attached.

Operating Ranges by Rod End Configuration

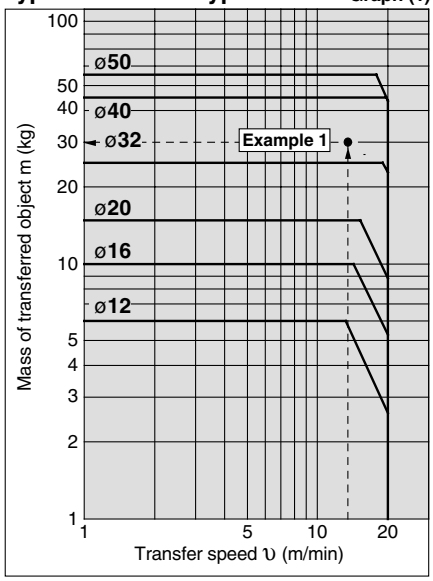
(Example 1) For roller type with transfer speed of 15 m/min. and the mass of transferred object of 30 kg.

<How to read the graphs>
To select a cylinder based on the specifications above, find the intersection of the speed of 15 m/min. on the horizontal axis and the mass of 30 kg on the vertical axis in graph (1) below, and select **RSQ□40-□□R** that falls in the cylinder operating range.

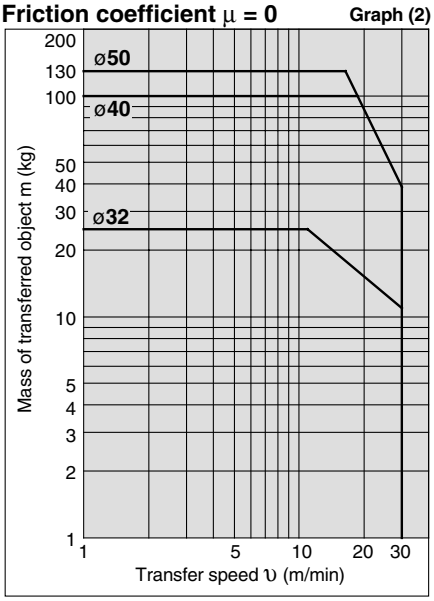
(Example 2) Transfer speed of 15 m/min., Mass of transferred object of 60 kg, Friction coefficient μ = 0.1, Lever type (Lever type with lock mechanism)

<How to read the graphs>
To select a cylinder based on the specifications above, find the intersection of the speed of 15 m/min. on the horizontal axis and the mass of 60 kg on the vertical axis in graph (3) below, and select **RSQ□40-□□D** that falls in the cylinder operating range.

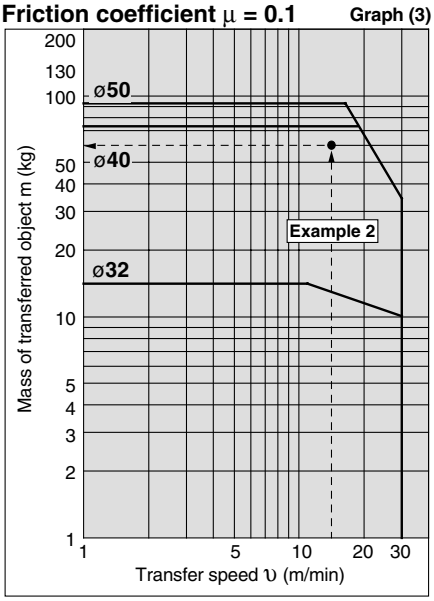
Roller Type/Round Bar Type/Chamfered Type **Graph (1)**



Lever Type (With shock absorber) Friction coefficient μ = 0 **Graph (2)**



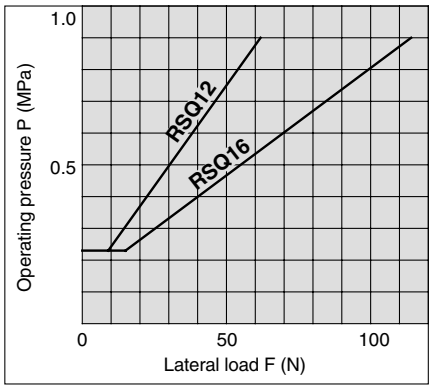
Lever Type (With shock absorber) Friction coefficient μ = 0.1 **Graph (3)**

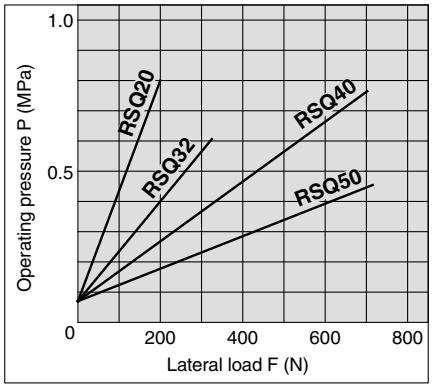


∗ Lever-type mass of transferred object and transfer speed graphs (graphs (2) and (3)) show the values at room temperature (20 to 25°C).
∗ When selecting cylinders, confirm the Specific Product Precautions as well.

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 bar, roller and chamfered type rod end configurations.)

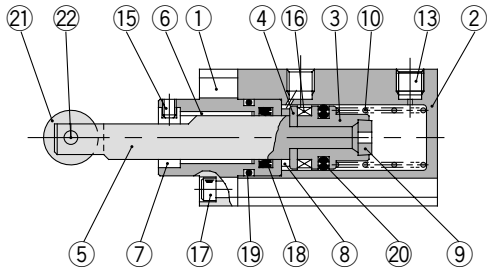




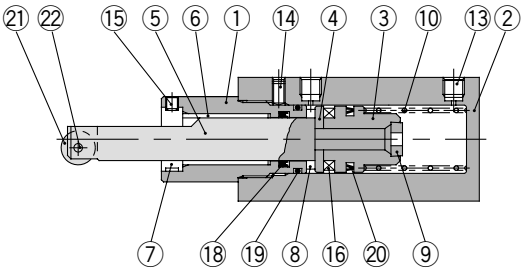
Construction

Roller rod end

ø12



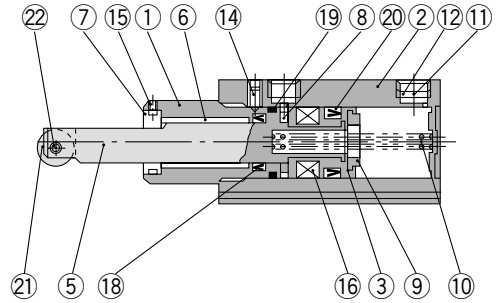
ø16



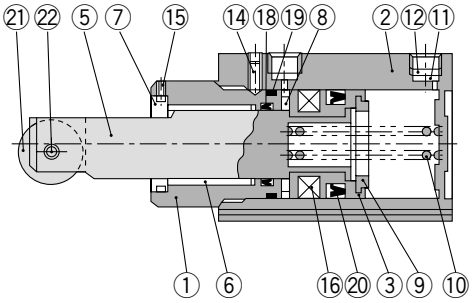
Round bar rod end type (D)

Chamfered rod end type (K)

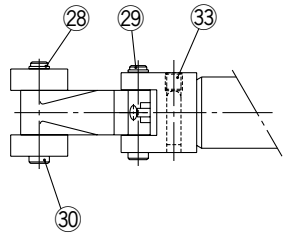
ø20

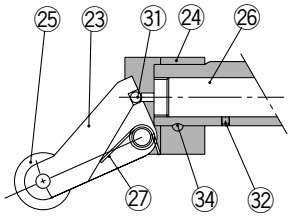


ø32, ø40, ø50

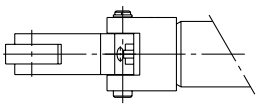


Built-in shock absorber Lever rod end type (ø32, ø40, ø50 only)





Only one roller is provided for ø32.



Component Parts

No.	Description	Material	Note
1	**Rod cover**	Aluminum alloy	Anodized*
2	**Cylinder tube**	Aluminum alloy	Hard anodized
3	**Piston**	Aluminum alloy	Chromated
4	**Spacer for switch**	Aluminum alloy	ø12, ø16 only
5	**Piston rod**	ø12, ø16, ø20 Stainless steel ø32, ø40, ø50 Carbon steel	Hard chrome plated
6	**Bushing**	Copper alloy	
7	**Non-rotating guide**	Rolled steel	Non-rotating type only
8	**Bumper A**	Urethane	
9	**Bumper B**	Urethane	
10	**Return spring**	Steel wire	Zinc chromated (Except double acting)
11	**Element**	Sintered metallic BC	ø20 to ø50 (Single acting only)
12	**Retaining ring**	Carbon tool steel	ø20 to ø50 (Single acting only)
13	**Plug with fixed orifice**	Alloy steel	ø12, ø16 only
14	**Hexagon socket head set screw**	Chromium molybdenum steel	Except ø12
15	**Hexagon socket head set screw**	Chromium molybdenum steel	
16	**Magnet**	—	
17	**Hexagon socket head cap screw**	Alloy steel	ø12 only
18	**Rod seal**	NBR	
19	**Gasket**	NBR	
20	**Piston seal**	NBR	
Roller type			
21	**Roller A**	Resin	
22	**Spring pin**	Carbon tool steel	

Component Parts (For single acting)

No.	Description	Material	Note
Lever type			
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	**Type C retaining ring for axis**	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/Seal Kit

Bore size (mm)	Kit no.			Contents
	Double acting	Double acting with spring loaded	Single acting	
12	RSQ12D-PS	RSQ12T-PS		Set of above nos. ⑱, ⑲, 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 ⑱, ⑲, ⑳. Order the seal kit, based on each bore size.
∗ Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10g)

Replacement Parts: Shock Absorber

Bore size (mm)	Kit no.
32	RB1007-X225
40, 50	RB1407-X552