

Heavy Duty Stopper Cylinder

RSH Series

ø20, ø32

How to Order

RSH **32** - **20 D L** - **M9BW**

Bore size

20	20 mm
32	32 mm

Port thread type

Nil	M*
	Rc
TN	NPT
TF	G

* The tube I.D. of 20 is only available to port size M screws.

Cylinder stroke

15	15mm (RSH20)
20	20mm (RSH32)

Action

D	Double acting type
B	Double acting spring type
T	Single acting/Spring extended

Roller material

L	Resin
M	Carbon steel

Number of auto switches (Auto switch number mounted)

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch (Built-in magnet)
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* Refer to the table below for auto switch model numbers.

Option (Note 1)

Nil	Without option
D	With lock mechanism
C	With cancel cap
S (Note 2)	With lever detection switch

Note 1) Options can be combined. Indicate the symbols, according to the priority order of D.C.S.

Note 2) Lever detection switch type

Type	E2E-S05S12-WC-C1 2M
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* Manufactured by OMRON Corporation.

Applicable auto switches/Refer to pages 941 to 1067 for detailed auto switch specifications.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch models		Lead wire length (m)			Pre-wired connector	Applicable load		
					DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)		5 (Z)	IC circuit	Relay, PLC
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9NV	M9N	●	●	○	○	IC circuit	Relay, PLC	
				3-wire (PNP)			M9PV	M9P	●	●	○	○			
				2-wire	M9BV		M9B	●	●	○	○	—			
	3-wire (NPN)			5 V, 12 V	M9NWV		M9NW	●	●	○	○	IC circuit			
	3-wire (PNP)				M9PWV		M9PW	●	●	○	○				
	2-wire			M9BWW	M9BW		●	●	○	○	—				
	Water resistance (2-color display)	Grommet	No	3-wire (NPN)	5 V, 12 V	M9NAV**	M9NA**	○	○	●	○	○	IC circuit		
				3-wire (PNP)		M9PAV**	M9PA**	○	○	●	○	○			
				2-wire	M9BAV**	M9BA**	○	○	●	○	○	—			
Reed auto switch	—	Grommet	Yes	3-wire (NPN equiv)	—	5 V	—	Z76	●	—	●	—	—	IC circuit	—
				2-wire	24 V	12 V	100 V	—	Z73	●	—	●	—	—	Relay, PLC
							100 V or less	—	Z80	●	—	●	—	—	IC circuit

** Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

* Lead wire length symbols: 0.5 m Nil (Example) M9NW
 1 m M (Example) M9NWM
 3 m L (Example) M9NWL
 5 m Z (Example) M9NWX

* Solid state auto switches marked with a "○" symbol are produced upon receipt of order.
 * D-A9□/A9□V types cannot be mounted.

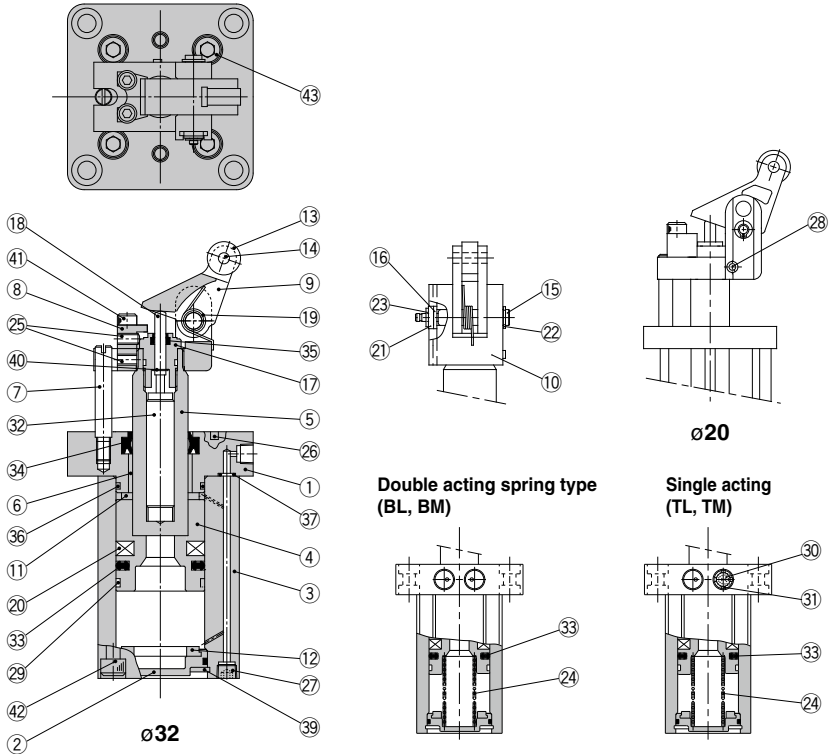
* Refer to page 614 since there are applicable auto switches other than listed.
 * Refer to pages 1014 and 1015 for the details of auto switches with a pre-wired connector.
 * Auto switches are shipped together (not assembled).

RSH Series

Construction

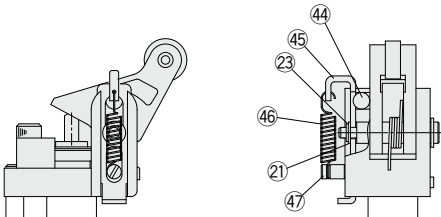
ø20, ø32

Double acting (DL, DM)

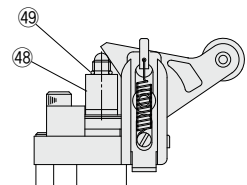


Options (With lock mechanism, with cancel cap)

With lock mechanism (-D)



With cancel cap (-C)



Parts List

No.	Description	Material	Note
1	Rod cover	Aluminum alloy	Metallic painted
2	Bottom plate	Aluminum alloy	Chromate
3	Cylinder tube	Aluminum alloy	Hard anodized
4	Piston	Aluminum alloy	Chromate
5	Piston rod	ø20: Stainless steel ø32: Carbon steel	Hard chrome plated
6	Bushing	Bearing alloy	
7	Guide rod	Carbon steel	Hard chrome plated
8	Stopper screw	Stainless steel	
9	Lever	Carbon steel	Nickel plated
10	Lever holder	Carbon steel	Nickel plated
11	Bumper A	Urethane	
12	Bumper B	Urethane	
13	Roller	Resin Carbon steel	-□□L -□□M
14	Spring pin	Carbon tool steel	
15	Lever pin	Carbon steel	
16	Ring A	Rolled steel	Nickel plated
17	Adjustment dial	Aluminum alloy	
18	End rod	Special steel	
19	Lever spring	Steel wire	
20	Magnet	—	
21	Flat washer	Steel wire	Nickel plated
22	Type C retaining ring for shaft	Carbon tool steel	
23	Type E retaining ring for shaft	Carbon tool steel	
24	Return spring	Steel wire	-T□/-B□
25	Hexagon socket head set screw	Chrome molybdenum steel	
26	Parallel pin	Carbon steel	ø20 only
27	Hexagon socket head plug	Chrome molybdenum steel	Nickel plated
28	Spring pin	Carbon tool steel	ø20 only
29	Wear ring	Resin	
30	Element	Bronze	-T□ only (ø20 is socket set screw)
31	Retaining ring	Carbon tool steel	ø32 -T□ only
32	Shock absorber	—	
33	Piston seal	NBR	
34	Rod seal	NBR	
35	Scraper	NBR	
36	Tube gasket	NBR	
37	O-ring	NBR	
38	Bottom plate gasket	NBR	
39	Type C retaining ring for hole	Carbon tool steel	Phosphate coated
40	Type CE retaining ring for shaft	Carbon tool steel	Phosphate coated
41	Hexagon socket head cap screw	Chrome molybdenum steel	Zinc chromated
42	Hexagon socket head cap screw	Stainless steel	ø20 only
43	Hexagon socket head cap screw	Stainless steel	ø32 only
44	Steel balls	Carbon steel	
45	Bracket	Carbon steel	Chromate
46	Bracket spring	Stainless steel wire	
47	Pin E	Stainless steel	
48	Cancel cap	Aluminum alloy	Clear anodized
49	O-ring	NBR	

Replacement Parts/ Seal Kit

Bore size (mm)	Kit no.		Contents
	Double acting	Single acting	
20	RSH20D-PS	RSH20T-PS	Set of items ③③ to ③⑦ (excluding ③④)
32	RSH32D-PS	RSH32T-PS	

*Seal kit includes ③③ to ③⑦ (excluding ③④). 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 (10 g)

Replacement Parts/ Shock Absorber

Bore size (mm)	Order no.
20	RSH-R20
32	RSH-R32

RSQ

RSG

RS2H

RSH

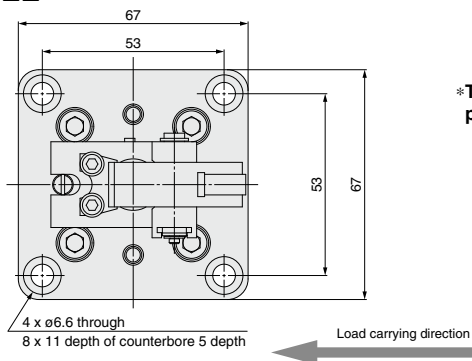
MIW
MIS

D-□

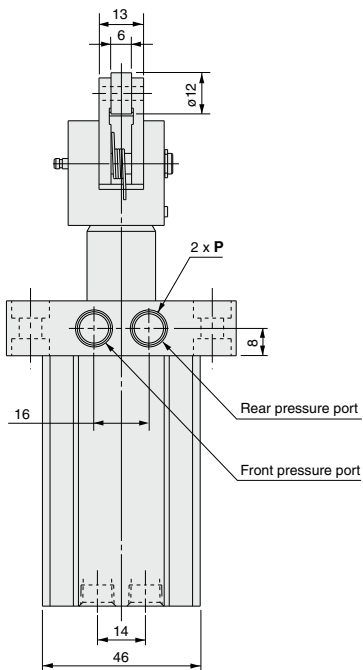
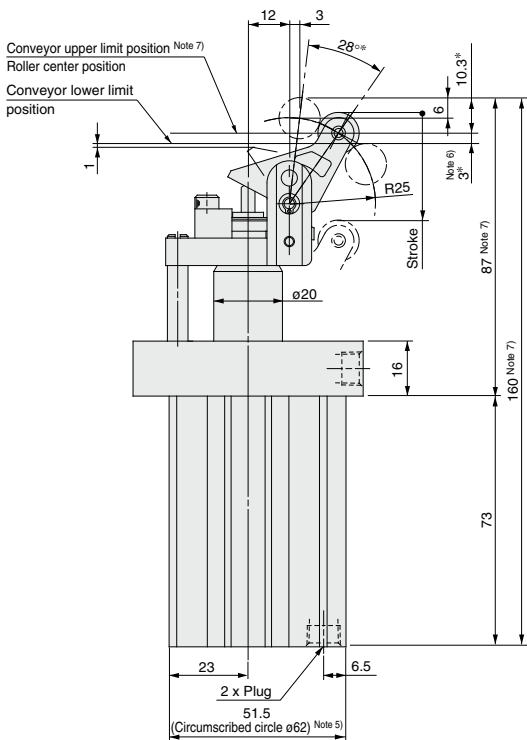
-X□

Dimensions/Bore size: $\varnothing 32$

RSH32-20□□



*The figure shows an extended piston rod.



Note 1) The figure shows dimensions at the maximum energy absorption capacity.

Note 2) Dimensions with auto switch are identical to the above.

Note 3) The figure shows an extended piston rod.

Note 4) The dimensions marked with "*" vary according to adjustment of the shock absorber dial.

Note 5) Circumscribed circle $\varnothing 62$ means that diameter of the circle circumscribed to the cylinder angles. Mounting hole diameter must be $\varnothing 63$. Be careful of the interference between the lever and the mounting base when mounted from the lever side. Thus, the thickness of the mounting base must be 9 mm or less.

Note 6) It is recommended to set the conveyor height in a range from the lower limit position to the upper limit position of the conveyor (dimension "3" shown in the figure).

Note 7) The dimensions in the figure do not include the stroke length tolerance (0 to +1.4 mm). When fixing the cylinder (setting the conveyor position), take this into consideration, and be sure to set the cylinder within the range of Note 6) using the upper limit position of the conveyor (roller center position) as a reference.

P (Piping port)		
Nil	TN	TF
Rc 1/8	NPT 1/8	G 1/8

RSQ

RSG

RS2H

RSH

MIW

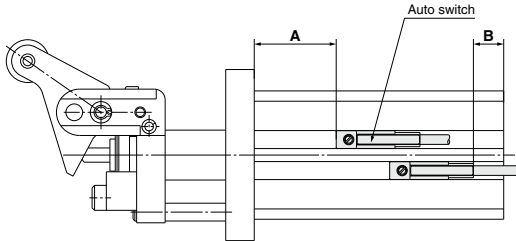
MIS

D-□

-X□

Auto Switch Mounting

Auto Switch Proper Mounting Position (Detection at Stroke End)



Auto switch proper mounting position

(mm)

Auto switch models	D-M9□ D-M9□W D-M9□AV		D-M9□V D-M9□WV		D-M9□A		D-Z7□/Z80 D-Y59□/Y7P/Y7□W		D-Y69□/Y7PV D-Y7□WV		D-Y7BA	
	A	B	A	B	A	B	A	B	A	B	A	B
Bore size 20	23	8.5	23	10.5	23	6.5	18	8(6.5)	18	9.5	18	2
32	18.5	11	18.5	13	18.5	9	13.5	10.5(9)	13.5	12	13.5	4.5

The values inside () are for D-Z73.

Note) Adjust the auto switch after confirming the operating conditions in the actual setting.

Operating Range

(mm)

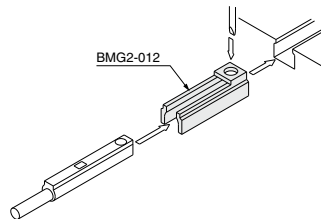
Auto switch models	Bore size	
	20	32
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	5.5	6.0
D-Z7□/Z80	8	10
D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W/Y7□WV D-Y7BA	5	3.5

*Since the operating range is provided as a guideline including hysteresis, it cannot be guaranteed (assuming approximately ±30% dispersion). It may vary substantially depending on an ambient environment.

Auto Switch Mounting Bracket/Part No.

Auto switch models	Bore size (mm)	
	ø20, ø32	
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	BMG2-012	

D-M9□(V)/M9□W(V)/M9□A(V)



Besides the models listed in How to Order, the following auto switches are applicable.
Refer to pages 941 to 1067 for detailed specifications.

Auto switch type	Model	Electrical entry	Features
Solid state	D-Y69A, Y69B, Y7PV	Grommet (Parpendicular)	-
	D-Y7NWV, Y7PWV, Y7BWV		Diagnostic indication (2-color display)
	D-Y59A, Y59B, Y7P	Grommet (In-line)	-
	D-Y7NW, Y7PW, Y7BW		Diagnostic indication (2-color display)
	D-Y7BA		Water resistance (2-color display)

*For solid state auto switches, auto switches with a pre-wired connector are also available. Refer to pages 1014 and 1015 for details.

*Normally closed (NC = b contact) solid state auto switches (D-M9□E(V)/Y7G/Y7H) are also available. Refer to pages 1592-1 and 961 for details.

