

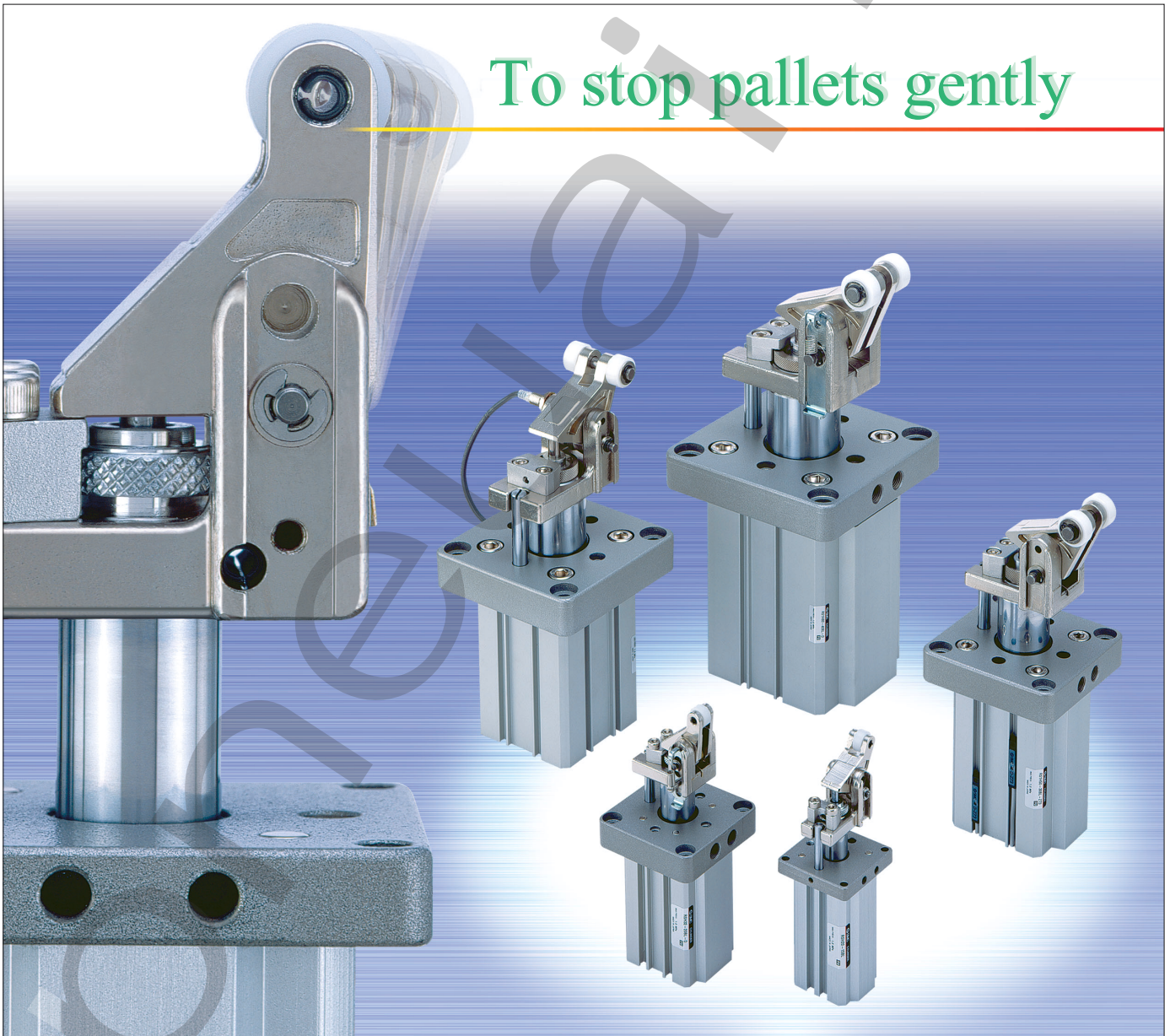
Heavy Duty Stopper Cylinder

Series *RSH/RS1H*

ø20, ø32

ø50, ø63, ø80

To stop pallets gently



Stopper cylinder with built-in shock absorber

Heavy Duty Stopper Cylinder

Series *RSH/RS1H*

Ø20, Ø32

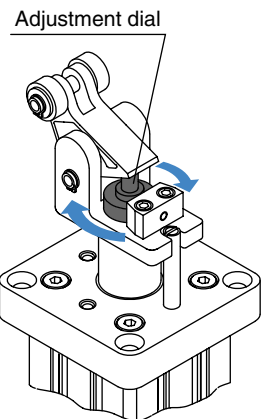
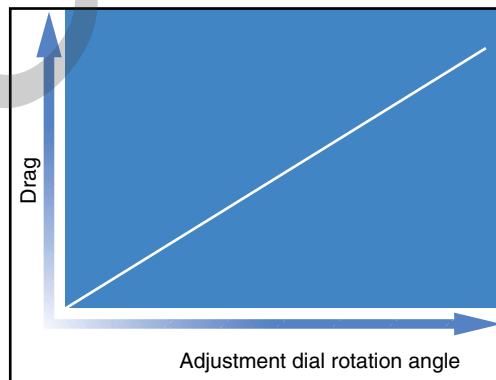
Ø50, Ø63, Ø80

To stop pallets gently
Stopper cylinder with built-in shock absorber

1 Amount of energy absorption can be adjusted to suit the load.

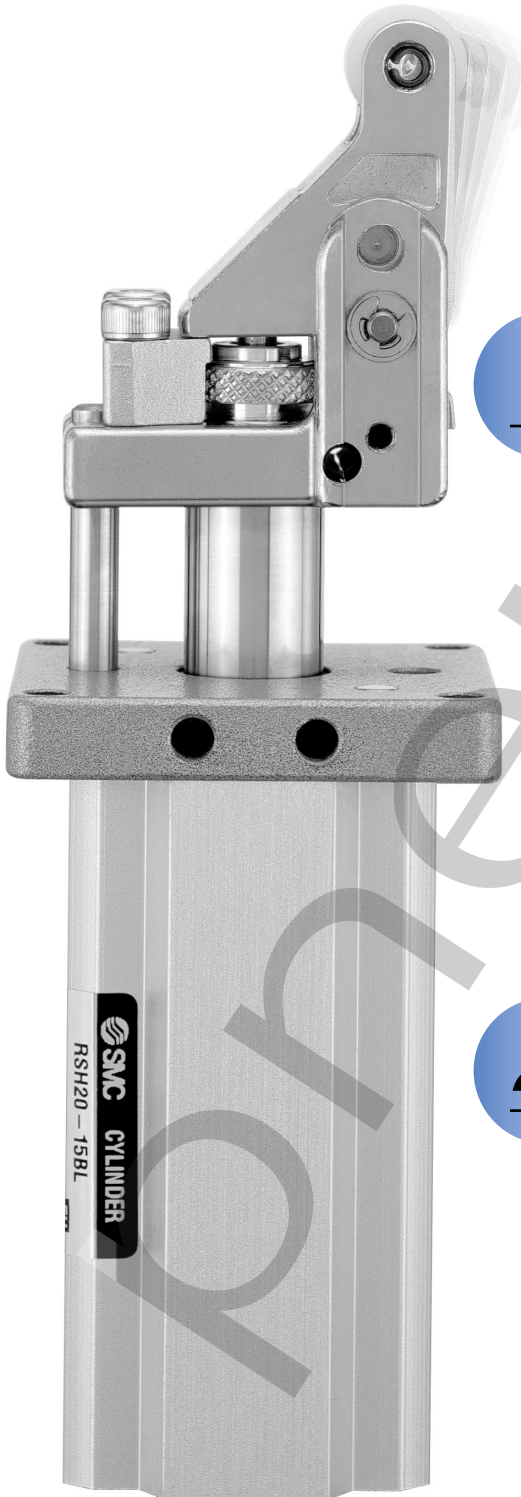
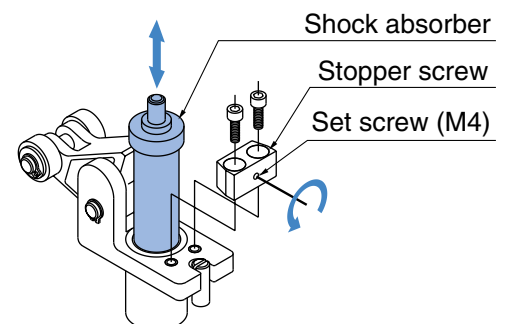
Stops the work piece gently with adjustable built-in shock absorber (Ø50 to Ø80).

The retardation value can be changed by rotating the adjustment dial.



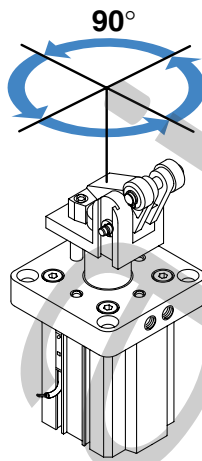
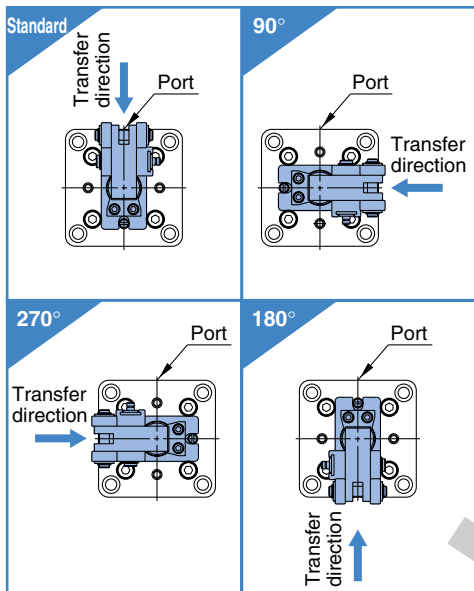
2 Easy replacement of shock absorbers

Easy maintenance is possible with a shock absorber that can be removed simply by loosening the bolts and shock absorber fixing screw from the stopper.



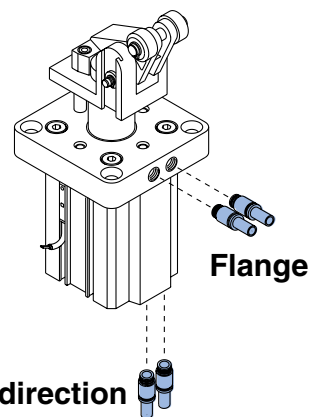
3 The roller lever direction can be changed in 90° steps.

To adapt the roller lever of the stopper to the work piece direction the roller lever can be positioned in 4 different directions (or 2 in case ø20) in 90° steps around the piston rod (with ø50 to ø80 the direction of the roller lever is selected in the part number).



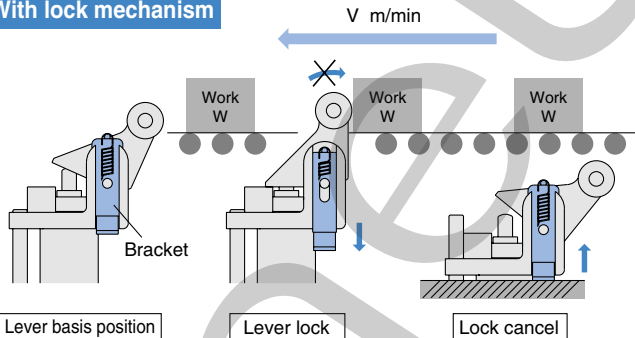
4 Piping is available from 2 directions.

*With ø50 to ø80, the direction of the roller lever is selected in the part number.



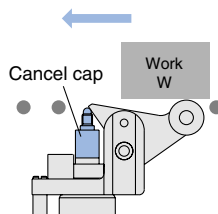
Option

With lock mechanism



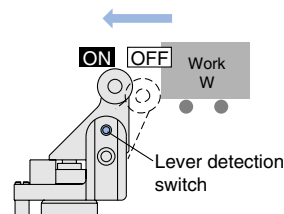
Even in the case of a light pallet, the locking mechanism prevents the pallet from rebounding due to spring.

With cancel cap



The cancel cap holds the lever horizontally allowing a pallet to pass.

With lever detection switch



When the lever stands erect (when the energy is absorbed), the switch turns on a signal that determines the pallet has reached the stop position. (For more information, please refer to page 9.)

● High power rod

Bore size (mm)	20	32	50	63	63	80
Rod size (mm)	14	20	32	40	40	50

● 3 types of operation

1. Single acting
2. Double acting
3. With double acting spring

● Auto switch mounting available

Auto switches can be mounted without protruding from the body surface.

● 2 types of roller materials are available depending on the application.

(Resin, Carbon steel)

Series Variations

Series	Bore size (mm)	Standard stroke (mm)				Mounting type	Actuation system	Rod end shape	Standard variations				Option		
		15	20	30	40				Built-in magnet	With lock mechanism	With cancel	With proximity sensor			
RSH	20	●				Flange	Double acting	Adjustable	●	●	●	●			
	32		●						●	●	●	●			
RS1H	50			●					●	●	●	●			
	63			●					●	●	●	●			
	80				●				●	●	●	●			

Heavy Duty Stopper Cylinder

Series *RSH/RS1H*

ø20, ø32

ø50, ø63, ø80

How to Order

Bore size

20	20mm
32	32mm

Cylinder stroke

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

Positional relationship of lever and port

Nil	RSH20 Direction of transfer → Port
Nil	RSH32 Direction of transfer ↓ Port

Heavy Duty Stopper Cylinder ø20, ø32

Heavy Duty Stopper Cylinder ø50, ø63, ø80

Bore size

50	50mm
63	63mm
80	80mm

Port thread type

Nil	M*
	Rc
TN	NPT
TF	G

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

Number of auto switches (auto switch number mounted)

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch (Built-in magnet cylinder)
-----	--

*Refer to page 2 for auto switch model numbers.
*The auto switch is included in the package (not assembled.)

Piping direction

Nil	Flange side
A	Axial direction (tube)

Cylinder stroke

30	30mm (RS1H50, 63)
40	40mm (RS1H80)

Action

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

Roller material

L	Resin
M	Carbon steel

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 part No. according to the priority order of D.C.S.
Note 2) **Lever detection switch type**

Type	Applicable model
E2E-X1C1	RSH 20 · 30
E2E-X2D1-N	RS1H 50 · 63 · 80

Positional relationship of lever and port

Nil	Direction of transfer ↓ Port
P	Port Direction of transfer ←
Q	Port Direction of transfer ↑
R	Port Direction of transfer →

Ordering Example

RSH 32 [] [] 20 D L [] [] Z73 []

RS1H 50 [] [] 30 D L [] [] Z73 []

Applicable auto switches/Refer to pages 10 through 15 for detailed auto switch specifications.

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch models		Lead wire length (m) *			Applicable load		
					DC	AC	Electrical entry direction		0.5 (Nil)	3 (L)	5 (Z)			
							Perpendicular	In-line						
Reed switch	—	Grommet	Yes	3-wire (NPN equiv)	—	5V	—	Z76	●	●	—	IC circuit	Relay, PLC	
				2-wire	24V	12V	100V	—	Z73	●	●	●		—
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24V	5V, 12V	—	Y69A	Y59A	●	●	○	IC circuit	Relay, PLC
				3-wire (PNP)				Y7PV	Y7P	●	●	○	—	
Solid state switch	Diagnostic indication (2-color display)	Grommet	Yes	2-wire	24V	5V, 12V	—	Y69B	Y59B	●	●	○	—	Relay, PLC
				3-wire (NPN)				Y7NWV	Y7NW	●	●	○	IC circuit	
				3-wire (PNP)				Y7PWV	Y7PW	●	●	○	—	
				2-wire				Y7BWV	Y7BW	●	●	○	—	
Solid state switch	Water resistance (2-color display)	Grommet	Yes	2-wire	24V	12V	—	—	Y7BA	—	●	○	—	Relay, PLC
				—				—	—	—	—	—	—	

*Lead wire length symbols: 0.5m.....Nil (Example) Y69B
 3m.....L (Example) Y69BL
 5m.....Z (Example) Y69BZ
 **Solid state switches marked with a "○" symbol are produced upon receipt of order.

Specifications



RSH



RS1H

Model	RSH		RS1H			
	20	32	50	63	80	
Bore size (mm)						
Action	Double acting, Double acting spring, Single acting (Spring extended)					
Style of rod end	Lever with built-in shock absorber type					
Fluid	Air					
Proof pressure	1.5MPa					
Max. operating pressure	1.0MPa					
Ambient and fluid temperature	-10 to 60°C (with no condensation)					
Lubrication	Not required (non-lube)					
Cushion	Rubber bumper					
Stroke length tolerance	+1.4 0					
Mounting	Flange					
Port size	For use in Japan	M5 x 0.8	Rc 1/8	Rc 1/8	Rc 1/4	Rc 1/4
	For use in U.S.A.	—	NPT 1/8	NPT 1/8	NPT 1/4	NPT 1/4
	For use in Europe	—	G 1/8	G 1/8	G 1/4	G 1/4
Auto switch	Can be installed					

Bore size, Standard strokes

(mm)

Model	Bore size (mm)	Standard stroke
RSH	20	15
	32	20
RS1H	50	30
	63	30
	80	40

Weights

(kg)

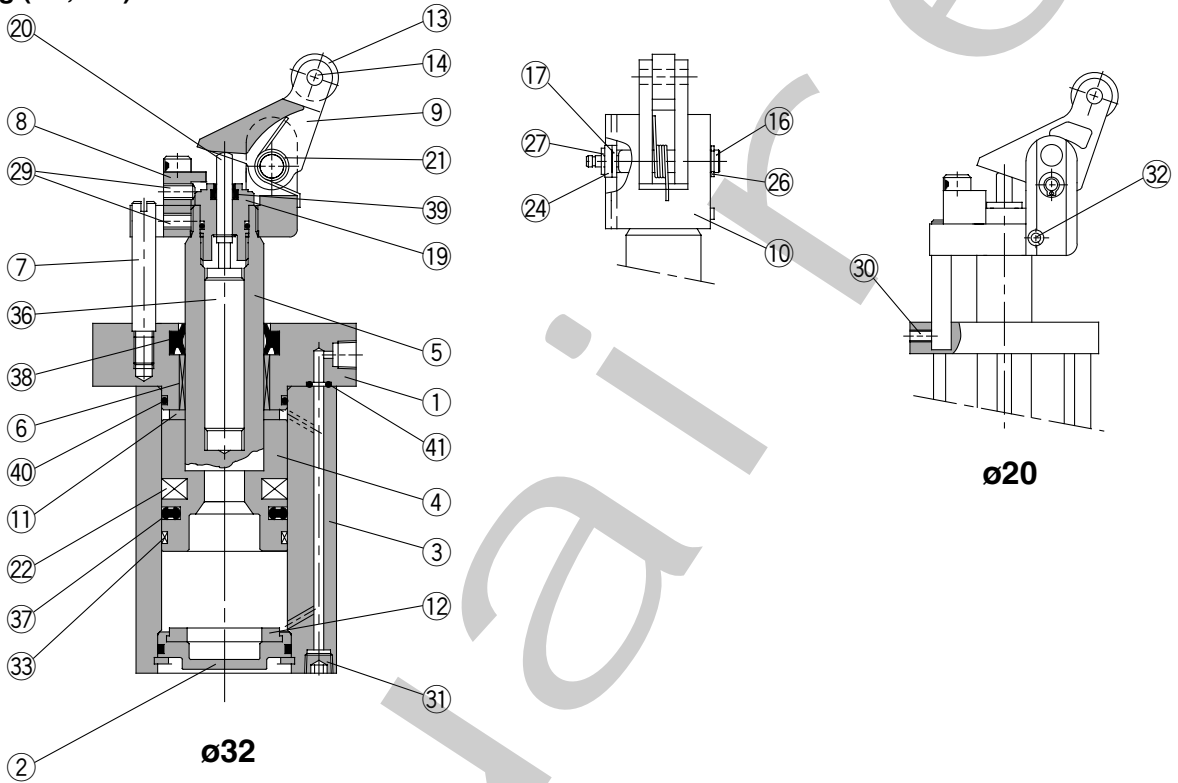
Action	Rod end configuration	Bore size (mm)	Weight
Double acting type Double acting spring type Single acting spring extended	Lever with built-in shock absorber type	20	0.41
		32	0.75
		50	2.03
		63	3.56
		80	6.33

Series RSH/RS1H

Construction

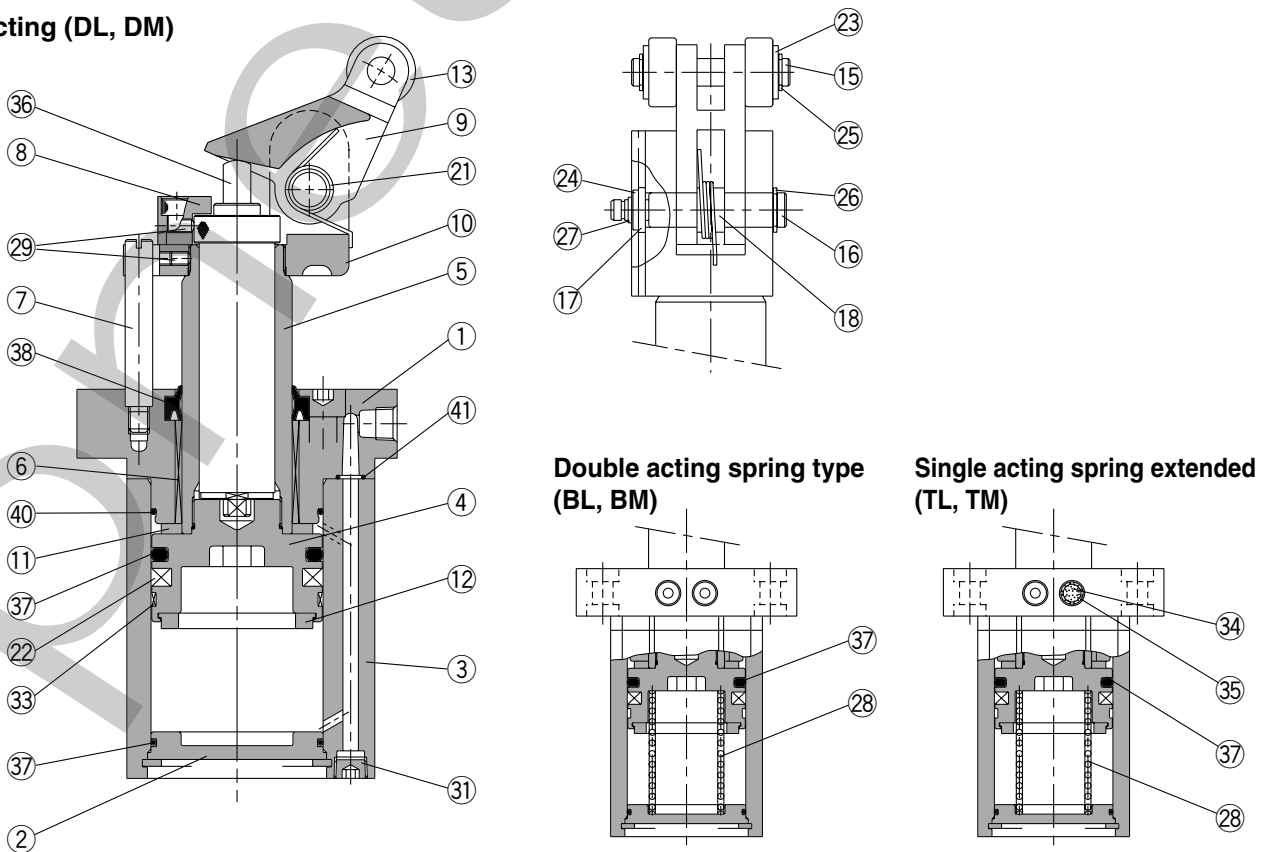
ø20, ø32

Double acting (DL, DM)



ø50, ø63, ø80

Double acting (DL, DM)



Construction**Parts list (Single acting)**

No.	Description	Material	Note
1	Rod cover	Aluminium alloy	Metallic painted
2	Bottom plate	Aluminium alloy	Chromate
3	Cylinder tube	Aluminium alloy	Hard anodized
4	Piston	Aluminium alloy	Chromate
5	Piston rod	ø20: Stainless steel ø32, ø50, ø63, ø80: Carbon steel	Hard chromium electro plating
6	Bushing	Bronze alloy	
7	Guide rod	Carbon steel	Hard chromium electro plating
8	Stopper screw	Stainless steel	
9	Lever	Carbon steel	Nickel plated
10	Lever holder	Carbon steel	Nickel plated
11	Bumper A	Urethane rubber	
12	Bumper B	Urethane rubber	
13	Roller	Resin	-□□L
		Carbon steel	-□□M
14	Spring pin	Carbon tool steel	ø20, 32 only
15	Roller pin	Carbon steel	
16	Lever pin	Carbon steel	
17	Ring A	Aluminium alloy	Clear anodized
18	Ring B	Aluminium alloy	Clear anodized
19	Adjustment dial	Aluminium alloy	ø20, 32 only
20	End rod	Special steel	ø20, 32 only
21	Lever spring	Stainless steel wire	
22	Magnet	Magnet	
23	Flat washer	Steel wire	Nickel plated
24	Flat washer	Steel wire	Nickel plated
25	C type snap ring for shaft	Carbon tool steel	
26	C type snap ring for shaft	Carbon tool steel	
27	C type snap ring for shaft	Carbon tool steel	
28	Return spring	Piano wire	
29	Hexagon socket head set screw	Chrome molybdenum steel	
30	Hexagon socket head set screw	Chrome molybdenum steel	ø20 only
31	Hexagon socket head plug	Chrome molybdenum steel	Nickel plated
32	Spring pin	Carbon tool steel	ø20 only
33	Wear ring	Resin	
34	Element	Bronze	ø20 is socket set screw
35	Snap ring	Steel wire	
36	Shock absorber	—	
37	Piston seal	NBR	
38	Rod seal	NBR	
39	Scraper	NBR	ø20, 32 only
40	Tube gasket	NBR	
41	O-ring	NBR	

Replacement parts: Seal kit

Bore size (mm)	Kit no.			Contents
	Double acting	Double acting spring type	Single acting	
20	RSH20D-PS	RSH20T-PS		Set of items 37 to 41 in above table
32	RSH32D-PS	RSH32T-PS		
50	RSH50D-PS	RSH50T-PS		Set of items 37 to 41 in above table (not including 39)
63	RSH63D-PS	RSH63T-PS		
80	RSH80D-PS	RSH80T-PS		

*The seal kits for ø20 to ø32 consist of items 37 to 41 and those for ø50 to ø80 consist of items 37 to 41. Please order them by using the seal kit number corresponding to each bore size.

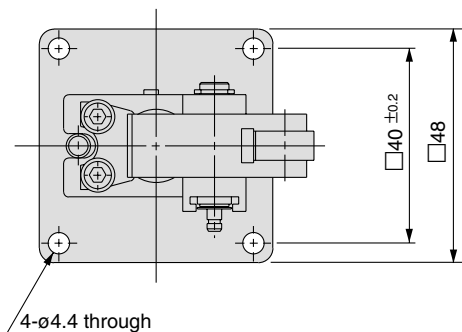
Replacement parts: Shock absorber

Bore size (mm)	Order no.
20	RSH-R20
32	RSH-R32
50	RS1H-R50
63	RS1H-R63
80	RS1H-R80

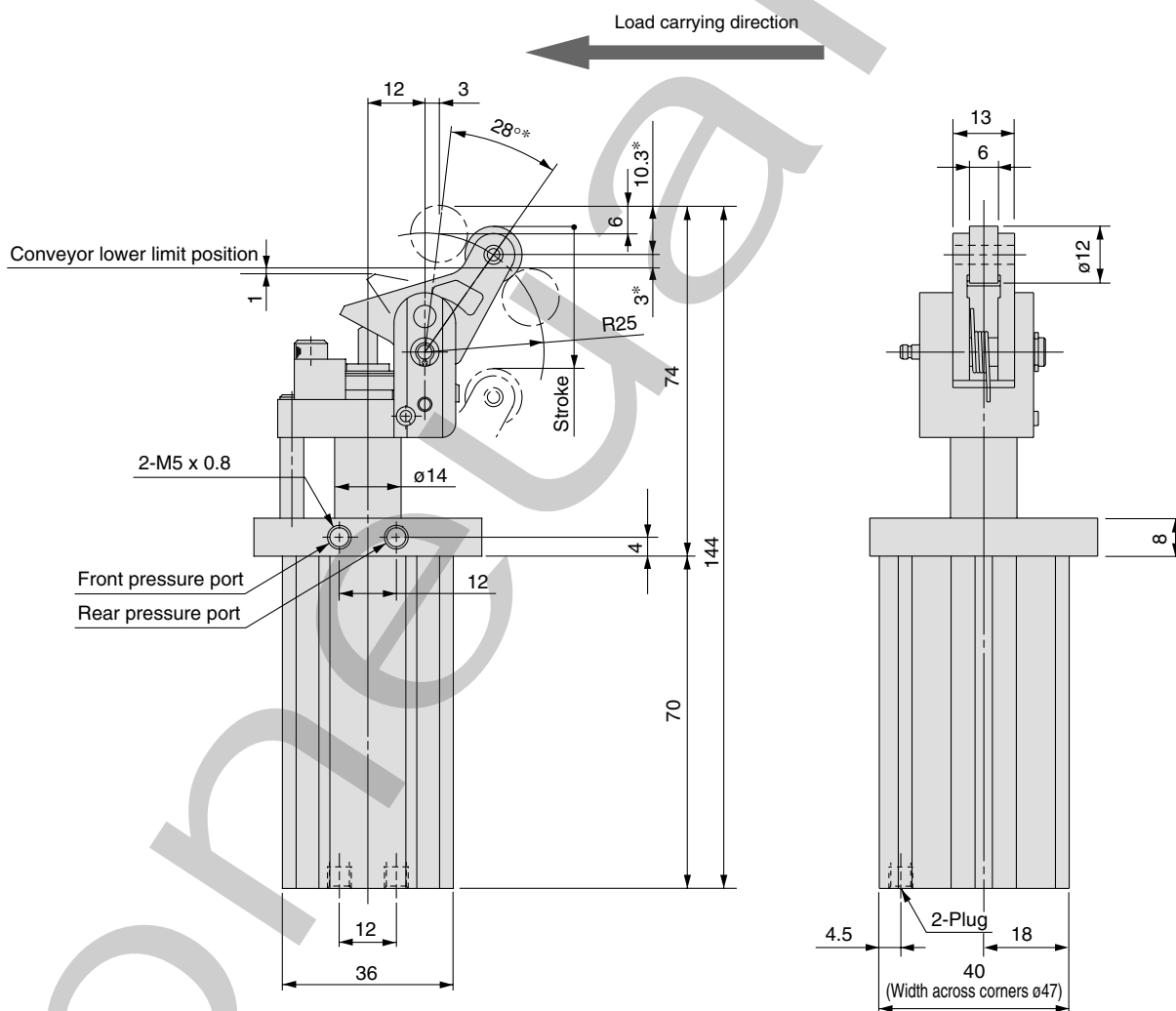
Series RSH/RS1H

Dimensions/Bore size: $\varnothing 20$

RSH20-15 □ □



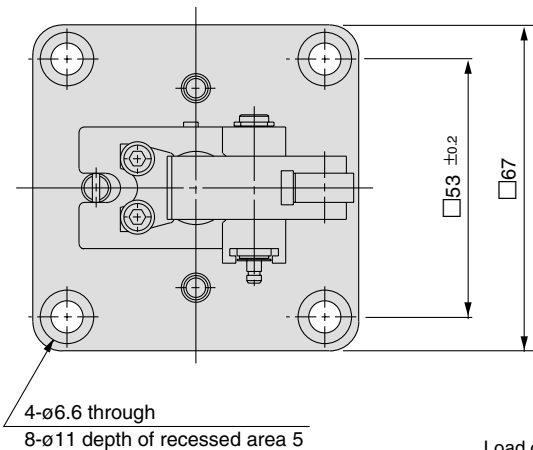
*The figure shows an extended piston rod.



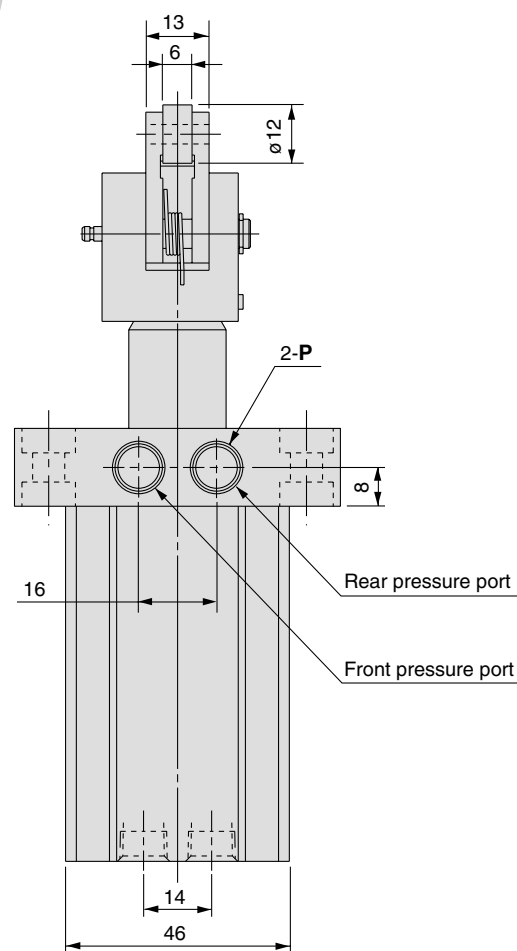
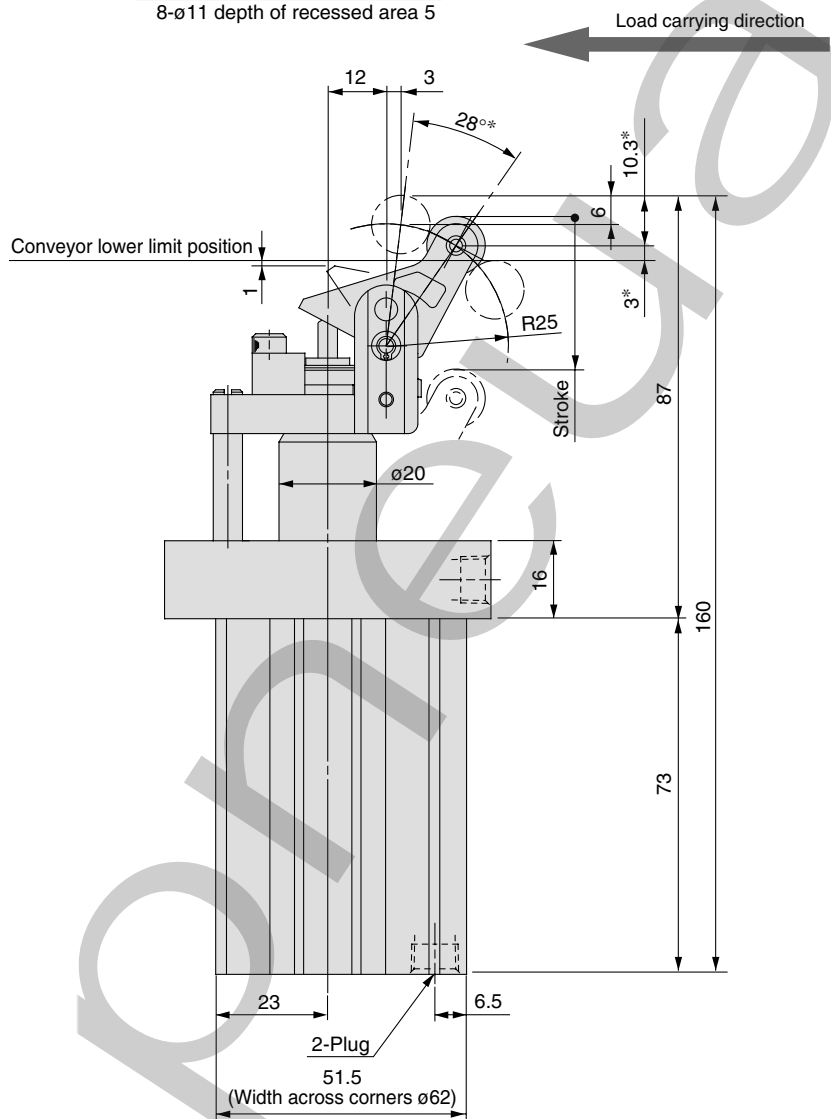
- Note 1) The figure shows dimensions at the maximum energy absorption capacity.
- Note 2) Dimensions with auto switch are identical to the above.
- Note 3) The dimensions marked with "*" vary according to adjustment of the shock absorber dial.

Dimensions/Bore size: $\varnothing 32$

RSH32-20□□



*The figure shows an extended piston rod.



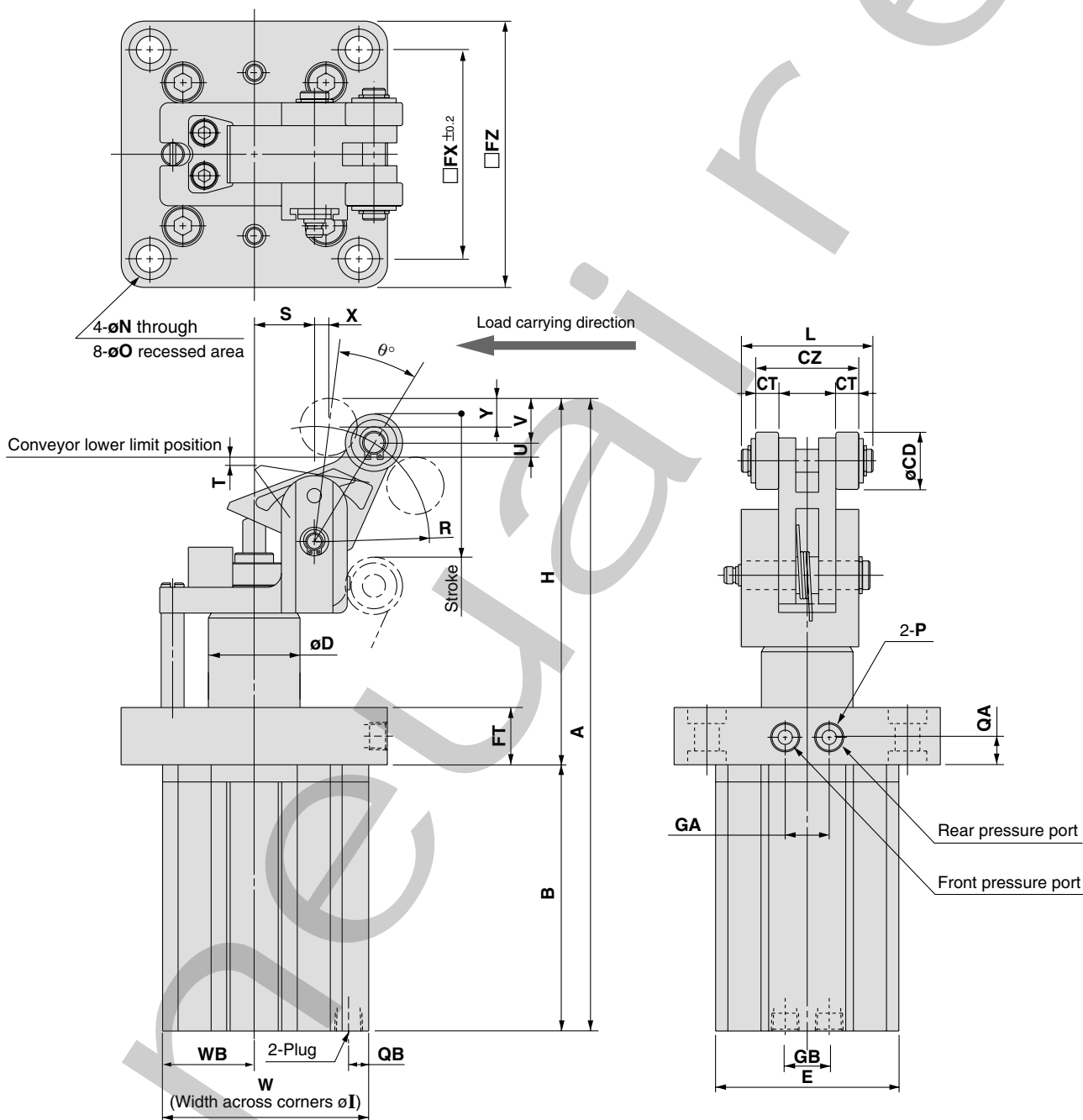
- Note 1) The figure shows dimensions at the maximum energy absorption capacity.
- Note 2) Dimensions with auto switch are identical to the above.
- Note 3) The dimensions marked with "*" vary according to adjustment of the shock absorber dial.

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

Series RSH/RS1H

Dimensions/Bore size: $\varnothing 50$, $\varnothing 63$, $\varnothing 80$

50
RS1H 63 - □ □ □
80



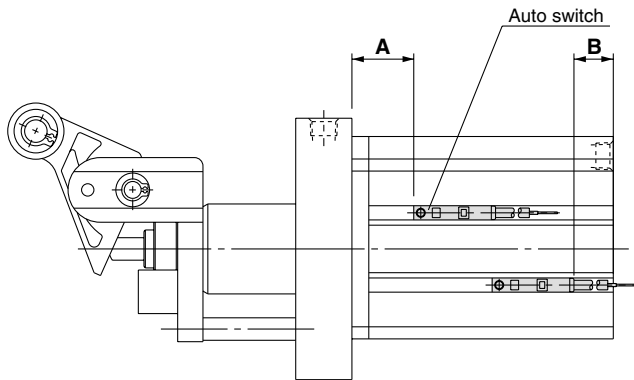
																		(mm)		
Bore size (mm)	Stroke	A	B	CD	CT	CZ	D	E	FT	FX	FZ	GA	GB	H	Width across corners I	L	N	O	QA	QB
50	30	221	93	20	8	36	32	64	20	73	93	16	16	128	85	45	9	14 depth 5	10	7
63	30	243.5	99	20	10	45	40	77	25	90	114	24	24	144.5	103	54	11	18 depth 6	12.5	8.5
80	40	299.5	128	25	10	45	50	98	25	110	138	24	35	171.5	132	56	13	20 depth 6	12.5	10

Bore size (mm)	Stroke	R	S	T	U	V	W	WB	X	Y	θ°
50	30	40	21	2	5.5	15.5	72	32	5	10	24
63	30	47	24.5	3.5	6.4	16	87.5	38.5	5	10	24
80	40	54	31	3	6.7	19.4	109	49	6	12.5	23

Model	P (Piping port)		
	Nil	TN	TF
RS1H50	Rc 1/8	NPT 1/8	G 1/8
RS1H63	Rc 1/4	NPT 1/4	G 1/4
RS1H80	Rc 1/4	NPT 1/4	G 1/4

Note 1) Dimensions with auto switch are identical to the above.
Note 2) The figure shows an extended piston rod.

Auto Switch Proper Mounting Position



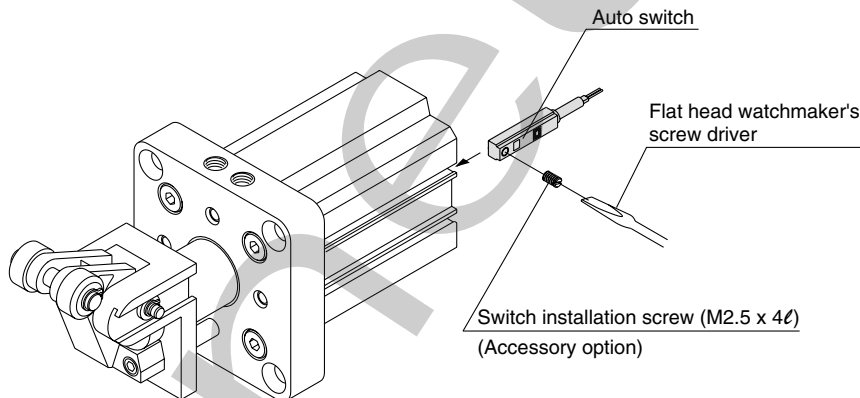
Auto switch proper mounting position

Auto switch models	D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W		D-Y69□ D-Y7PV D-Y7□WV		D-Y7BAL	
	A	B	A	B	A	B
Bore size (mm)						
20	18	8(6.5)	18	9.5	18	2
32	13.5	10.5(9)	13.5	12	13.5	4.5
50	22	12(10.5)	22	13.5	22	6
63	24.5	15.5(14)	24.5	17	24.5	9.5
80	37	22(20.5)	37	23.5	37	16

The values inside () are for D-Z73.

How to Install Auto Switch

To set the auto switch, insert the auto switch into the switch groove from the direction shown in the drawing to the below, After placing it in the mounting position, use a flat head watchmakers screw driver to tighten the mounting screw which is included.



Note) When adjusting the auto switch mounting screws, use a flat head watchmaker's screwdriver. The guideline of the tightening torque is 0.05 to 0.1 Nm. Turn another 90° from the position where tightening is felt by hand.

Lever Detection Switch (Proximity Switch)

Proximity switch specifications/Maker: OMRON Co. Ltd.

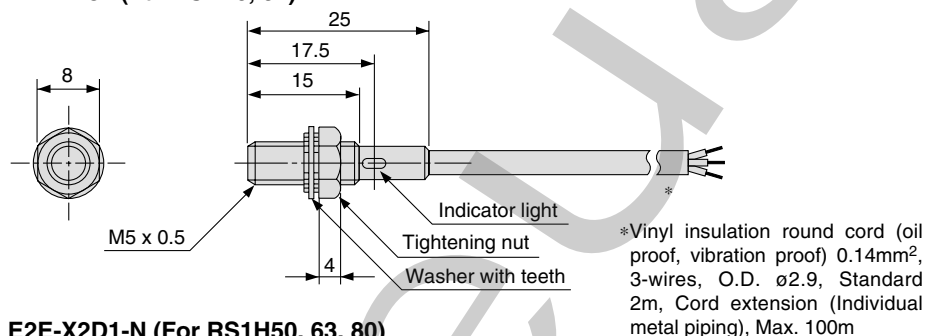
Model	E2E-X1C1	E2E-X2D1-N
Applicable cylinder bore size	RSH20, 32	RS1H50, 63, 80
Output type	Normally open	
Power supply voltage (Operating voltage range)	12 to 24VDC (10 to 30VDC), Ripple 10% or less (P-P)	
Current consumption (Leakage current)	17mA or less	0.8mA or less
Response frequency	3kHz	1.5kHz
Control output (chest)	Open collector maximum 100mA	3 to 100mA
Indicator light	Detection indication (Red LED)	Operation indication (Red LED), Set operation indication (Green LED)
Ambient temperature	-25 to 70°C (No freezing)	
Operating ambient humidity	35 to 95% RH	
Residual voltage ^{Note 1)}	2V or less	3V or less
Withstand voltage ^{Note 2)}	500VAC	1000VAC
Vibration	Endurance 10 to 55 Hz, Duplex amplitude 1.5mm X,Y,Z direction each 2h	
Impact	Endurance 500m/s ² (approx. 50G), X, Y, Z direction each 10 times	
Enclosure	IEC standards IP67 (Immersion proof shape and oil proof shape by JEM standards)	

Note 1) At load current 100mA and cord length of 2m

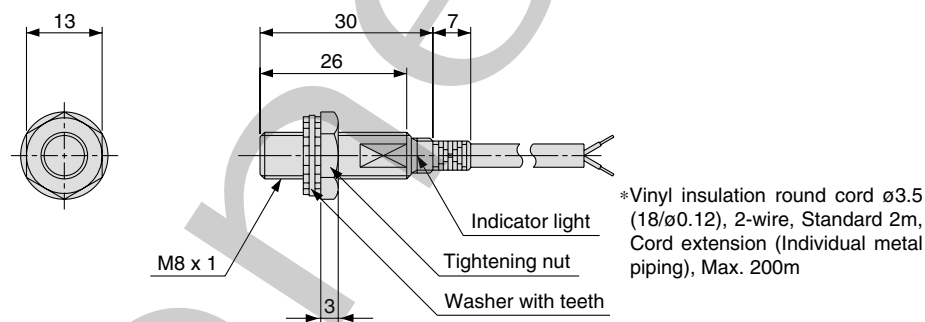
Note 2) Between case and whole charging part

Dimensions

E2E-X1C1 (For RSH20, 32)



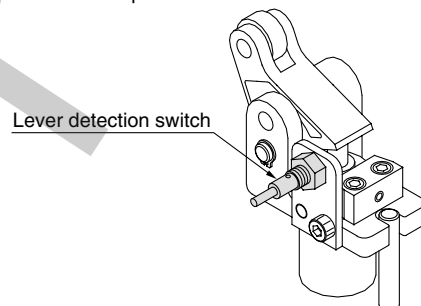
E2E-X2D1-N (For RS1H50, 63, 80)



Mounting Position

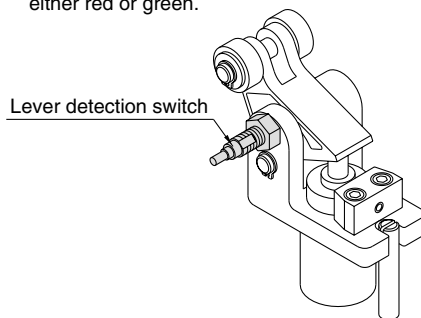
●E2E-X1C1 (For RSH20, 32)

While holding the lever in the detection range of the switch, screw in the switch gradually until the indicator light (red) turns on. Then, screw the switch in further, halfway between the turn-on point and the lever.



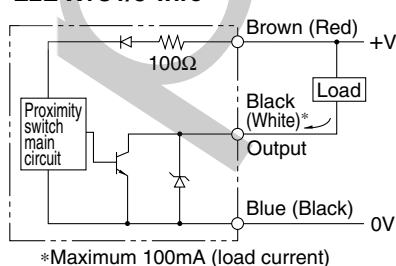
●E2E-X2D1-N (For RS1H50, 63, 80)

While holding the lever in the detection range of the switch, screw in the switch until the indicator light (green) turns on. Then, give an additional half rotation of screw. After that, incline the lever by 90° and confirm that the indicator light is not on and does not show either red or green.



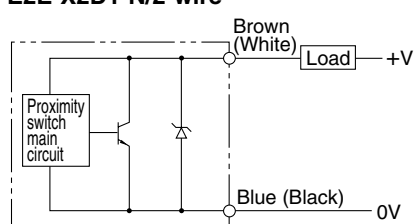
Output Circuit

E2E-X1C1/3-wire



*Maximum 100mA (load current)

E2E-X2D1-N/2-wire



Series RSH/RS1H Auto Switch Specifications

Auto Switch Common Specifications

Type	Reed switch	Solid state switch
Leakage current	None	3 wire: 100μA or less, 2 wire: 0.8mA or less
Operating time	1.2ms	1ms or less
Impact resistance	300m/s ²	1000m/s ²
Insulation resistance	50MΩ or more at 500VDC (between lead wire and case)	
Withstand voltage	1500VAC 1 min. (between lead wire and case)	1000VAC for 1min (between lead wire and case)
Ambient temperature	-10 to 60°C	
enclosure	IEC529 standard IP67, JISC0920 watertight construction	

Lead Wire Length

Lead wire length indication

(Example) **D-Y59A** **L**

Lead wire length

Nil	0.5m
L	3m
Z	5m

Note 1) Lead wire length Z: 5m applicable auto switch
Reed switch: D-Z73
Solid state: All models are produced upon receipt of order
(standard availability).

Contact Protection Boxes/ CD-P11, CD-P12

<Applicable switches>

D-Z7, Z8

The above auto switches do not have internal contact protection circuits.

1. The operating load is an induction load.
2. The length of wiring to the load is 5m or more.
3. The load voltage is 100 or 200VAC.

Use a contact protection box in any of the above situations.

The life of the contacts may otherwise be reduced. (They may stay ON all the time.)

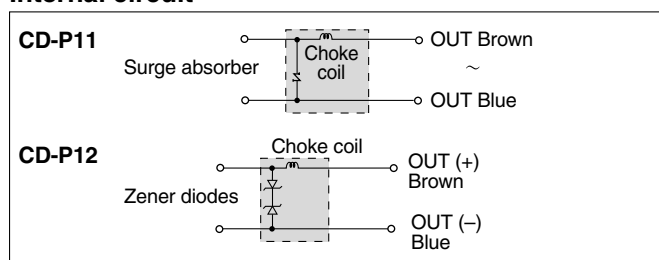
Specifications

Part no.	CD-P11		CD-P12
Load voltage	100VAC	200VAC	24VDC
Maximum load current	25mA	12.5mA	50mA

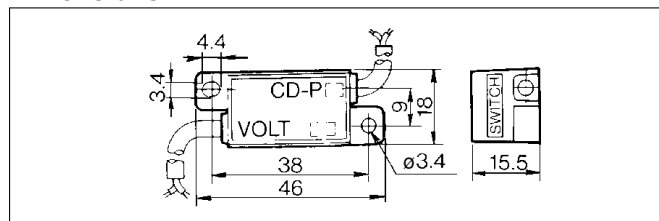
*Lead wire length — Switch connection side 0.5m
Load connection side 0.5m



Internal circuit



Dimensions



Connection

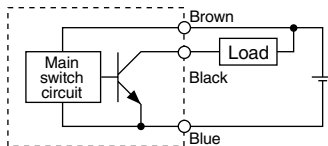
To connect a switch to a contact protection box, connect the lead wire from the side of the contact protection box marked SWITCH to the lead wire coming out of the switch. Furthermore, the switch unit should be kept as close as possible to the contact protection box, with a lead wire length of no more than 1 meter between them.

Series RSH/RS1H

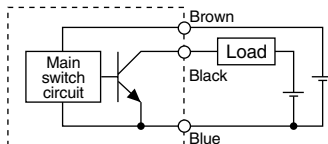
Auto Switch Connections and Examples

Basic Wiring

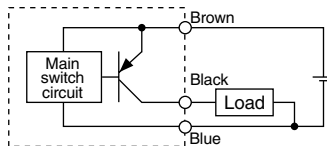
Solid state 3-wire, NPN



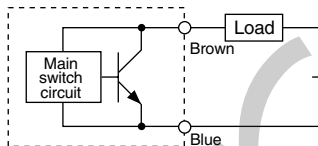
(Power supplies for switch and load are separate.)



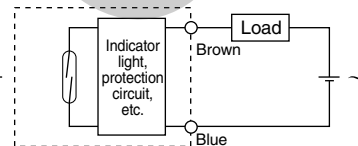
Solid state 3-wire, PNP



2-wire <Solid state>

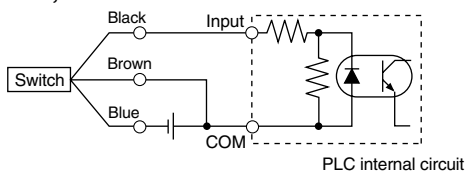


2-wire <Reed switch>

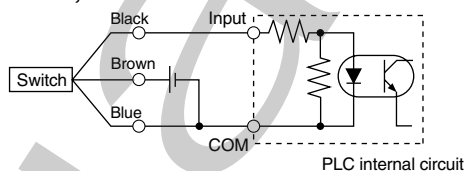


Examples of Connection to PLC

Sink input specifications 3-wire, NPN

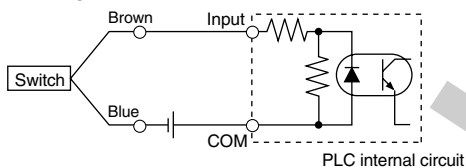


Source input specifications 3-wire, PNP

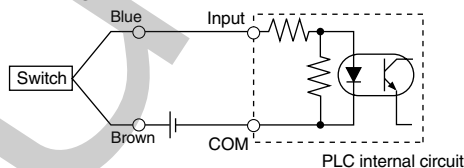


Connect according to the applicable PLC input specifications, as the connection method will vary depending on the PLC input specifications.

2-wire



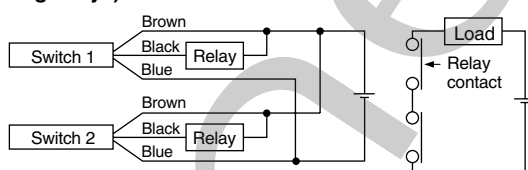
2-wire



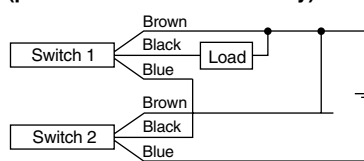
Connection Examples for AND (Series) and OR (Parallel)

3-wire

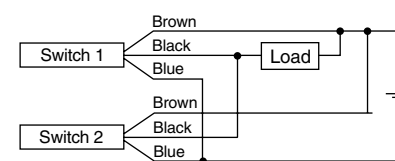
AND connection for NPN output (using relays)



AND connection for NPN output (performed with switches only)

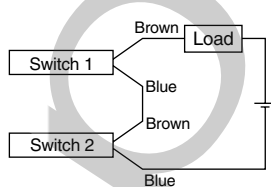


OR connection for NPN output



The indicator lights will light up when both switches are turned ON.

2-wire with 2 switch AND connection

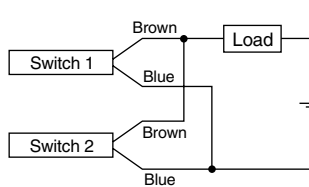


When two switches are connected in series, a load may malfunction because the load voltage will decline when in the ON state. The indicator lights will light up if both of the switches are in the ON state.

$$\begin{aligned} \text{Load voltage at ON} &= \text{Power supply voltage} - \text{Internal voltage drop} \times 2 \text{ pcs.} \\ &= 24\text{V} - 4\text{V} \times 2 \text{ pcs.} \\ &= 16\text{V} \end{aligned}$$

Example: Power supply is 24VDC
Internal voltage drop in switch is 4V

2-wire with 2 switch OR connection



<Solid state>

When two switches are connected in parallel, malfunction may occur because the load voltage will increase when in the OFF state.

<Reed switch>

Because there is no current leakage, the load voltage will not increase when turned OFF. However, depending on the number of switches in the ON state, the indicator lights may sometimes dim or not light up, because of dispersion and reduction of the current flowing to the switches.

$$\begin{aligned} \text{Load voltage at OFF} &= \text{Leakage current} \times 2 \text{ pcs.} \times \text{Load impedance} \\ &= 1\text{mA} \times 2 \text{ pcs.} \times 3\text{k}\Omega \\ &= 6\text{V} \end{aligned}$$

Example: Load impedance is 3kΩ
Leakage current from switch is 1mA

Solid State Switches/Direct Mount Type D-Z73, D-Z76, D-Z80

Grommet

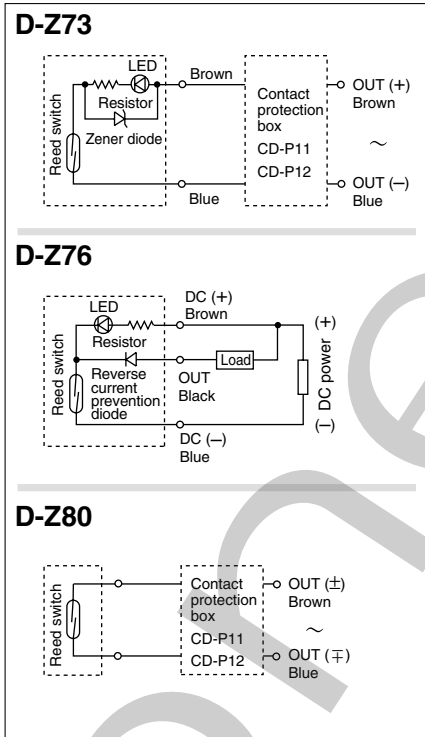


Auto Switch Specifications

D-Z7 (with indicator light)			
Auto switch part no.	D-Z73		D-Z76
Applicable load	Relay, PLC		IC circuit
Load voltage	24VDC	100VAC	4 to 8VDC
Maximum load current and load current range	5 to 40mA	5 to 20mA	20mA
Contact protection circuit	None		
Internal voltage drop	2.4V or less (to 20mA)/3V or less (to 40mA)	0.8V or less	
Indicator light	Red LED lights when ON		
D-Z8 (with indicator light)			
Auto switch part no.	D-Z80		
Applicable load	Relay, PLC, IC circuit		
Load voltage	24V ^{AC} DC or less	48V ^{AC} DC	100V ^{AC} DC
Maximum load current	50mA	40mA	20mA
Contact protection circuit	None		
Internal resistance	1Ω or less (Includes the lead wire length of 3m.)		

- Lead wire – Oil proof heavy duty vinyl cord, $\phi 3.4$, 0.2mm², 3 cores (brown, black, blue), 2 cores (brown, blue), 0.5m ($\phi 2.7$, 0.18mm², 2-wire only in case of D-Z73)
- Note 1) Refer to page 10 for reed state switch common specifications.
- Note 2) Refer to page 10 for lead wire length.

Auto Switch Internal Circuits



- Note) ① The operating load is inductive load.
 ② The wiring to the load is 5 m or longer.
 ③ The load voltage is 100VAC.

If any of the above conditions is applicable, the life time of the contact may be shortened. Use a contact protection box. (Refer to page 10 about the contact protection box.)

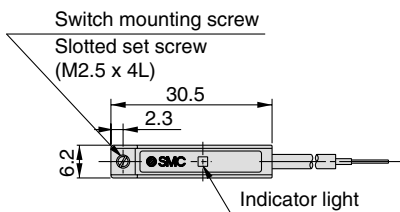
Auto Switch Weights

Unit: g

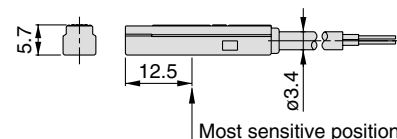
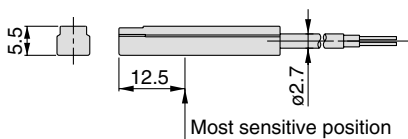
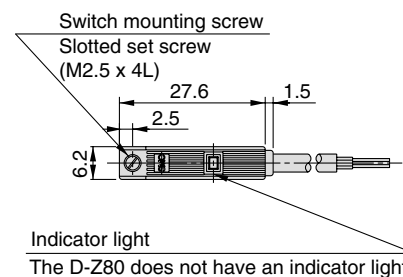
Model		D-Z73	D-Z76	D-Z80
Lead wire length m	0.5	7	10	9
	3	31	55	49
	5	50	-	-

Auto Switch Dimensions

D-Z73 (L)



D-Z76, Z80



Solid State Switches/Direct Mount Type D-Y59^A_B, D-Y69^A_B, D-Y7P(V)

Grommet



Auto Switches Specifications

D-Y5□, D-Y6□, D-Y7P, D-Y7PV (with indicator light)						
Auto switch part no.	D-Y59A	D-Y69A	D-Y7P	D-Y7PV	D-Y59B	D-Y69B
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire			2-wire		
Output type	NPN		PNP		—	
Applicable load	IC circuit, Relay, PLC				24VDC relay, PLC	
Power supply voltage	5, 12, 24VDC (4.5 to 28VDC)					—
Current consumption	10mA or less					—
Load voltage	28VDC or less		—		24VDC (10 to 28VDC)	
Load current	40mA or less		80mA or less		5 to 40mA	
Internal voltage drop	1.5V or less (0.8V or less at 10mA load current)		0.8V or less		4V or less	
Leakage current	100μA or less at 24VDC				0.8mA or less at 24VDC	
Indicator light	Red LED lights when ON					

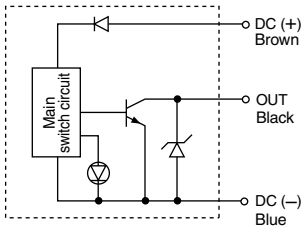
- Lead wire—Oil proof heavy duty vinyl cord, $\phi 3.4$, 0.15mm², 3 cores (brown, black, blue), 2 cores (brown, blue), 0.5m

Note 1) Refer to page 10 for solid state switch common specifications.

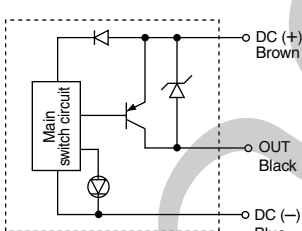
Note 2) Refer to page 10 for lead wire length.

Auto Switch Internal Circuits

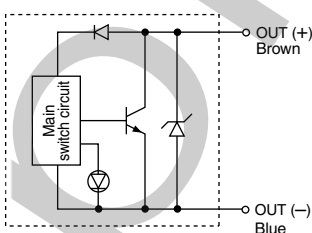
D-Y59A, D-Y69A



D-Y7P, D-Y7PV



D-Y59B, D-Y69B



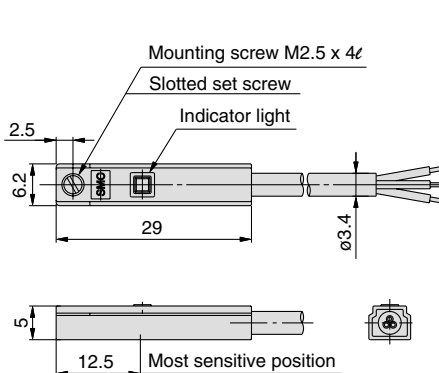
Auto Switch Weights

Unit: g

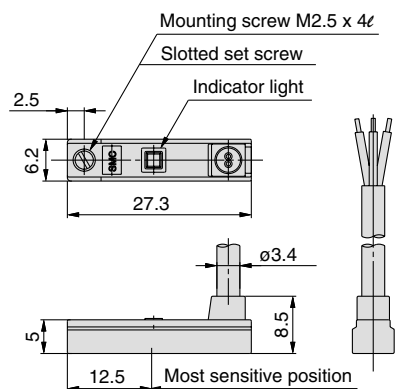
Model		D-Y59B	D-Y69B	D-Y59A	D-Y69A	D-Y7P(V)
Lead wire length m	0.5	9		10		10
	3	50		53		53
	5	83		87		87

Auto Switch Dimensions

D-Y59A, D-Y7P, D-Y59B



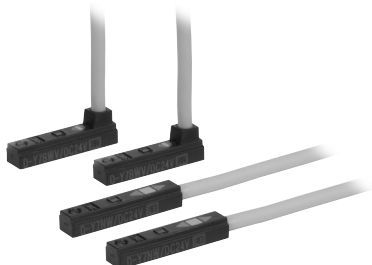
D-Y69A, D-Y7PV, D-Y69B



2-Color Indication Solid State Switches/Direct Mount Type D-Y7NW(V), D-Y7PW(V), D-Y7BW(V)

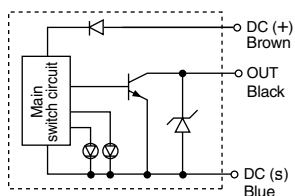
Grommet

The optimum operation position can be judged by the color of the light (red → green ← red)

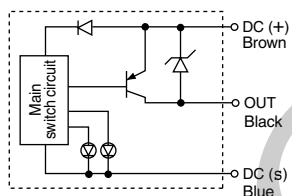


Auto Switch Internal Circuits

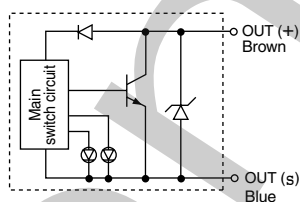
D-Y7NW, Y7NWV



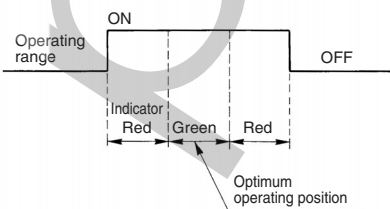
D-Y7PW, Y7PWV



D-Y7BW, Y7BWV



Indicator light/Display method



Auto Switch Specifications

D-Y7□W, D-Y7□WV (with indicator light)						
Auto switch part no.	D-Y7NW	D-Y7NWV	D-Y7PW	D-Y7PWV	D-Y7BW	D-Y7BWV
Electrical entry direction	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular
Wiring type	3-wire			2-wire		
Output type	NPN		PNP		S	
Applicable load	IC circuit, Relay, PLC				24VDC relay, PLC	
Power supply voltage	5, 12, 24VDC (4.5 to 28V)				S	
Current consumption	10mA or less				S	
Load voltage	28VDC or less		S		24VDC (10 to 28VDC)	
Load current	40mA or less		80mA or less		5 to 40mA	
Internal voltage drop	1.5V or less (0.8V or less at 10mA load current)		0.8V or less		4V or less	
Leakage voltage	100μA or less at 24VDC				0.8mA or less	
Indicator light	Actuated position////////// Red LED light up Optimum operating position/////Green LED light up					

- Lead wires: Oil proof heavy duty vinyl cord, $\phi 3.4$, 0.15mm², 3 cores (brown, black, blue), 2 cores (brown, blue), 0.5m

Note 1) Refer to page 10 for solid state switch common specifications.

Note 2) Refer to page 10 for lead wire length.

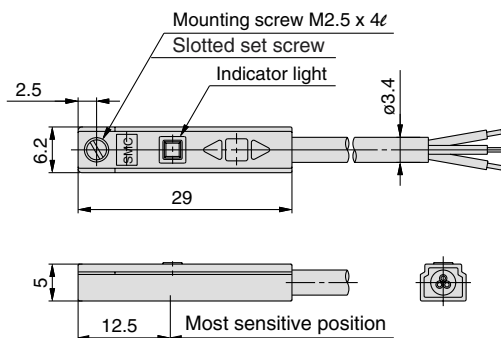
Auto Switch Weights

Unit: g

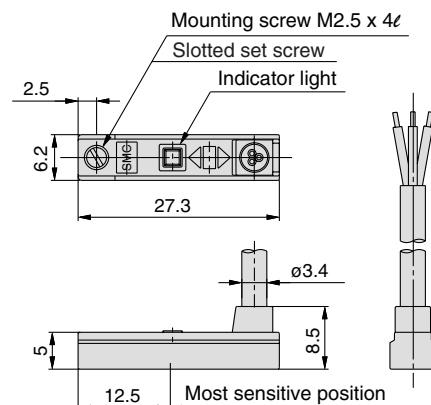
Model		D-Y7NW(V)	D-Y7PW(V)	D-Y7BW(V)
Lead wire length m	0.5	11	11	11
	3	54	54	54
	5	88	88	88

Auto Switch Dimensions

D-Y7□W



D-Y7□WV



2-Color Indication Solid State Switches/Direct Mount Type D-Y7BAL

Grommet

Improved water (coolant liquid) resistance



Caution

Operation instructions

Consult P/A when using solvents other than water.

Auto Switch Specifications

D-Y7BAL (with indicator light)	
Auto switch part no.	D-Y7BAL
Wiring type	2-wire
Applicable load	24VDC relay, PLC
Load voltage	24VDC (10 to 28VDC)
Load current	5 to 40mA or less
Internal voltage drop	4V or less
Leakage current	0.8mA or less at 24VDC
Indicator light	Actuated position.....Red LED light up Optimum operating position.....Green LED light up

- Lead wire—Oil proof heavy duty vinyl cord, $\phi 3.4$, 0.15mm², 2 cores (brown, blue), 0.5m (standard)

Note 1) Refer to page 10 for solid state switch common specifications.

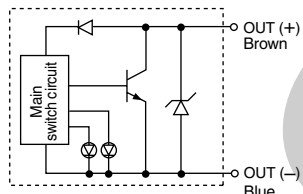
Note 2) Refer to page 10 for lead wire length.

Auto Switch Weights

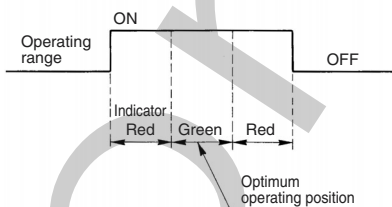
Unit: g

Model		D-Y7BA
Lead wire length m	0.5	—
	3	54
	5	88

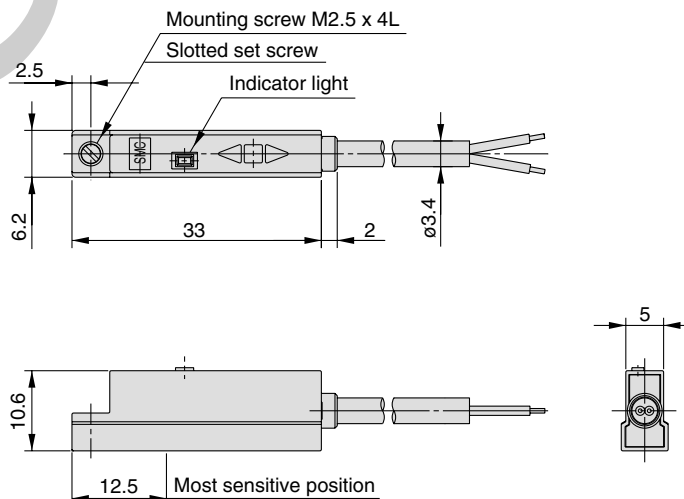
Auto Switch Internal Circuits



Indicator light/Display method



Auto Switch Dimensions



Series RSH/RS1H Model Selection

Operating Range

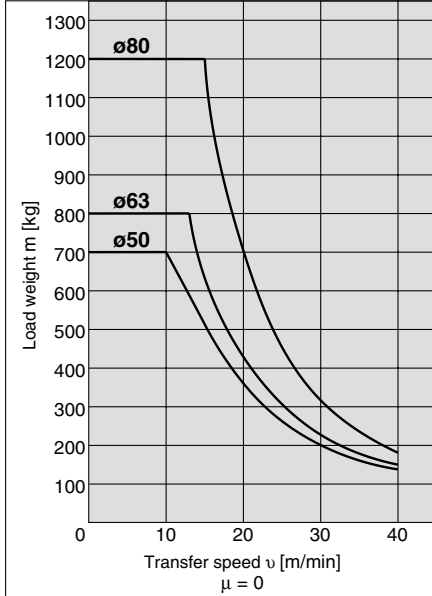
(Example) Load weight 300kg, Transfer speed 20m/min, Friction coefficient $\mu = 0.1$

(How to read graph)

In graph [2], find the intersection of the vertical axis representing the weight of 300kg and the horizontal axis representing the speed of 20m/min. And select the bore size $\phi 63$ positioned within the operating range of the cylinder.

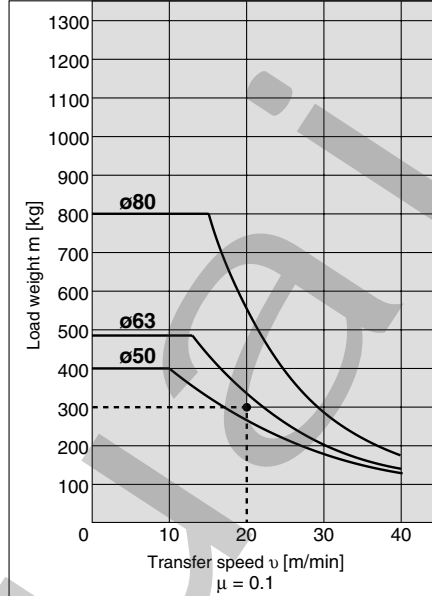
Graph ①

Bore size $\phi 50, \phi 63, \phi 80/\mu = 0$



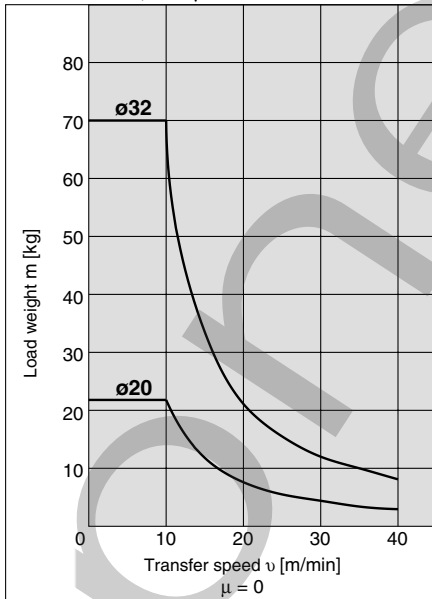
Graph ②

Bore size $\phi 50, \phi 63, \phi 80/\mu = 0.1$



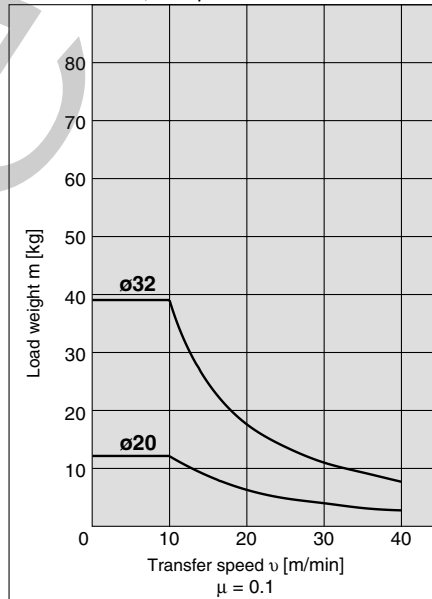
Graph ③

Bore size $\phi 20, \phi 32/\mu = 0$



Graph ④

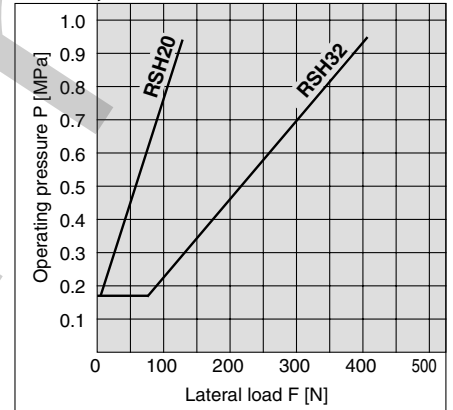
Bore size $\phi 20, \phi 32/\mu = 0.1$



Lateral Load and Operating Pressure

The greater lateral load needs higher cylinder operating pressure. Set the operating pressure by using the graph as a guideline.

RSH20, 32



RS1H50, 63, 80

