

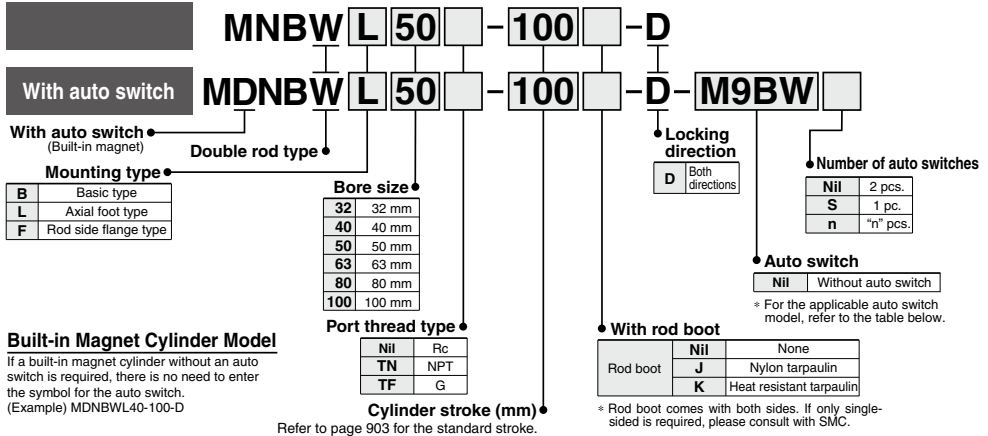
Cylinder with Lock

Double Acting, Double Rod

MNBW Series

ø32, ø40, ø50, ø63, ø80, ø100

How to Order



Applicable Auto Switches

Refer to pages 1119 to 1245 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length (m)			Pre-wired connector	Applicable load									
					DC	AC	Tie-rod mounting	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)											
									●	●	○	○											
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9N	—	●	●	○	○	IC circuit	Relay, PLC								
				3-wire (PNP)				M9P	—	●	●	○	○										
		Terminal conduit	Yes	2-wire	24 V	5 V, 12 V	—	M9B	—	●	●	○	○			—							
				3-wire (NPN)				—	G39	—	—	—	—										
		Diagnostic indication (2-color indicator)	Grommet	Yes	2-wire	24 V	5 V, 12 V	—	M9NW	—	●	●	○			○	IC circuit						
					3-wire (PNP)				M9PW	—	●	●	○			○							
	Water resistant (2-color indicator)	Grommet	Yes	2-wire	24 V	5 V, 12 V	—	M9BW	—	●	●	○	○	—									
				3-wire (NPN)				M9NA *1	—	○	○	●	○			IC circuit							
	With diagnostic output (2-color indicator)	Grommet	Yes	3-wire (PNP)	24 V	5 V, 12 V	—	M9PA *1	—	○	○	●	○	—									
				2-wire				M9BA *1	—	○	○	●	○										
	Magnetic field resistant (2-color indicator)	Grommet	Yes	4-wire (NPN)	24 V	5 V, 12 V	—	F59F	—	●	—	●	○	IC circuit									
				2-wire (Non-polar)				P3DWA	—	●	—	●	○										
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96	—	●	—	●	—	IC circuit	Relay, PLC								
				Terminal conduit				Yes	2-wire	24 V	12 V	—	100 V			A93	—	●	●	●	—	—	
													100 V or less			A90	—	●	—	●	—		IC circuit
													100 V, 200 V			A54	—	●	—	●	—		
													200 V or less			A64	—	●	—	●	—		
		DIN terminal	Grommet	Yes	2-wire	24 V	12 V	—	—	A33	—	—	—	—		—							
									—	A34	—	—	—	—									
									—	A44	—	—	—	—									
									—	A59W	—	●	—	●			—						
									—	A59W	—	●	—	●			—						

*1 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) M9NWZ

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

* Since there are other applicable auto switches than listed, refer to page 911 for details.

* D-A9□/M9□/P3DWA□ auto switches are shipped together (not assembled). (Only auto switch brackets are assembled at the time of shipment for D-A9□ and M9□.)



Cylinder Specifications

Bore size (mm)	32	40	50	63	80	100
Lubrication	Not required (Non-lube)					
Fluid	Air					
Proof pressure	1.5 MPa					
Max. operating pressure	1.0 MPa					
Min. operating pressure	0.08 MPa					
Piston speed	50 to 1000 mm/s*					
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)					
Cushion	Air cushion on both ends					
Stroke length tolerance	Up to 250: $^{+10}_0$, 251 to 1000: $^{+14}_0$					
Mounting	Basic type, Axial foot type, Rod side flange type					

* Load limits exist depending upon piston speed when locked, mounting direction and operating pressure.

Lock Specifications

Bore size (mm)	32	40	50	63	80	100
Locking action	Spring locking (Exhaust locking)					
Unlocking pressure	0.25 MPa or more					
Lock starting pressure	0.20 MPa or less					
Max. operating pressure	1.0 MPa					
Locking direction	Both directions					
Holding force (maximum static load) N*	552	882	1370	2160	3430	5390

* The holding force (max. static load) shows the maximum capability and does not show the normal holding capability. So, select an appropriate cylinder while referring to page 888.

Standard Stroke

For cases with auto switches, refer to the table of minimum strokes for /mounting of auto switches (page 910).

Bore size (mm)	Standard stroke (mm)
32	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500
40	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500
50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600
63	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600
80	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800
100	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800

* Intermediate strokes other than the above are produced upon receipt of order. Spacers are not used for intermediate strokes.

Stopping Accuracy

Lock type	Piston speed (mm/s)			
	100	300	500	1000
Spring locking	±0.3	±0.6	±1.0	±2.0

Condition: Lateral, Supply pressure P = 0.5 MPa
 Load mass Upper limit of allowed value
 Solenoid valve for locking mounted on the unlocking port
 Maximum value of stopping position dispersion from 100 measurements

Refer to pages 908 to 911 for cylinders with auto switches.

- Minimum auto switch mounting stroke
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Auto switch mounting bracket: Part no.

CLJ2

CLM2

CLG1

CL1

MLGC

CNG

MNB

CNA2

CNS

CLS

CLQ

RLQ

MLU

MLGP

ML1C

D-□

-X□

MNBW Series

Mounting Bracket Part No.

Bore size (mm)	32	40	50	63	80	100
Foot (1)	MB-L03	MB-L04	MB-L05	MNB-L*	MB-L08	MB-L10
Flange	MNB-F03*	MNB-F04*	MNB-F05*	MNB-F06*	MB-F08	MB-F10

Note 1) When ordering foot bracket, order 2 pieces per cylinder.

Note 2) Accessories for each mounting bracket are as follows.

Foot, Flange: Body mounting bolts

Note 3) All are common to the MB series air cylinders, except the sections marked with a *.

Rod Boot Material

Symbol	Rod boot material	Max. ambient temperature
J	Nylon tarpaulin	70°C
K	Heat resistant tarpaulin	110°C *

* Maximum ambient temperature for the rod boot itself.

Accessory

Mounting		Basic type	Foot type	Rod side flange type
Standard equipment	Rod end nut	●	●	●
Option	With rod boot	●	●	●

Double Rod Weight/Aluminum Tube

Bore size (mm)		32	40	50	63	80	100		
Basic weight	Basic type	1.26	1.82	2.91	4.24	7.23	10.70		
	Foot type	1.36	1.94	3.09	4.50	7.66	11.29		
	Flange type	1.50	2.14	3.44	4.98	8.68	12.53		
Additional weight per each 50 mm of stroke		All mounting brackets		0.15	0.24	0.34	0.35	0.61	0.84
Accessory	Single knuckle		0.15	0.23	0.26	0.26	0.60	0.83	
	Double knuckle (With pin)		0.22	0.37	0.43	0.43	0.87	1.27	

Calculation:

(Example) **MNBWB32-100-D** (Basic type, ø32, 100 st)

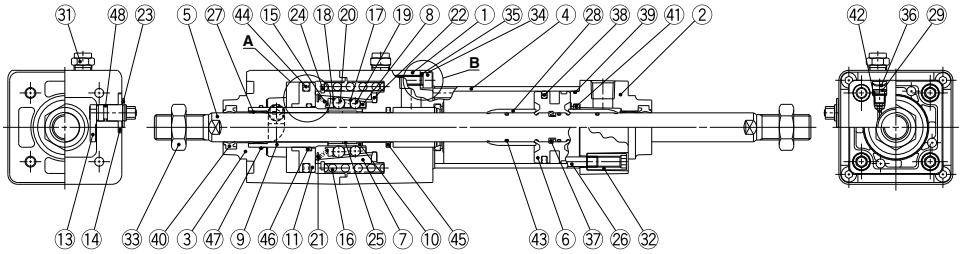
• Basic weight 1.26 (Basic type, ø32)

• Additional weight 0.11/50 stroke

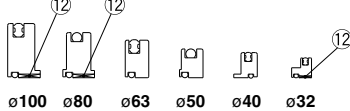
• Cylinder stroke 100 stroke

$$1.26 + 0.11 \times 100/50 = 1.48 \text{ kg}$$

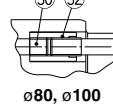
Construction



A section



B section



Component Parts

No.	Description	Material	Note
1	Rod cover A	Aluminum alloy	Hard anodized and metallic painted
2	Rod cover B	Aluminum die-casted	Chromated and metallic painted
3	Cover	Aluminum alloy	Hard anodized and metallic painted
4	Cylinder tube	Aluminum alloy	Hard anodized
5	Piston rod	Carbon steel	Hard chrome plated
6	Piston	Aluminum alloy	Chromated
7	Taper ring	Carbon steel	Heat treated
8	Ball retainer	Special resin	
9	Piston guide	Carbon steel	Zinc chromated
10	Brake shoe holder	Special steel	Heat treated
11	Release piston	Aluminum alloy	Chromated
	ø32, ø80, ø100 ø40, ø50, ø63		Hard anodized
12	Release piston bushing	Steel + Special resin	ø32, ø80, ø100 only
13	Unlocking cam	Chromium molybdenum steel	Glossy chromated
14	Washer	Carbon steel	Colorless zinc chromated
15	Retainer pre-load spring	ø32	Steel wire Zinc chromated
		ø40 to ø100	Stainless steel wire
16	Brake spring	Steel wire	Zinc chromated
17	Clip A	Stainless steel	
18	Clip B	Stainless steel	
19	Steel ball A	Carbon steel	
20	Steel ball B	Carbon steel	
21	Tooth ring	Stainless steel	
22	Bumper	Polyurethane rubber	
23	Type C retaining ring for unlocking cam shaft	Carbon steel	
24	Type C retaining ring for taper ring	Carbon steel	
25	Brake shoe	Babbitt	
26	Tie-rod	Carbon steel	Zinc chromated
27	Bushing	Bearing alloy	
28	Cushion ring	Aluminum alloy	Anodized

Component Parts

No.	Description	Material	Note
29	Cushion valve	Steel wire	
30	Unit holding tie-rod	Carbon steel	ø80, ø100 only
31	BC element		
32	Tie-rod nut	Carbon steel	
33	Rod end nut	Carbon steel	
34	Hexagon socket head cap screw	Chromium molybdenum steel	ø32 to ø63
35	Spring washer for hex. socket head cap screw	Steel wire	ø32 to ø63
36	Retaining ring	Spring steel	
37	Piston holder	Urethane	
38	Piston seal	NBR	
39	Cylinder tube gasket	NBR	
40	Rod seal A	NBR	
41	Cushion seal	NBR	
42	Cushion valve seal	NBR	
43	Piston gasket	NBR	
44	Release piston seal	NBR	
45	Rod seal B	NBR	
46	Release piston gasket	NBR	
47	Piston guide gasket	NBR	
48	Unlocking cam gasket	NBR	

Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
32	MBW32-PS	A set of 38, 39, 40 and 41 above
40	MBW40-PS	
50	MBW50-PS	
63	MBW63-PS	
80	MBW80-PS	
100	MBW100-PS	

* As a general rule, the lock section of the MNBW series is replaced as a unit, and therefore, the replacement seal kits are for the cylinder section only. These can be ordered using the order number for each bore size.

* Seal kit includes a grease pack (ø32 to ø50: 10 g, ø63 and ø80: 20 g, ø100: 30 g). Order with the following part number when only the grease pack is needed.
Grease pack part number: GR-S-010 (10 g), GR-S-020 (20 g)

CLJ2

CLM2

CLG1

CL1

MLGC

CNG

MNB

CNA2

CNS

CLS

CLQ

RLQ

MLU

MLGP

ML1C

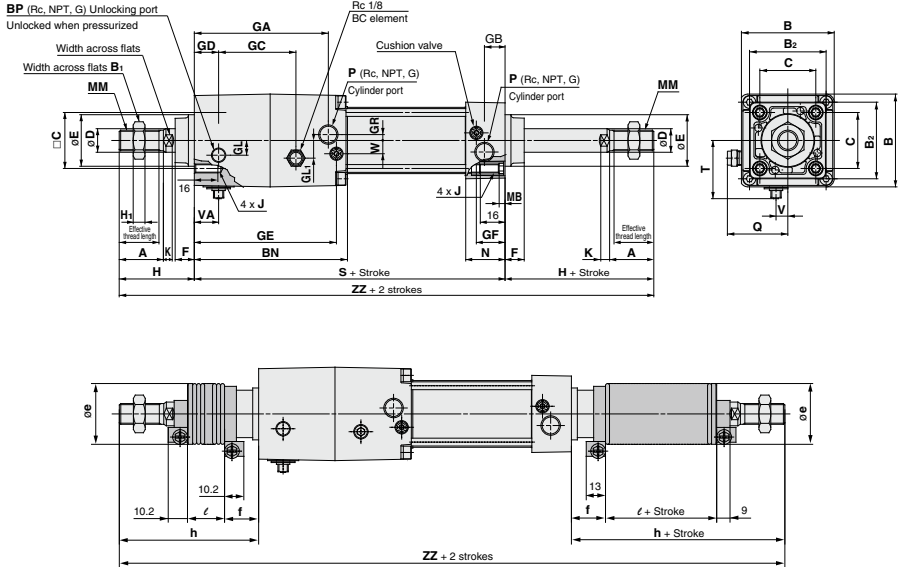
D-□

-X□

MNBW Series

Dimensions

Basic type (B): MNBWB



With rod boot

Bore size (mm)	Stroke range (mm)	Effective thread length (mm)	With across flats	A	B	B1	H1	B2	BN	BP	C	D	Ee ₁₁	F	GA	GB	GC	GD	GL	GL1
32	Up to 500	19.5	10	22	54	17	6	46	97	1/8	32.5	12	30	13	83	13	45.5	13	8.5	12
40	Up to 500	27	14	30	63	22	8	52	104	1/8	38	16	35	13	91	14	52.5	16.5	10	12
50	Up to 600	32	18	35	75	27	11	65	120.5	1/4	46.5	20	40	14	104.5	15.5	58.5	19	12.5	15
63	Up to 600	32	18	35	90	27	11	75	134.5	1/4	56.5	20	45	14	119.5	16.5	68	23	17.5	12
80	Up to 800	37	22	40	102	32	13	95	169	1/4	72	25	45	20	150	19	81	33	22	18
100	Up to 800	37	26	40	116	41	16	114	189	1/4	89	30	55	20	170	19	96	37.5	25	20

(mm)

Bore size (mm)	GR	GE	GF	J	MB	K	MM	N	P	Q	H	S	T	V	VA	W	ZZ
32	4	88.5	18.3	M6 x 1.0	4	6	M10 x 1.25	27	1/8	37	47	154	34	6.5	13	6.5	248
40	4	96.5	19.5	M6 x 1.0	4	6	M14 x 1.5	27	1/4	41.5	51	161	39.5	8	16.5	9	263
50	5	111.2	22.4	M8 x 1.25	5	7	M18 x 1.5	31.5	1/4	47.5	58	183	47	9	20	10.5	299
63	9	123.5	20.7	M8 x 1.25	5	7	M18 x 1.5	31.5	3/8	55	58	197	55.5	8.5	23	12	313
80	11.5	157	26	M10 x 1.5	5	10	M22 x 1.5	38	3/8	61	72	245	61.5	10.5	33	14	389
100	17	177	26	M10 x 1.5	5	10	M26 x 1.5	38	1/2	68	72	265	69.5	10.5	37.5	15	409

With Rod Boot

Note) ZZ: Dimensions for cylinders with a rod boot on both sides.

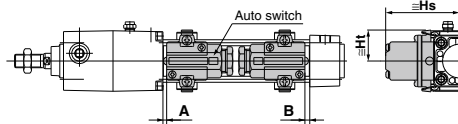
Bore size (mm)	e	f	ℓ																	h																	ZZ (Note)																
			1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800																					
32	36	23	12.5	25	37.5	50	75	100	125	—	—	—	73	86	98	111	136	161	186	—	—	—	—	—	300	326	350	376	426	476	526	—	—	—																			
40	41	23	12.5	25	37.5	50	75	100	125	—	—	—	81	94	106	119	144	169	194	—	—	—	—	—	323	349	373	399	449	499	549	—	—	—																			
50	51	25	12.5	25	37.5	50	75	100	125	150	—	—	89	102	114	127	152	177	202	227	—	—	—	—	361	387	411	437	487	537	587	637	—	—	—																		
63	51	25	12.5	25	37.5	50	75	100	125	150	—	—	89	102	114	127	152	177	202	227	—	—	—	—	375	401	425	451	501	551	601	651	—	—	—																		
80	56	29	12.5	25	37.5	50	75	100	125	150	175	200	101	114	126	139	164	189	214	239	264	289	447	473	497	523	573	623	673	723	773	823	—	—	—																		
100	61	29	12.5	25	37.5	50	75	100	125	150	175	200	101	114	126	139	164	189	214	239	264	289	467	493	517	543	593	643	693	743	793	843	—	—	—																		

Auto Switch Mounting 1

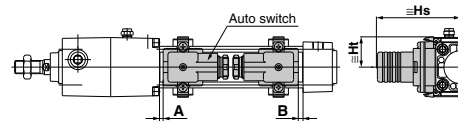
Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

<Band mounting type>

D-A3□/G39/K39



D-A44



<Tie-rod mounting type>

D-M9□/M9□V

D-M9□W/M9□WV

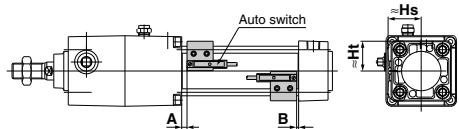
D-M9□A/M9□AV

D-A9□/A9□V

D-Z7□/Z80

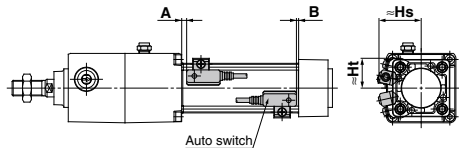
D-Y59/Y69/Y7P/Y7PV

D-Y7□W/Y7□WV/Y7BA



D-A5□/A6□

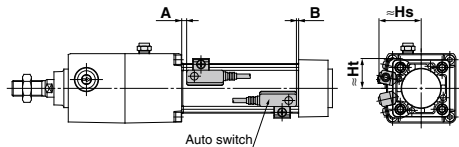
D-A59W



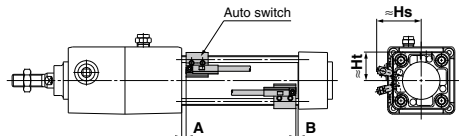
D-F5□/J59

D-F5□W/J59W/F5BA

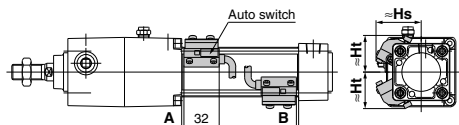
D-F59F/F5NT



D-P3DWA



D-P4DW



Auto Switch Proper Mounting Position (Detection at Stroke End) and Mounting Height

Auto Switch Proper Mounting Position (mm)

Auto switch model	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV		D-A9□ D-A9□V		D-A5□ D-A6□		D-A59W		D-F5□W D-J59W D-F5□ D-J59 D-F5BA D-F59F		D-F5NT		D-A3□ D-A44 D-G39 D-K39		D-Z7□ D-Z80 D-Y59□ D-Y69□ D-Y7P D-Y7PV D-Y7□WV D-Y7□WV D-Y7BA		D-P3DWA		D-P4DW	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
32	10.5	8	6.5	4	0.5	0	4.5	2	7	4.5	12	9.5	0.5	0	4	1.5	6	3	3.5	1
40	10.5	8	6.5	4	0.5	0	4.5	2	7	4.5	12	9.5	0.5	0	4	1.5	6	3.5	3.5	1
50	11	8.5	7	4.5	1	0	5	2.5	7.5	5	12.5	10	1	0	4.5	2	6.5	4	4	1.5
63	11	8.5	7	4.5	1	0	5	2.5	7.5	5	12.5	10	1	0	4.5	2	6.5	4	4	1.5
80	14	12.5	10	8.5	4	2.5	8	6.5	10.5	9	15.5	14	4	2.5	7.5	6	9.5	8	7	5.5
100	14	12.5	10	8.5	4	2.5	8	6.5	10.5	9	15.5	14	4	2.5	7.5	6	9.5	8	7	5.5

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

Auto Switch Mounting Height (mm)

Auto switch model	D-M9□ D-M9□V D-M9□W D-M9□A D-A9□		D-M9□V D-M9□WV D-M9□AV		D-A9□V		D-A5□ D-A6□ D-A59W		D-F5□ D-J59 D-F59F D-F5□W D-J59W D-F5BA D-F5NT		D-A3□ D-G39 D-K39		D-A44		D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7PV D-Y7□WV D-Y7BA		D-Y69□ D-Y7PV D-Y7□WV		D-P3DWA		D-P4DW	
	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht	Hs	Ht
32	24.5	23	30.5	23	27.5	23	35	24.5	32.5	25	67	27.5	77	27.5	25.5	23	26.5	23	38	31	38	31
40	28.5	25.5	34	25.5	31.5	25.5	38.5	27.5	36.5	27.5	71.5	27.5	81.5	27.5	29.5	26	30	26	39	25.5	42	33
50	33.5	31	38.5	31	36	31	43.5	34.5	41	34	77	—	87	—	33.5	31	34.5	31	43	31	46.5	39
63	38.5	36	43	36	40.5	36	48.5	39.5	46	39	83.5	—	93.5	—	39	36	40	36	48	36	51.5	44
80	46.5	45	52	45	49	45	55	46.5	52.5	46.5	92.5	—	103	—	47.5	45	48.5	45	56.5	45	58	51.5
100	54	53.5	59.5	53.5	57	53.5	62	55	59.5	55	103	—	113.5	—	55.5	53.5	56.5	53.5	64.5	53.5	65.5	60.5

Operating Range (mm)

Auto switch model	Bore size (mm)					
	32	40	50	63	80	100
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV	4	4.5	5	6	6	6
D-A9□/A9□V	7	7.5	8.5	9.5	9.5	10.5
D-Z7□/Z80	7.5	8.5	7.5	9.5	9.5	10.5
D-A5□/A6□	9	9	10	11	11	11
D-A59W	13	13	13	14	14	15
D-A3□/A44	9	9	10	11	11	11
D-Y59□/Y69□ D-Y7P/Y7□V D-Y7□W/Y7□WV D-Y7BA	5.5	5.5	7	7.5	6.5	5.5
D-F5□/J59 D-F5□W/J59W D-F5BA/F5NT D-F59F	3.5	4	4	4.5	4.5	4.5
D-G39/K39	9	9	10	11	11	11
D-P3DWA	3	4.5	4.5	5	5	5.5
D-P4DW	4	4	4	4.5	4	4.5

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

- CLJ2
- CLM2
- CLG1
- CL1
- MLGC
- CNG
- MNB
- CNA2
- CNS
- CLS
- CLQ
- RLQ
- MLU
- MLGP
- ML1C

- D-□
- X□

Auto Switch Mounting 2

Minimum Stroke for Auto Switch Mounting

Auto switch model	No. of auto switches mounted	ø32, ø40, ø50, ø63, ø80, ø100
D-M9□ D-M9□W D-M9□A	2 (Different surfaces, same surface), 1	15
	n	$15 + 40 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
D-M9□VV D-M9□WV D-M9□AV	2 (Different surfaces, same surface), 1	10
	n	$10 + 30 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
D-A9□	2 (Different surfaces, same surface), 1	15
	n	$15 + 40 \frac{(n-2)}{2}$ (n = 2, 4, 6, 8... Note)
D-A9□V	2 (Different surfaces, same surface), 1	10
	n	$10 + 30 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
D-A3□ D-G39 D-K39	2 (Different surfaces)	35
	2 (Same surface)	100
	n (Different surfaces)	$35 + 30 (n-2)$ (n = 2, 3, 4...)
	n (Same surface)	$100 + 100 (n-2)$ (n = 2, 3, 4...)
D-A44	1	10
	2 (Different surfaces)	35
	2 (Same surface)	55
	n (Different surfaces)	$35 + 30 (n-2)$ (n = 2, 3, 4...)
	n (Same surface)	$55 + 50 (n-2)$ (n = 2, 3, 4...)
1	10	

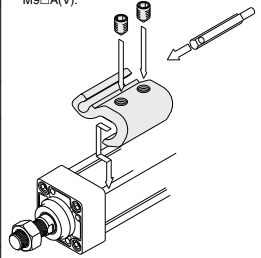
Note) When "n" is an odd number, an even number that is one larger than this odd number is used for the calculation.

n: No. of auto switches (mm)			
Auto switch model	No. of auto switches mounted	ø32, ø40, ø50, ø63	ø80, ø100
D-A5□ D-A6□	2 (Different surfaces, same surface), 1	15	20
	n (Same surface)	$15 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	$20 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
D-A59W	2 (Different surfaces, same surface)	20	25
	n (Same surface)	$20 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	$25 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
	1	15	25
D-F5□/J59 D-F5□W D-J59W D-F5BA D-F59F D-F5NT	2 (Different surfaces, same surface)	15	25
	n (Same surface)	$15 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	$25 + 55 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)
	1	10	25
	1	10	25
D-Z7□ D-Z80 D-Y59□ D-Y7P D-Y7□W	2 (Different surfaces, same surface), 1	15	
	n	$15 + 40 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	
D-Y69□ D-Y7PV D-Y7□WV	2 (Different surfaces, same surface), 1	10	
	n	$10 + 30 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	
D-Y7BA	2 (Different surfaces, same surface), 1	20	
	n	$20 + 45 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	
D-P3DWA	2 (Different surfaces, same surface), 1	15	
	n	$15 + 50 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	
D-P4DW	2 (Different surfaces, same surface), 1	15	
	n	$15 + 65 \frac{(n-2)}{2}$ (n=2, 4, 6, 8... Note)	

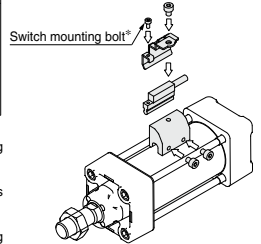
Auto Switch Mounting Bracket Part No.

Auto switch model	Bore size (mm)					
	ø32	ø40	ø50	ø63	ø80	ø100
D-M9□/M9□V D-M9□W/M9□WV D-M9□A/M9□AV D-A9□/A9□V	BMB5-032	BMB5-032	BA7-040	BA7-040	BA7-063	BA7-063
D-A3□/A44 D-G39/K39	BMB2-032	BMB2-040	BMB1-050	BMB1-063	BMB1-080	BMB1-100
D-A5□/A6□ D-A59W D-F5□/J59 D-F5□W/J59W D-F5□F D-F5BA D-F5NT	BT-03	BT-03	BT-05	BT-05	BT-06	BT-06
D-P3DWA	BA10-032S	BA10-040S	BA10-050S	BA10-050S	BA10-063S	BA10-063S
D-P4DW	BMB3T-040	BMB3T-040	BMB3T-050	BMB3T-050	BMB3T-080	BMB3T-080
D-Z7□/Z80 D-Y59□/Y69□ D-Y7P/Y7PV D-Y7□W D-Y7□WV D-Y7BA	BMB4-032	BMB4-032	BMB4-050	BMB4-050	BA4-063	BA4-063

* The above figure shows the mounting example of D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V).



<Mounting example for ø32, D-P3DWA>



* The switch mounting bolt is supplied with the switch.

[Mounting screws set made of stainless steel]

The following set of mounting screws made of stainless steel is also available. Use it in accordance with the operating environment. (Please order the auto switch mounting bracket separately, since it is not included.)

BBA1: For D-A5/A6/F5/J5 types

D-F5BA auto switch is set on the cylinder with the stainless steel screws above when shipped. When an auto switch is shipped independently, BBA1 is attached.

Note 1) Refer to page 1233 for the details of BBA1.

Note 2) When using D-M9□A(V)/Y7BA, do not use the steel set screws which is included with the auto switch mounting brackets above (BMB5-032, BA7-□□□, BMB4-□□□, BA4-□□□). Order a stainless steel screw set (BBA1) separately, and select and use the M4 x 6L stainless steel set screws included in the BBA1.

- CLJ2
- CLM2
- CLG1
- CL1
- MLGC
- CNG
- MNB**
- CNA2
- CNS
- CLS
- CLQ
- RLQ
- MLU
- MLGP
- ML1C

Besides the models listed in How to Order, the following auto switches are applicable. For detailed specifications, refer to pages 1119 to 1245.

Auto switch type	Model	Electrical entry (Fetching direction)	Features
Reed	D-A93V, A96V	Grommet (Perpendicular)	—
	D-A90V		Without indicator light
	D-A53, A56, Z73, Z76	Grommet (In-line)	—
	D-A67, Z80		Without indicator light
Solid state	D-M9NV, M9PV, M9BV	Grommet (Perpendicular)	—
	D-Y69A, Y69B, Y7PV		—
	D-M9NWV, M9PWV, M9BWW		Diagnostic indication (2-color indicator)
	D-Y7NWV, Y7PWV, Y7BWW		Water resistant (2-color indicator)
	D-M9NAV, M9PAV, M9BAV		—
	D-F59, F5P, J59		—
	Grommet (In-line)	D-Y59A, Y59B, Y7P	—
		D-F59W, F5PW, J59W	Diagnostic indication (2-color indicator)
		D-Y7NW, Y7PW, Y7BW	Water resistant (2-color indicator)
		D-F5BA, Y7BA	With timer
		D-F5NT	—
		D-P5DW	Magnetic field resistant (2-color indicator)

* With pre-wired connector is available for solid state auto switches. For details, refer to pages 1192 and 1193.

* Normally closed (NC = b contact) solid state auto switches (D-M9□E(V)/Y7G/Y7H) are also available. For details, refer to pages 1592-1 and 1139.

- D-□
- X□