

# Series MK/MK2

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

Applicable Cylinders: Series MK

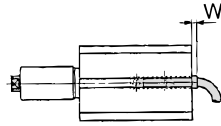
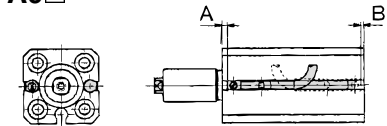
ø12

When mounted

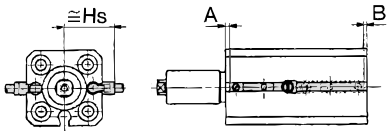
a)

b)

D-M9□  
D-M9□W  
D-M9□AL  
D-A9□



D-M9□V  
D-M9□WV  
D-M9□AVL  
D-A9□V

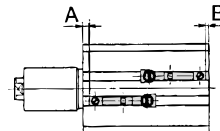
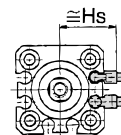
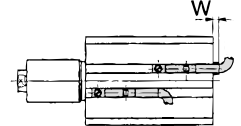
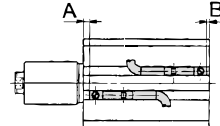
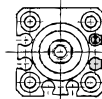


ø16

When mounted

a)

b)



### Auto Switch Proper Mounting Position

(mm)

Auto switch model	D-M9□/M9□V D-M9□W/M9□WV D-M9□AL/M9□AVL			D-A9□ D-A9□V		
	A	B	W	A	B	W
Bore size 12	11.5	4.5	5.5	7.5	0	1.5 (4)
Bore size 16	12	4	6	8	0	2 (4.5)

Note 1) ( ): D-A93

Note 2) Size W is suitable for mounting models D-M9□, D-M9□W, D-M9□AL, and D-A9□.

Note 3) When setting an auto switch, confirm the operation and adjust its mounting position.

### Auto Switch Mounting Height

(mm)

Auto switch model	D-M9□V D-M9□WV D-M9□AVL		D-A9□V
	Hs	Hs	Hs
Bore size 12	19	17	
Bore size 16	21	19	

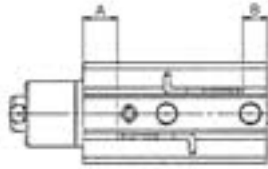
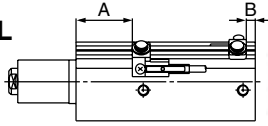
## Auto Switch Proper Mounting Position (Detection at Stroke End) and its Mounting Height

Applicable Cylinders: Series MK, MK2

D-M9□  
D-M9□V  
D-M9□W  
D-M9□WV  
D-M9□AL  
D-M9□AVL  
D-A9□  
D-A9□V

ø20, ø25

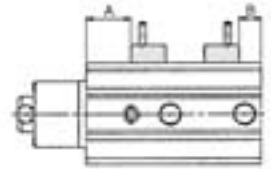
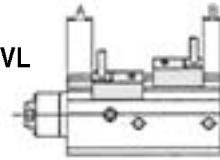
ø32 to ø63



D-F7□/J79  
D-F7□V  
D-J79C  
D-F7□W/J79W  
D-F7□WV  
D-F7BAL/F7BAVL  
D-F79F/F7NTL  
D-A7□/A80  
D-A73C/A80C  
D-A7□H/A80H  
D-A79W  
D-P4DWL

ø20, ø25

ø32 to ø63



### Auto Switch Proper Mounting Position

Applicable Cylinders: Series MK

Auto switch model	D-M9□ D-M9□V D-M9□WV D-M9□W D-M9□AL D-M9□AVL		D-A9□ D-A9□V		D-A73 D-A80		D-A72/A7□H D-A80H/A73C D-A80C/F7□/F79F D-J79/F7□V/J79C D-F7BA□/F7□W D-J79W/F7□WV		D-F7NTL		D-A79W		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Bore size														
20	30	7.5	26	3.5	28.5	6	29	6.5	34	11.5	26	3.5	—	—
25	30.5	8	26.5	4	29	6.5	29.5	7	34.5	12	26.5	4	—	—
32	35.5	9	31.5	5	32.5	6	33	6.5	38	11.5	30	3.5	—	—
40	26.5	11.5	22.5	7.5	23.5	8.5	24	9	29	14	21	6	19.5	4.5
50	31	14.5	27	10.5	28	11.5	28.5	12	33.5	17	25.5	9	24	7.5
63	31.5	17.5	27.5	13.5	28.5	14.5	29	15	34	20	26	12	24.5	10.5

Note) When setting an auto switch, confirm the operation and adjust its mounting position.

### Auto Switch Proper Mounting Position

Applicable Cylinders: Series MK2

Auto switch model	D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□AL D-M9□AVL		D-A9□ D-A9□V		D-A73 D-A80		D-A72/A7□H D-A80H/A73C D-A80C/F7□/F79F D-J79/F7□V/J79C D-F7BA□/F7□W D-J79W/F7□WV		D-F7NTL		D-A79W		D-P4DWL	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Bore size														
20	30	8	26	4	28.5	6.5	29	7	34	12	26	4	—	—
25	31	10	27	6	29.5	8.5	30	9	34.5	14	27	6	—	—
32	36	13	32	9	33	10	33.5	10.5	38	15.5	30.5	7.5	—	—
40	27	16	23	12	24	13	24.5	13.5	29	18.5	21.5	10.5	20	9
50	31	19.5	27	15.5	28	16.5	28.5	17	33.5	22	25.5	14	24	12.5
63	31.5	22.5	27.5	18.5	28.5	19.5	29	20	34	25	26	17	24.5	15.5

Note) When setting an auto switch, confirm the operation and adjust its mounting position.

## Operating Range

Auto switch model	MK (mm)							Auto switch model	MK2 (mm)						
	12	16	20	25	32	40	50		83	20	25	32	40	50	63
D-M9□/M9□V	2	2.5	3.5	3.5	4	4	4	5	D-M9□/M9□V	3.5	3.5	4	4	4	5
D-M9□W/M9□WV D-M9□AL/M9□AVL	3.5	4	5	6	5.5	5	6	6.5	D-M9□W/M9□WV D-M9□AL/M9□AVL	4.5	5	6.5	5.5	6.5	6.5
D-A9□/A9□V	6	7.5	10	10	9.5	9.5	9.5	11.5	D-A9□/A9□V	10	10	9.5	9.5	9.5	11.5
D-F7□/J79 D-F7□V/J79C D-F7□W/F7□WV D-J79W D-F79F/F7BAL D-F7BAVL/F7NTL	—	—	5.5	5	6	6	6	6.5	D-F7□/J79 D-F7□V/J79C D-F7□W/F7□WV D-J79W D-F79F/F7BAL D-F7BAVL/F7NTL	5.5	5	6	6	6	6.5
D-A7□/A80 D-A7H/A80H D-A73C/A80C	—	—	12	12	12	11	10	12	D-A7□/A80 D-A7H/A80H D-A73C/A80C	12	12	12	11	10	12
D-A79W	—	—	13	13	13	14	14	16	D-A79W	13	13	13	14	14	16
D-P4DWL	—	—	—	—	—	5	5	5	D-P4DWL	—	—	—	5	5	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.  
\* Figures for models D-M9□(V), M9□W(V), M9□A(V)L, and A9□(V) with ø12 or ø16 (MK), or ø32 or more (MK, MK2) indicate the operating range when using the existing auto switch-mounting groove, without using auto switch mounting bracket BQ2-012.

# Series MK/MK2

## Auto Switch Mounting Bracket/Part No.

Auto switch mounting surface	Bore size (mm)			
	ø12, ø16	ø20, ø25	ø32, ø40, ø50	ø63
Auto switch model	A, B, C side	Only on auto switch mounting rail side	Port side	A, B, C side
<b>D-M9□</b> <b>D-M9□V</b> <b>D-M9□W</b> <b>D-M9□WV</b> <b>D-M9□AL</b> <b>D-M9□AVL</b> <b>D-A9□</b> <b>D-A9□V</b>	No auto switch mounting bracket necessary.	①BQ-1 ②BQ-012 Two types of auto switch mounting bracket are used as a set. 	No auto switch mounting bracket necessary.	①BQ-2 ②BQ-012 Two types of auto switch mounting bracket are used as a set. 

Note 1) For ø32 to ø50 of each cylinder series, when mounting compact auto switches on one of the three sides other than the port side (above A, B, C side) in the figure above, a separate auto switch mounting bracket is necessary as shown in the table above, so please order one separately from the cylinder.  
(The same is true when mounting compact auto switches with the auto switch mounting rail, not using the compact auto switch mounting groove, for diameters ø63 to ø100.)

Example

MKA32-10R-M9BW ..... 1 unit  
BQ-2 ..... 2 pcs.  
BQ2-012 ..... 2 pcs.

Note 2) When the cylinder is shipped, an auto switch mounting bracket and auto switch are included in the shipment.

Auto switch model	Bore size (mm)					
	20	25	32	40	50	63
<b>D-F7□/J79</b> <b>D-F7□V</b> <b>D-J79C</b> <b>D-F7□W/J79W</b> <b>D-F7□WV</b> <b>D-F7BAL/F7BAVL</b> <b>D-F79F/F7NLT</b> <b>D-A7□/A80</b> <b>D-A73C/A80C</b> <b>D-A7□H/A80H</b> <b>D-A79W</b>	BQ-1		BQ-2			
<b>D-P4DWL</b>	—		BQP1-050			

Note 3) When the cylinder is shipped, an auto switch mounting bracket and auto switch are included in the shipment. However, ø40 to ø63 with the D-P4DWL are assembled at the time of shipment.

### [Mounting screws set made of stainless steel]

The set of stainless steel mounting screws (with nuts) described below is available and can be used depending on the operating environment. (Please order the auto switch spacer BQ-2, since it is not included.)

The "D-F7BAL/F7BAVL" switch is set on the cylinder with the stainless steel screws above when shipped.

When only a switch is shipped independently, "BBA2" screw set is attached.

Note 4) When mounting D-M9□A(V)L anywhere other than the port side of ø32, ø40, ø50, please order auto switch mounting brackets BQ2-012S, BQ-2, and the stainless steel screw set BBA2 separately.

### Detailed Contents of Stainless Steel Mounting Screw Set

Part no.	Content			Applicable auto switch mounting bracket part no.	Applicable auto switch
	Description	Size	Qty.		
<b>BBA2</b>	Auto switch mounting screw	M3 x 0.5 x 8 ℓ	1	BQ-1	D-A7 D-A8 D-F7 D-J7
		M3 x 0.5 x 10 ℓ	1	BQ-2	
	Auto switch mounting nut (Square nut)	M3 x 0.5	1	BQ-1	
	Auto switch mounting nut (Convex type)	M3 x 0.5	1	BQ-2	

Note 5) When using BQ-1, BBA2 may be used by itself.

When using BQ-2, BQ-2 and BBA2 should be used together as a set, and used in combination with the auto switch spacer (black resin material) and stainless steel screws.

### Auto Switch Mounting Bracket Mass

Mounting bracket part no.	Mass (g)
BQ-1	1.5
BQ-2	1.5
BQ2-012	5
BQP1-050	16

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## Rotary Clamp Cylinder *Series MK/MK2*

Other than the models listed in "How to Order", the following auto switches are applicable.  
For detailed specifications, refer to pages 1719 to 1827.

Auto switch type	Model	Electrical entry	Features	Applicable bore size
<b>Solid state</b>	D-F7NV, F7PV, F7BV	Grommet (Perpendicular)	—	ø20 to ø63
	D-F7NWV, F7BWV		Diagnostic indication (2-color indication)	
	D-F7BAVL		Water resistant	
	D-F79, F7P, J79	—		
	D-F79W, F7PW, J79W	Grommet (In-line)	Diagnostic indication (2-color indication)	ø40 to ø63
	D-F7BAL		Water resistant (2-color indication)	
	D-F7NTL		With timer	
	D-P5DWL		Magnetic field resistant	
<b>Reed</b>	D-A73	Grommet (Perpendicular)	—	ø20 to ø63
	D-A80	Grommet (In-line)	Without indicator light	
	D-A73H, A76H		—	
	D-A80H	Without indicator light		

\* With pre-wired connector is available for solid state auto switches, too. For details, refer to pages 1784 and 1785.

\* Normally closed (NC = b contact), solid state auto switch (D-F9G/F9H type) are also available. For details, refer to page 1746.

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