

Ideal for shifting reference pins and reference workpiece receptacles

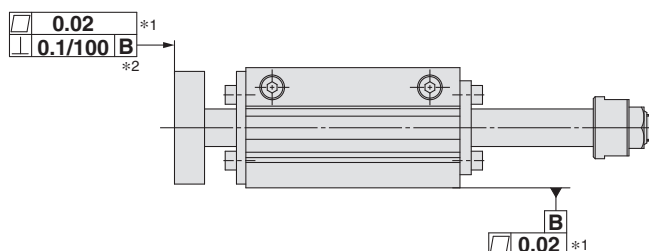
Reference Pin Cylinder

Highly accurate mounting positions.

Highly accurate positioning even after the cylinder is replaced.

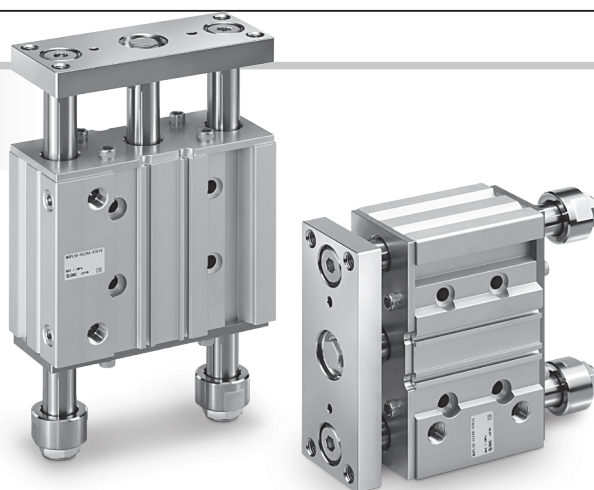
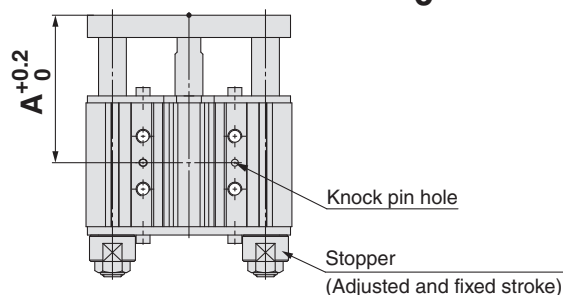
■ Mounting accuracy

Flatness 0.02 (*1) Squareness 0.1 (*2)



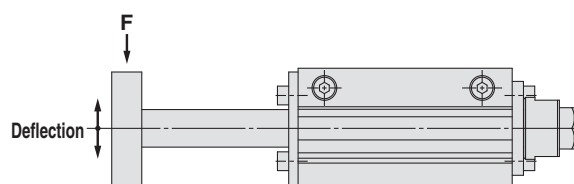
■ Extended stroke

end position accuracy $+0.2$ mm



■ End plate deflection ± 0.2 mm or less

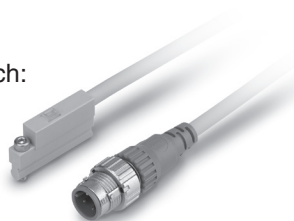
When plate is fully extended, 65 mm stroke, with 196 N lateral load applied.



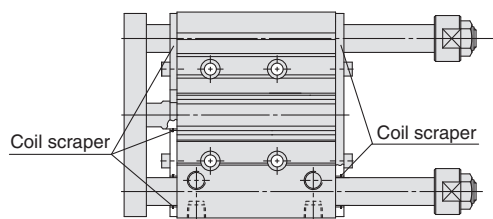
■ D-P3DWA magnetic field resistant auto switch available

<Applicable Auto Switches>

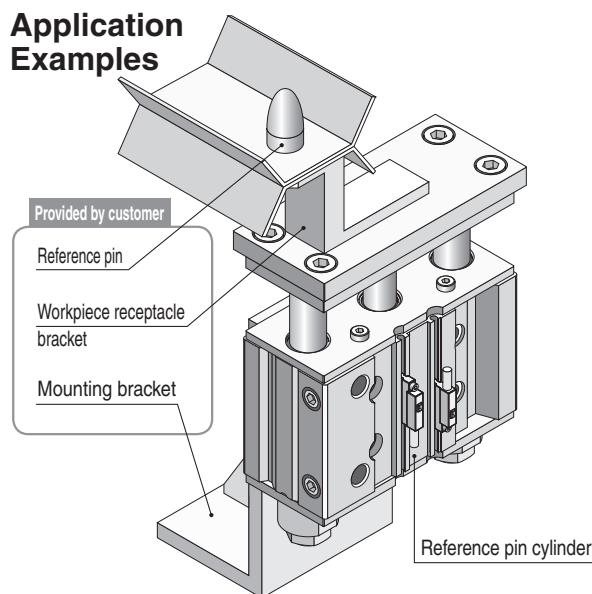
- Magnetic field resistant auto switch:
D-P3DWA□, D-P4DW□
- Small auto switch:
D-M9□, D-A9□



■ Coil scraper equipped as standard



Application Examples



MGPL50-X2616



15-EU648-UK

Reference Pin Cylinder

MGPL50-X2616

Ø 50

How to Order

MGPL50-**40**ZAA-P3DWA-**X2616**

Stroke

25	25 mm
40	40 mm
65	65 mm

With stopper

AA	Adjusted and fixed stroke
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Auto switch

Select applicable auto switch models from the table below.

—	Without auto switch
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Reference pin cylinder

Number of auto switches

—	2
S	1

Auto Switch Models: Refer to Auto Switch Guide on www.smc.eu for further information on auto switches.

Magnetic Field Resistant Auto Switches

Type	Auto switch model	Applicable magnetic field	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load	
Solid state auto switch	D-P3DWASC	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-colour	2-wire (3-4)	24 V DC	0.3 m	Relay, PLC	
	D-P3DWASE				2-wire (1-4)		0.5 m		
	D-P3DWA				2-wire		3 m		
	D-P3DWAL		Pre-wired connector				5 m		
	D-P3DWAZ						0.3 m		
	P4DWSC*1				Grommet		2-wire (3-4)		2-wire (1-4)
	P4DWSE*1		5 m						
	P4DWL*1		2-wire				3 m		
	P4DWZ*1				5 m				

*1: When the D-P4DW auto switches are mounted on the same surface, they may not be adjustable to the most sensitive position with a 25 mm stroke. The D-P3DWA is recommended in this case.

Small Auto Switches Small auto switches cannot be used under a strong magnetic field.

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	Perpendicular	In-line	0.5 (—)	1 (M)	3 (L)	5 (Z)						
Solid state auto 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	●	●	●	○	○	—				
	3-wire (NPN)					M9NWV		M9NW	●	●	●	○	○		IC circuit			
	3-wire (PNP)			M9PWV	M9PW	●		●	●	○	○	IC circuit						
	2-wire			12 V	M9BWV	M9BW		●	●	●	○		○	—				
	3-wire (NPN)				M9NAV	M9NA		○	○	●	○	○	IC circuit					
	3-wire (PNP)			M9PAV	M9PA	○		○	●	○	○	IC circuit						
	2-wire	12 V	M9BAV	M9BA	○	○	●	○	○	—								
	Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96V		A96	●	—	●	—	—	IC circuit	—
No					2-wire		12 V	100 V	A93V*1	A93	●	●	●	●	—	—	—	—
							5 V, 12 V	100 V or less	A90V	A90	●	—	●	—	—	—	IC circuit	Relay PLC

*1: 1 m lead wire is only applicable to the D-A93.

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

*: Auto switches and mounting brackets are shipped together, (but not assembled).

*: Lead wire length symbols: 0.5 m..... (Example) M9NWV
1 m.....M (Example) M9NWVM
3 m.....L (Example) M9NWVL
5 m.....Z (Example) M9NWVZ

Specifications

Bore size [mm]	50		
Stroke [mm]	25	40	65
Maximum operating pressure	1.0 MPa		
Proof pressure	1.5 MPa		
Minimum operating pressure	0.14 MPa		
Ambient temperature	-10 to 60 °C		
Fluid temperature	-10 to 60 °C		
Cushion	Rubber bumper on both ends (Extended end stopped by stroke adjustment stopper.)		
Weight	4.4 kg	4.7 kg	4.9 kg

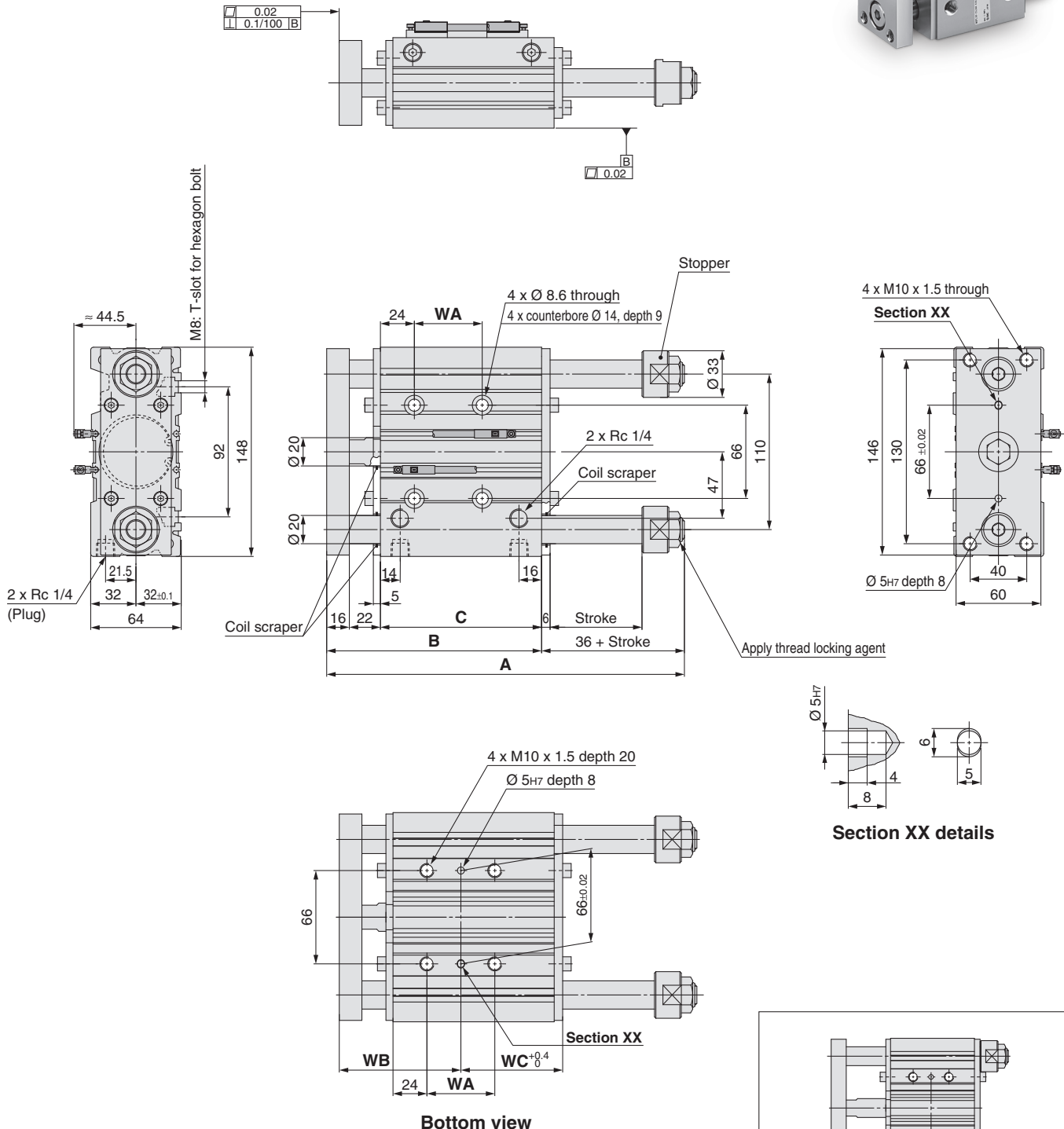
End Plate Deflection

Stroke	Lateral load F [N]		
	98	196	294
25	±0.1	±0.2	±0.2
40	or less	or less	or less
65	±0.2 or less	—	—

Dimensions

MGPL50-□ZAA-□-X2616

※: With auto switch (D-P3DWA)



Bottom view

	A	B	C	WA	WB	WC
25 mm stroke	188	127	89	38	81	52
40 mm stroke	203	127	89	38	81	52
65 mm stroke	253	152	114	48	86	72

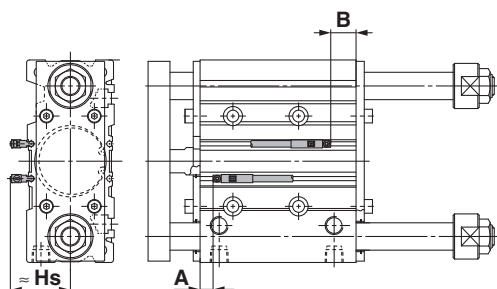
Dimensional tolerance at extended stroke end

※: The stopper of the cylinder cannot be adjusted. (Marking on stopper nut)
When readjustment of the stopper is performed by another company, SMC will not guarantee the dimensional tolerance of $WB + \text{stroke} \begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$.

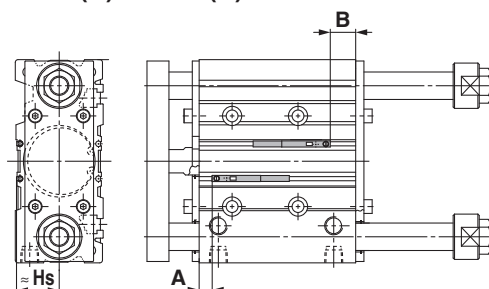
MGPL50-X2616

Auto Switch Proper Mounting Position (Detection at stroke end) and Mounting Height

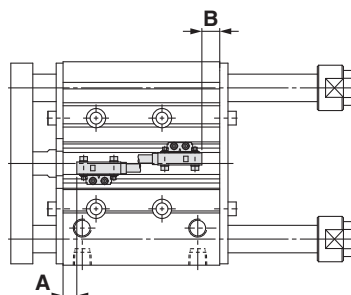
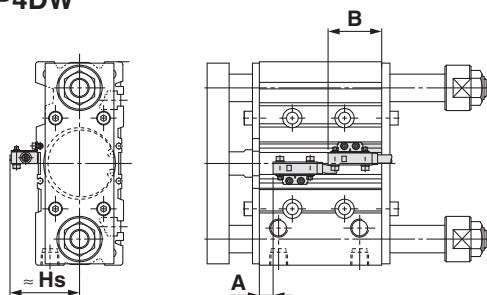
D-P3DWA



D-M9□(V)/D-M9□W(V) D-M9□A(V)/D-A9□(V)



D-P4DW



40 mm stroke: D-P4DW□.....When two switches are mounted.

65 mm stroke: D-P4DW□.....When two switches are mounted.

Auto Switch Proper Mounting Position

[mm]

Auto switch model	Applicable stroke	D-P3DWA		D-P4DW		D-M9□(V) D-M9□W(V) D-M9□A(V)		D-A9□(V)	
		A	B	A	B	A	B	A	B
50	25	24.5	18.5	—	—	29	23	25	19
	40	9.5	18.5	7	42	14	23	10	19
	65	9.5	18.5	7	16	14	23	10	19

Auto Switch Proper Mounting Height

[mm]

Auto switch model	D-P3DWA		D-P4DW		D-M9□V D-M9□WV D-M9□AV		D-A9□V	
	Hs		Hs		Hs		Hs	
50	44.5		50.5		38.5		36	

Operating Range

[mm]

Auto switch model	Operating range
D-P3DWA	6
D-P4DW	5
D-M9□(V) D-M9□W(V) D-M9□A(V)	6
D-A9□(V)	9.5

※: Values which include hysteresis are for guideline purposes only, they are not a guarantee (assuming approximately ±30 % dispersion) and may change substantially depending on the ambient environment.

Auto Switch Mounting Bracket Part No./Mounting Method

Applicable auto switch	D-P3DWA	D-M9□ D-A93	D-A9□ (Except D-A93)
Auto switch mounting bracket part no.	No mounting bracket required as the auto switch is directly mounted.		
Auto switch tightening torque	0.2 to 0.3 N·m	0.05 to 0.15 N·m	0.1 to 0.2 N·m

Applicable auto switch	D-P4DW	
Auto switch mounting bracket part no.	BMG7-032	
Auto switch tightening torque	M3: 0.5 to 0.6 N·m, M2.5: 0.25 to 0.35 N·m	
Auto switch mounting bracket fitting parts lineup/weight	<ul style="list-style-type: none"> Auto switch mounting bracket Auto switch mounting nut Hexagon socket head cap screw (M3 x 0.5 x 14 L, With spring washer) Hexagon socket head cap screw (M2.5 x 0.45 x 5 L) Spring washer (for M2.5) Weight = 12 g	

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