

Offset Pin Shift Cylinder

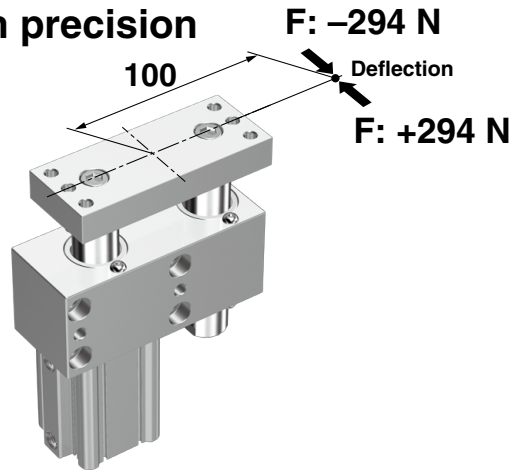
with high rigidity offset load capacity
 $\varnothing 32, \varnothing 40, \varnothing 50$

High rigidity, High precision

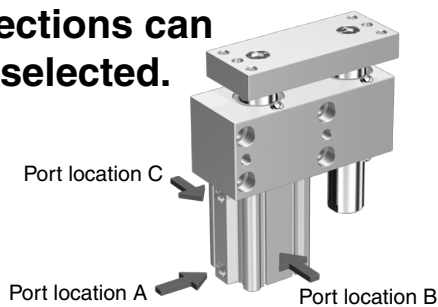
With plate extended:

Deflection of ± 0.1 mm or less

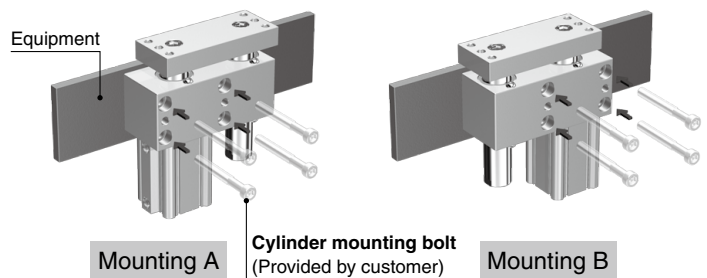
(For $\varnothing 50$, 25 mm stroke, when allowable moment 29.4 N·m is applied)



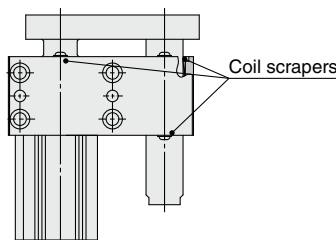
3 different port location directions can be selected.



Can be mounted from 2 directions



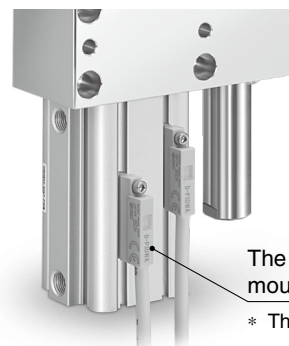
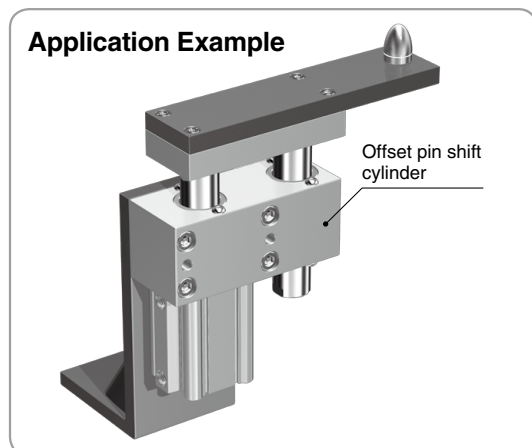
Coil scrapers equipped as standard



Auto switches are mountable.

Applicable Auto Switches:

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



The D-P3DWA□, D-M9□, and D-A9□ are mountable on 3 surfaces.

* The D-P4DW□ is mountable on 2 surfaces.

CDQ2B-X2839

Offset Pin Shift Cylinder

CDQ2B-X2839

∅32, ∅40, ∅50

How to Order

C D Q2B 40 - 50 A Z - P3DWA - X2839

Built-in magnet for auto switch → C

Bore size → 40

32	32 mm
40	40 mm
50	50 mm

Stroke [mm] → 50

Bore size	Stroke
32	25, 50
40	25, 50, 75
50	25, 50, 75

Auto switch → P3DWA

Nil	2
S	1

Number of auto switches

Auto switch

Nil	Without auto switch
-----	---------------------

Select applicable auto switch models from [the table below](#).

Port location

A	B	C

Auto Switch Models: Refer to the Best Pneumatics Catalog 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-color indicator	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC
	D-P3DWA				2-wire (1-4)		0.5 m	
	D-P3DWA		Grommet		2-wire		3 m	
	D-P3DWA						5 m	
	D-P3DWA		Pre-wired connector		2-wire (3-4)		0.3 m	
	D-P3DWA						2-wire (1-4)	
	P4DWSC		Grommet		2-wire		5 m	
	P4DWSE						2-wire	
P4DWL	2-wire	2-wire	5 m					
P4DWZ			2-wire	2-wire	5 m			

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 (Nil)	1 (M)	3 (L)	5 (Z)		IC circuit	Relay, PLC			
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				M9BV	M9B	●	●	●	○	○				
				3-wire (NPN)				M9NWV	M9NW	●	●	●	○	○				
	Diagnostic indication (2-color indicator)			Grommet	Yes	3-wire (PNP)	24 V	5 V, 12 V	—	M9PWV	M9PW	●	●	●	○	○	IC circuit	Relay, PLC
						2-wire				M9BWV	M9BW	●	●	●	○	○		
						3-wire (NPN)				M9NAV	M9NA	○	○	●	○	○		
						3-wire (PNP)				M9PAV	M9PA	○	○	●	○	○		
Water resistant (2-color indicator)	Grommet	Yes	2-wire	24 V	5 V, 12 V	—	M9BAV	M9BA	○	○	●	○	○	—	Relay, PLC			
			3-wire (NPN)				M9NAV	M9NA	○	○	●	○	○					
			3-wire (PNP)				M9PAV	M9PA	○	○	●	○	○					
			2-wire				M9BAV	M9BA	○	○	●	○	○					
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96V	A96	●	●	●	●	○	IC circuit	—		
				2-wire		12 V	100 V	A93V	A93	●	●	●	●	○*1	—	Relay, PLC		
						5 V, 12 V	100 V or less	A90V	A90	●	●	●	●	○*1	IC circuit			

*1 The load voltage used is 24 VDC.

* 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..... Nil (Example) M9NWV
 1 m..... M (Example) M9NWVM
 3 m..... L (Example) M9NWVL
 5 m..... Z (Example) M9NWVZ

Specifications



Bore size		32	40	50
Maximum operating pressure		1.0 MPa		
Proof pressure		1.5 MPa		
Minimum operating pressure		0.2 MPa		
Ambient temperature		-10 to 60°C (No freezing)		
Cushion		Head end: Rubber bumper, Rod end: None		
Allowable kinetic energy	Extended	0.15 J	0.26 J	0.46 J
	Retracted	0.29 J	0.52 J	0.91 J

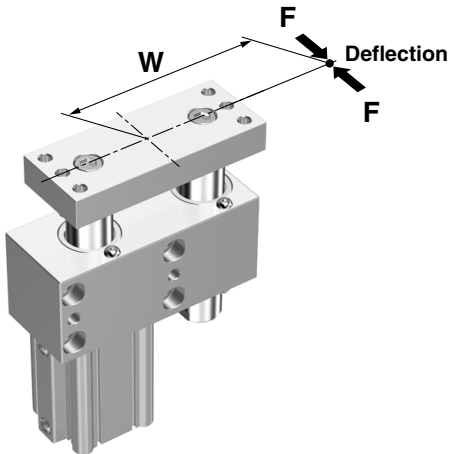
Weight

Bore size	Stroke [mm]			[kg]
	25	50	75	
32	1.5	1.6	—	
40	3.3	3.5	3.7	
50	5.4	5.7	6.0	

Deflection

Bore Size: 32

[mm]



Stroke	Offset W	Lateral load F [N]	
		98	196
25	0	±0.1 or less	±0.1 or less
	50		±0.2 or less
	100		
	150		
50	0	±0.1 or less	±0.2 or less
	50		±0.2 or less
	100		
	150		

Bore Size: 40

[mm]

Stroke	Offset W	Lateral load F [N]		
		98	196	294
25	0	±0.1 or less	±0.1 or less	±0.1 or less
	50		±0.2 or less	±0.2 or less
	100			
	150			
50	0	±0.1 or less	±0.1 or less	±0.2 or less
	50		±0.2 or less	
	100			
	150			
75	0	±0.1 or less	±0.2 or less	±0.2 or less
	50		—	—
	100			
	150			

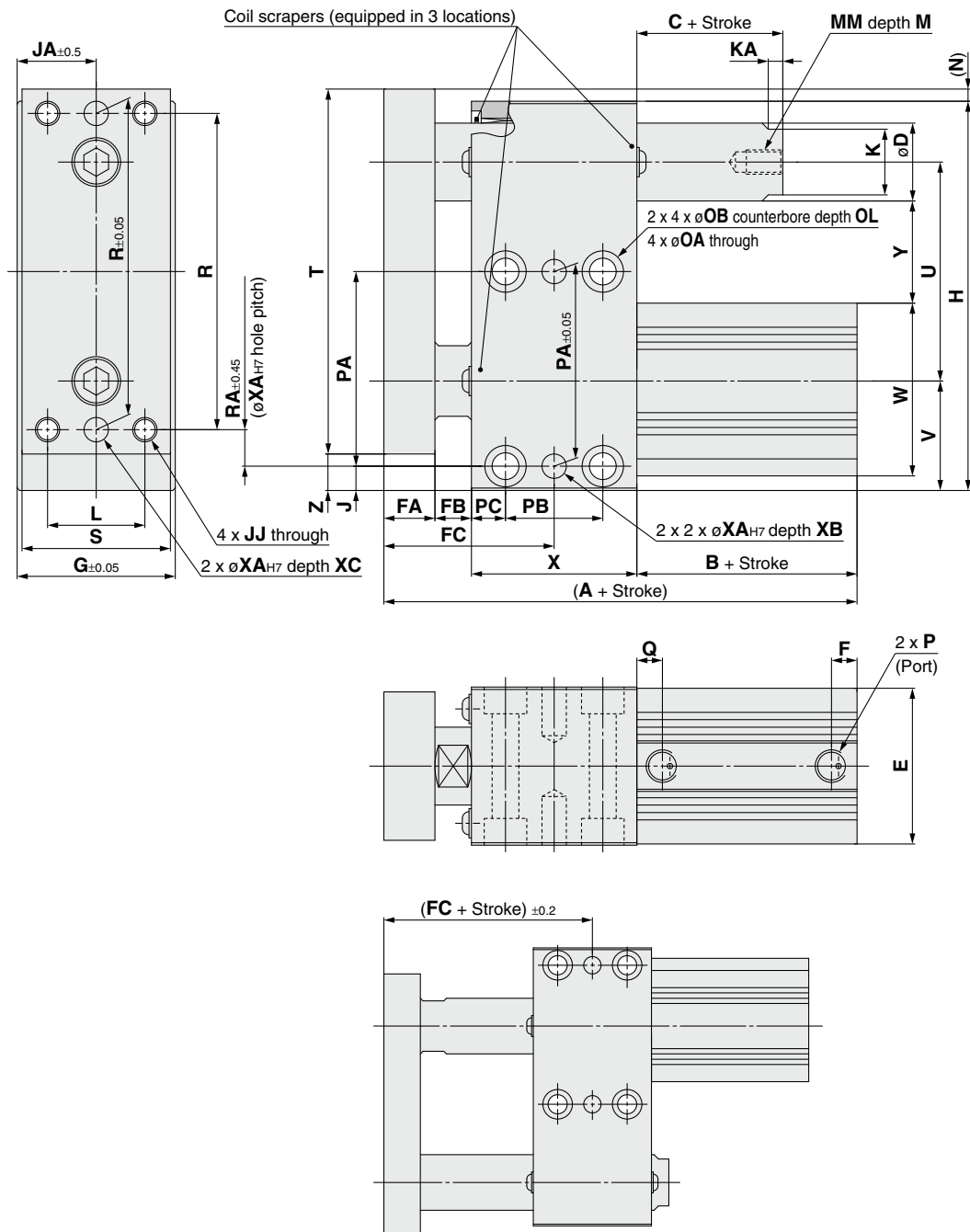
Bore Size: 50

[mm]

Stroke	Offset W	Lateral load F [N]		
		98	196	294
25	0	±0.1 or less	±0.1 or less	±0.1 or less
	50		±0.2 or less	±0.2 or less
	100			
	150			
50	0	±0.1 or less	±0.1 or less	±0.1 or less
	50		±0.2 or less	±0.2 or less
	100			
	150			
75	0	±0.1 or less	±0.1 or less	±0.2 or less
	50		±0.2 or less	—
	100			
	150			

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Dimensions



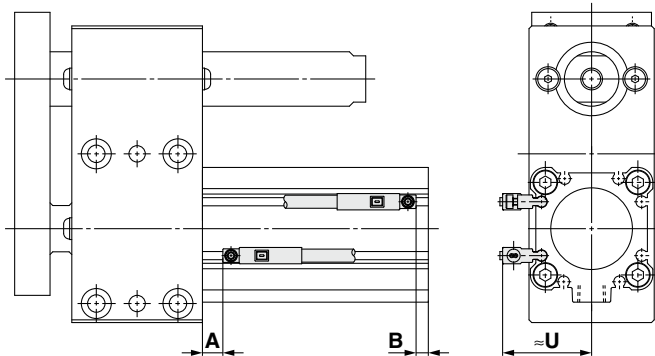
The above figure shows the condition when a stroke is extended.

		[mm]																				
Bore size	Stroke	A	B	C	D	E	F	FA	FB	FC	G	H	J	JA	JJ	K	KA	L	M	MM	N	
32	25, 50	102	33	10	20	45	7.5	13	8	45	46	109	7	23	M6 x 1.0	17	4.5	30	12	M8 x 1.25	5	
40	25, 50, 75	128.5	39.5	10	25	52	7.5	18	11	60	53	137	8.5	26.5	M8 x 1.25	22	5	34	15	M10 x 1.5	5	
50		144.5	40.5	10	32	64	10.5	21	15	70	65	160	10	32.5	M10 x 1.5	27	6	40	15	M10 x 1.5	5	
Bore size	Stroke	OA	OB	OL	P	PA	PB	PC	Q	R	RA	S	T	U	V	W	X	XA	XB	XC	Y	Z
32	25, 50	6.4	11	16.5	Rc1/8	55	30	9	10	90	10	44	104	55	34.5	49.5	48	6	12	8	22.5	10
40	25, 50, 75	9	14	8.6	Rc1/8	70	40	11	12.5	110	15	51	127	75	41	57	60	8	15	10	36.5	15
50		11	17	11	Rc1/4	80	40	14	10.5	130	15	61	150	90	45	71	68	10	20	12	42	15

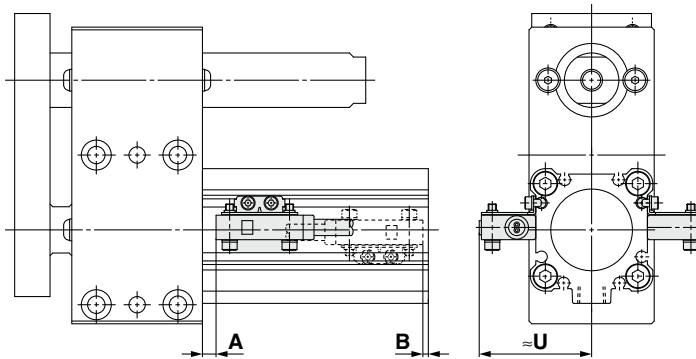
CDQ2B-X2839 Auto Switch Mounting

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

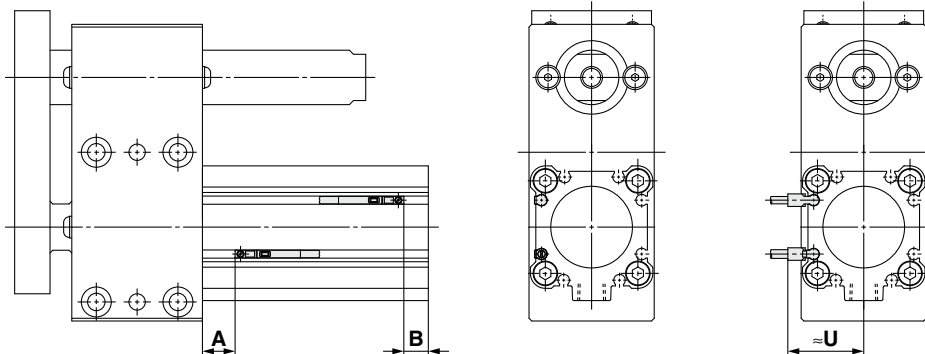
D-P3DWA□



D-P4DW□



D-M9□(V) D-M9□W(V) D-M9□A(V) D-A9□(V)



Auto Switch Proper Mounting Position

Auto switch model	D-P3DWA		D-P4DW		D-M9□ D-M9□V D-M9□W D-M9□WV D-M9□A D-M9□AV		D-A9□ D-A9□V	
	A	B	A	B	A	B	A	B
Bore size 32	7.5	4.5	5	2	12	9	8	5
40	11.5	7	9	4.5	16	11.5	12	7.5
50	9.5	10	9.5	10.5	14	14.5	10	10.5

Auto Switch Proper Mounting Height

Auto switch model	D-P3DWA	D-P4DW	D-M9□V	D-A9□V
	U	U	U	U
Bore size 32	35.5	41.5	30	27.5
40	38	45	32	30
50	43	50	37.5	35

Minimum Stroke for Auto Switch Mounting

Number of auto switches	D-P3DWA D-M9□□ D-A9□□	D-P4DW
	1	25
2	25	75

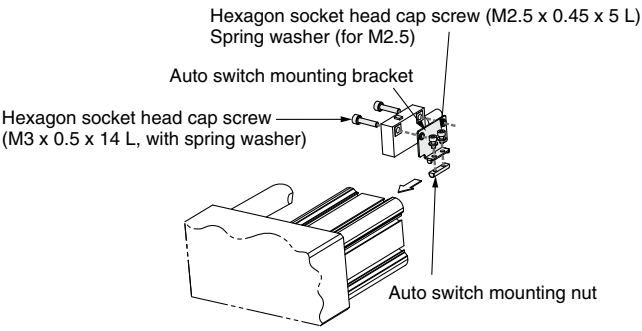
Mounting

When installing the cylinders with auto switches, pay attention to the bending radius of the auto switch lead wire.

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Auto Switch Mounting Bracket Part Nos./Mounting Method

Applicable auto switch	D-P3DWA□	D-M9□(V), D-M9□W(V), D-M9□A(V), D-A9□(V)						
Bore size [mm]	ø32, ø40, ø50							
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	<table border="1"> <thead> <tr> <th>Auto switch model</th> <th>Tightening torque [N·m]</th> </tr> </thead> <tbody> <tr> <td>D-M9□(V) D-M9□W(V) D-A9□(V)</td> <td>0.05 to 0.15</td> </tr> <tr> <td>D-M9□A(V)</td> <td>0.05 to 0.10</td> </tr> </tbody> </table>	Auto switch model	Tightening torque [N·m]	D-M9□(V) D-M9□W(V) D-A9□(V)	0.05 to 0.15	D-M9□A(V)	0.05 to 0.10
Auto switch model	Tightening torque [N·m]							
D-M9□(V) D-M9□W(V) D-A9□(V)	0.05 to 0.15							
D-M9□A(V)	0.05 to 0.10							

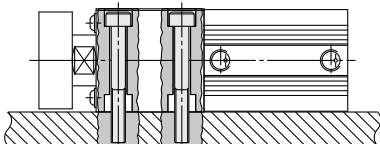
Applicable auto switch	D-P4DW□			
Bore size [mm]	ø32, ø40		ø50	
Auto switch mounting bracket part no.	BQ7-032		BQ7-050	
Auto switch mounting bracket fitting parts lineup/weight	<ul style="list-style-type: none"> Auto switch mounting bracket Auto switch mounting nut Hexagon socket head cap screw (M3 x 0.5 x 14 L, with spring washer) 	<ul style="list-style-type: none"> Hexagon socket head cap screw (M2.5 x 0.45 x 5 L) Spring washer (for M2.5) Weight = 8.5 g 	<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) 	<ul style="list-style-type: none"> Hexagon socket head cap screw (M2.5 x 0.45 x 5 L) Spring washer (for M2.5) Weight = 12 g
Mounting of auto switch	<ol style="list-style-type: none"> Fix the auto switch and the auto switch mounting bracket temporarily with the hexagon socket head cap screws (M3 x 14 L). Insert the hexagon socket head cap screws (M2.5 x 5 L) into the spring washers (for M2.5), and tighten the auto switch mounting bracket and auto switch mounting nut temporarily. Insert the temporarily fixed auto switch mounting nut into the mating groove of the cylinder tube. Check the detecting position of the auto switch and fix the auto switch firmly with the hexagon socket head cap screws (M2.5 x 5 L, M3 x 14 L). <p>* The tightening torque for the hexagon socket head cap screw (M3 x 14 L) is 0.5 to 0.6 N·m. * The tightening torque for the hexagon socket head cap screw (M2.5 x 5 L) is 0.25 to 0.35 N·m.</p> 			

Specific Product Precautions


⚠ Caution

When mounting the product, be sure to prepare a bolt of the appropriate length and tighten it within the tightening torque range shown in the table below.

Tightening with excessive torque could result in a malfunction, whereas tightening with insufficient torque could result in misalignment or dropping.



Bore size [mm]	Bolt	Range of tightening torque [N·m]
32	M6	4.2 to 5.2 N·m
40	M8	10.5 to 12.5 N·m
50	M10	19.6 to 24.5 N·m

 **Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.