

For High Precision Positioning

Pin Shift Cylinder

CKQG-X2370 $\varnothing 32, \varnothing 40, \varnothing 50$
(Built-in standard magnet)

CKQP-X2371 $\varnothing 50$
(Built-in strong magnet)

High Precision

Rod end
Deflection ± 0.1 mm or less

- Rod end deflection of ± 0.1 mm or less is achieved when a load is applied to the rod at its extension end.

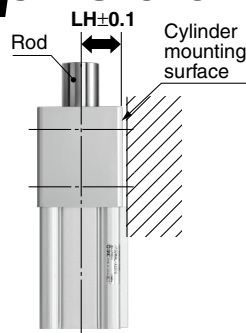


Position Reproducibility

Mounting surface \leftrightarrow Rod center

Distance
accuracy ± 0.1 mm

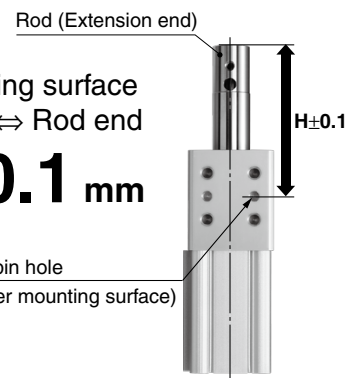
* For details, refer to "Caution on Design" on page 2.



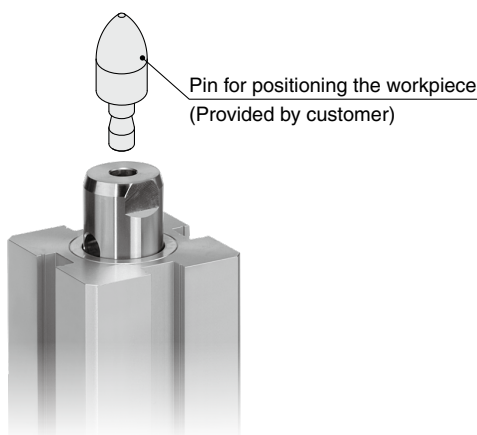
Cylinder mounting surface
knock pin hole \leftrightarrow Rod end

Distance
accuracy ± 0.1 mm

Knock pin hole
(Cylinder mounting surface)

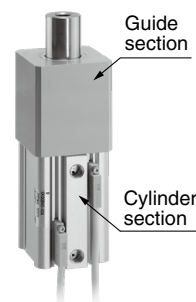


Pin for positioning the workpiece
provided by the customer can be
directly mounted.



Reduces labor time
by integrating
the cylinder and guide.

- Reduction in design labor
- Reduction in assembly labor



Magnetic field resistant
auto switches are mountable.

- CKQG-X2370
 - ☐ Solid state auto switch **D-P3DWA**☐
D-P4DW☐
- CKQP-X2371
 - ☐ Reed auto switch **D-P7**☐



The D-P3DWA is mountable
on 4 surfaces.

* The D-P4DW☐ and D-P7☐ are
mountable on 3 surfaces.



Built-in coil scraper

- Removes welding spatters, foreign matter, cutting chips, etc. sticking to the piston rod.

CKQ **G-X2370**
P-X2371



Pin Shift Cylinder

CKQG-X2370

CKQP-X2371

How to Order

Built-in standard magnet type
with magnetic field resistant auto switch

CKQG **D** 32 - 25 - P3DWAL - X2370

Built-in standard magnet type
with magnetic field resistant auto switch

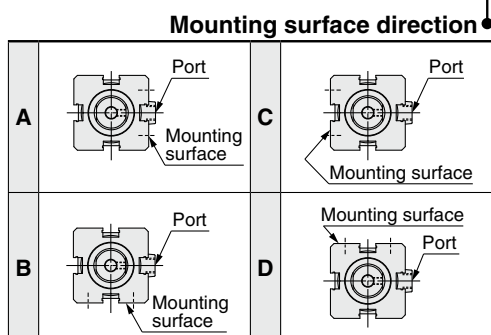
CKQG **D** 40 - 25 - P3DWAL - X2370

Built-in standard magnet type
with magnetic field resistant auto switch

CKQG **D** 50 - 30 - P3DWAL - X2370

Built-in strong magnet type
with magnetic field resistant auto switch

CKQP **D** 50 - 30 - P74L - X2371



Bore size

Piston rod end hole size

Nil	ø8
A	ø10

Cylinder stroke

Bore size (mm)	Stroke (mm)			
	25	30	40	50
32	○	—	○	—
40	○	—	○	—
50	—	○	—	○

Number of auto switches

Nil	2 pcs.
S	1 pc.

Auto switch

Select applicable auto switch models from
Table 1.

Nil	Without auto switch (Built-in magnet)
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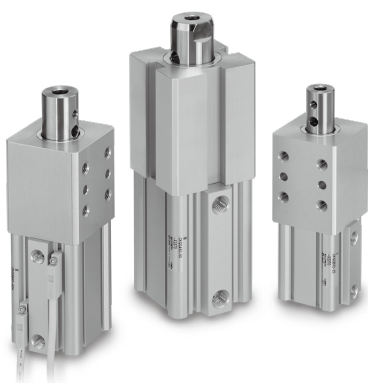
Table 1

Applicable Auto Switches/Refer to the **WEB catalog** or Best Pneumatics No. 3 for further information on auto switches.

Applicable cylinder series	Type	Auto switch model	Applicable magnetic field	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load	
Series CKQG	Solid state auto switch	P3DWASC	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-color indication	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC <small>(Note)</small>	
		P3DWASE				2-wire (1-4)		0.5 m		
		P3DWA		Grommet		2-wire		3 m		
		P3DWAL						5 m		
		P3DWAZ		Pre-wired connector		2-wire (3-4)		0.3 m		
		P4DWSC				2-wire (1-4)				
		P4DWSE		Grommet		2-wire		3 m		
		P4DWL						5 m		
Series CKQP	Reed auto switch	P4DWZ	DC/AC magnetic field	Pre-wired connector	2-color indication	2-wire (1-4)	24 VDC	0.3 m		
		P79WSE						3 m		
		P74L		Grommet		1-color indication	2-wire	24 VDC 100 VAC		5 m
		P74Z								

Note) PLC: Programmable Logic Controller

Pin Shift Cylinder **CKQG-X2370/CKQP-X2371**



Specifications

Model	CKQG-X2370			CKQP-X2371
Bore size (mm)	32	40	50	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)			
Operating air temperature				
Cushion	None			
Applicable auto switches	D-P3DWA□ D-P4DW□			D-P79WSE D-P74□

Theoretical Output

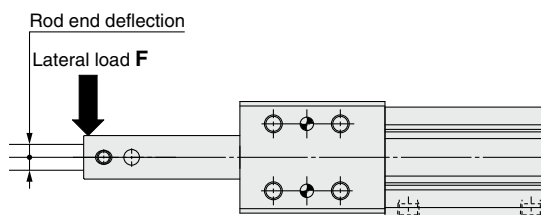
Bore size (mm)	Operating direction	Piston area (mm ²)	Operating pressure (MPa)						(N)
			0.2	0.3	0.4	0.5	0.6	1.0	
ø32	OUT	804	160	241	321	402	482	804	
	IN	490	98	147	196	245	294	490	
ø40	OUT	1256	251	378	502	628	753	1256	
	IN	765	153	229	306	382	459	764	
ø50	OUT	1964	392	589	785	982	1178	1964	
	IN	1256	251	378	502	628	753	1256	

Weight

Model	Bore size (mm)	Stroke (mm)				(kg)
		25	30	40	50	
CKQG-X2370	32	0.95	—	1.02	—	
	40	1.31	—	1.4	—	
	50	—	2.1	—	2.3	
CKQP-X2371	50	—	2.3	—	2.5	

Rod End Deflection

Bore size (mm)	Stroke (mm)	Lateral load F (N)			(mm)
		98	196	294	
50	30	±0.1 or less			
	50				
40	25				
	40				
32	25				
	40				



Caution on Design

⚠ Caution

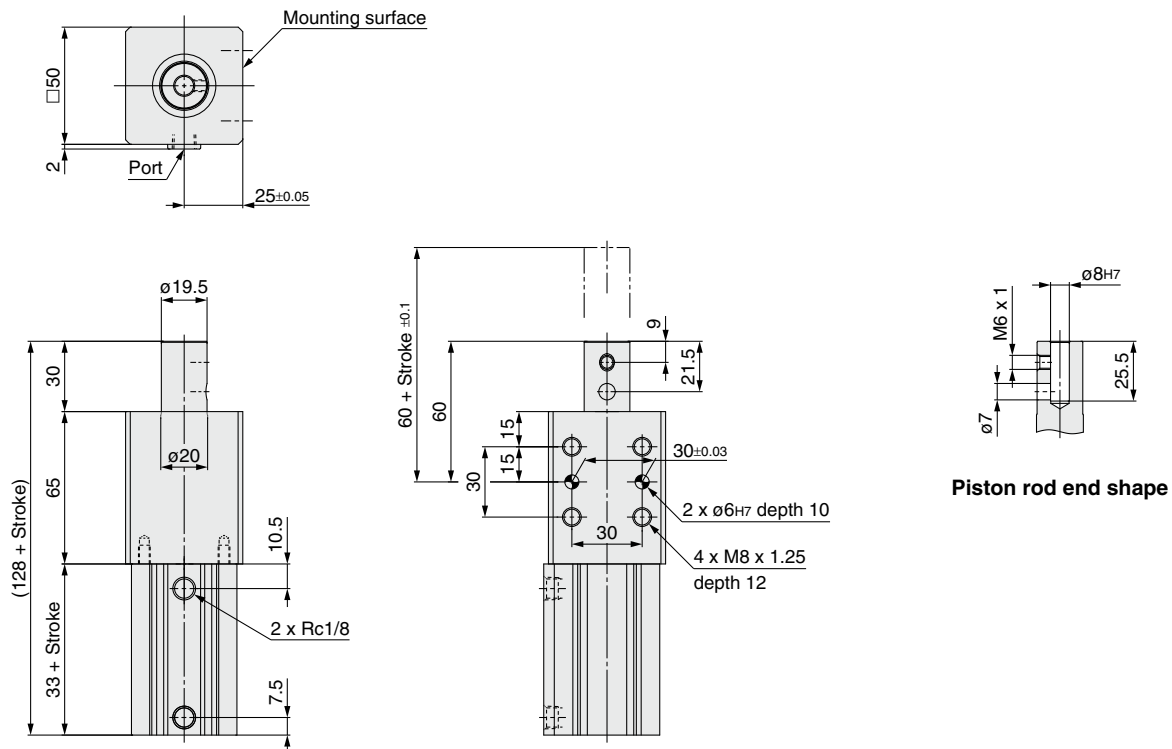
For position reproducibility, a distance accuracy of ± 0.1 mm from the mounting surface to the rod center (when the piston rod is retracted) is calculated with the root mean square method.

CKQG-X2370/CKQP-X2371

Dimensions

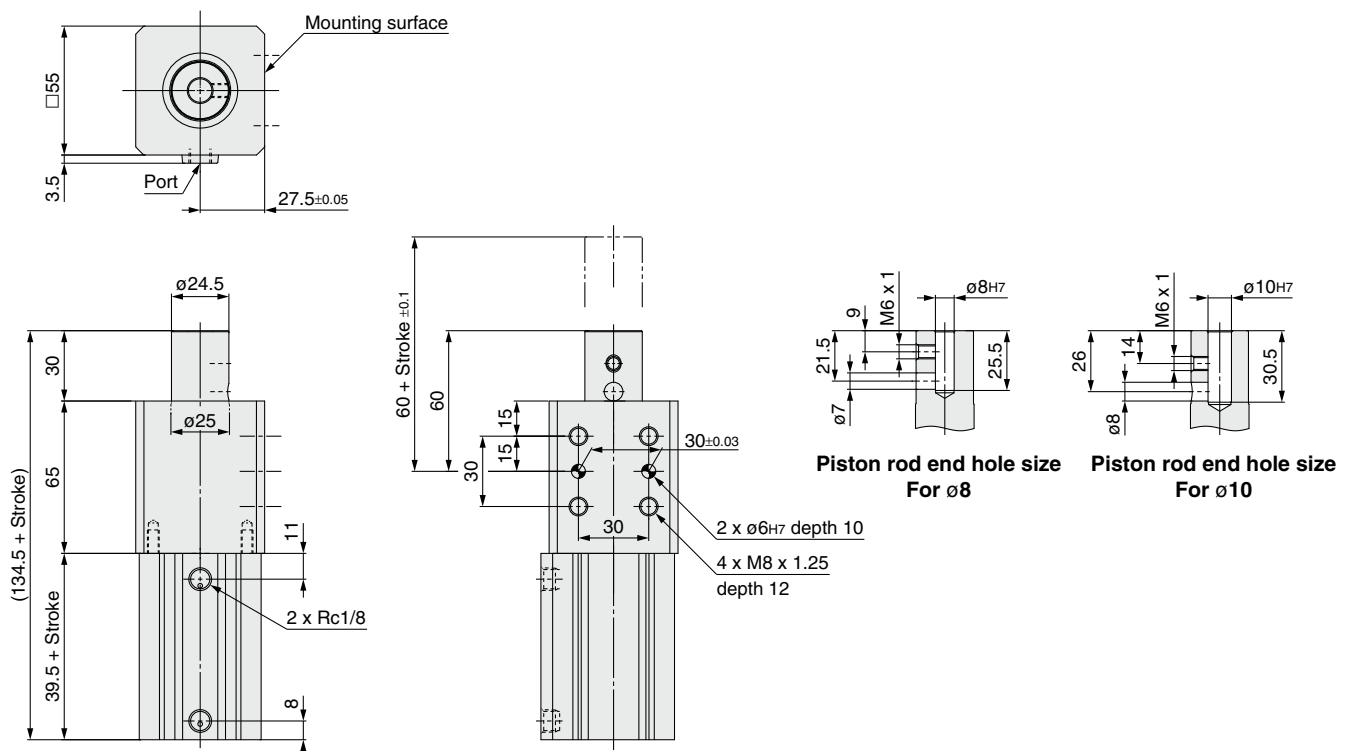
CKQG□32-□-□-X2370

* The figures below indicate the CKQGD32-□-□-X2370.



CKQG□40-□-□-X2370

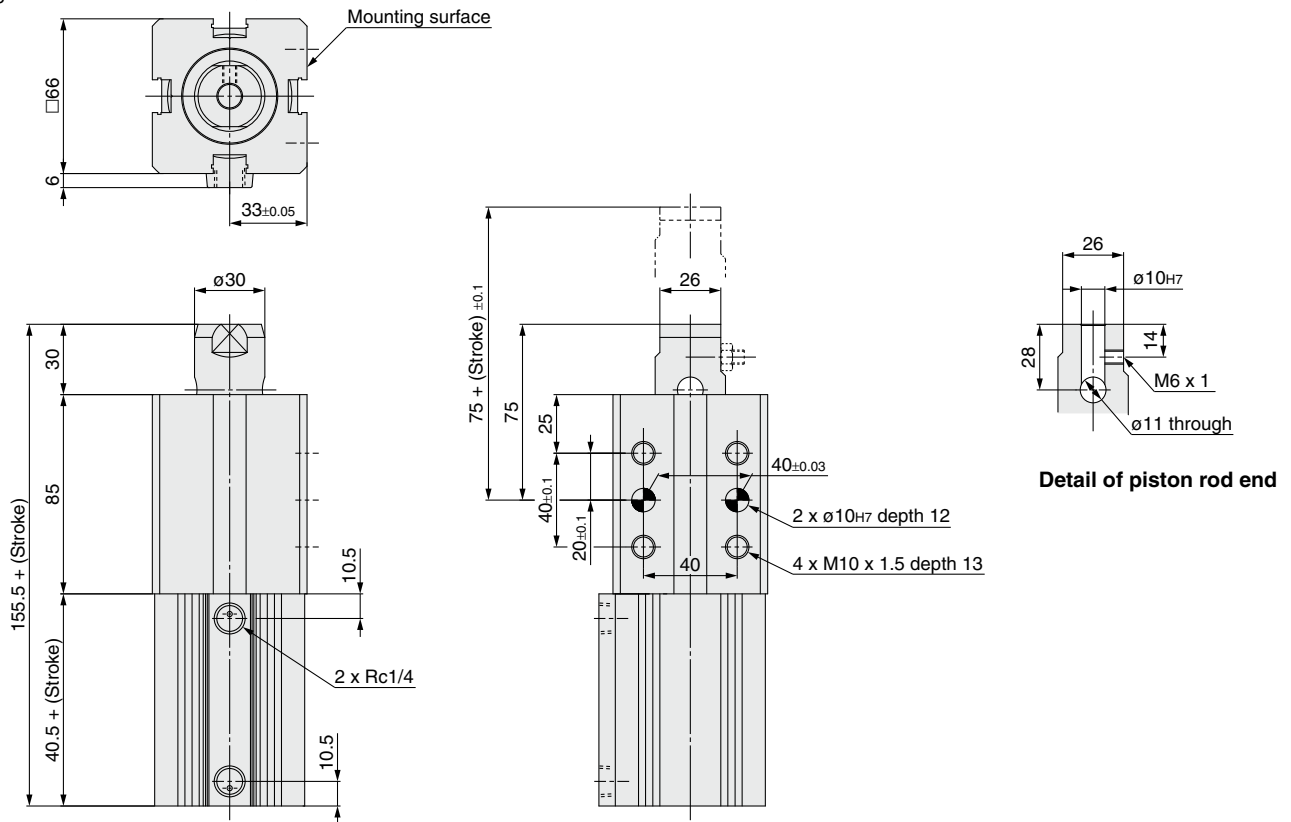
* The figures below indicate the CKQGD40-□-□-□-X2370.



Dimensions

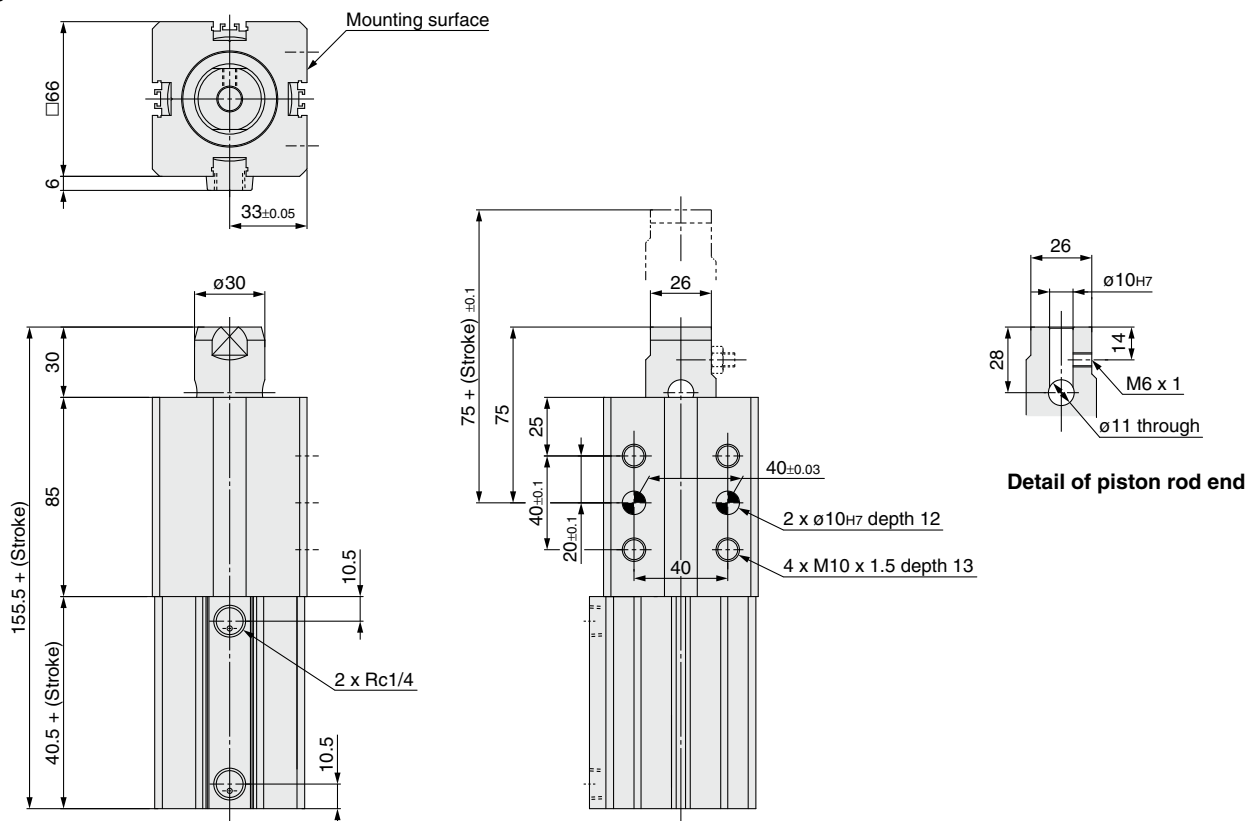
CKQG□50-□-□-X2370

* The figures below indicate the CKQGD50-□-□-X2370.



CKQP□50-□-□-X2371

* The figures below indicate the CKQPD50-□-□-X2371.

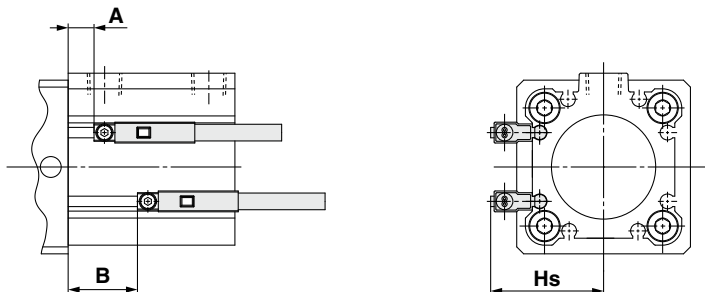


CKQG-X2370/CKQP-X2371 Auto Switch Mounting

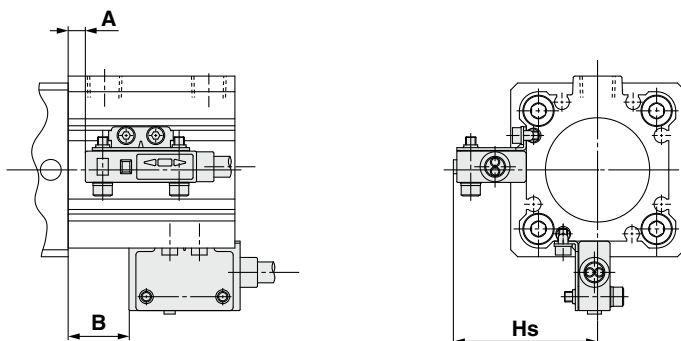
Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

[CKQG-X2370]

D-P3DWA□



D-P4DW□

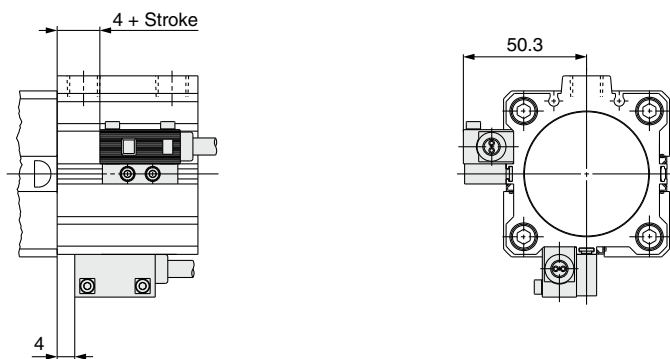


(mm)

Auto switch model Bore size	D-P3DWA□			D-P4DW□		
	A	B	Hs	A	B	Hs
32	8.5	8.5 + Stroke	34	6	6 + Stroke	41.3
40	13	13 + Stroke	37.2	10.5	10.5 + Stroke	44.6
50	10.5	10.5 + Stroke	42	9	9 + Stroke	50.3

[CKQP-X2371]

D-P7□

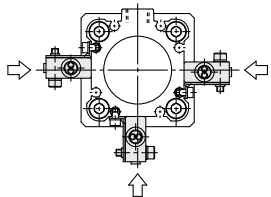
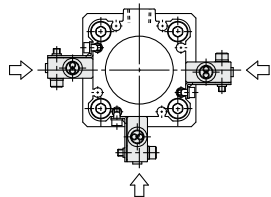
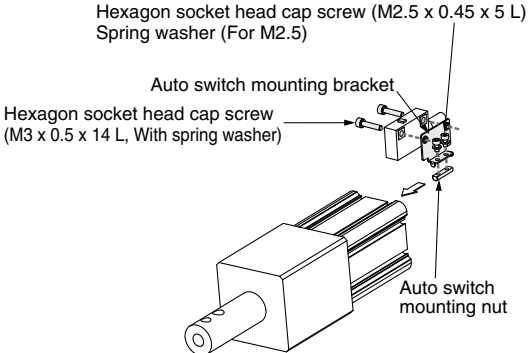
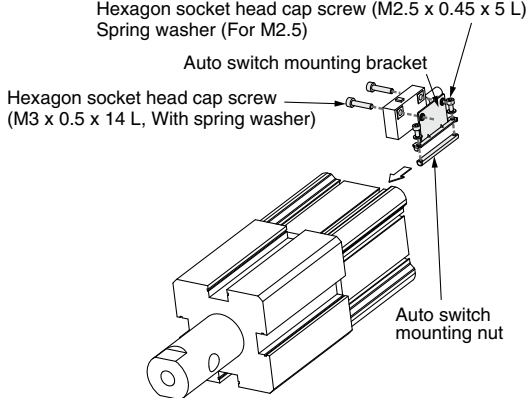


Mounting

When installing the cylinders with auto switches, pay attention to the bending radius of the auto switch lead wire.
For details, refer to **the WEB catalog** or Best Pneumatics No. 3 and the Operation Manual.

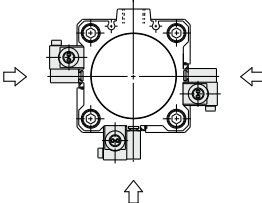
Auto Switch Mounting Bracket Part No./Mounting Method

Applicable cylinder	CKQG-X2370
Applicable auto switch	D-P3DWA□
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

Applicable cylinder	CKQG-X2370	
Applicable auto switch	D-P4DW□	
Bore size (mm)	ø32, ø40	ø50
Auto switch mounting bracket part no.	C2Q32-42-880NN-R	C2Q40-42-6618M-R
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
Auto switch mounting surface	<p>Surfaces with auto switch mounting slot</p> 	<p>Surfaces with auto switch mounting slot</p> 
Mounting of auto switch	<ol style="list-style-type: none"> 1. Fix the auto switch and the auto switch mounting bracket temporarily with the hexagon socket head cap screws (M3 x 14 L). 2. 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. 3. Insert the temporarily fixed auto switch mounting nut into the mating groove of the cylinder tube. 4. 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>Note 1) The tightening torque for the hexagon socket head cap screw (M3 x 14 L) is 0.5 to 0.6 N·m.</p> <p>Note 2) The tightening torque for the hexagon socket head cap screw (M2.5 x 5 L) is 0.25 to 0.35 N·m.</p> 	<ol style="list-style-type: none"> 1. Fix the auto switch and the auto switch mounting bracket temporarily with the hexagon socket head cap screws (M3 x 14 L). 2. 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. 3. Insert the temporarily fixed auto switch mounting nut into the mating groove of the cylinder tube. 4. 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>Note 1) The tightening torque for the hexagon socket head cap screw (M3 x 14 L) is 0.5 to 0.6 N·m.</p> <p>Note 2) The tightening torque for the hexagon socket head cap screw (M2.5 x 5 L) is 0.25 to 0.35 N·m.</p> 

CKQG-X2370/CKQP-X2371

Auto Switch Mounting Bracket Part No./Mounting Method

Applicable cylinder	CKQP-X2371	
Applicable auto switch	D-P7□	
Bore size (mm)	ø50	
Auto switch mounting bracket part no.	BQP1T-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)• Hexagon socket head cap screw (M3 x 0.5 x 14 L)• Spring washer (For M2.5) Weight = 16 g	
Auto switch mounting surface	Surfaces with auto switch mounting slot	
		
Mounting of auto switch	<ol style="list-style-type: none">1. Mount the auto switch mounting bracket onto the auto switch mounting nut by tightening the bracket mounting screws lightly the through hole on the top of bracket.2. Insert the nut section of the auto switch mounting bracket assembly (bracket + nut) into the groove of the rail and set it at the auto switch mounting position.3. Insert the auto switch mounting screws into the through hole of the auto switch, and fix the auto switch mounting bracket and auto switch temporarily.4. Check the detecting position of the auto switch and fix the auto switch firmly with the auto switch mounting screws and bracket mounting screws. (The tightening torque is 0.5 to 0.7 N·m.) <p>(Note) Be careful of the mounting direction of the D-P79WSE when installed to the auto switch mounting bracket. Be sure the soft-resin mold surface faces the auto switch mounting bracket side when mounting.</p> 