

Pin Clamp Cylinder Compact Type

ø32

Lightweight

Weight: 41% reduction

900 g → 530 g

(Compared with the CKQG32-X2081, LOW type, without lock)

Compact

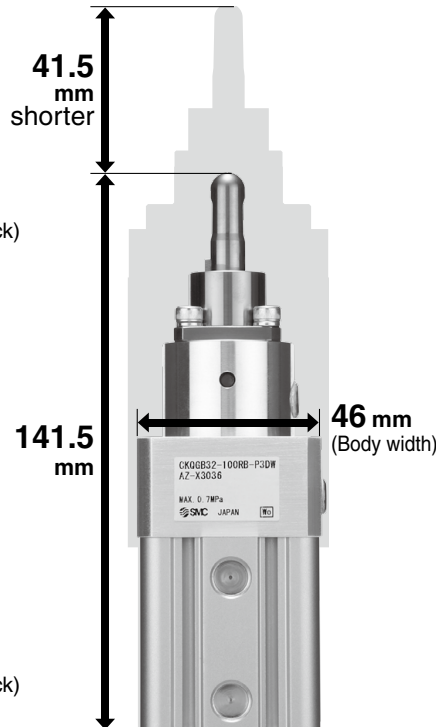
**Overall length:
41.5 mm shorter**

183 mm → 141.5 mm

**Body width:
4 mm shorter**

50 mm → 46 mm

(Compared with the CKQG32-X2081, LOW type, without lock)



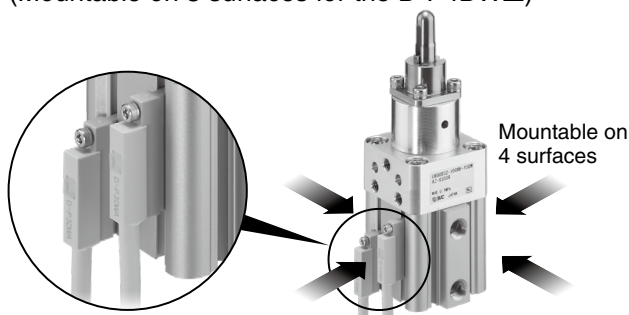
■ **Lock mechanism to prevent the dropping of workpieces during emergency stops**

■ **Round type and diamond type guide pins for workpieces with ø8 to ø20 hole diameters are available.**

* ø10 to ø20 for the diamond type

■ **Fine adjustment of the clamping height is possible with shims.**
(Option)

■ **Auto switches are mountable on 4 surfaces.**
(Mountable on 3 surfaces for the D-P4DW□)



■ Applicable Auto Switches:

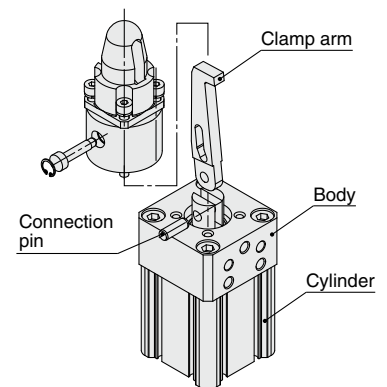
Magnetic field-resistant auto switch:
D-P3DWA□, D-P4DW□

General purpose type auto switch:
D-M9□W(V), D-A9□



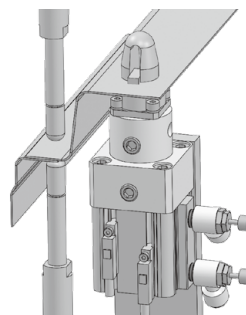
■ Easy arm replacement

The arm can be easily replaced without detaching the body and the cylinder by simply removing the connection pin.

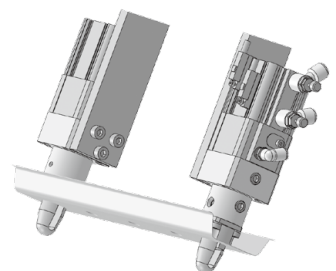


Application Examples

For use in narrow spaces



Drop prevention for workpieces during emergency stops when locked in the unclamping direction



C(L)KQG32-X3036

SVC

18-E693

Pin Clamp Cylinder Compact Type

C(L)KQG32-X3036

ø32

How to Order

C L KQG B 32 - 075 R A - P3DWASC - X3036

With lock

Nil	Without lock
L	With lock

Bore size

32	32 mm
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Mounting surface position (viewed from top)

Symbol	Mounting surface position
A	
B	
C	
D	

Guide pin diameter

* For guide pin diameter, refer to the next page.

Guide pin shape

R	Round type
D	Diamond type

Auto switch type

Nil	Without auto switch
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* Refer to the table below for the applicable auto switch model.
* Auto switches are shipped together, (but not assembled).
* When the total thickness of clamped workpiece is over 2 mm, the auto switch may not be adjusted to the most sensitive position.

Number of auto switches

Nil	2
S	1 (Unclamping side)

Clamp arm position (clockwise viewed from top)

Symbol	Clamp arm position	Symbol	Clamp arm position
A	Same as the port side 	C	180° from the port side
B	90° from the port side 	D	270° from the port side

Auto Switch Models: Refer to the **Web 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	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	
	P3DWASE				2-wire (1-4)				
	P3DWA		Grommet		2-wire				0.5 m
	P3DWAL								3 m
	P3DWAZ		Pre-wired connector		2-wire (3-4)		5 m		
	P4DWSC				2-wire (1-4)		0.3 m		
	P4DWSE		Grommet		2-wire				3 m
	P4DWL								5 m
	P4DWZ								

General Purpose Type Auto Switches General purpose type 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)				
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	●	●	●	○	○			
	3-wire (PNP)			M9PWV				M9PW	●	●	●	○	○			
	2-wire			M9BWV				M9BW	●	●	●	○	○			
	3-wire (NPN)			M9NAV				M9NA	○	○	●	○	○			
	3-wire (PNP)			M9PAV				M9PA	○	○	●	○	○			
	Water resistant (2-color indicator)	2-wire	M9BAV	M9BA	○	○	●	○	○	○						
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96V	A96	●	—	●	—	—	IC circuit	—
				12 V		100 V	A93V※1	A93	●	●	●	●	—	—		
			No	2-wire		5 V, 12 V	100 V or less	A90V	A90	●	—	●	—	—	—	IC circuit

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

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

* 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

Cylinder Specifications



Without lock

With lock

Model			C(L)KQG32-X3036	
Action			Double acting	
Bore size [mm]			32	
Cylinder stroke/Clamp stroke [mm]			12.5 (Without workpiece)/9	
Fluid			Air	
Minimum operating pressure			CKQ: 0.1 MPa	CLKQ: 0.15 MPa*1
Maximum operating pressure	Guide pin diameter [mm]	ø7.5 to ø13.0	0.7 MPa	
		ø13.5 to ø20.0	1.0 MPa	
Ambient and fluid temperatures			−10 to 60°C (No freezing)	
Cushion			None	
Lubrication			Non-lube	
Piston speed (Clamp speed)			50 to 150 mm/s	
Port size (Cylinder port)			Rc1/8	

*1 Minimum operating pressure is 0.2 MPa when cylinder part and locking part use the same piping.

Lock Specifications

Locking action	Spring locking (Exhaust locking)
Unlocking pressure	0.2 MPa
Lock starting pressure	0.05 MPa
Locking direction	Unclamp direction locking
Port size (Lock release port)	Rc1/8
Holding force (Maximum static load)	402 N

Clamping Force

Guide pin diameter [mm]	Operating pressure [MPa]									[N]
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø7.5 to ø13.0	121	181	241	302	362	422	—	—	—	
ø13.5 to ø20.0	121	181	241	302	362	422	483	543	603	

* It takes approximately 0.3 seconds for the cylinder to operate to generate clamping force from an unclamping state (when no speed controller is installed). Design circuit taking into consideration the time before the clamping force is generated.

* Determine the clamping force according to the strength of the workpiece. It can be damaged if the clamping force is too large.

* Guide pins and clamp arms are consumable items. Please prepare spare parts in case they are damaged.

It is recommended to prepare spare parts for guide pins and clamp arms, especially for products used in workpieces with ø12 or less hole diameters.

Guide Pin Diameter

Symbol	075	076	077	078	079	080	095	096	097	098	099	100	105	106	107	108	109	110	115	116	117	118	119	120
Guide pin diameter [mm]	7.5	7.6	7.7	7.8	7.9	8.0	9.5	9.6	9.7	9.8	9.9	10.0	10.5	10.6	10.7	10.8	10.9	11.0	11.5	11.6	11.7	11.8	11.9	12.0
Applicable hole diameter of workpiece [mm]	For ø8						For ø10						For ø11						For ø12					
Guide pin shape	Round type						Round type/Diamond type																	

Symbol	125	126	127	128	129	130	135	136	137	138	139	140	145	146	147	148	149	150	155	156	157	158	159	160
Guide pin diameter [mm]	12.5	12.6	12.7	12.8	12.9	13.0	13.5	13.6	13.7	13.8	13.9	14.0	14.5	14.6	14.7	14.8	14.9	15.0	15.5	15.6	15.7	15.8	15.9	16.0
Applicable hole diameter of workpiece [mm]	For ø13						For ø14						For ø15						For ø16					
Guide pin shape	Round type/Diamond type																							

Symbol	175	176	177	178	179	180	195	196	197	198	199	200
Guide pin diameter [mm]	17.5	17.6	17.7	17.8	17.9	18.0	19.5	19.6	19.7	19.8	19.9	20.0
Applicable hole diameter of workpiece [mm]	For ø18						For ø20					
Guide pin shape	Round type/Diamond type											

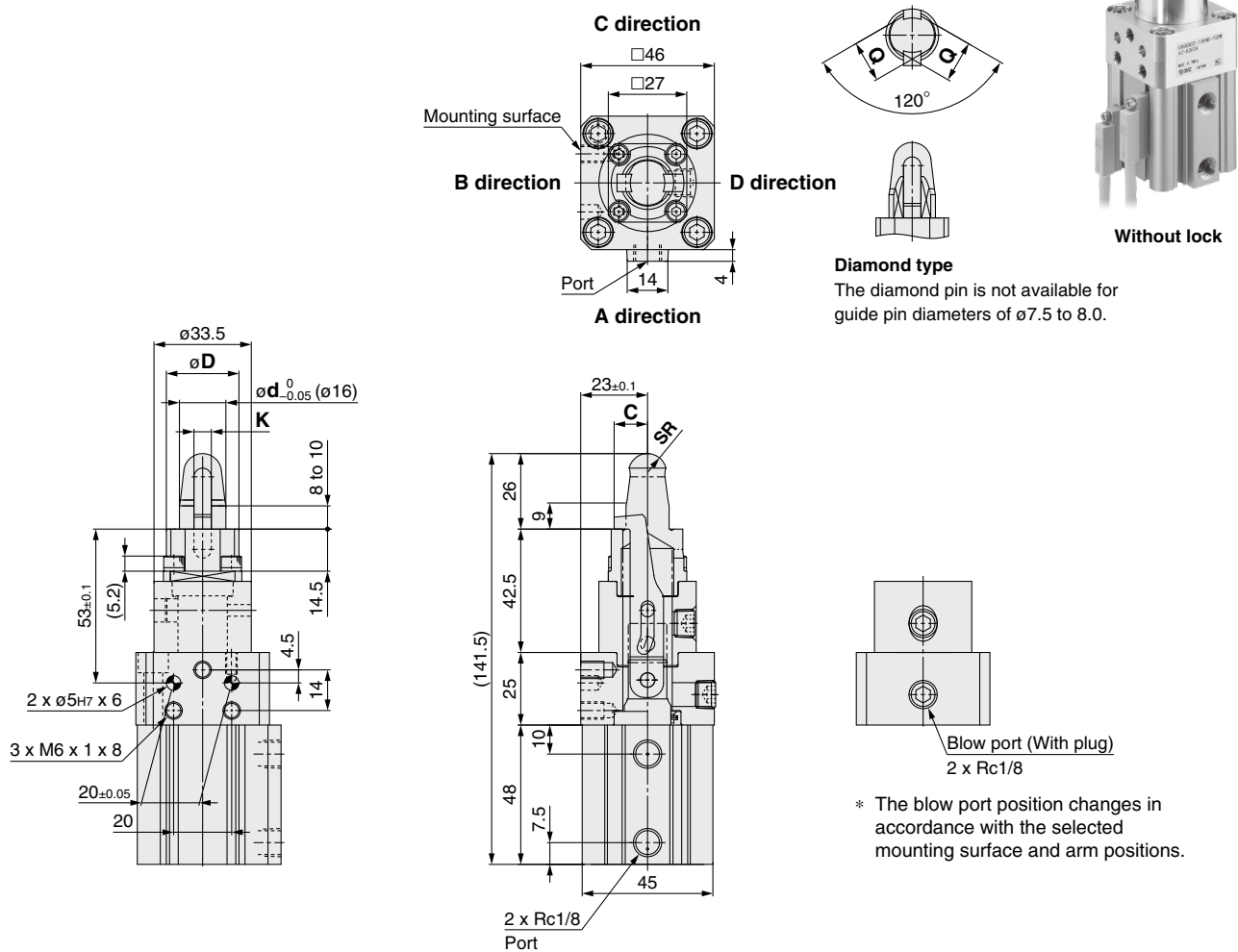
Weight

Guide pin diameter	[g]	
ø7.5 to ø8.0	530	775
ø9.5 to ø10.0		
ø10.5 to ø11.0		
ø11.5 to ø12.0		
ø12.5 to ø13.0		
ø13.5 to ø14.0	545	790
ø14.5 to ø15.0		
ø15.5 to ø16.0		
ø17.5 to ø18.0		
ø19.5 to ø20.0	570	815

C(L)KQG32-X3036

Dimensions

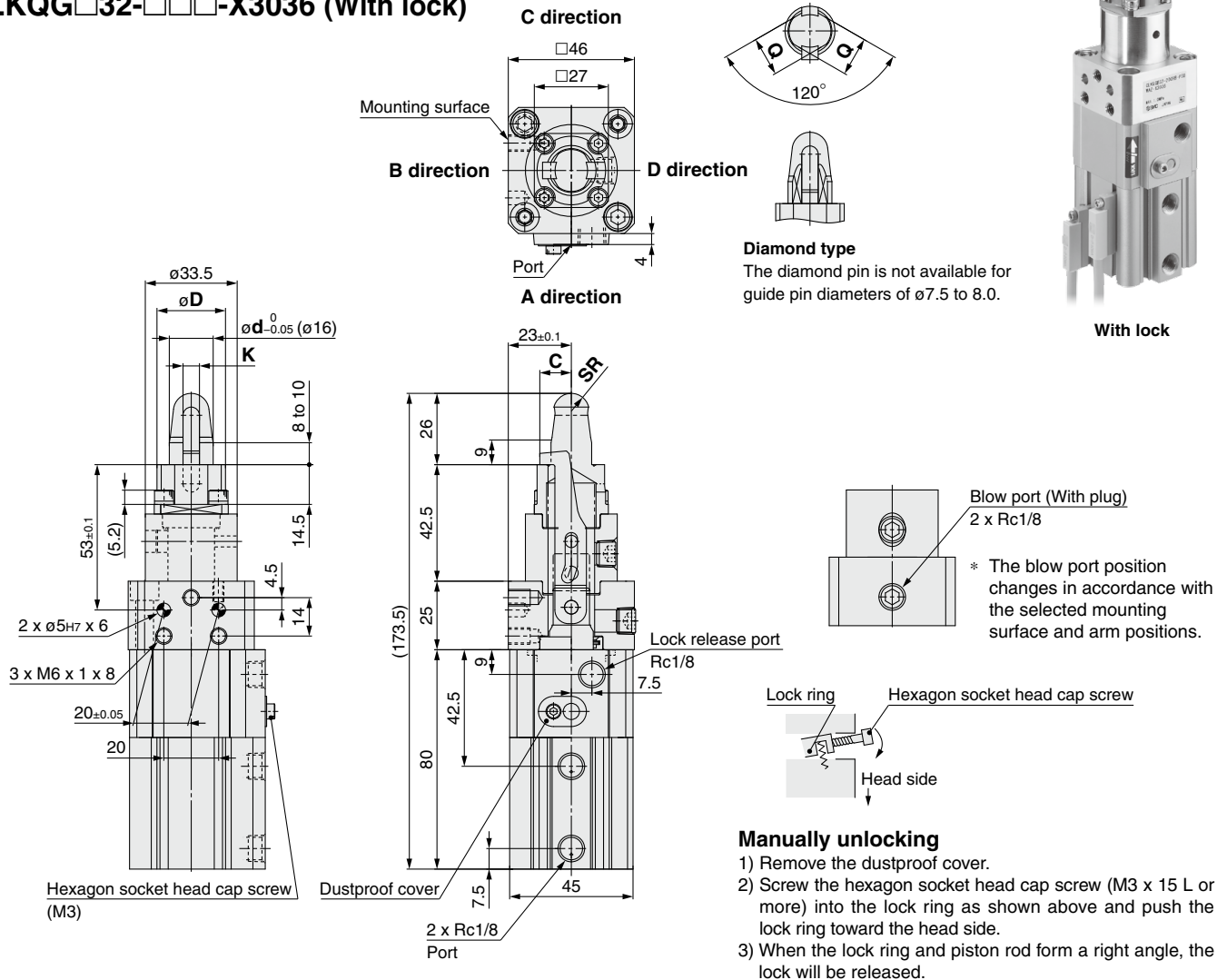
CKQG□32-□□□-X3036 (Without lock)



Hole diameter of workpiece	C	øD	ød	K	SR	Q	Model number	Hole diameter of workpiece	C	øD	ød	K	SR	Q	Model number
ø8	6	ø20	ø7.5	3.5	3.5	—	075	ø14	10.5	ø25	ø13.5	6	5.5	12.6	135
			ø7.6				076				ø13.6				136
			ø7.7				077				ø13.7				137
			ø7.8				078				ø13.8				138
			ø7.9				079				ø13.9				139
			ø8.0				080				ø14.0				140
			ø9.5				095				ø14.5				145
			ø9.6				096				ø14.6				146
ø10	7.5	ø20	ø9.7	4	4.5	9.2	097	ø15	10.5	ø25	ø14.7	6	6	13.3	147
			ø9.8				098				ø14.8				148
			ø9.9				099				ø14.9				149
			ø10.0				100				ø15.0				150
			ø10.5				105				ø15.5				155
			ø10.6				106				ø15.6				156
			ø10.7				107				ø15.7				157
			ø10.8				108				ø15.8				158
ø11	7.5	ø20	ø10.9	4	4.5	9.8	109	ø16	11.5	ø25	ø15.9	6	6.5	14.3	159
			ø11.0				110				ø16.0				160
			ø11.5				115				ø17.5				175
			ø11.6				116				ø17.6				176
			ø11.7				117				ø17.7				177
			ø11.8				118				ø17.8				178
			ø11.9				119				ø17.9				179
			ø12.0				120				ø18.0				180
ø12	8.5	ø20	ø12.5	5	5	10.9	125	ø18	13	ø27	ø19.5	6	7.5	16.4	195
			ø12.6				126				ø19.6				196
			ø12.7				127				ø19.7				197
			ø12.8				128				ø19.8				198
			ø12.9				129				ø19.9				199
			ø13.0				130				ø20.0				200
ø13	8.5	ø20	ø13.5	5	5.5	11.6	135	ø20	13	ø27	ø19.5	6	8	17.2	195
			ø13.6				136				ø19.6				196
			ø13.7				137				ø19.7				197
			ø13.8				138				ø19.8				198
			ø13.9				139				ø19.9				199
			ø14.0				140				ø20.0				200
			ø14.5				145				ø20.5				205
			ø14.6				146				ø20.6				206
			ø14.7				147				ø20.7				207

Dimensions

CLKQG□32-□□□-X3036 (With lock)



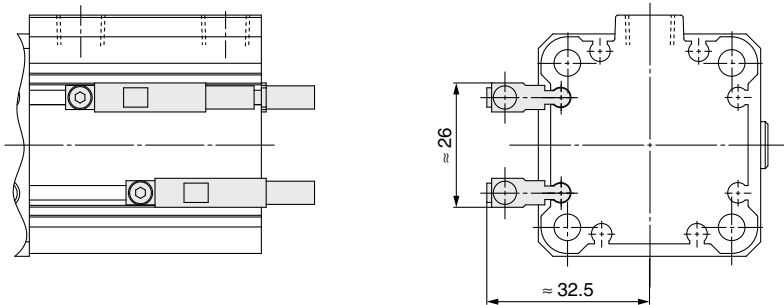
Hole diameter of workpiece	C	ϕD	ϕd	K	SR	Q	Model number	Hole diameter of workpiece	C	ϕD	ϕd	K	SR	Q	Model number
$\phi 8$	6	$\phi 20$	$\phi 7.5$	3.5	3.5	—	075	$\phi 14$	10.5	$\phi 25$	$\phi 13.5$	6	5.5	12.6	135
			$\phi 7.6$				076				$\phi 13.6$				136
			$\phi 7.7$				077				$\phi 13.7$				137
			$\phi 7.8$				078				$\phi 13.8$				138
			$\phi 7.9$				079				$\phi 13.9$				139
			$\phi 8.0$				080				$\phi 14.0$				140
			$\phi 9.5$				095				$\phi 14.5$				145
$\phi 10$	7.5	$\phi 20$	$\phi 9.6$	4	4.5	9.2	096	$\phi 15$	10.5	$\phi 25$	$\phi 14.6$	6	6	13.3	146
			$\phi 9.7$				097				$\phi 14.7$				147
			$\phi 9.8$				098				$\phi 14.8$				148
			$\phi 9.9$				099				$\phi 14.9$				149
			$\phi 10.0$				100				$\phi 15.0$				150
			$\phi 10.5$				105				$\phi 15.5$				155
			$\phi 10.6$				106				$\phi 15.6$				156
$\phi 11$	7.5	$\phi 20$	$\phi 10.7$	4	4.5	9.8	107	$\phi 16$	11.5	$\phi 25$	$\phi 15.7$	6	6.5	14.3	157
			$\phi 10.8$				108				$\phi 15.8$				158
			$\phi 10.9$				109				$\phi 15.9$				159
			$\phi 11.0$				110				$\phi 16.0$				160
			$\phi 11.5$				115				$\phi 17.5$				175
			$\phi 11.6$				116				$\phi 17.6$				176
			$\phi 11.7$				117				$\phi 17.7$				177
$\phi 12$	8.5	$\phi 20$	$\phi 11.8$	5	5	10.9	118	$\phi 18$	13	$\phi 27$	$\phi 17.8$	6	7.5	16.4	178
			$\phi 11.9$				119				$\phi 17.9$				179
			$\phi 12.0$				120				$\phi 18.0$				180
			$\phi 12.5$				125				$\phi 19.5$				195
			$\phi 12.6$				126				$\phi 19.6$				196
			$\phi 12.7$				127				$\phi 19.7$				197
			$\phi 12.8$				128				$\phi 19.8$				198
$\phi 13$	8.5	$\phi 20$	$\phi 12.9$	5	5.5	11.6	129	$\phi 20$	13	$\phi 27$	$\phi 19.9$	6	8	17.2	199
			$\phi 13.0$				130				$\phi 20.0$				200

C(L)KQG32-X3036 Auto Switch Mounting

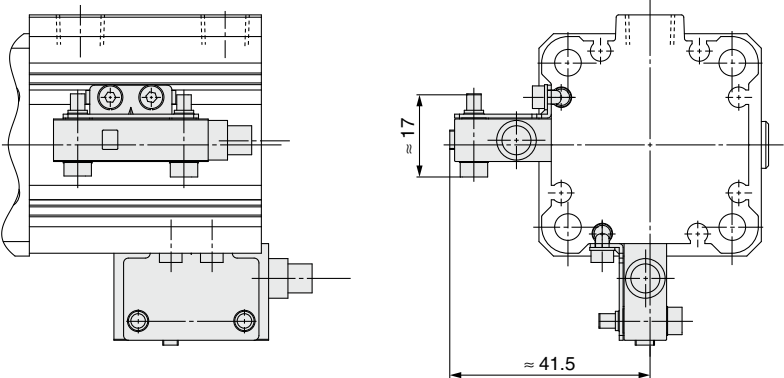
Auto Switch Mounting Height

Applicable cylinder: C(L)KQG32-X3036

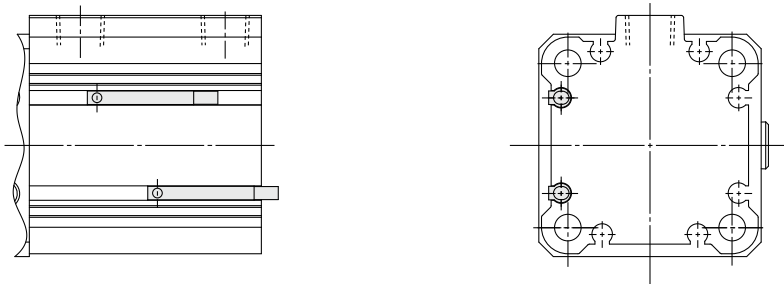
D-P3DWA□



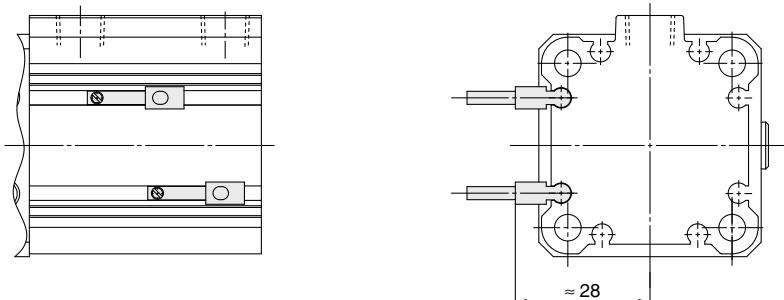
D-P4DW□



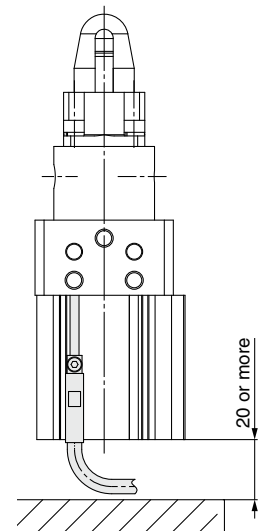
D-M9□ D-M9□W D-A9□



D-M9□V D-M9□WV D-A9□V

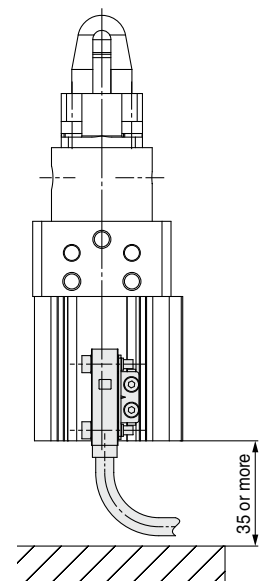


For D-P3DWA□



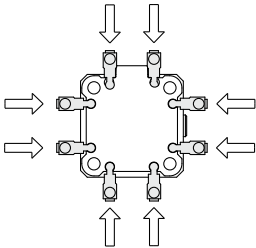
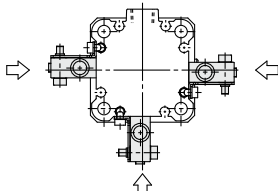
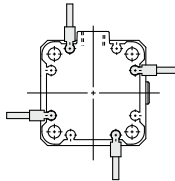
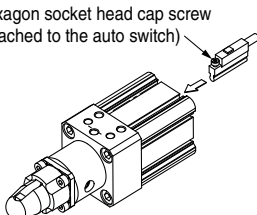
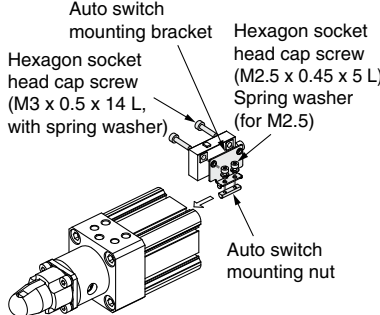
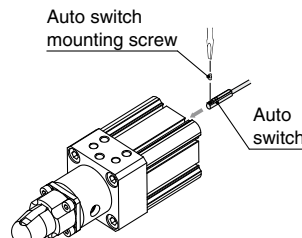
* Allow 20 mm or more space at the cylinder head side to secure the minimum bending radius of the auto switch lead wire.

For D-P4DW□



* Allow 35 mm or more space at the cylinder head side to secure the minimum bending radius of the auto switch lead wire.

Auto Switch Mounting Bracket Part No./Mounting Method

Applicable cylinder	C(L)KQG32-X3036								
Applicable auto switches	D-P3DWA□	D-P4DW□	D-M9□(V), D-M9□W(V), D-M9□A(V) D-A9□(V)						
Bore size [mm]	ø32								
Auto switch mounting bracket part no.	—	BQ7-032	—						
Auto switch mounting bracket fitting parts lineup/Weight	—	• 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: 8.5 g	—						
Auto switch mounting surfaces	Surfaces with auto switch mounting slot	Surfaces with auto switch mounting slot	Surfaces with auto switch mounting slot						
	 * When mounting on the port side, select fittings with width across 12 mm or less.								
Mounting of auto switch	①Insert the auto switch into the mating groove of the cylinder tube. ②Check the detecting position of the auto switch and fix the auto switch firmly with the hexagon socket head cap screw (attached to the auto switch). * The tightening torque for the hexagon socket head cap screw is 0.2 to 0.3 N·m.  Hexagon socket head cap screw (attached to the auto switch)	①Fix the auto switch and the auto switch mounting bracket temporarily with the hexagon socket head cap screws (M3 x 14 L). ②Insert 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. ③Insert the temporarily fixed auto switch mounting nut into the mating groove of the cylinder tube. ④Check 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). * 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.  Auto switch mounting bracket 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) Auto switch mounting nut	 Auto switch mounting screw Auto switch • When tightening the auto switch mounting screw, use a watchmaker's screwdriver with a handle 5 to 6 mm in diameter. Tightening Torque of Auto Switch Mounting Screw [N·m] <table><tr><th>Auto switch model</th><th>Tightening torque</th></tr><tr><td>D-A9□(V) (Excludes D-A93)</td><td>0.10 to 0.20</td></tr><tr><td>D-M9□(V) D-M9□W(V) D-M9□A(V) D-A93</td><td>0.05 to 0.15</td></tr></table>	Auto switch model	Tightening torque	D-A9□(V) (Excludes D-A93)	0.10 to 0.20	D-M9□(V) D-M9□W(V) D-M9□A(V) D-A93	0.05 to 0.15
	Auto switch model	Tightening torque							
D-A9□(V) (Excludes D-A93)	0.10 to 0.20								
D-M9□(V) D-M9□W(V) D-M9□A(V) D-A93	0.05 to 0.15								

C(L)KQG32-X3036

Replacement Parts

■ Guide Pin Order No.

CKQG32X- 075 R

● Guide pin diameter

* Refer to Table 1 below.

● Guide pin shape

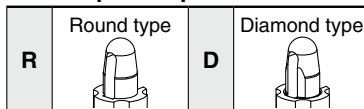


Table 1. Guide Pin Diameter

Symbol	075	076	077	078	079	080	095	096	097	098	099	100	105	106	107	108	109	110	115	116	117	118	119	120
Guide pin diameter [mm]	7.5	7.6	7.7	7.8	7.9	8.0	9.5	9.6	9.7	9.8	9.9	10.0	10.5	10.6	10.7	10.8	10.9	11.0	11.5	11.6	11.7	11.8	11.9	12.0
Applicable hole diameter of workpiece [mm]	For ø8						For ø10						For ø11						For ø12					
Guide pin shape	Round type						Round type/Diamond type																	

Symbol	125	126	127	128	129	130	135	136	137	138	139	140	145	146	147	148	149	150	155	156	157	158	159	160
Guide pin diameter [mm]	12.5	12.6	12.7	12.8	12.9	13.0	13.5	13.6	13.7	13.8	13.9	14.0	14.5	14.6	14.7	14.8	14.9	15.0	15.5	15.6	15.7	15.8	15.9	16.0
Applicable hole diameter of workpiece [mm]	For ø13						For ø14						For ø15						For ø16					
Guide pin shape	Round type/Diamond type																							

Symbol	175	176	177	178	179	180	195	196	197	198	199	200
Guide pin diameter [mm]	17.5	17.6	17.7	17.8	17.9	18.0	19.5	19.6	19.7	19.8	19.9	20.0
Applicable hole diameter of workpiece [mm]	For ø18						For ø20					
Guide pin shape	Round type/Diamond type											

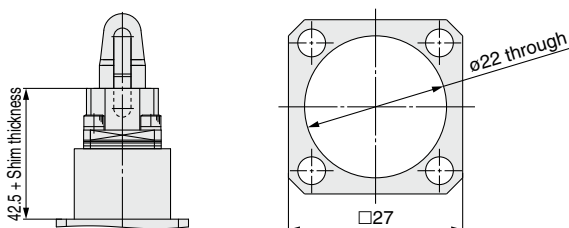
■ Clamp Arm Assembly Order No.

Applicable hole diameter of workpiece	Order No.
For ø8	CKQ32-54-117ZV-R
For ø10 and ø11	CKQ32-54-118ZV-R
For ø12 and ø13	CKQ32-54-119ZV-R
For ø14 and ø15	CKQ32-54-120ZV-R
For ø16	CKQ32-54-121ZV-R
For ø18 and ø20	CKQ32-54-122ZV-R

* The clamp arm includes a basic internal retaining ring.

Option

■ Shim



Description	Part no.	Note
Shim A	CKQ32-36A746MN	Plate thickness 1 [mm]
Shim B	CKQ32-36B746MN	Plate thickness 0.5 [mm]

- Shims can be mounted up to 3 mm.
- For auto switches (excludes the M9□V), when the total thickness of shims and a workpiece is over 2 mm, the auto switch may not be adjusted to the most sensitive position.

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