

Pin Clamp Cylinder Compact Cylinder Type

Series CKQG32

How to Order

Clamping Height LOW type CKQG **B** 32- **075** R **A** L- **C** -X2081

Clamping Height HIGH type CKQG **B** 32- **075** R **A** H- **C** -X2082

• Number of auto switches

Nil	2 pcs.
S	1 pc. (Unclamp side)

• Auto switch type

Nil	Without auto switch (Built-in magnet)
C	D-P3DWSC
E	D-P3DWSE
N	D-P3DW
L	D-P3DWL
Z	D-P3DWZ

* Auto switches and mounting brackets are shipped together, (but not assembled).
 * Refer to the table below for the applicable auto switches.
 * When the total thickness of the clamped workpiece is over 2 mm, the auto switch may not be adjusted the most sensitive position.

Mounting surface position (viewed from top)

Symbol	Mounting surface position
A	
B	
C	
D	

Bore size
32 32 mm

Guide pin diameter
 * For guide pin diameter, refer to Table 1 below.

Guide pin shape
R

• 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

Table 1. Guide Pin Diameter

Symbol	075	076	077	078	079	080	095	096	097	098	099	100	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	11.5	11.6	11.7	11.8	11.9	12.0
Applicable hole diameter of workpiece [mm]	For ø8						For ø10						For ø12					
Guide pin shape	Round type																	
Symbol	135	136	137	138	139	140	145	146	147	148	149	150	155	156	157	158	159	160
Guide pin diameter [mm]	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 ø14						For ø15						For ø16					
Guide pin shape	Round 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																	

Applicable Auto Switches / Refer to Best Pneumatics No. 3 for further information on 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-P3DWSC	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-color display	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC ^{Note 1)}
	D-P3DWSE				2-wire (1-4)		0.5 m	
	D-P3DW		Grommet		2-wire		3 m	
	D-P3DWL						5 m	
	D-P3DWZ							

Note 1) PLC: Programmable Logic Controller

Note 2) Since there are other applicable auto switches than listed, refer to Best Pneumatics No. 3 for details.



Basic Specifications

Model			CKQG32
Action			Double acting
Bore size (mm)			32
Cylinder stroke/Clamp stroke (mm)			12.5 mm (Without workpiece)/10 mm
Fluid			Air
Minimum operating pressure			0.1 MPa
Maximum operating pressure	Guide pin diameter (mm)	ø7.5 to ø12.0	0.7 MPa
		ø13.5 to ø20.0	1.0 MPa
Ambient and fluid temperature			−10 to 60°C (No freezing)
Cushion			None
Lubrication			Non-lube
Piston speed (Clamp speed)			50 to 150 mm/sec
Port size (Cylinder port)			Rc1/8

Clamping Force

Model	Guide pin diameter (mm)	Operating pressure (MPa)								
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CKQG32	ø7.5 to ø12.0	121	181	241	302	362	422	—	—	—
	ø13.5 to ø20.0	121	181	241	302	362	422	483	543	603

Note 1) 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.

Note 2) Determine the clamping force according to the strength of the workpiece. It can be damaged if the clamping force is too large.

Note 3) 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.

Clamp Specifications

Model	CKQG32
Clamp stroke	10 mm
Clamp arm	1 pc.
Guide pin shape	Round type

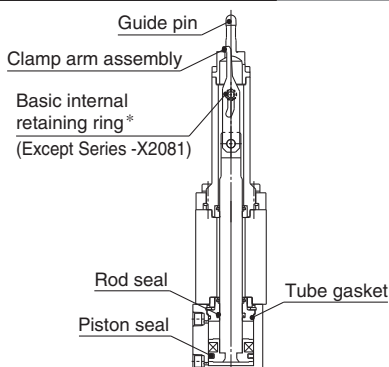
* Refer to the above "Clamping Force" for detailed specifications of the clamping force, etc.

Weight

Model		CKQG32	
		-X2081	-X2082
Guide pin diameter (mm)	ø7.5 to ø8.0	900	1110
	ø9.5 to ø10.0		
	ø11.5 to ø12.0		
	ø13.5 to ø14.0	940	1150
	ø14.5 to ø15.0		
	ø15.5 to ø16.0		
	ø17.5 to ø18.0	950	1160
	ø19.5 to ø20.0		

Unit: g

Replacement Parts



CKQG□32-100R□H-X2082

Seal Kit

Kit No.	Contents
CQ2B32-PS	① Piston seal ② Rod seal ③ Tube gasket

* Seal kit includes ①, ②, ③. Since the seal kit does not include a grease pack, order the "Grease Pack" below separately.

Grease Pack

Kit No.	Contents
GR-S-010	Grease 10 g

* Consult with SMC when replacing the actuating cylinders.

Guide pin order no.

CKQG32X-075 R

Guide pin diameter

* Refer to Table 1 (Symbol 2) below

Guide pin

Clamp arm assembly order no.

CKQG32X-08 B

Applicable hole diameter of workpiece

* Refer to Table 1 (Symbol 1) below

Clamp arm assembly

* The clamp arm includes a basic internal retaining ring.

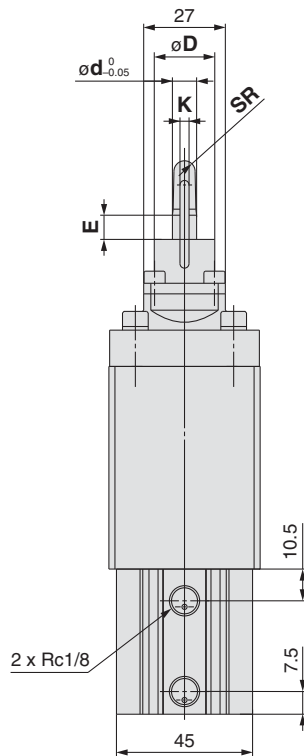
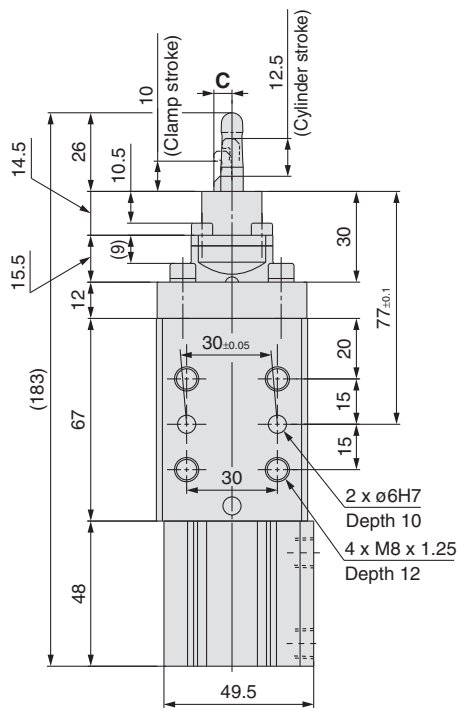
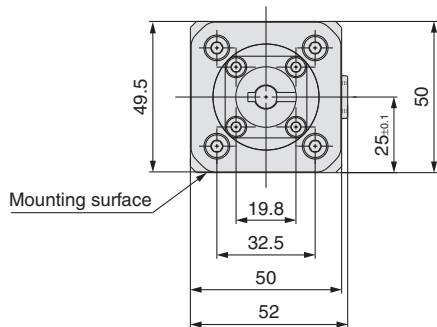
Table 1. Guide Pin Diameter/Applicable Hole Diameter of Workpiece

Symbol 1	Applicable hole diameter of workpiece	Symbol 2	Guide pin diameter	Symbol 1	Applicable hole diameter of workpiece	Symbol 2	Guide pin diameter	Symbol 1	Applicable hole diameter of workpiece	Symbol 2	Guide pin diameter	Symbol 1	Applicable hole diameter of workpiece	Symbol 2	Guide pin diameter
08	8	075	7.5	12	12	115	11.5	15	15	145	14.5	18	18	175	17.5
		076	7.6			116	11.6			146	14.6			176	17.6
		077	7.7			117	11.7			147	14.7			177	17.7
		078	7.8			118	11.8			148	14.8			178	17.8
		079	7.9			119	11.9			149	14.9			179	17.9
		080	8.0			120	12.0			150	15.0			180	18.0
10	10	095	9.5	14	14	135	13.5	16	16	155	15.5	20	20	195	19.5
		096	9.6			136	13.6			156	15.6			196	19.6
		097	9.7			137	13.7			157	15.7			197	19.7
		098	9.8			138	13.8			158	15.8			198	19.8
		099	9.9			139	13.9			159	15.9			199	19.9
		100	10.0			140	14.0			160	16.0			200	20.0

Series CKQG32

Dimensions

CKQG□32 (Clamping height LOW type) * The figures below indicate the CKQGB32-□RCL-X2081.



Mounting surface position

A	
B	
C	
D	

Clamp arm position

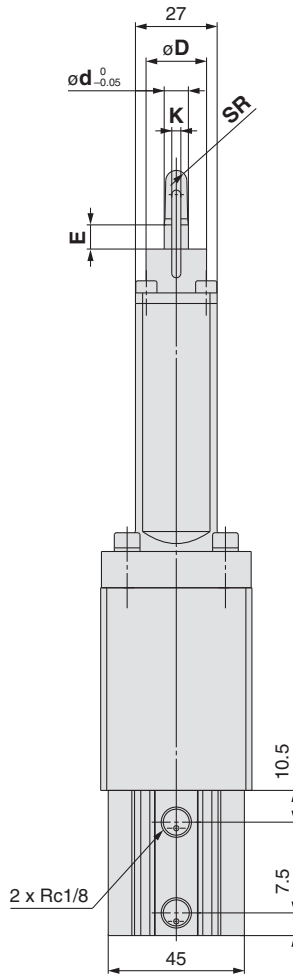
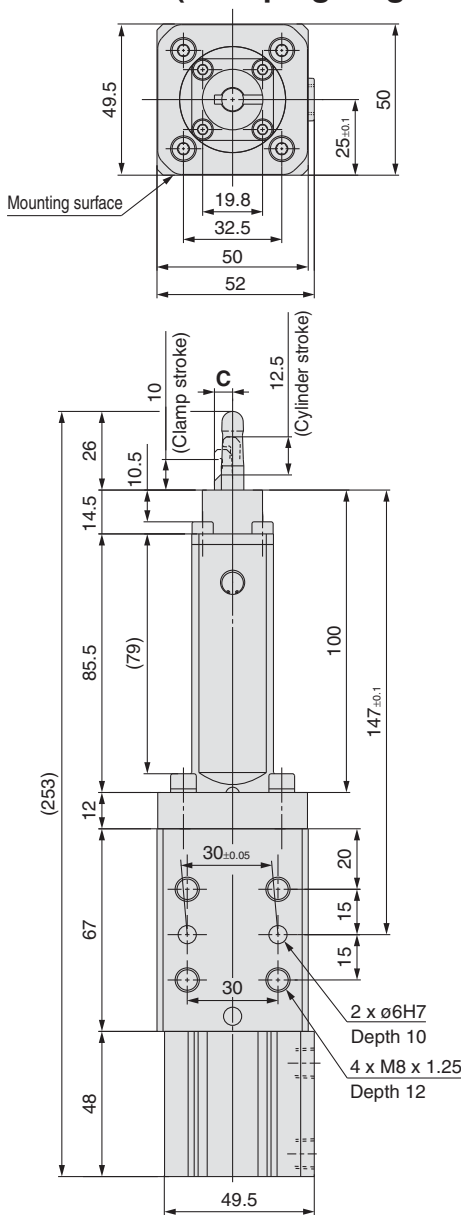
A	Same as the port side	
B	90° from the port side	
C	180° from the port side	
D	270° from the port side	

Hole diameter of workpiece	C	øD	ød	E	K	SR	Model number
ø8	6	ø20	ø7.5	≈10	3.5	3.5	075
			ø7.6	≈9.8			076
			ø7.7	≈9.2			077
			ø7.8	≈8.8			078
			ø7.9	≈8.4			079
ø10	7.5	ø20	ø8.0	≈8	4	4.5	080
			ø9.5	≈10			095
			ø9.6	≈9.8			096
			ø9.7	≈9.2			097
			ø9.8	≈8.8			098
ø12	8.5	ø20	ø9.9	≈8.4	5	5	099
			ø10.0	≈8			100
			ø11.5	≈10			115
			ø11.6	≈9.8			116
			ø11.7	≈9.2			117
ø14	10.5	ø25	ø11.8	≈8.8	6	5.5	118
			ø11.9	≈8.4			119
			ø12.0	≈8			120
			ø13.5	≈10			135
			ø13.6	≈9.8			136
ø15	10.5	ø25	ø13.7	≈9.2	6	5.5	137
			ø13.8	≈8.8			138
			ø13.9	≈8.4			139
			ø14.0	≈8			140

Hole diameter of workpiece	C	øD	ød	E	K	SR	Model number
ø15	10.5	ø25	ø14.5	≈10	6	6	145
			ø14.6	≈9.8			146
			ø14.7	≈9.2			147
			ø14.8	≈8.8			148
			ø14.9	≈8.4			149
ø16	11.5	ø25	ø15.0	≈8	6	6.5	150
			ø15.5	≈10			155
			ø15.6	≈9.8			156
			ø15.7	≈9.2			157
			ø15.8	≈8.8			158
ø18	13	ø27	ø15.9	≈8.4	6	7.5	159
			ø16.0	≈8			160
			ø17.5	≈9.3			175
			ø17.6	≈9.1			176
			ø17.7	≈8.8			177
ø20	13	ø27	ø17.8	≈8.5	6	8	178
			ø17.9	≈8.3			179
			ø18.0	≈8			180
			ø19.5	≈9.3			195
			ø19.6	≈9.1			196
ø20	13	ø27	ø19.7	≈8.8	6	8	197
			ø19.8	≈8.5			198
			ø19.9	≈8.3			199
			ø20.0	≈8			200

Dimensions

CKQG□32 (Clamping height HIGH type) * The figures below indicate the CKQGB32-□RCH-X2082.



Mounting surface position

A	
B	
C	
D	

Clamp arm position

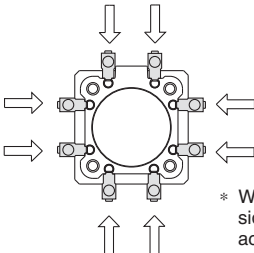
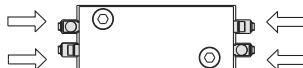
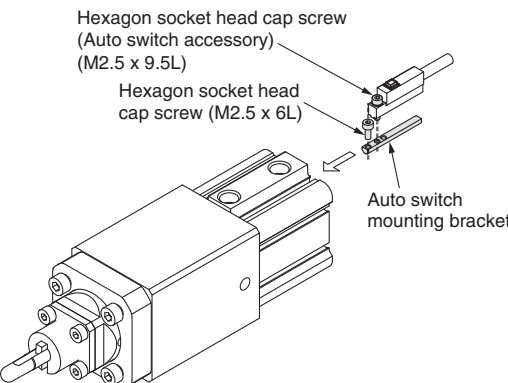
A	Same as the port side	
B	90° from the port side	
C	180° from the port side	
D	270° from the port side	

Hole diameter of workpiece	C	øD	ød	E	K	SR	Model number
ø8	6	ø20	ø7.5	≈10	3.5	3.5	075
			ø7.6	≈9.8			076
			ø7.7	≈9.2			077
			ø7.8	≈8.8			078
			ø7.9	≈8.4			079
			ø8.0	≈8			080
ø10	7.5	ø20	ø9.5	≈10	4	4.5	095
			ø9.6	≈9.8			096
			ø9.7	≈9.2			097
			ø9.8	≈8.8			098
			ø9.9	≈8.4			099
			ø10.0	≈8			100
ø12	8.5	ø20	ø11.5	≈10	5	5	115
			ø11.6	≈9.8			116
			ø11.7	≈9.2			117
			ø11.8	≈8.8			118
			ø11.9	≈8.4			119
			ø12.0	≈8			120
ø14	10.5	ø25	ø13.5	≈10	6	5.5	135
			ø13.6	≈9.8			136
			ø13.7	≈9.2			137
			ø13.8	≈8.8			138
			ø13.9	≈8.4			139
			ø14.0	≈8			140

Hole diameter of workpiece	C	øD	ød	E	K	SR	Model number
ø15	10.5	ø25	ø14.5	≈10	6	6	145
			ø14.6	≈9.8			146
			ø14.7	≈9.2			147
			ø14.8	≈8.8			148
			ø14.9	≈8.4			149
			ø15.0	≈8			150
ø16	11.5	ø25	ø15.5	≈10	6	6.5	155
			ø15.6	≈9.8			156
			ø15.7	≈9.2			157
			ø15.8	≈8.8			158
			ø15.9	≈8.4			159
			ø16.0	≈8			160
ø18	13	ø27	ø17.5	≈9.3	6	7.5	175
			ø17.6	≈9.1			176
			ø17.7	≈8.8			177
			ø17.8	≈8.5			178
			ø17.9	≈8.3			179
			ø18.0	≈8			180
ø20	13	ø27	ø19.5	≈9.3	6	8	195
			ø19.6	≈9.1			196
			ø19.7	≈8.8			197
			ø19.8	≈8.5			198
			ø19.9	≈8.3			199
			ø20.0	≈8			200

How to Mount the Auto Switch

Auto Switch Mounting Bracket No./Mounting Method

Applicable cylinder	CKQG32	CKU32
Applicable auto switch	D-P3DW□	D-P3DW□
Bore size (mm)	ø32	ø32
Auto switch mounting bracket part no.	BQ6-032S	CKU32-42-088EN-R
Auto switch mounting bracket fitting parts lineup/Weight	① Hexagon socket head cap screw (M2.5 x 6L) ② Auto switch mounting bracket (nut) Weight: 2.5 g	① Hexagon socket head cap screw (M2.5 x 9.5L) ② Auto switch mounting bracket Weight: 4 g
Auto switch mounting surface	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.	
How to mount the auto switch	- Fix the auto switch and the auto switch mounting bracket temporarily by tightening the hexagon socket head cap screw (M2.5 x 9.5L) attached to the auto switch 1 to 2 turns. - Insert the temporarily tightened mounting bracket into the mating groove of the cylinder tube, and slide the auto switch onto the cylinder tube through the groove. - Check the detecting position of the auto switch and fix the auto switch firmly with the hexagon socket head cap screw (M2.5 x 6L, M2.5 x 9.5L).* - If the detecting position is changed, go back to step ②. * The hexagon socket head cap screw (M2.5 x 6L) is used to fix the mounting bracket and cylinder tube. This enables the replacement of the auto switch without adjusting the auto switch position. Note 1) Ensure that the auto switch is covered with the mating groove to protect the auto switch. Note 2) The tightening torque of the hexagon socket head cap screw (M2.5 x 6L, M2.5 x 9.5L) must be 0.2 to 0.3 N·m. Note 3) Tighten the hexagon socket head cap screws evenly. 	- Fix the auto switch and the auto switch mounting bracket with the hexagon socket head cap screw attached to the auto switch (M2.5 x 9.5L). - Check the detecting position of the auto switch by sliding it along the cylinder tube rib, before fixing the auto switch on the cylinder tube threaded portion by inserting the hexagon socket head cap screw (M2.5 x 9.5L) into a long hole of the auto switch mounting bracket. Note) The tightening torque of the hexagon socket head cap screw (M2.5 x 9.5L) must be 0.2 to 0.3 N·m. 