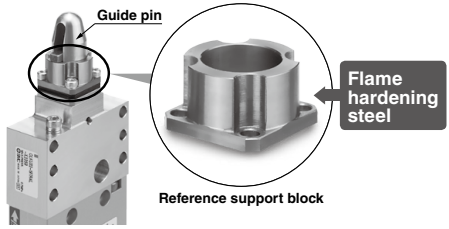
Pin Plate Cylinder (Reference support block machinable type)

C(L)KU32-X2359A

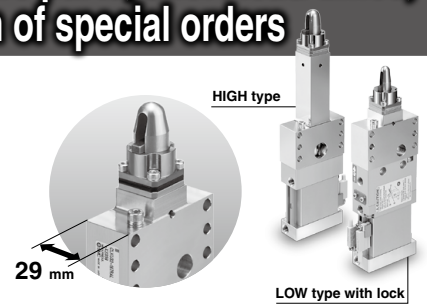
Responses to reduction of spare parts, short lead times, and a drastic reduction of special orders

1 Guide pin is separated from the reference support block.



Reference support block can be machined by the customer.
(The block can be changed to a desired shape.)

Note) After machining (or even without machining), use the reference support block after it has been flame hardened. However, do not perform quenching.
For machining and treatment, consult with SMC.

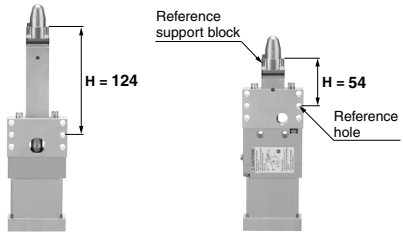


■Ø32 plate cylinder type

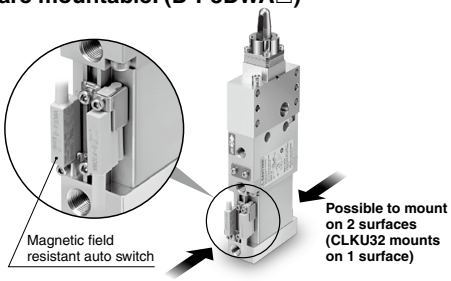
■Slim body: 29 mm in width

■Model with lock mechanism, which prevents workpiece drops during emergency stops, can be selected.

2 The height from the reference hole to the surface of the reference support block can be selected from 2 types "HIGH" or "LOW".



Magnetic field resistant auto switches are mountable. (D-P3DWA□)



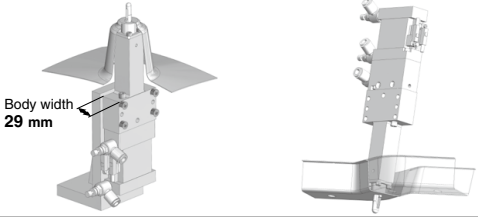
3 Equipped with shims (3 mm) as standard.

(Height can be changed.)

Application Examples

CKU32 (Pin plate cylinder)
- Compatible with installing in narrow spaces
- For clamping small and lightweight workpiece and material handling, etc.

CLKU32 (Pin plate cylinder/With lock)
- Unclamp direction locking
- Drop prevention for workpiece during emergency stops



Achieves reduction of spare parts, short lead times, and a drastic reduction of special orders according to features 1, 2, and 3.

Pin Plate Cylinder
C(L)KU32-X2359A

How to Order

C □ KU 32 – 127 R A L – P3DWASC □ – X2359A

One-way lock

Nil	Without lock
L	With lock

Bore size

32	Equiv. ø32

Guide pin diameter

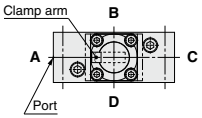
∗ For guide pin diameter, refer to page 579.

Guide pin shape

R	Round type 	**D**	Diamond type 

Clamp arm position (viewed from top)

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



∗ For LOW type, clamp arm positions are usable only with A and C.

Auto switch

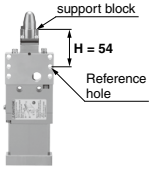
Nil	Without auto switch

∗ Refer to the table below for applicable auto switches.
∗ When the total thickness of clamped workpiece is over 2 mm, the auto switch may not be adjusted to the most sensitive position.

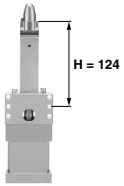
Clamping height (Refer to figures below)

L	LOW type (54 mm)
H	HIGH type (124 mm)

LOW type



HIGH type



Number of auto switches

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

Reference support block machinable type

Applicable Auto Switches/Refer to pages 1341 to 1435 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	**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						5 m	

General Purpose Auto Switches ⚠ General purpose auto switches cannot be used under a strong magnetic field./Refer to pages 1341 to 1435 for further information on auto switches.

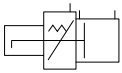
Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model		Lead wire length [m]				Pre-wired connector	Applicable load	
					DC		AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)			
Solid state auto switch	——	Grommet	Yes	3-wire (NPN)	24 V	5 V,12 V	—	**M9NV**	—	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				**M9PV**	—	●	●	●	○	○		
				2-wire		12 V		**M9BV**	—	●	●	●	○	○	—	
	Diagnostic indication (2-color indicator)			3-wire (NPN)		5 V,12 V		**M9NWV**	—	●	●	●	○	○	IC circuit	
				3-wire (PNP)				**M9PWV**	—	●	●	●	○	○		
				2-wire		12 V		**M9BWV**	—	●	●	●	○	○	—	
Reed auto switch	——	Grommet	Yes	2-wire	24 V	12 V	100 V	**A73**	—	●	—	●	●	—	—	Relay, PLC
	Diagnostic indication (2-color indicator)					—	—	**A79W**	—	●	—	●	—	—	—	

∗ Solid state auto switches marked with "○" are produced upon receipt of order.
∗ The D-A9□ and A9□V cannot be mounted.
∗ For details about auto switches with pre-wired connector, refer to pages 1410 and 1411.
∗ 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····· L (Example) M9NWVZ

Symbol

With lock



Without lock

Basic Specifications

Model	C(L)KU32	
Action	Double acting	
Bore size (mm)	32 equivalent	
Cylinder stroke/Clamp stroke (mm)	12.5 (Without workpiece)/10	
Fluid	Air	
Minimum operating pressure	CKU□: 0.1 MPa	CLKU□: 0.15 MPa*
Maximum operating pressure	0.7 MPa	
Ambient and fluid temperatures	–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	

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

Lock Specifications

Model	CLKU32
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

(N)

Model	Operating pressure (MPa)					
	0.2	0.3	0.4	0.5	0.6	0.7
C(L)KU32	130	195	260	325	390	455

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.

Guide Pin Diameter

Symbol	**125**	**127**	**128**	**129**	**130**	**175**	**177**	**178**	**179**	**180**	**195**	**197**	**198**	**199**
Guide pin diameter (mm)	12.5	12.7	12.8	12.9	13.0	17.5	17.7	17.8	17.9	18.0	19.5	19.7	19.8	19.9
Applicable hole diameter of workpiece (mm)	For ø13					For ø18					For ø20			
Guide pin shape	Round type, Diamond type													

Weight

(g)

Guide pin diameter (mm)	Model	CKU32-X2359A		CLKU32-X2359A	
	Shape	LOW type	HIGH type	LOW type	HIGH type
12.5 to 13.0	Round type	790	960	1000	1170
	Diamond type				
17.5 to 18.0	Round type	840	1010	1050	1220
	Diamond type				
19.5 to 19.9	Round type				
	Diamond type				

Replacement Parts (C(L)KU, LOW type/HIGH type common)

■ Guide Pin Order No.

CKU32 – R 125 S – X2359A

Guide pin shape

R	Round type
D	Diamond type

Guide pin diameter

Symbol	125	127	128	129	130	175	177	178	179	180	195	197	198	199
Guide pin diameter (mm)	12.5	12.7	12.8	12.9	13.0	17.5	17.7	17.8	17.9	18.0	19.5	19.7	19.8	19.9
Applicable hole diameter of workpiece (mm)	For ø13					For ø18					For ø20			
Guide pin shape	Round type, Diamond type													

■ Clamp Arm Order No.

Guide pin		Part no.
Diameter (mm)	Shape	
12.5 to 13.0	Round type/ Diamond type	CKU32-54-530ZL
17.5 to 19.9		CKU32-54-532ZL

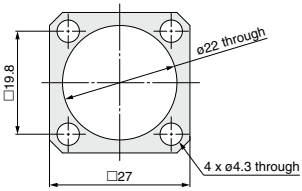
■ Reference Support Block Order No.

Order No.		Part no.
Guide pin (mm)	Diameter	
12.5 to 13.0	Round type/ Diamond type	CKU32-36-530ZL
17.5 to 18.0		CKU32-36-532ZL
19.5 to 19.9		CKU32-36-534ZL

■ Order No.

Description	Plate thickness (mm)	Part no.
Shim A	1	**CKQ32-36A746MN**
Shim B	0.5	**CKQ32-36B746MN**

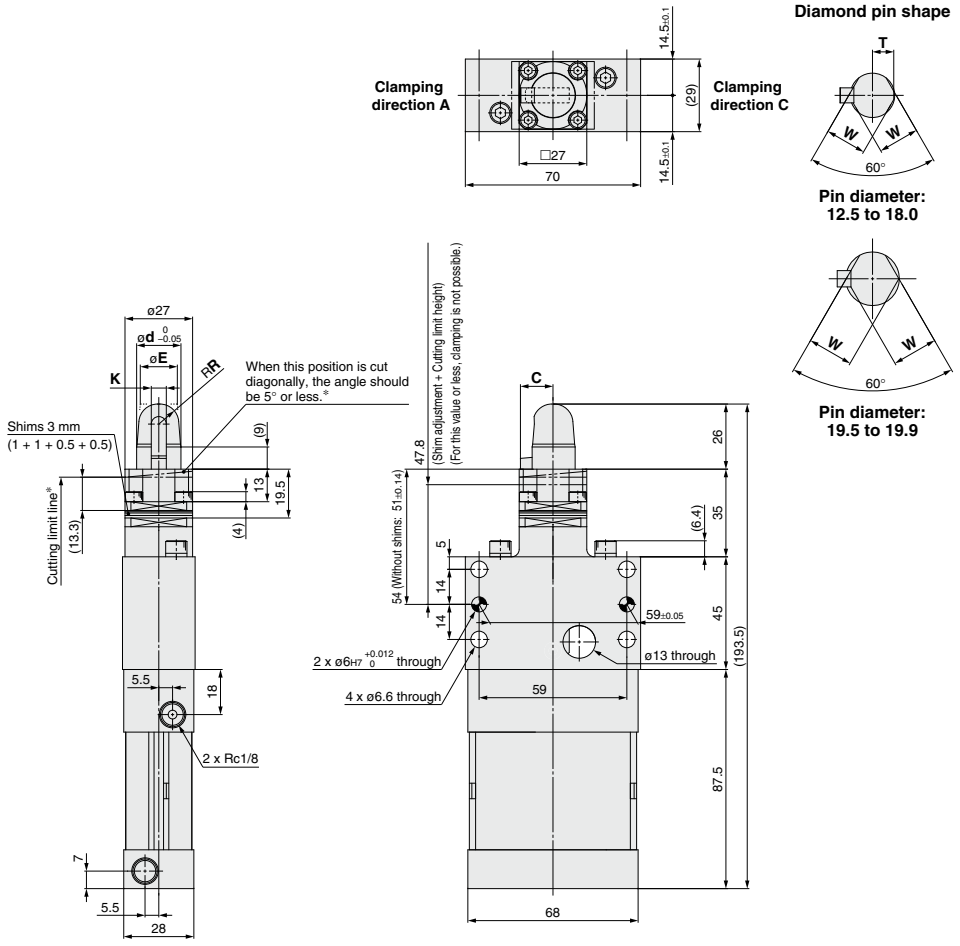
• Shims can be mounted up to 3 mm.



Shim dimensions

Dimensions

CKU32 (Clamping height LOW type)



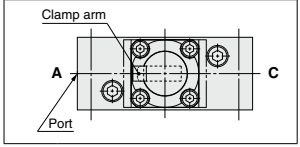
(mm)

Hole diameter of workpiece	Pin diameter	C	d	E	K	R	T	W	Symbol
ø13	12.5	8.5	12.5	10.4	5	5	6	11.6	125
	12.7		12.7						127
	12.8		12.8						128
	12.9		12.9						129
	13.0		13.0						130
ø18	17.5	13	17.5	14.8	6	7.5	8.5	16.4	175
	17.7		17.7						177
	17.8		17.8						178
	17.9		17.9						179
	18.0		18.0						180
ø20	19.5	13	19.5	15	6	7.5	—	16	195
	19.7		19.7						197
	19.8		19.8						198
	19.9		19.9						199

* The customer should regulate the dimensional accuracy associated with machining. If the cutting limit line is exceeded because of over-machining, clamping failures, etc. may occur and this is not covered by the warranty.

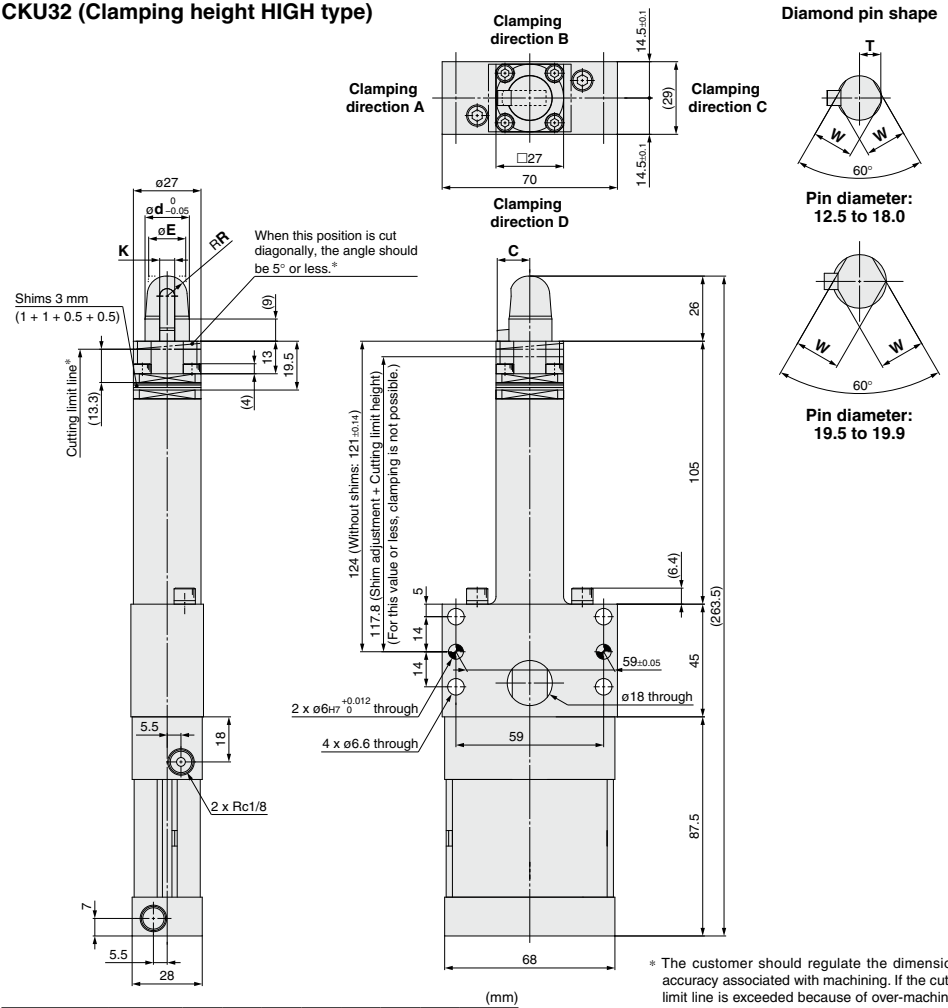
Clamp arm position

A	Same as the port side
C	180° from the port side



Dimensions

CKU32 (Clamping height HIGH type)



Diamond pin shape

Pin diameter: 12.5 to 18.0

Pin diameter: 19.5 to 19.9

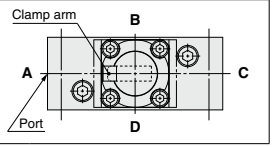
(mm)

Hole diameter of workpiece	Pin diameter	C	d	E	K	R	T	W	Symbol
ø**13**	12.5	8.5	12.5	10.4	5	5	6	11.6	125
	12.7		12.7						127
	12.8		12.8						128
	12.9		12.9						129
	13.0		13.0						130
ø**18**	17.5	13	17.5	14.8	6	7.5	8.5	16.4	175
	17.7		17.7						177
	17.8		17.8						178
	17.9		17.9						179
	18.0		18.0						180
ø**20**	19.5	13	19.5	15	6	7.5	—	16	195
	19.7		19.7						197
	19.8		19.8						198
	19.9		19.9						199

* The customer should regulate the dimensional accuracy associated with machining. If the cutting limit line is exceeded because of over-machining, clamping failures, etc. may occur and this is not covered by the warranty.

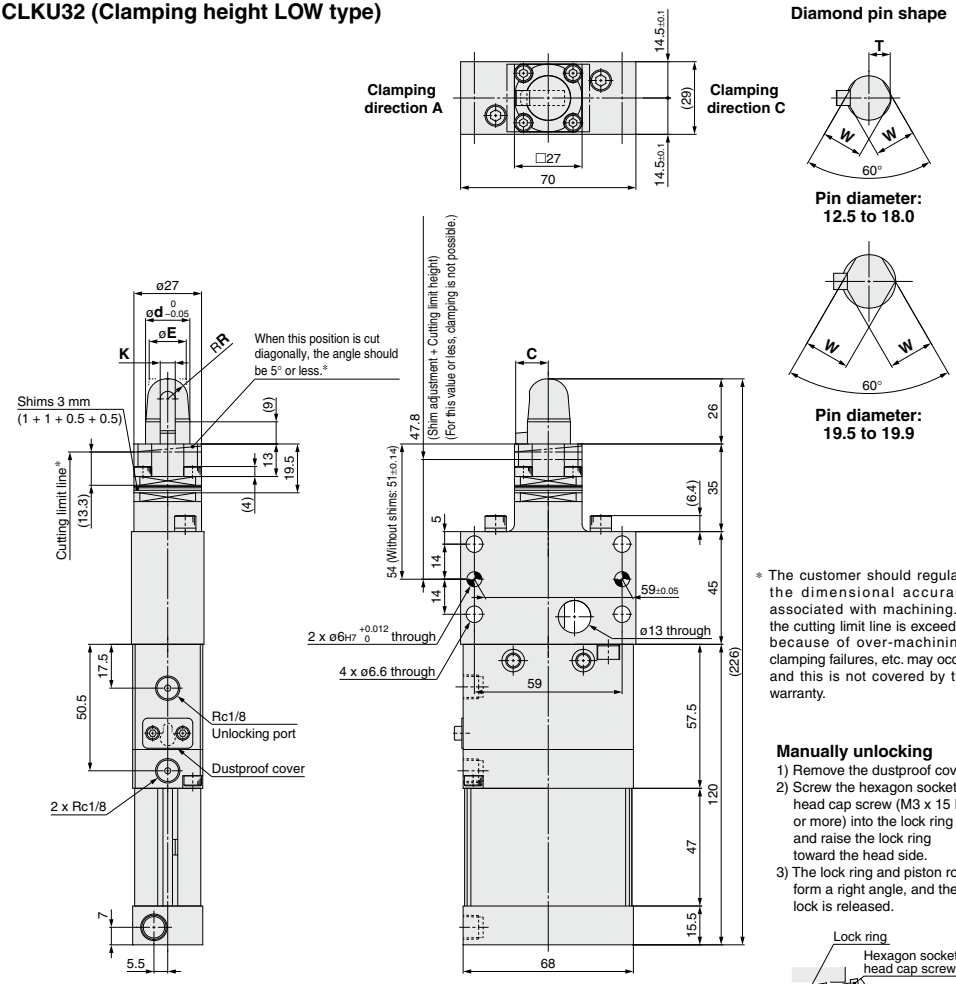
Clamp arm position

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



Dimensions

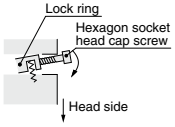
CLKU32 (Clamping height LOW type)



* The customer should regulate the dimensional accuracy associated with machining. If the cutting limit line is exceeded because of over-machining, clamping failures, etc. may occur and this is not covered by the warranty.

Manually unlocking

1) Remove the dustproof cover.
2) Screw the hexagon socket head cap screw (M3 x 15 L or more) into the lock ring and raise the lock ring toward the head side.
3) The lock ring and piston rod form a right angle, and the lock is released.

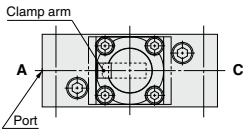


(mm)

Hole diameter of workpiece	Pin diameter	C	d	E	K	R	T	W	Symbol
ø13	12.5	8.5	12.5	10.4	5	5	6	11.6	125
	12.7		12.7						127
	12.8		12.8						128
	12.9		12.9						129
	13.0		13.0						130
ø18	17.5	13	17.5	14.8	6	7.5	8.5	16.4	175
	17.7		17.7						177
	17.8		17.8						178
	17.9		17.9						179
	18.0		18.0						180
ø20	19.5	13	19.5	15	6	7.5	—	16	195
	19.7		19.7						197
	19.8		19.8						198
	19.9		19.9						199

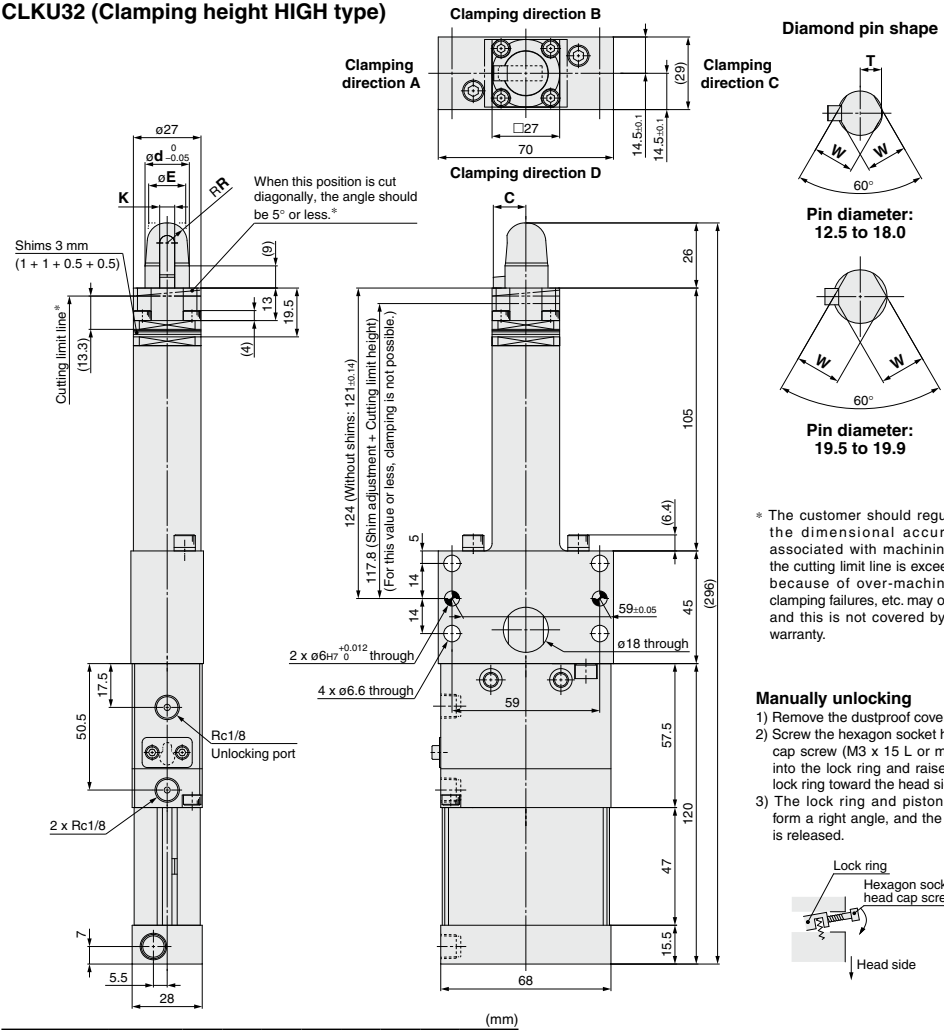
Clamp arm position

A	Same as the port side
C	180° from the port side



Dimensions

CLKU32 (Clamping height HIGH type)



Diamond pin shape

Pin diameter: 12.5 to 18.0

Pin diameter: 19.5 to 19.9

* The customer should regulate the dimensional accuracy associated with machining. If the cutting limit line is exceeded because of over-machining, clamping failures, etc. may occur and this is not covered by the warranty.

Manually unlocking

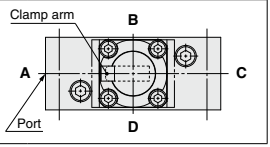
1) Remove the dustproof cover.
2) Screw the hexagon socket head cap screw (M3 x 15 L or more) into the lock ring and raise the lock ring toward the head side.
3) The lock ring and piston rod form a right angle, and the lock is released.

(mm)

Hole diameter of workpiece	Pin diameter	C	d	E	K	R	T	W	Symbol
ø13	12.5	8.5	12.5	10.4	5	5	6	11.6	125
	12.7		12.7						127
	12.8		12.8						128
	12.9		12.9						129
	13.0		13.0						130
ø18	17.5	13	17.5	14.8	6	7.5	8.5	16.4	175
	17.7		17.7						177
	17.8		17.8						178
	17.9		17.9						179
	18.0		18.0						180
ø20	19.5	13	19.5	15	6	7.5	—	16	195
	19.7		19.7						197
	19.8		19.8						198
	19.9		19.9						199

Clamp arm position

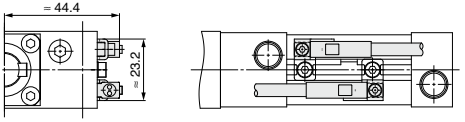
A	Same as the port side
B	90° from the port side
C	180° from the port side
D	270° from the port side



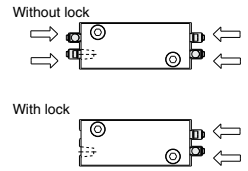
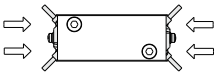
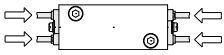
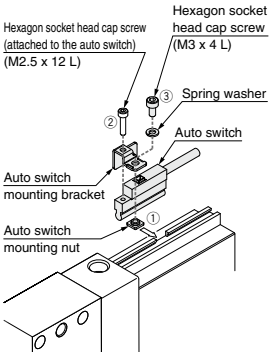
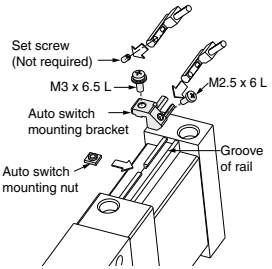
C(L)KU32-X2359A
Auto Switch Mounting

Auto Switch Mounting Height

D-P3DWA□



Auto Switch Mounting Bracket Part No./Mounting Method

Applicable auto switches	D-P3DWA□	D-M9□V/M9□WV	D-A73/A79W
Bore size [mm]	ø32	ø32	ø32
Auto switch mounting bracket part no.	BMU4-040S	BMU1-025 (Below ❶, ❷) BQ2-012 (Below ❸, ❹)	BMU1-025
Auto switch mounting bracket fitting parts lineup/Weight	①Hexagon socket head cap screw (M3 x 4 L) ②Auto switch mounting nut ③Spring washer (M3) ④Auto switch mounting bracket Weight: 4 g	❶Cross recessed round head screw (M3 x 6.5 L) ❷Auto switch mounting nut ❸Auto switch mounting bracket ❹Round head combination screw (M2.5 x 6 L) Weight: 5 g	• Cross recessed round head screw (M3 x 6.5 L) • Auto switch mounting nut Weight: 2 g
Auto switch mounting surfaces	Surfaces with auto switch mounting slot 	Surfaces with auto switch mounting slot 	Surfaces with auto switch mounting slot 
Mounting of auto switch	①Remove the screw (M2.5 x 12 L) attached to the auto switch temporarily. ②Insert the temporarily removed screw into the auto switch mounting bracket, and fix the bracket on the auto switch. ③Slide the auto switch mounting nut into the groove of the rail, and fix the auto switch mounting bracket on the cylinder with the hexagon socket head cap screw (M3 x 4 L) and spring washer (M3). Note) The tightening torque for the hexagon socket head cap screw (M2.5 x 12 L) is 0.2 to 0.3 N·m. The tightening torque for the hexagon socket head cap screw (M3 x 4 L) is 0.5 to 0.7 N·m. 	①Remove the set screw attached to the auto switch. (The set screw is not required.) ②Fix the auto switch to the auto switch mounting bracket with the round head combination screw (M2.5 x 6 L). ③Slide the auto switch mounting nut into the groove of the rail, and fix the auto switch mounting bracket on the cylinder with the cross recessed round head screw (M3 x 6.5 L). Note) The tightening torque for the round head combination screw (M2.5 x 6 L) is 0.1 to 0.2 N·m and for the cross recessed round head screw (M3 x 6.5 L) is 0.5 to 0.7 N·m. 	①Slide the auto switch mounting nut into the groove of the rail, and fix the auto switch on the cylinder with the cross recessed round head screw (M3 x 6.5 L). Note) The tightening torque for the cross recessed round head screw (M3 x 6.5 L) is 0.5 to 0.7 N·m.