

# Power Clamp Cylinder **New**

ø50, ø63

▶ Aluminum body reduces weight by up to **39%**

Weight reduced by up to **39%**

**New** CKZ3N63-135LT

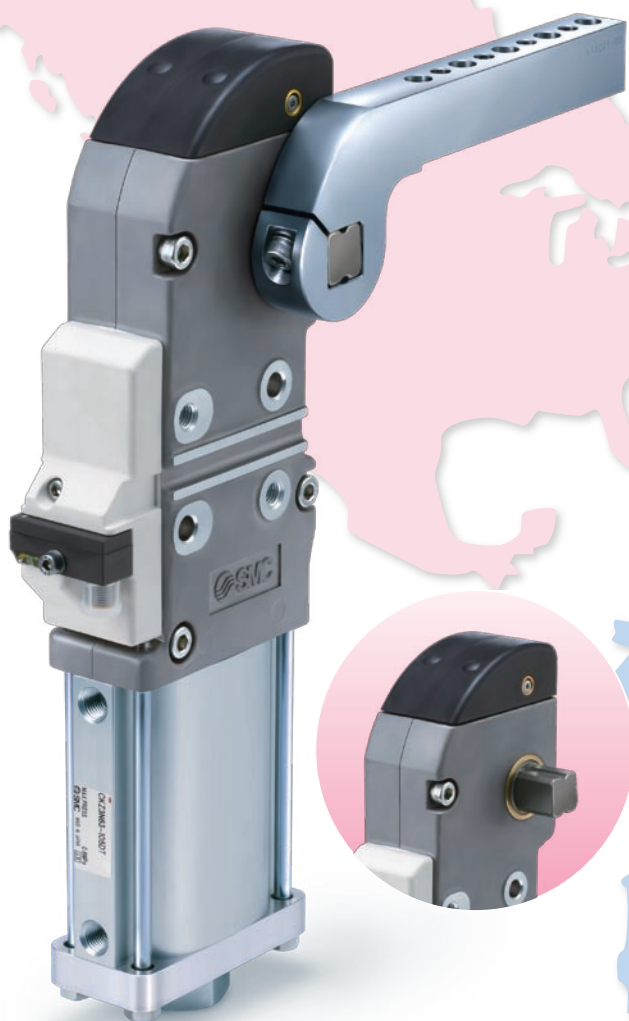
**4.36kg**

Conventional model CKZ2N63-135LT

**7.16kg**

▶ Unclamping angle **15°** as standard

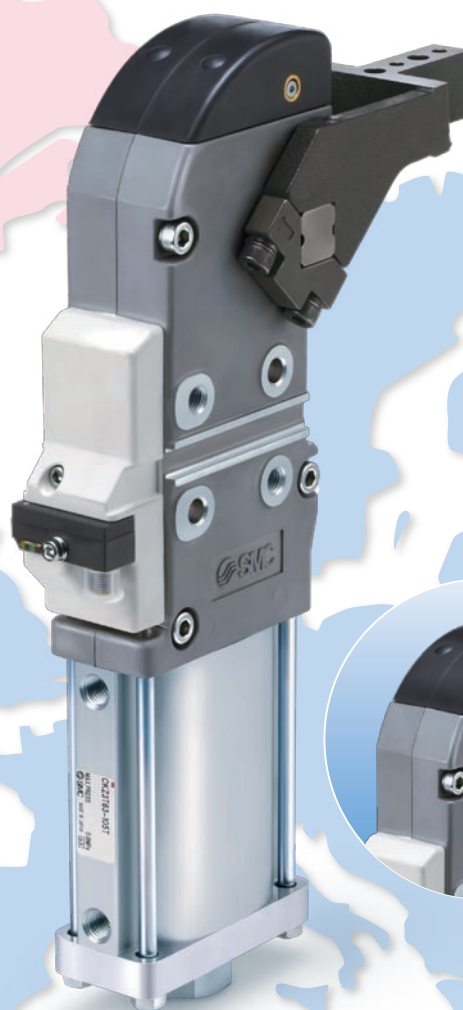
15° angle shortens clamping time and improves cycle time.



North American type  
(Complies to **NAAMS** standard.)

Series **CKZ3N**

Series **CKZ3**



European type

Series **CKZ3T**



CAT.ES20-202A

# Power Clamp Cylinder

## North American type

### Series CKZ3N $\varnothing 50$ , $\varnothing 63$

Complies to NAAMS (North American Automotive Metric Standard). **NAAMS**

75 arm variations available.

Spatter proof construction

Rounded cover design reduces weld spatter accumulation.

Manual toggle release point

Cover: Rubber  
Equivalent to UL94 standard V0:  
Flame resistant

Cover: Metal  
Open/close type  
metal cover

**New**

**Metal cover as standard option**

- Suitable for arc welding lines
- Protects the cylinder from unexpected external impact.

**New**

**Unclamping**

Unclamping angle 15° as standard

**New**

**Aluminum clamping body adopted**

Product weight reduced by up to **39%**

Bore size (mm)	Arm size - opening angle	<b>New</b> CKZ3N	Conventional model CKZ2N	Reduction rate
50-135° (Arm position:R/L)		3.17 kg	5.06kg	37%
63-135° (Arm position:R/L)		4.36kg	7.16kg	39%

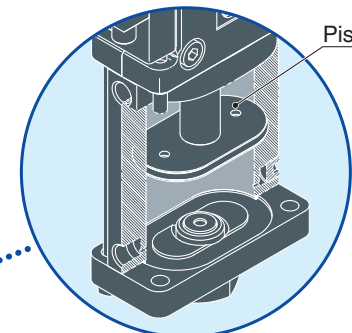
Proximity cassette installation and removal easily accomplished by unfastening a single bolt.

**New** Without switch can also be selected as standard.

Hexagon socket head cover cap screw

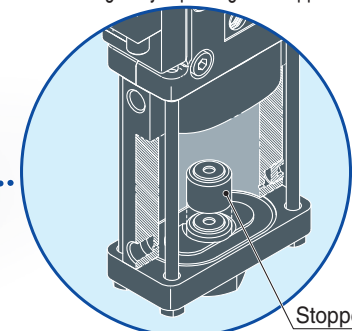
Switch cassette

Piston



Simple arm opening angle changes.

Cylinder disassembly is not necessary. The arm opening angle can be changed by replacing the stopper bolt.



Stopper bolt

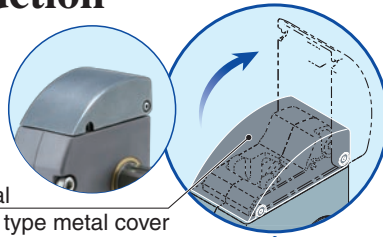
**New**

**Rc port thread as standard**

Series	Clamp body	Bore size			Cylinder port	Unclamped opening angle	Proximity switch	Made to Order specifications			
		50	63	80				Metal cover	Unclamped opening angle 15°	Front mounting	Without switch
<b>New</b> CKZ3N	Aluminum	●	●	—	G,NPT,Rc	15° to 135°	• TURCK • P&F	Standard	Standard	Standard	Standard
CKZ2N	Iron	●	●	●	G,NPT	30° to 135°		●	●	●	●



12 arm variations available for each size.  
Spatter proof construction



Cover: Metal  
Open/close type metal cover

**New**

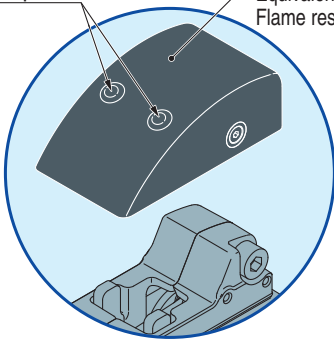
**Metal cover as standard option**

- Suitable for arc welding lines
- Protects the cylinder from unexpected external impact.

Rounded cover design reduces weld spatter accumulation.

Manual toggle release point

Cover: Rubber  
Equivalent to UL94 standard V0:  
Flame resistant



**New**

**Unclamping**

Unclamping angle 15° as standard

**New**

**Aluminum clamping body adopted**

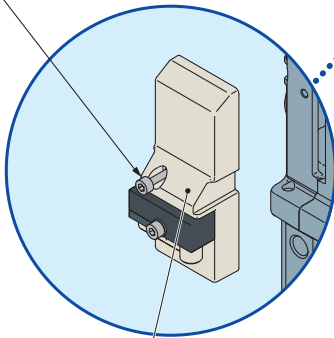
Product weight reduced by up to **39%**

Bore size – opening angle (mm)	<b>New</b> CKZ3T	Conventional model CKZT	Reduction rate
50–135°	<b>3.14kg</b>	5.06kg	<b>37%</b>
63–135°	<b>4.34kg</b>	7.16kg	<b>39%</b>

Proximity cassette installation and removal easily accomplished by unfastening a single bolt.

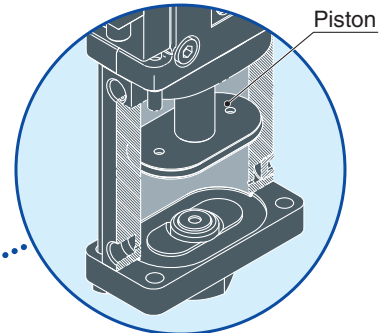
**New** Without switch can also be selected as standard.

Hexagon socket head cover cap screw



Switch cassette

Oval shaped piston makes space saving possible.

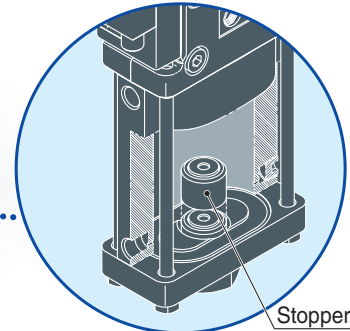


Piston

**New**

**Rc port thread as standard**

Simple arm opening angle changes. Cylinder disassembly is not necessary. The arm opening angle can be changed by replacing the stopper bolt.



Stopper bolt

Series	Clamp body	Bore size				Cylinder port	Unclamped opening angle	Proximity switch	Made to Order specifications						
		40	50	63	80				Small bore size (ø25) clamp cylinder	With angle adjustment	With manually operated handle	With pneumatic sensor	Metal cover	Unclamped opening angle 15°	Without switch
<b>New</b> CKZ3T	Aluminum	—	●	●	—	G,NPT,Rc	15° to 135°	• TURCK • P&F	—	—	—	—	Standard	Standard	Standard
CKZT	Aluminum Iron	●	—	—	—	G,NPT	30° to 135°		●	●	●	●	●	●	●

# Power Clamp Cylinder

Series **CKZ3N**

Series **CKZ3T**

## Manual release

Either rubber cover (equivalent to V0 of UL94) or metal cover can be selected.

## Toggle link mechanism

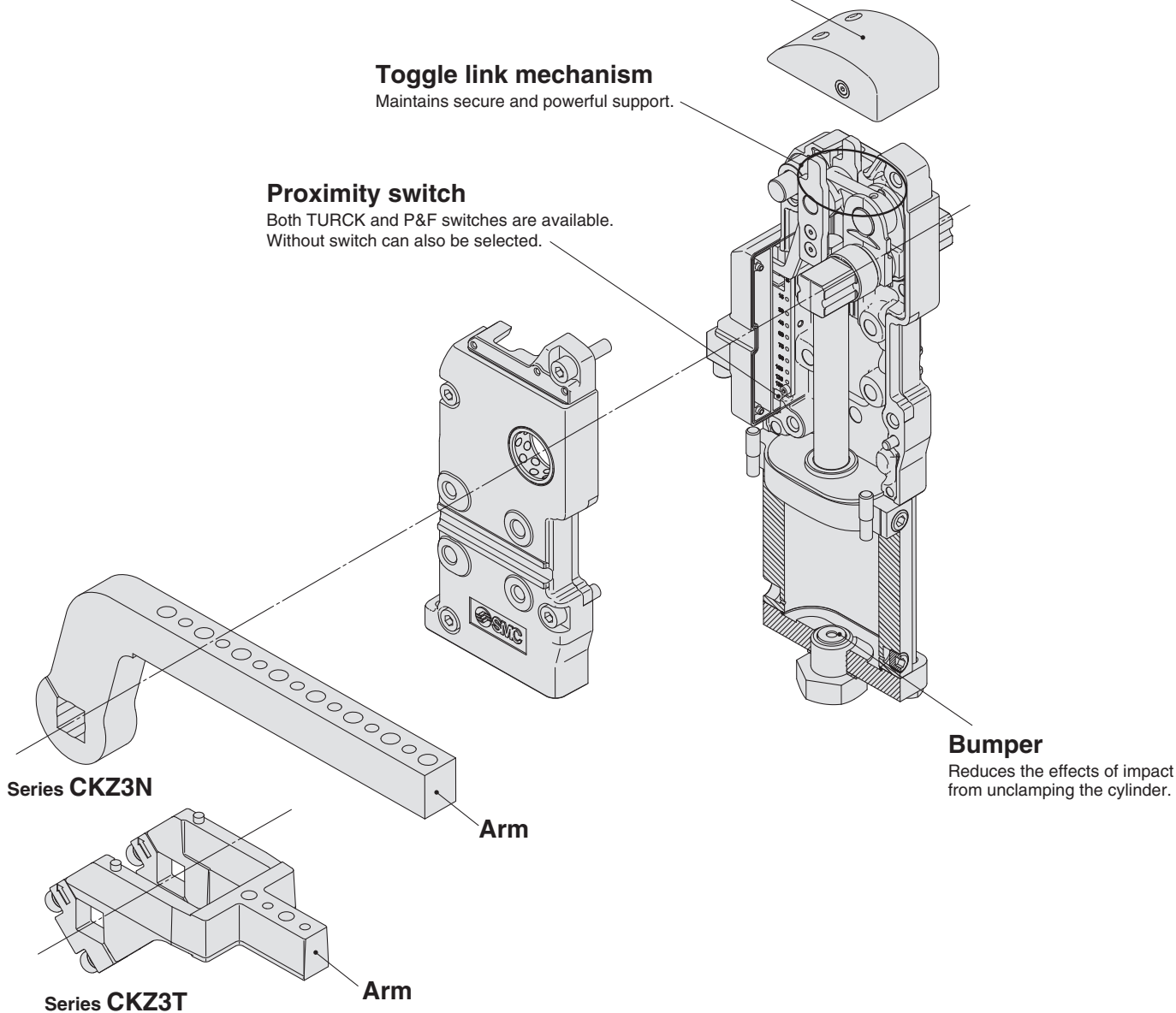
Maintains secure and powerful support.

## Proximity switch

Both TURCK and P&F switches are available. Without switch can also be selected.

## Bumper

Reduces the effects of impact from unclamping the cylinder.



## 3D CAD

Software
CATIA
UNIGRAPHICS
FIDES
AUTO CAD
SOLID WORKS

\* For additional formats, please log on to the SMC web site [www.smcusa.com](http://www.smcusa.com) and click on the E-Tech icon.

## Series Variations

Series	CKZ3N/CKZ3T	
Bore size (mm)	ø50 Equivalent	ø63 Equivalent
Arm opening angle	15°, 30°, 45°, 60°, 75° 90°, 105°, 120°, 135°	
Switch	TURCK/P&F	
Port thread type	NPT/G/Rc	

# Series CKZ3

## Model Selection 1

### 1 Common precautions for each size

- 1) Use air filtered through a 5- $\mu$ m-element filter.
- 2) Before piping is connected to the power clamp cylinder it should be thoroughly flushed with air.
- 3) Only use the clamp arm in our catalog. Do not weld an arm to the cylinder.
- 4) Always use a speed controller, and set it so that **it takes at least 1 second from unclamped to clamped, and at least 1 second from clamped to unclamped.**
- 5) This product is designed to be used after being adjusted using a shim. For this reason, it is set to between 0° to +0.5° at the clamping end as shown in Fig. 1.

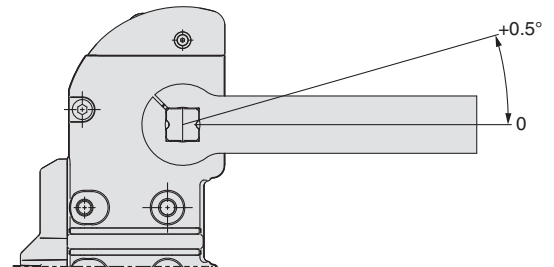
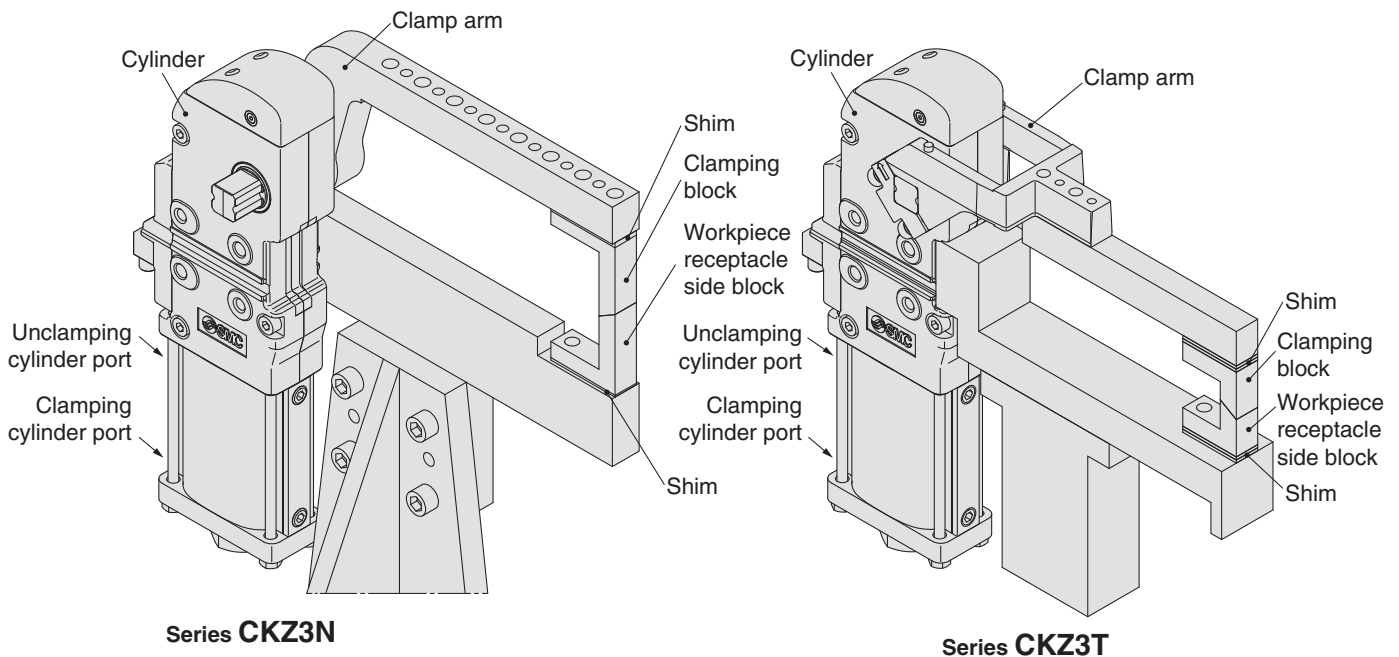


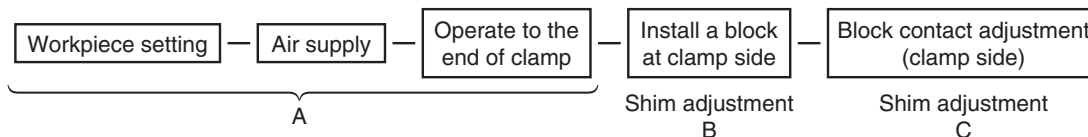
Figure 1

### 2 Power clamp cylinder mounting

- When clamping by using clamping force only (Example)



- Mounting process



- Procedure

- A) Place the workpiece, supply air at clamp side without installing clamping block, operate the clamp arm to the end of clamp.
- B) Under the above conditions, adjust shim so that the space between the workpiece and the clamping block is about 0 mm. Theoretically there is no clamping force for holding a workpiece under this condition.
- C) In order to generate clamping force from the state described in step B, insert additional shim. The thickness of the shim differs depending on the arm length and pressure, so please refer to the graph on front matter 3 as a guide. About 10% error may occur due to the difference in tolerance of the clamp cylinder body.

# Series CKZ3

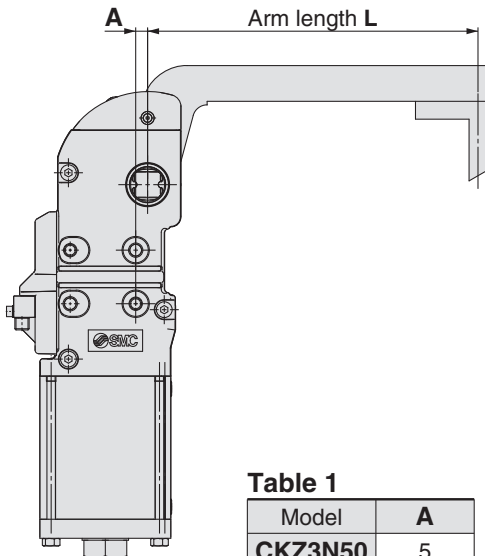
## Model Selection 2

### 2 Power clamp cylinder mounting

#### ■ Relation between shim thickness and clamping force

Note) When a shim that exceeds the clamping force peak plotted on the graph is inserted, the self-locking mechanism doesn't work. Insert a shim with appropriate thickness.

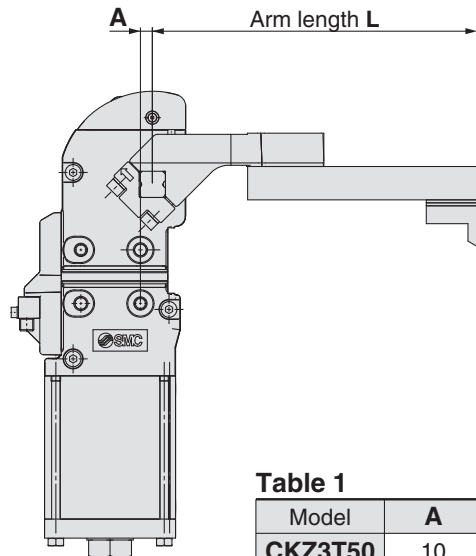
\* Arm length "L" indicates the distance between the clamp arm shaft and the clamping position.  
For distance "A" between knock positioning pinhole and clamp arm shaft, refer to the Table 1.



Series CKZ3N

Table 1

Model	A
CKZ3N50	5
CKZ3N63	10

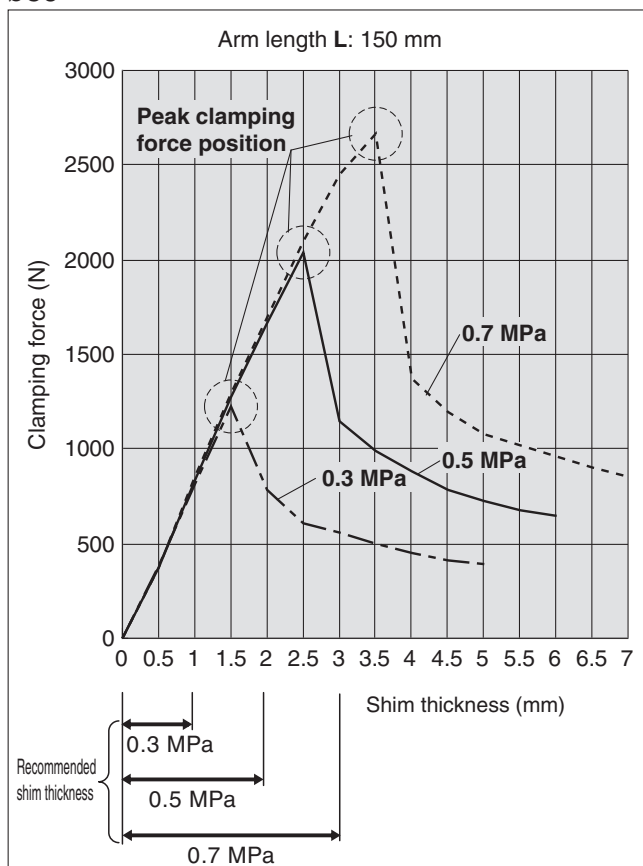


Series CKZ3T

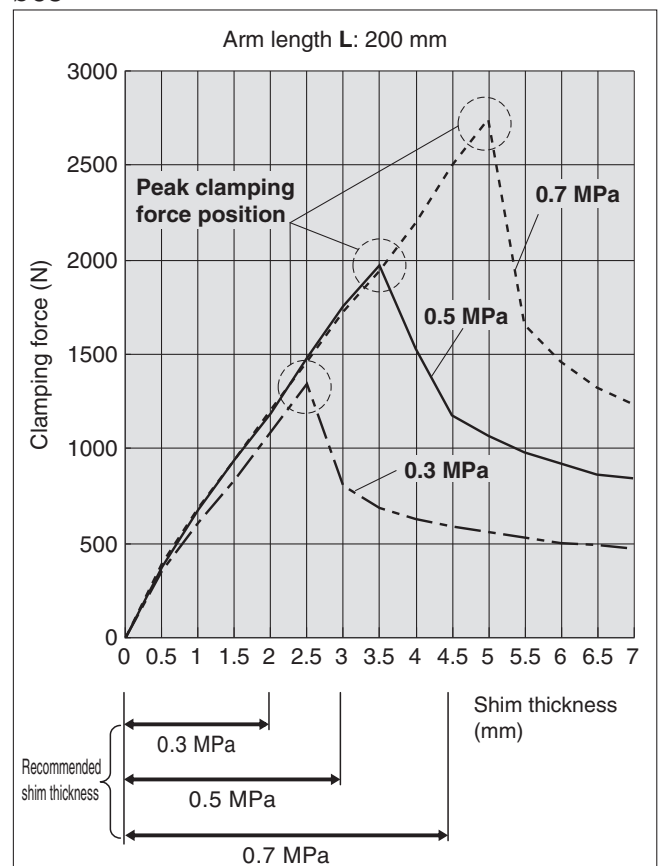
Table 1

Model	A
CKZ3T50	10
CKZ3T63	10

ø50



ø63



## 2 Power clamp cylinder mounting

Model Selection

North American Type

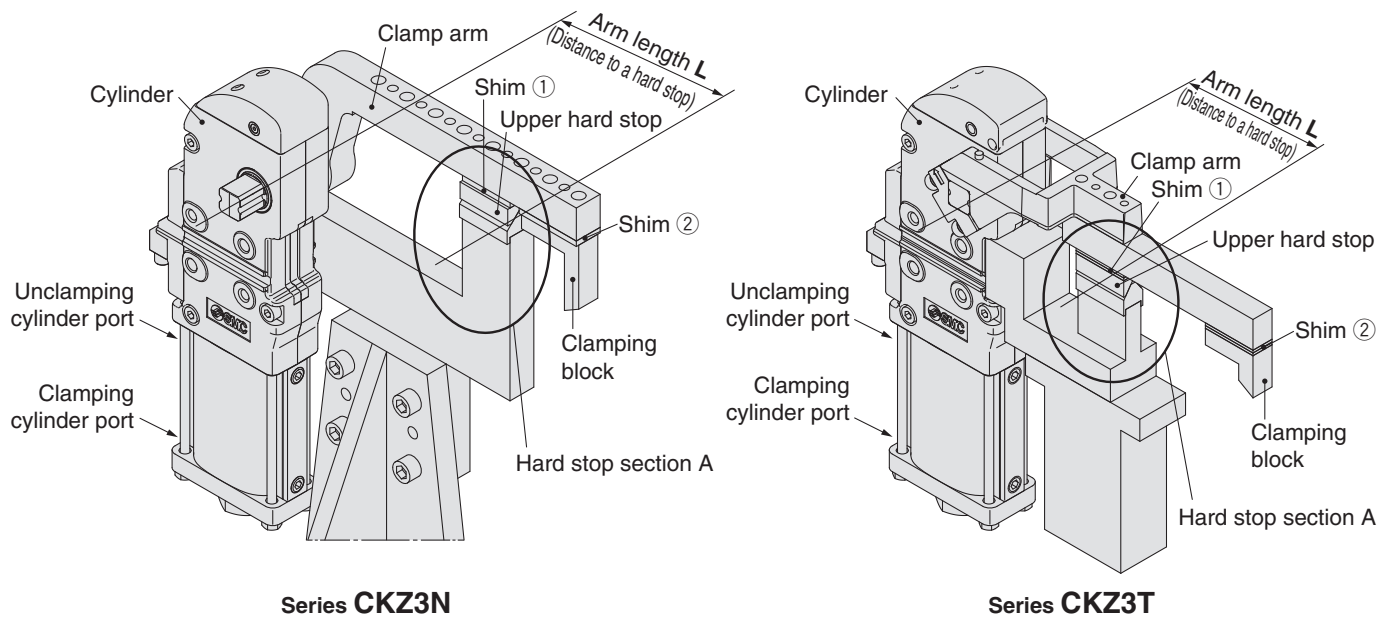
CKZ3N

European Type

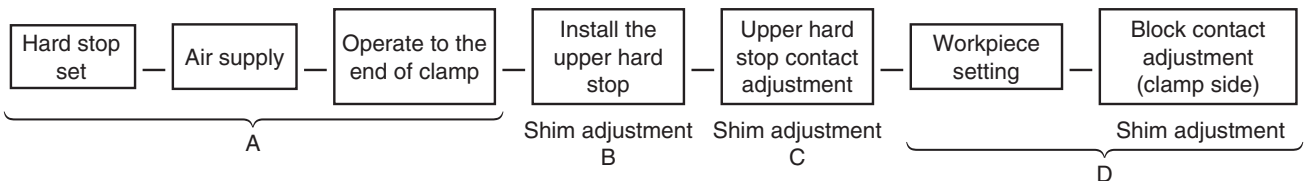
CKZ3T

Made to Order

### ■ When using a hard stop



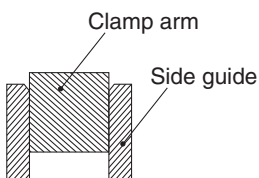
### ■ Mounting process



### ■ Procedure

- Supply air at clamp side without installation of upper hard stop, and operate the clamp arm to the end of clamp.
- Under the above conditions, adjust shim ① so that the space between the upper hard stop and the lower hard stop is about 0 mm. Theoretically there is no clamping force to the lower hard stop under this condition.
- In order to generate clamping force from the state described in step B, insert additional shim. The thickness of the shim differs depending on the arm length and pressure, so please refer to the graph on front matter 3 as a guide. About 10% error may occur due to the difference in tolerance of the power clamp cylinder body.
- Under the state described in step C, adjust shim ② so there is contact between the clamping block and the workpiece.

### ■ When using the side guide



### ■ Precaution

When using the side guide to the clamp arm to prevent lateral motion, make sure not to apply a lateral load or galling to the clamp arm.

# Series CKZ3

## Model Selection 3

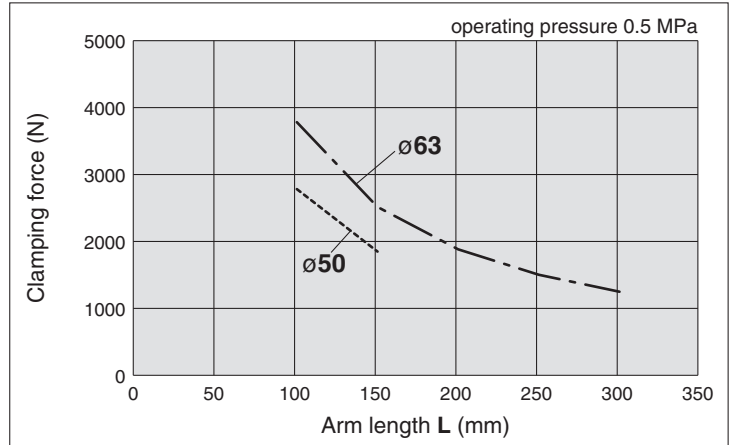
### 3 Clamp arm

Use the clamp arm in the catalog.

The length of the clamp arm "L" should be the length given below or less.

Model	Arm length L
CKZ3N50 CKZ3T50	150 mm
CKZ3N63 CKZ3T63	300 mm

Relation between clamp arm length and maximum clamping force



#### Series CKZ3N

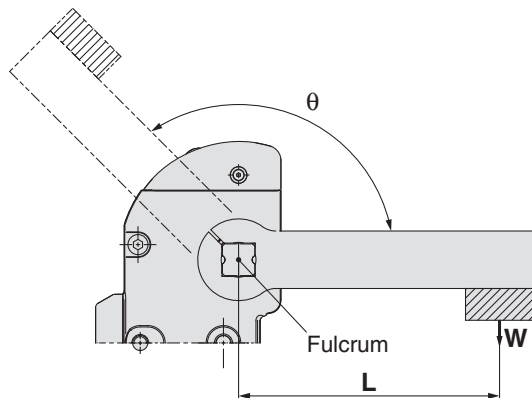
##### Allowable load for clamp arm end

Refer to the graph on front matter 6 for parts weight of the arm.

Note) The value shows parts weight only, it does not include arm weight.

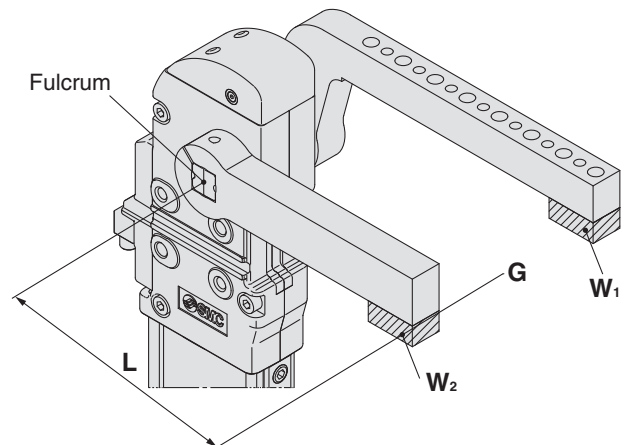
##### Single-side-arm type (R/L)

Use within the allowable arm end load range according to the distance "L" from the fulcrum to the mounting tool's center position and the arm opening angle "θ".



##### Two-side-arm type (D)

Consider the weight of allowable arm end load according to the center position "G" of each arm end load ( $W_1 + W_2$ ), the distance "L" to the fulcrum and the arm opening angle "θ". Use within the allowable range of ( $W_1 + W_2$ ), in this case.

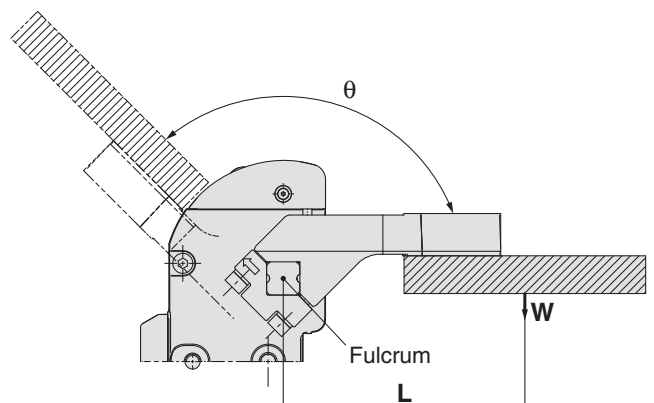


#### Series CKZ3T

##### Allowable load for clamp arm end

Refer to the graph on front matter 6 for parts weight of the arm.

Note) The value shows parts weight only, it does not include arm weight.





### 3 Clamp arm

Model Selection

North American Type

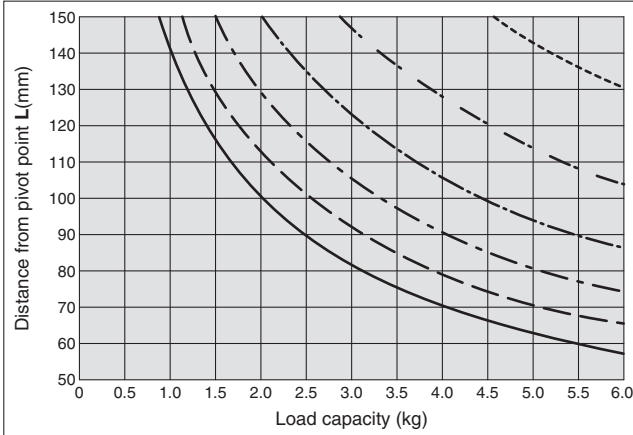
CKZ3N

European Type

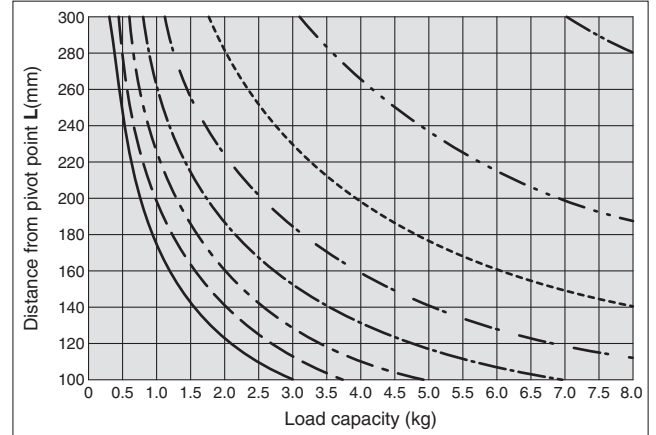
CKZ3T

Made to Order

ø50



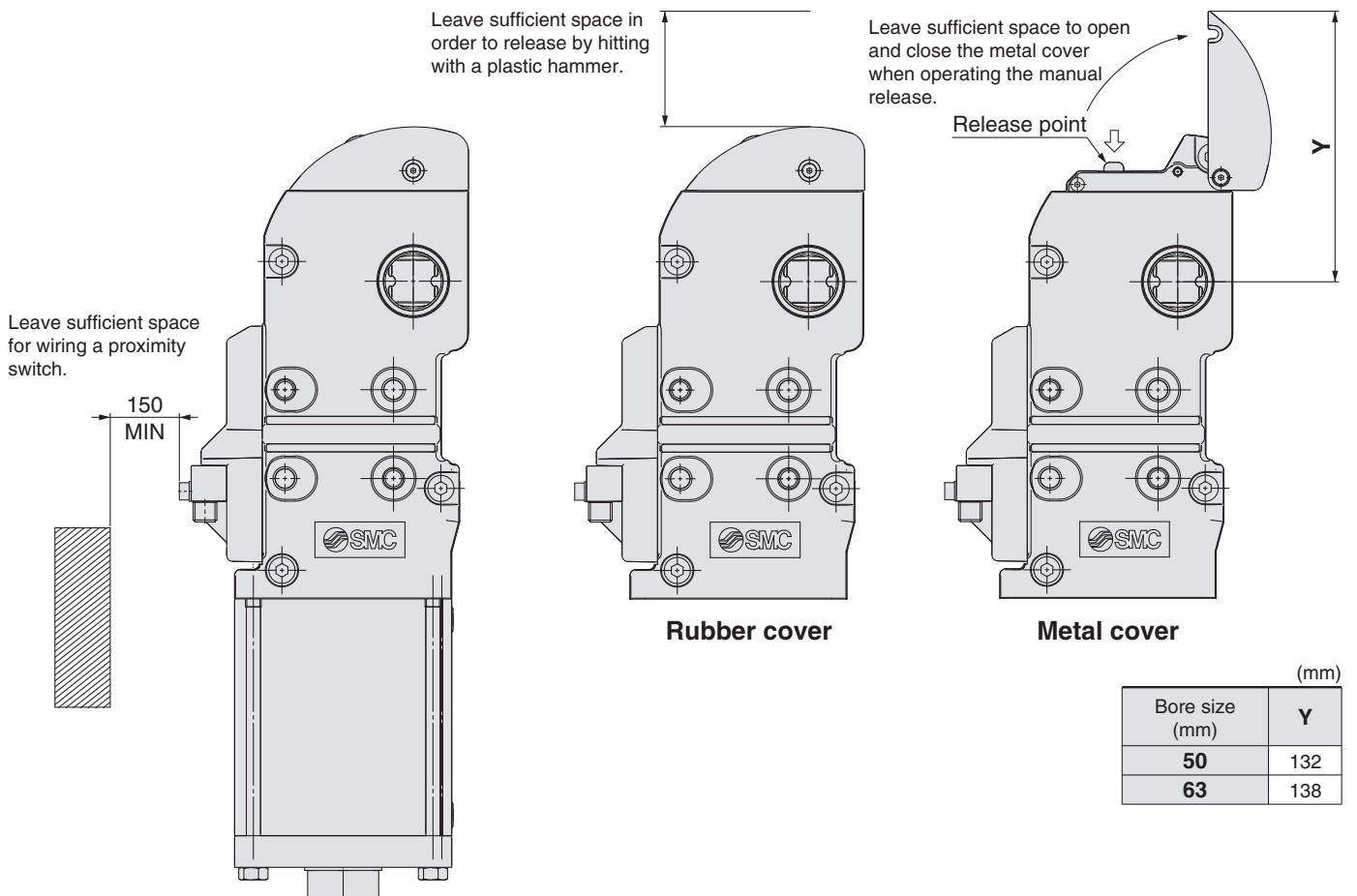
ø63



Arm opening angle $\theta$	-----	-----	-----	-----
	30°	60°	90°	120°
	- - - - -	- - - - -	- - - - -	- - - - -
	45°	75°	105°	135°

### 4 Space in design

Leave sufficient space in the below position.



Bore size (mm)	Y (mm)
50	132
63	138

# Series CKZ3

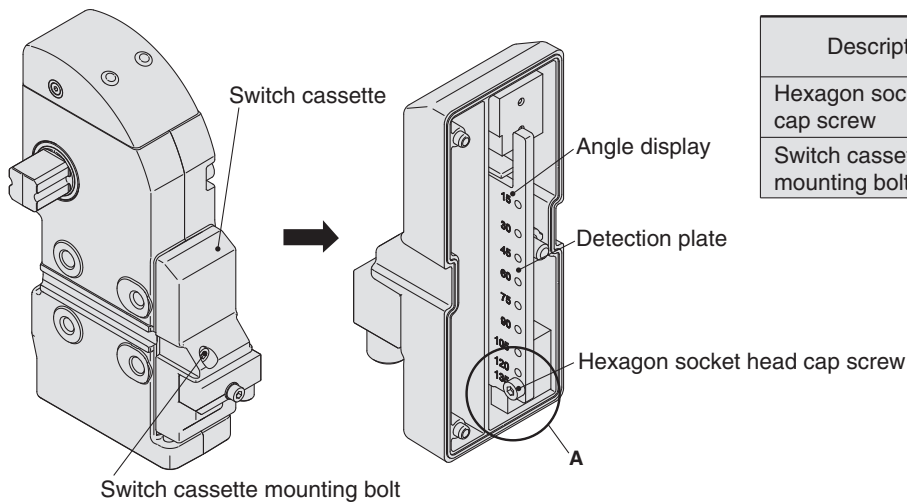
# Model Selection 4

## 5 Arm opening angle change

9 types of arm opening angles (unclamping angles) 15°, 30°, 45°, 60°, 75°, 90°, 105°, 120° and 135° are available for each standard size.

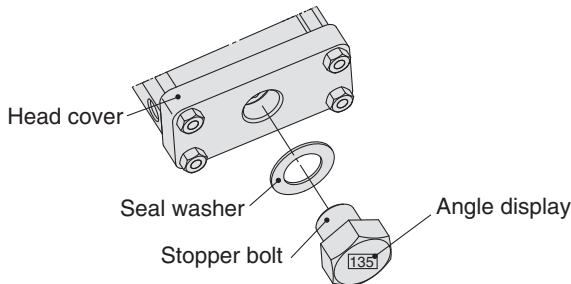
### ■ Arm opening angle change procedure

- 1) When changing the arm opening angle, be sure to operate the cylinder to the clamping end, and confirm that the air inside the cylinder has been exhausted.
- 2) Loosen the switch cassette mounting screw, and remove the switch cassette.
- 3) Remove the hexagon socket head cap screw (part A), and change the position of the screw to the required angle position, and tighten it to the tightening torque shown below.
- 4) Mount the switch cassette to the body, and tighten the switch cassette mounting bolt to the tightening torque shown below.



Description	Bore size (mm)	Tightening torque (N·m)
Hexagon socket head cap screw	50	0.6 to 1.0
	63	0.6 to 1.0
Switch cassette mounting bolt	50	2.6 to 3.5
	63	2.6 to 3.5

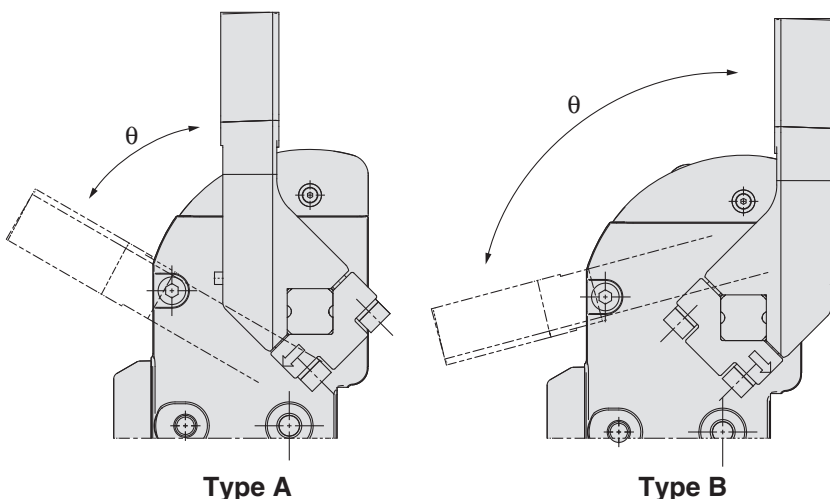
- 5) Remove the stopper bolt of the head cover, and mount a different stopper bolt for other angles using the tightening torque below. When replacing the stopper bolt, fix the head cover securely. If the stopper bolt is replaced without fixing the head cover, the head cover may be displaced, causing air leakage. (Confirm the direction of the angle display.) For the applicable stopper bolt part numbers, refer to page 4 for CKZ3N, and page 15 for CKZ3T.



Description	Bore size (mm)	Tightening torque (N·m)
Stopper bolt	50	130 to 150
	63	160 to 200

## 6 Vertical clamping (CKZ3T only)

When mounting the clamping arm in a vertical clamping position, note that the maximum angle will change.



### Maximum angle $\theta$

Model	Type A	Type B
CKZ3T50	75°	105°
CKZ3T63	60°	105°

# Power Clamp Cylinder Complies to NAAMS standard

## Series **CKZ3N** ø50, ø63

### How to Order



#### Clamp Cylinder (Without Arm)

**CKZ3N 63 TF - 120 R T F M**

Power clamp cylinder  
North American type  
Complies to NAAMS standard  
Aluminum clamp body type

Bore size

50	ø50 Equivalent
63	ø63 Equivalent

Cylinder port

Nil	NPT
TF	G
TP	Rc

Arm opening angle

15	15°
30	30°
45	45°
60	60°
75	75°
90	90°
105	105°
120	120°
135	135°

Top cover

Nil	Rubber cover
M	Metal cover

Front mounting

Nil	No
F	Yes

Proximity switch

T	TURCK
P	P&F
W	None

Arm mounting position

R	L	D
Right	Left	Both sides

\* Refer to Other Clamp Cylinders on page 12 for ø80.

#### Arm

**CKZ - 63 A002**

Power clamp cylinder  
North American type

Bore size

50	ø50 Equivalent
63	ø63 Equivalent

Arm code

(Refer to page 3 and 8 through to 11.)



Arm mounted

Model Selection

North American Type

CKZ3N

European Type

CKZ3T

Made to Order

# Series CKZ3N

## Cylinder Specifications

Bore size	ø50 Equivalent	ø63 Equivalent
Action	Double acting	
Fluid	Air	
Proof pressure	1.2 MPa	
Max. operating pressure	0.8 MPa	
Min. operating pressure	0.3 MPa	
Ambient and fluid temperature	-10 to 60° (No freezing)	
Cushion	Clamping side: None Unclamping side: Rubber bumper	
Min. operating time	1.0 second to clamp, 1.0 second to unclamp	

## Weight (Cylinder Without Arm)

Unit: kg

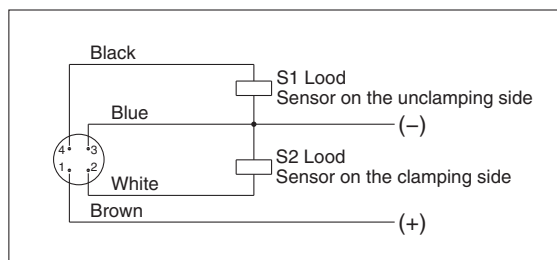
Bore size (mm)	Arm position	Arm angle								
		15°	30°	45°	60°	75°	90°	105°	120°	135°
50	R/L	3.31	3.29	3.27	3.25	3.23	3.21	3.20	3.18	3.17
	D	3.37	3.34	3.32	3.31	3.29	3.27	3.25	3.23	3.22
63	R/L	4.58	4.55	4.52	4.49	4.46	4.43	4.40	4.38	4.36
	D	4.67	4.64	4.61	4.58	4.55	4.52	4.49	4.47	4.45

## Switch Specifications

Manufacturer	TURCK	P&F
Operating range	2 mm ±10%	2 mm ±10%
Supply voltage	10 to 30 VDC	10 to 30 VDC
Output	N.O., PNP	N.O., PNP
Continuous load current	150 mA	100 mA
Response frequency	30 Hz	25 Hz
Housing material	PBT	PA6, PBT
Output indication	Clamping side: Red Unclamping side: Yellow	Clamping side: Red Unclamping side: Yellow
Voltage indication	Green	Green

Note) Switch specifications are corresponding to manufacturer's technical information.

## Wiring Diagram



Note) Both TURCK and P&F are common.

**Arm Code**

Bore size	SMC Part Number	Arm code	NAAMS code
50	CKZ-50A001	A001	ACA201M
	CKZ-50A002	A002	ACA202M
	CKZ-50A003	A003	ACA203M
	CKZ-50A004	A004	ACA206M
	CKZ-50A005	A005	ACA207M
	CKZ-50A006	A006	ACA208M
	CKZ-50A007	A007	ACA211M
	CKZ-50A008	A008	ACA212M
	CKZ-50A009	A009	ACA213M
	CKZ-50A010	A010	ACA216M
	CKZ-50A011	A011	ACA217M
	CKZ-50A012	A012	ACA218M
	CKZ-50A013	A013	ACA221M
	CKZ-50A014	A014	ACA222M
	CKZ-50A015	A015	ACA223M
	CKZ-50A016	A016	ACA226M
	CKZ-50A017	A017	ACA227M
	CKZ-50A018	A018	ACA228M
	CKZ-50A019	A019	ACA236M
	CKZ-50A020	A020	ACA237M
	CKZ-50A021	A021	ACA238M
	CKZ-50A022	A022	ACA246M
	CKZ-50A023	A023	ACA247M
	CKZ-50A024	A024	ACA248M
	CKZ-50A025	A025	ACA256M
	CKZ-50A026	A026	ACA257M
	CKZ-50A027	A027	ACA258M

Bore size	SMC Part Number	Arm code	NAAMS code
63	CKZ-63A001	A001	ACA001M
	CKZ-63A002	A002	ACA002M
	CKZ-63A003	A003	ACA003M
	CKZ-63A004	A004	ACA004M
	CKZ-63A005	A005	ACA005M
	CKZ-63A006	A006	ACA006M
	CKZ-63A007	A007	ACA007M
	CKZ-63A008	A008	ACA008M
	CKZ-63A009	A009	ACA009M
	CKZ-63A010	A010	ACA010M
	CKZ-63A011	A011	ACA011M
	CKZ-63A012	A012	ACA012M
	CKZ-63A013	A013	ACA013M
	CKZ-63A014	A014	ACA014M
	CKZ-63A015	A015	ACA015M
	CKZ-63A016	A016	ACA016M
	CKZ-63A017	A017	ACA017M
	CKZ-63A018	A018	ACA018M
	CKZ-63A019	A019	ACA019M
	CKZ-63A020	A020	ACA020M
	CKZ-63A021	A021	ACA021M
	CKZ-63A022	A022	ACA022M
	CKZ-63A023	A023	ACA023M
	CKZ-63A024	A024	ACA024M
	CKZ-63A025	A025	ACA025M
	CKZ-63A026	A026	ACA026M
	CKZ-63A027	A027	ACA027M
	CKZ-63A028	A028	ACA028M
	CKZ-63A029	A029	ACA029M
	CKZ-63A030	A030	ACA030M
	CKZ-63A031	A031	ACA031M
	CKZ-63A032	A032	ACA032M
	CKZ-63A033	A033	ACA033M
	CKZ-63A034	A034	ACA034M
	CKZ-63A035	A035	ACA035M
	CKZ-63A036	A036	ACA036M
	CKZ-63A037	A037	ACA037M
	CKZ-63A038	A038	ACA038M
	CKZ-63A039	A039	ACA039M
	CKZ-63A040	A040	ACA040M
	CKZ-63A041	A041	ACA041M
	CKZ-63A042	A042	ACA042M
	CKZ-63A043	A043	ACA043M
	CKZ-63A044	A044	ACA044M
	CKZ-63A045	A045	ACA045M
	CKZ-63A046	A046	ACA046M
	CKZ-63A047	A047	ACA047M
	CKZ-63A048	A048	ACA048M

Model Selection

North American Type

CKZ3N

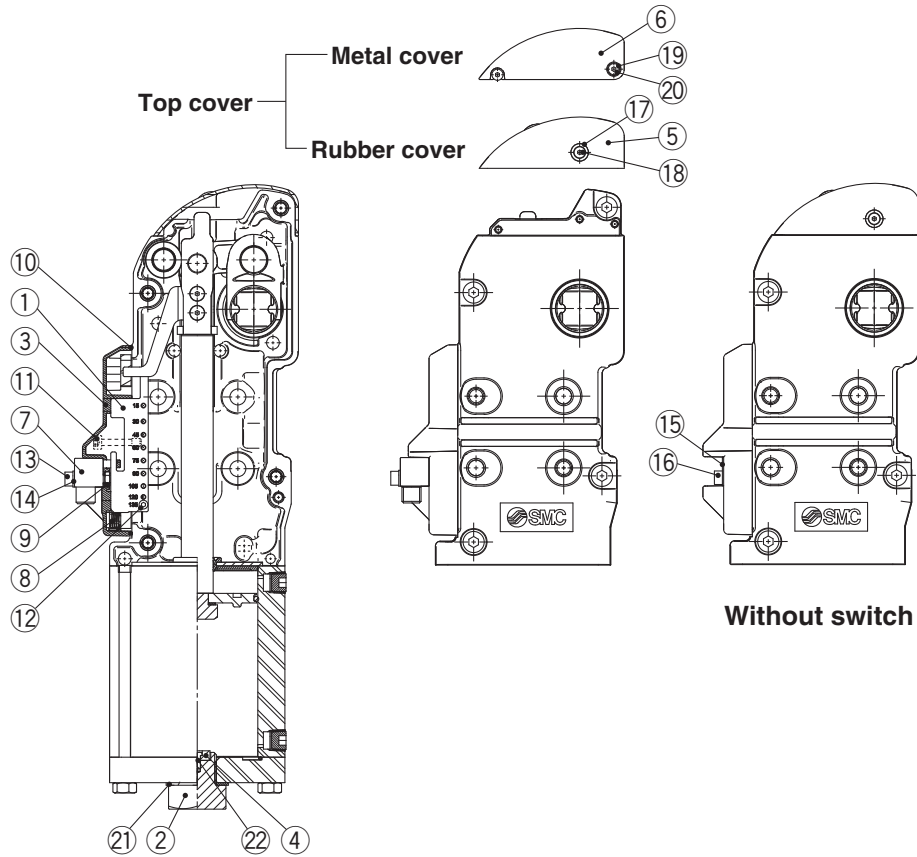
European Type

CKZ3T

Made to Order

# Series CKZ3N

## Construction



### Component parts

No.	Description
1	Detection plate
2	Stopper bolt
3	Switch holder
4	Bumper
5	Top cover
6	Metal cover
7	Proximity switch
8	Helical torsion spring
9	Hexagon nut type 3
10	Switch holder gasket
11	Hexagon socket head cover cap screw
12	Hexagon socket head cover cap screw
13	Hexagon socket head cap screw
14	Small round flat washer
15	Switch holder cover
16	Hexagon socket head cap screw
17	Spacer
18	Short head cap screw
19	Metal washer
20	Short head cap screw
21	Seal washer
22	Bumper stopper

Table 1

Opening angle	Code
15°	J
30°	H
45°	G
60°	F
75°	E
90°	D
105°	C
120°	B
135°	A

### Replaceable kits list

Description	Bore size (mm)	Kit no.	Contents
Switch kits	50	CKZ3N-S050T <small>Note 1)</small>	③Switch holder ⑦Proximity switch (TURCK) ⑧Helical torsion spring ⑨Hexagon nut type 3 ⑩Switch holder gasket ⑪Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
		CKZ3N-S063T <small>Note 1)</small>	①Detection plate ⑫Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
	50	CKZ3N-S050P <small>Note 1)</small>	③Switch holder ⑦Proximity switch (P&F) ⑧Helical torsion spring ⑨Hexagon nut type 3 ⑩Switch holder gasket ⑪Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
		CKZ3N-S063P <small>Note 1)</small>	①Detection plate ⑫Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
	50	CKZ3N-S050W <small>Note 1)</small>	③Switch holder ⑮Switch holder cover ⑨Hexagon nut type 3 ⑩Switch holder gasket ⑪Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
		CKZ3N-S063W <small>Note 1)</small>	①Detection plate ⑫Hexagon socket head cover cap screw ⑬Hexagon socket head cap screw ⑭Small round flat washer
Stopper bolt kits	50	CKZ3N-B050 <small>Note 2)</small>	②Stopper bolt ⑳Seal washer
	63	CKZ3N-B063 <small>Note 2)</small>	④Bumper ㉒Bumper stopper
Top cover kits	50	CKZ2N-T050	⑤Rubber cover ⑰Spacer ⑱Short head cap screw
	63	CKZ2N-T063	⑤Rubber cover ⑰Spacer ⑱Short head cap screw
	50	CKZ3N-T050M	⑥Metal cover ⑲Metal washer ⑳Short head cap screw
	63	CKZ3N-T063M	⑥Metal cover ⑲Metal washer ⑳Short head cap screw

Note 1) T=TURCK, P=P&F, W=Without switch Note 2) Please specify the opening angle by the code in Table 1.

## Allowable Locking Moment

Bore size (mm)	Allowable locking moment N·m
<b>50</b>	800
<b>63</b>	1500

\* The moment when the clamp arm is locked at the time of air release in the clamped state.

## Maximum Clamping Moment

Unit: N·m

Bore size (mm)	Max. clamping moment					
	0.3 MPa	0.4 MPa	0.5 MPa	0.6 MPa	0.7 MPa	0.8 MPa
<b>50</b>	100	130	160	190	220	250
<b>63</b>	300	350	400	450	500	550

## Cylinder Stroke

Unit: mm

Bore size (mm)	Arm opening angle								
	15°	30°	45°	60°	75°	90°	105°	120°	135°
<b>50</b>	22.7	31.9	39.7	47.2	54.8	62.7	70.4	77.2	82.1
<b>63</b>	24.2	34.2	42.6	50.6	58.7	66.9	74.8	81.6	86.4

Model Selection

North American Type

CKZ3N

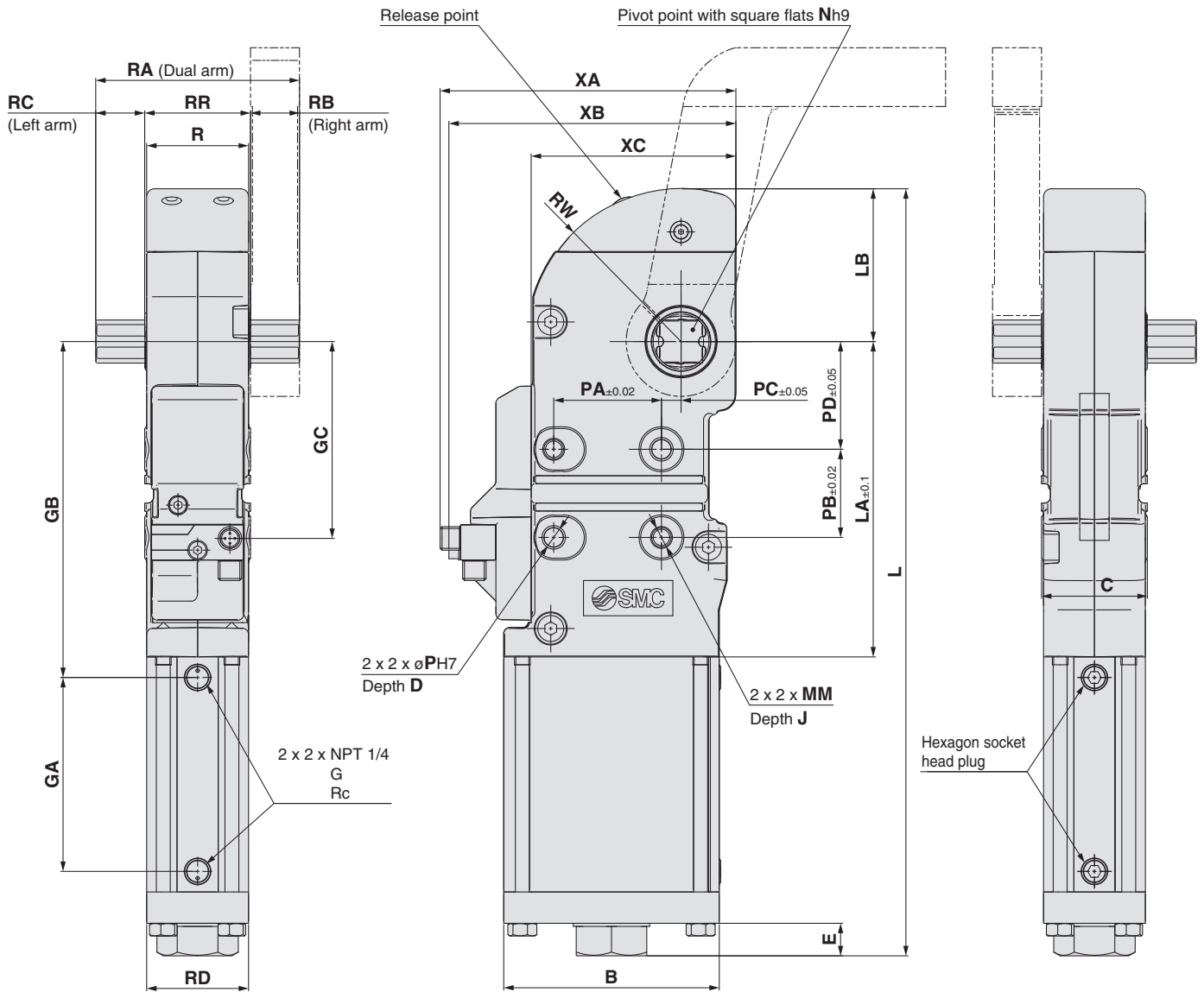
European Type

CKZ3T

Made to Order

# Series CKZ3N

## Dimensions



(mm)

Bore size (mm)	B	C	D	E	GA	GB	GC	J	L	LA	LB	MM	N	P
50	92	48	12	13.7	95	166	95.5	12	376.6	155.5	78.4	M8 x 1.25	19	8
63	110	54	15	16.6	99	171.5	100.5	12	391.6	161	78	M10 x 1.5	22	10

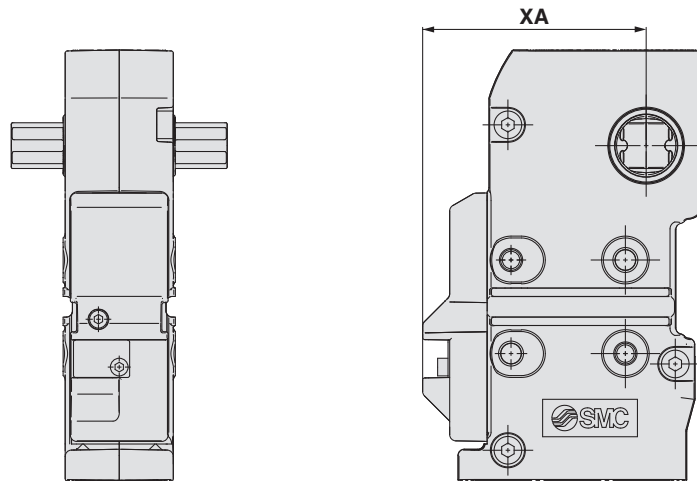
  

Bore size (mm)	PA	PB	PC	PD	R	RA	RB	RC	RD	RR	W	XA	XB	XC
50	45	45	5	40	46	88	20	20	46	48	78.4	138.5	134	92
63	55	45	10	55	52	104	25	25	52	54	78	151	146.5	104.5



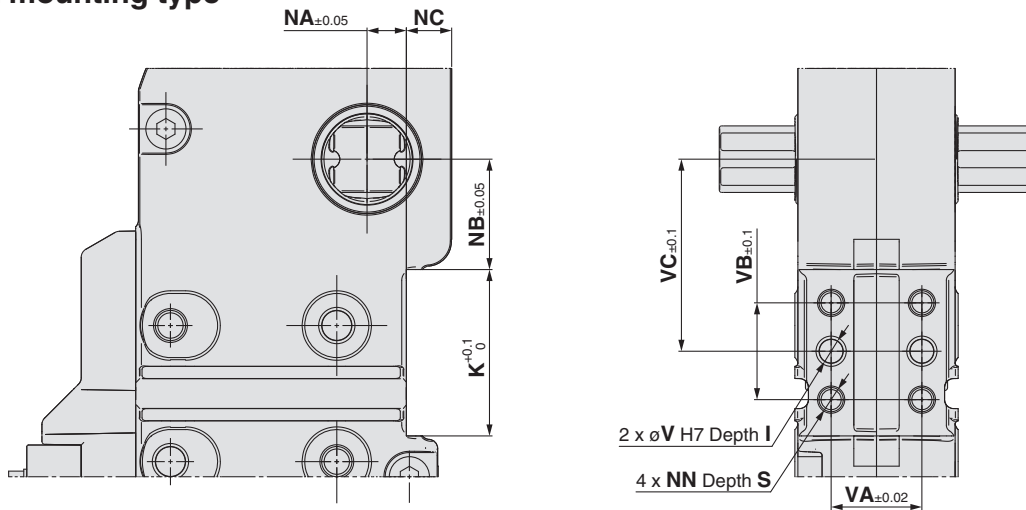
## Dimensions

### Without switch



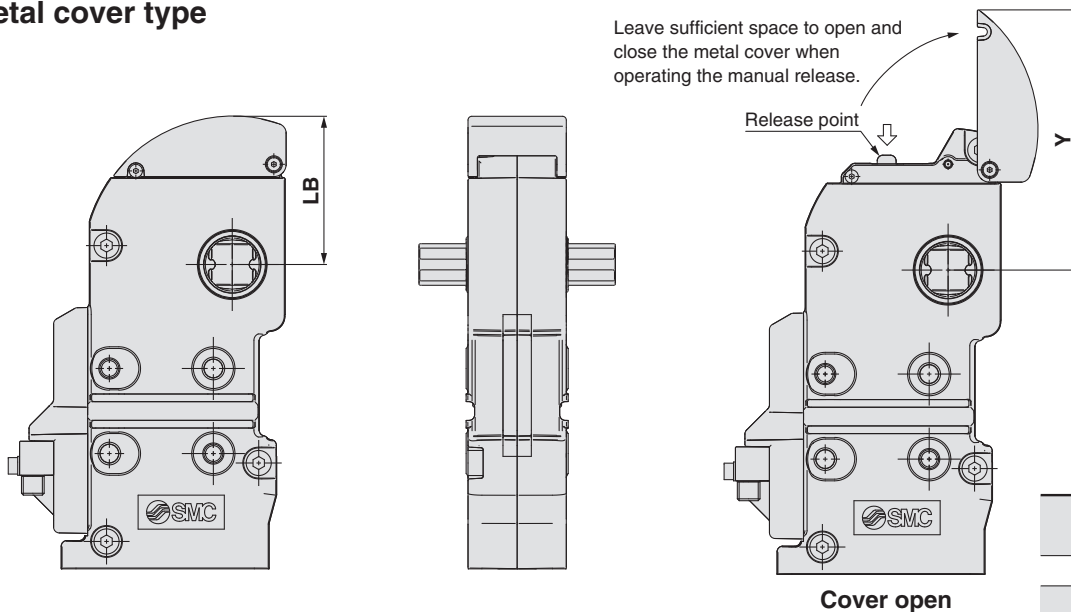
(mm)	
Bore size (mm)	XA
50	100.5
63	107.5

### Front mounting type



(mm)											
Bore size (mm)	I	K	NA	NB	NC	NN	S	V	VA	VB	VC
50	12	55	13	36.5	9.5	M8 x 1.25	11	8	30	32	63.5
63	15	55	13	36.5	15	M8 x 1.25	13	8	30	32	63.5

### Metal cover type

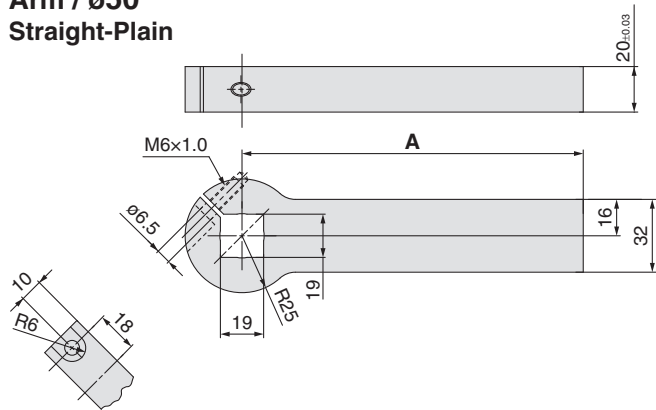


(mm)		
Bore size (mm)	LB	Y
50	78.4	132
63	78.4	138

# Series CKZ3N

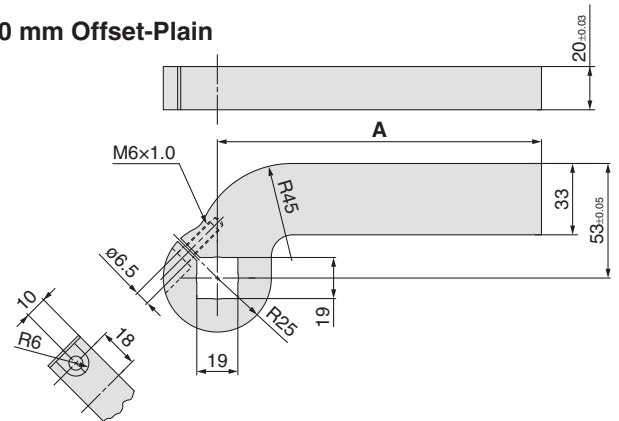
## Dimensions

### Arm / $\phi 50$ Straight-Plain



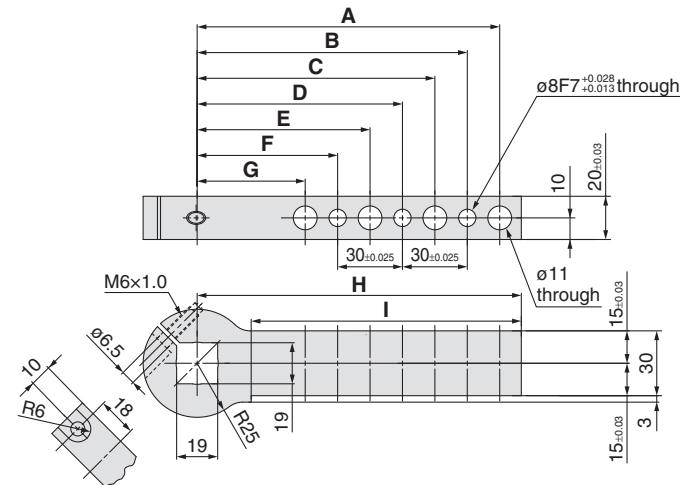
Part no.	NAAMS code	A	Weight kg
CKZ-50A001	ACA201M	90.0	0.6
CKZ-50A002	ACA202M	120.0	0.7
CKZ-50A003	ACA203M	150.0	0.9

### 20 mm Offset-Plain



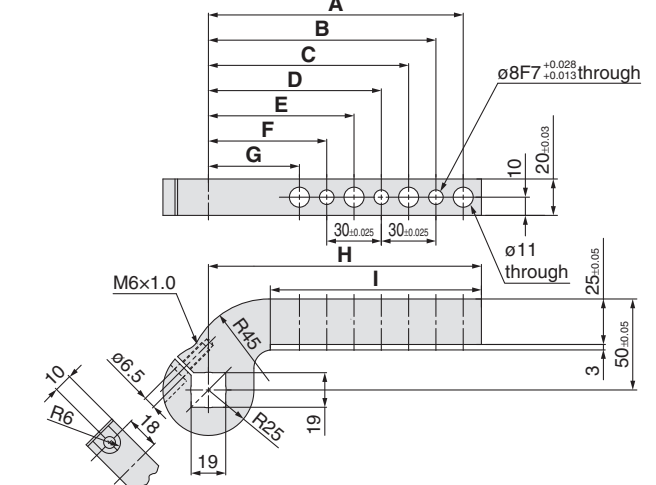
Part no.	NAAMS code	A	Weight kg
CKZ-50A007	ACA211M	90.0	0.7
CKZ-50A008	ACA212M	120.0	0.8
CKZ-50A009	ACA213M	150.0	1.0

### Straight-Machined



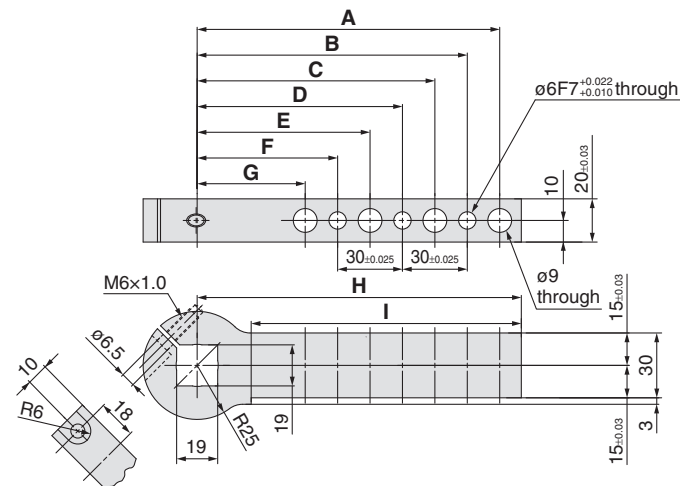
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg
CKZ-50A004	ACA206M	80.0	65.0	50.0	—	—	—	—	90.0	65.0	0.5
CKZ-50A005	ACA207M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	95.0	0.6
CKZ-50A006	ACA208M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	125.0	0.7

### 25 mm Offset-Machined



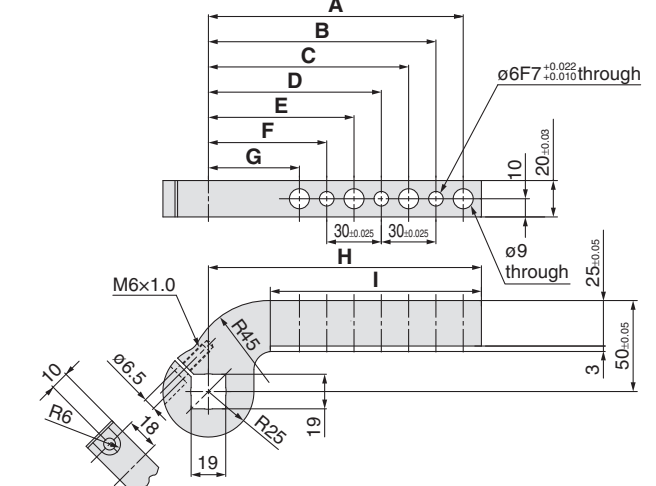
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg
CKZ-50A010	ACA216M	80.0	65.0	50.0	—	—	—	—	90.0	56.0	0.5
CKZ-50A011	ACA217M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	86.0	0.6
CKZ-50A012	ACA218M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.7

### Straight-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg
CKZ-50A019	ACA236M	80.0	65.0	50.0	—	—	—	—	90.0	65.0	0.5
CKZ-50A020	ACA237M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	95.0	0.6
CKZ-50A021	ACA238M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	125.0	0.7

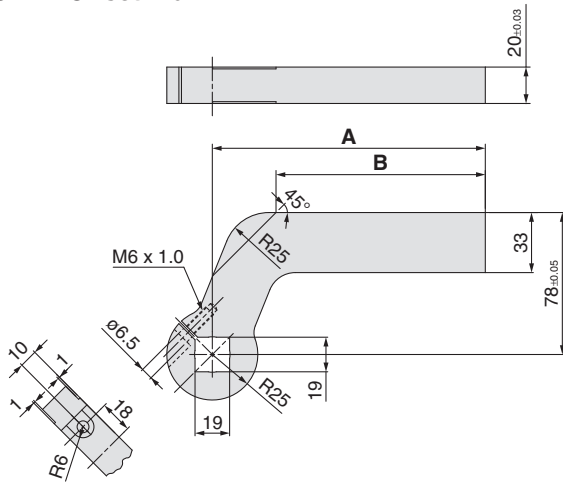
### 25 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg
CKZ-50A022	ACA246M	80.0	65.0	50.0	—	—	—	—	90.0	56.0	0.5
CKZ-50A023	ACA247M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	86.0	0.6
CKZ-50A024	ACA248M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.7

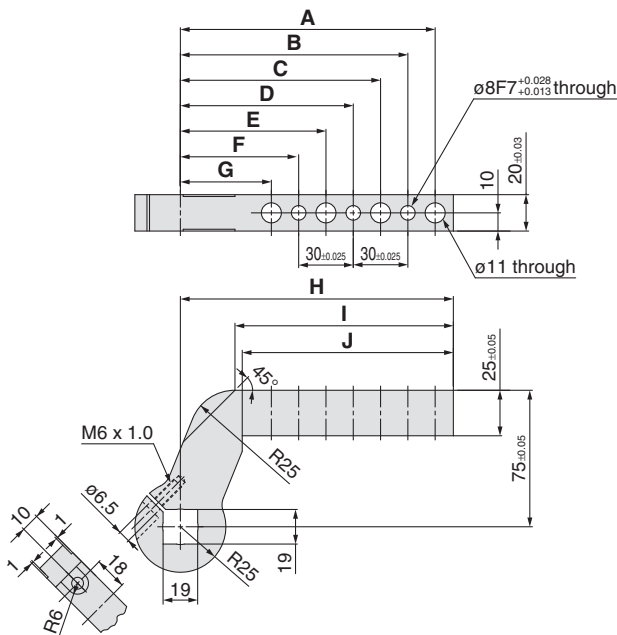
## Dimensions

### 45 mm Offset-Plain



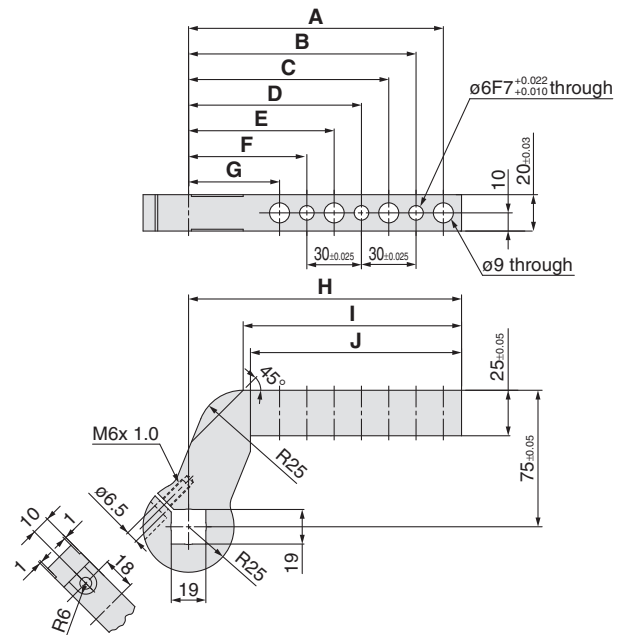
Part no.	NAAMS code	A	B	Weight kg
CKZ-50A013	ACA221M	90.0	55.0	0.8
CKZ-50A014	ACA222M	120.0	85.0	0.9
CKZ-50A015	ACA223M	150.0	115.0	1.1

### 50 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	Weight kg
CKZ-50A016	ACA226M	80.0	65.0	50.0	—	—	—	—	90.0	60.0	56.0	0.6
CKZ-50A017	ACA227M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	90.0	86.0	0.7
CKZ-50A018	ACA228M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	120.0	116.0	0.8

### 50 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	Weight kg
CKZ-50A025	ACA256M	80.0	65.0	50.0	—	—	—	—	90.0	60.0	56.0	0.6
CKZ-50A026	ACA257M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	90.0	86.0	0.7
CKZ-50A027	ACA258M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	120.0	116.0	0.8

Model Selection

North American Type

CKZ3N

European Type

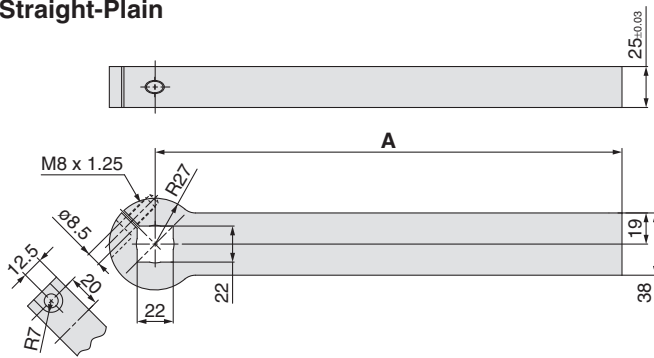
CKZ3T

Made to Order

# Series CKZ3N

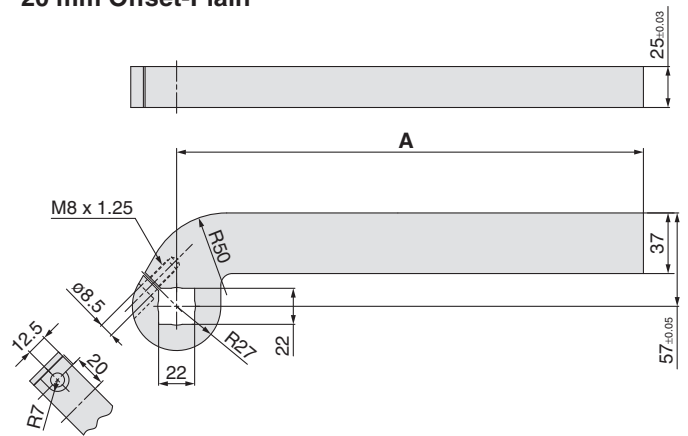
## Dimensions

### Arm / $\phi 63$ Straight-Plain



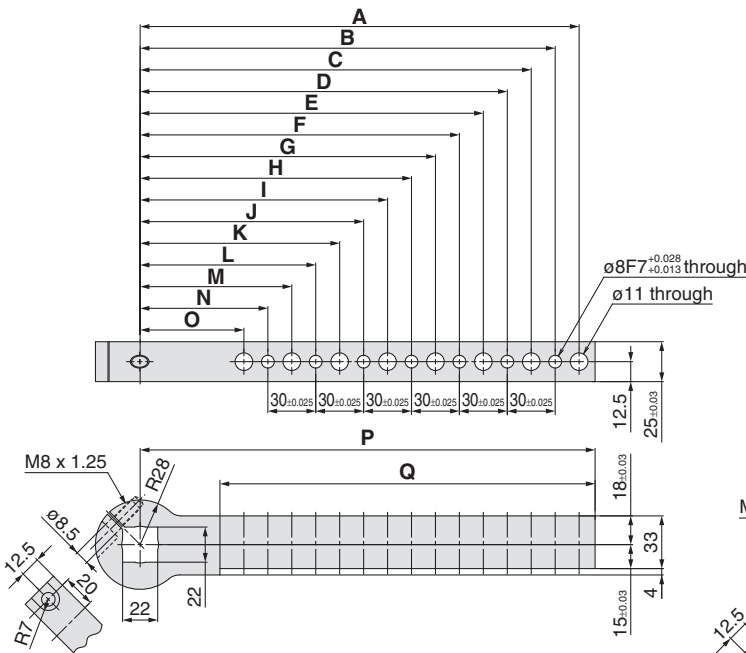
Part no.	NAAMS code	A	Weight kg
CKZ-63A001	ACA001M	135.0	1.2
CKZ-63A002	ACA002M	165.0	1.4
CKZ-63A003	ACA003M	195.0	1.6
CKZ-63A004	ACA004M	225.0	1.8
CKZ-63A005	ACA005M	255.0	2.1
CKZ-63A006	ACA006M	285.0	2.3

### 20 mm Offset-Plain



Part no.	NAAMS code	A	Weight kg
CKZ-63A013	ACA013M	135.0	1.4
CKZ-63A014	ACA014M	165.0	1.6
CKZ-63A015	ACA015M	195.0	1.8
CKZ-63A016	ACA016M	225.0	2.0
CKZ-63A017	ACA017M	255.0	2.2
CKZ-63A018	ACA018M	285.0	2.4

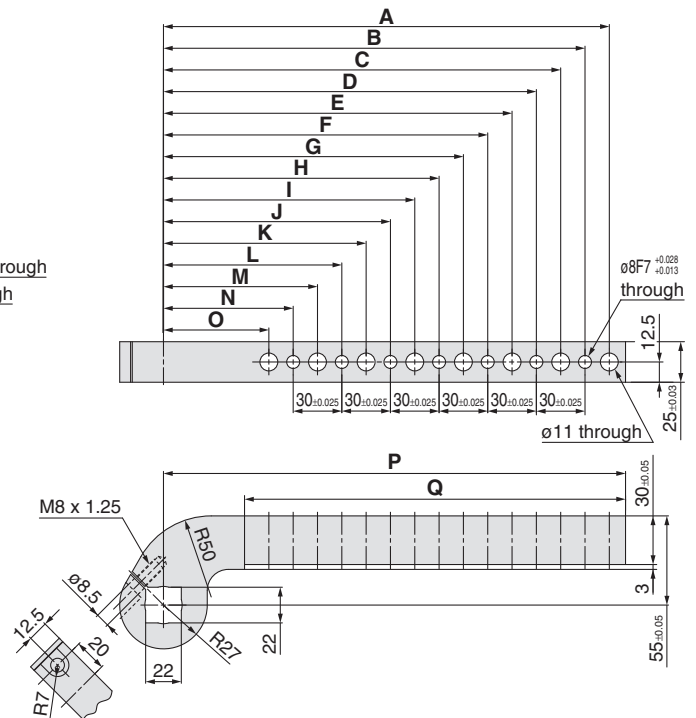
### Straight-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I
CKZ-63A007	ACA007M	125.0	110.0	95.0	80.0	65.0	—	—	—	—
CKZ-63A008	ACA008M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—	—
CKZ-63A009	ACA009M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
CKZ-63A010	ACA010M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0
CKZ-63A011	ACA011M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0
CKZ-63A012	ACA012M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0

Part no.	NAAMS code	J	K	L	M	N	O	P	Q	Weight kg
CKZ-63A007	ACA007M	—	—	—	—	—	—	135.0	85.0	1.0
CKZ-63A008	ACA008M	—	—	—	—	—	—	165.0	115.0	1.2
CKZ-63A009	ACA009M	—	—	—	—	—	—	195.0	145.0	1.4
CKZ-63A010	ACA010M	80.0	65.0	—	—	—	—	225.0	175.0	1.5
CKZ-63A011	ACA011M	110.0	95.0	80.0	65.0	—	—	255.0	205.0	1.7
CKZ-63A012	ACA012M	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	1.9

### 25 mm Offset-Machined

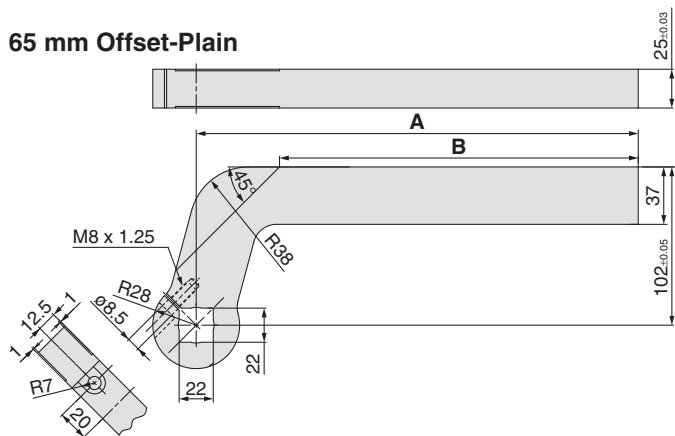


Part no.	NAAMS code	A	B	C	D	E	F	G	H	I
CKZ-63A019	ACA019M	125.0	110.0	95.0	80.0	65.0	—	—	—	—
CKZ-63A020	ACA020M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—	—
CKZ-63A021	ACA021M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
CKZ-63A022	ACA022M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0
CKZ-63A023	ACA023M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0
CKZ-63A024	ACA024M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0

Part no.	NAAMS code	J	K	L	M	N	O	P	Q	Weight kg
CKZ-63A019	ACA019M	—	—	—	—	—	—	135.0	85.0	1.3
CKZ-63A020	ACA020M	—	—	—	—	—	—	165.0	115.0	1.5
CKZ-63A021	ACA021M	—	—	—	—	—	—	195.0	145.0	1.6
CKZ-63A022	ACA022M	80.0	65.0	—	—	—	—	225.0	175.0	1.7
CKZ-63A023	ACA023M	110.0	95.0	80.0	65.0	—	—	255.0	205.0	1.9
CKZ-63A024	ACA024M	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	2.1

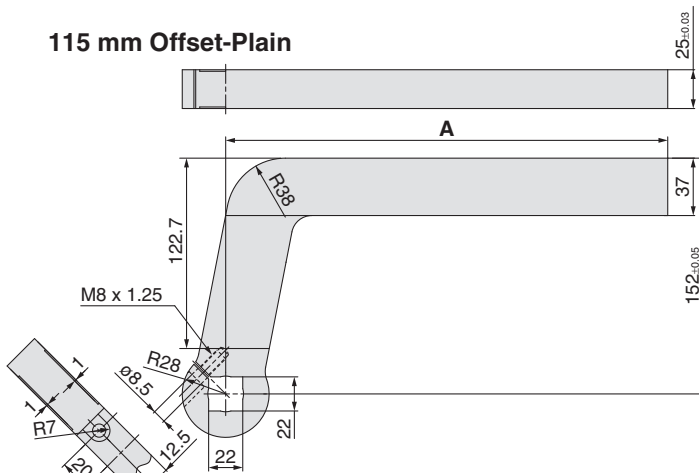
**Dimensions**

**65 mm Offset-Plain**



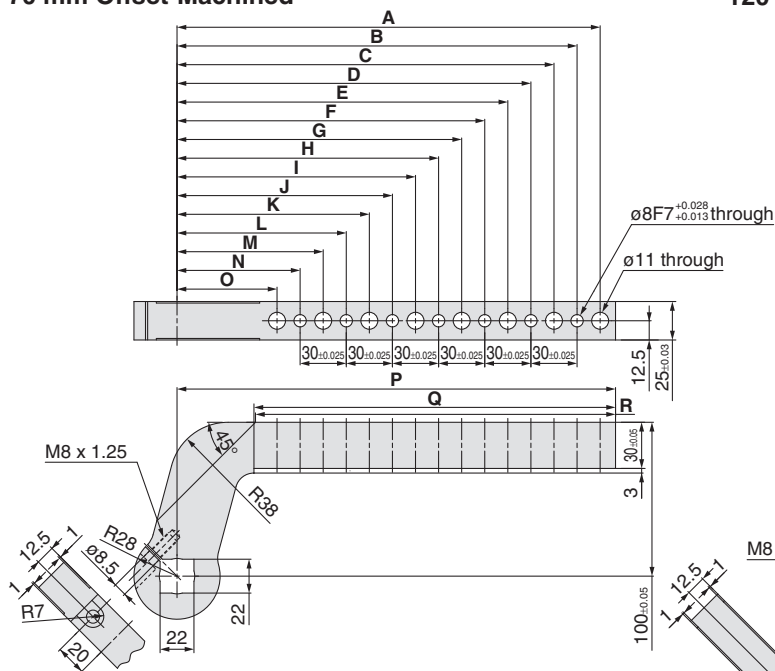
Part no.	NAAMS code	A	B	Weight kg
CKZ-63A025	ACA025M	135.0	81.3	1.7
CKZ-63A026	ACA026M	165.0	111.3	1.9
CKZ-63A027	ACA027M	195.0	141.3	2.1
CKZ-63A028	ACA028M	225.0	171.3	2.3
CKZ-63A029	ACA029M	255.0	201.3	2.5
CKZ-63A030	ACA030M	285.0	231.3	2.7

**115 mm Offset-Plain**



Part no.	NAAMS code	A	Weight kg
CKZ-63A037	ACA037M	135.0	2.1
CKZ-63A038	ACA038M	165.0	2.3
CKZ-63A039	ACA039M	195.0	2.5
CKZ-63A040	ACA040M	225.0	2.7
CKZ-63A041	ACA041M	255.0	2.9
CKZ-63A042	ACA042M	285.0	3.1

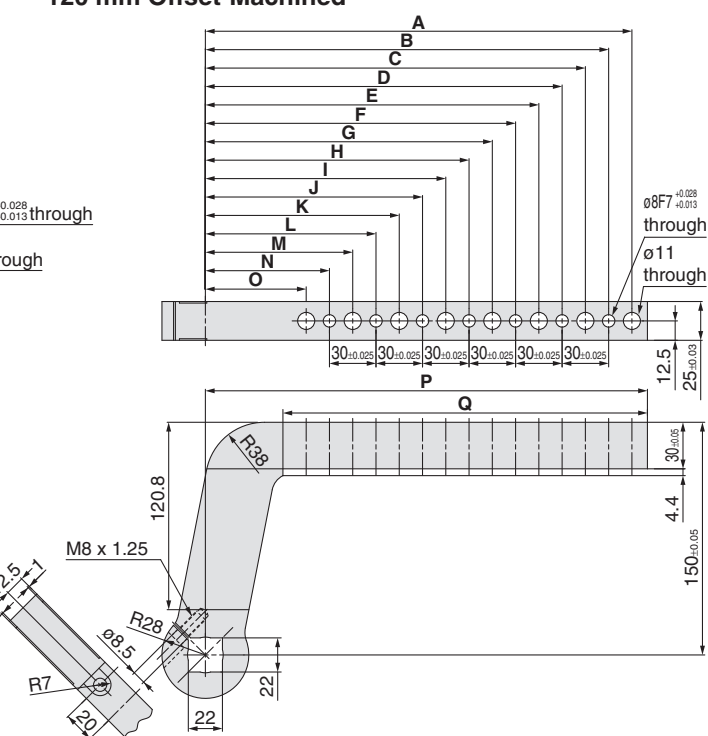
**70 mm Offset-Machined**



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J
CKZ-63A031	ACA031M	125.0	110.0	95.0	80.0	65.0	—	—	—	—	—
CKZ-63A032	ACA032M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—	—	—
CKZ-63A033	ACA033M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—
CKZ-63A034	ACA034M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0
CKZ-63A035	ACA035M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0
CKZ-63A036	ACA036M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0

Part no.	NAAMS code	K	L	M	N	O	P	Q	R	Weight kg
CKZ-63A031	ACA031M	—	—	—	—	—	135.0	85.0	84.0	1.4
CKZ-63A032	ACA032M	—	—	—	—	—	165.0	115.0	114.0	1.6
CKZ-63A033	ACA033M	—	—	—	—	—	195.0	145.0	144.0	1.8
CKZ-63A034	ACA034M	65.0	—	—	—	—	225.0	175.0	174.0	1.9
CKZ-63A035	ACA035M	95.0	80.0	65.0	—	—	255.0	205.0	204.0	2.1
CKZ-63A036	ACA036M	125.0	110.0	95.0	80.0	65.0	285.0	235.0	234.0	2.3

**120 mm Offset-Machined**



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J
CKZ-63A043	ACA043M	125.0	110.0	95.0	80.0	65.0	—	—	—	—	—
CKZ-63A044	ACA044M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—	—	—
CKZ-63A045	ACA045M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—
CKZ-63A046	ACA046M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0
CKZ-63A047	ACA047M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0
CKZ-63A048	ACA048M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0

Part no.	NAAMS code	K	L	M	N	O	P	Q	Weight kg
CKZ-63A043	ACA043M	—	—	—	—	—	135.0	85.0	1.8
CKZ-63A044	ACA044M	—	—	—	—	—	165.0	115.0	2.0
CKZ-63A045	ACA045M	—	—	—	—	—	195.0	145.0	2.1
CKZ-63A046	ACA046M	65.0	—	—	—	—	225.0	175.0	2.3
CKZ-63A047	ACA047M	95.0	80.0	65.0	—	—	255.0	205.0	2.5
CKZ-63A048	ACA048M	125.0	110.0	95.0	80.0	65.0	285.0	235.0	2.6

# Other Clamp Cylinders Product Lineup

## Iron clamp body type power clamp cylinder

Features • Complies to NAAMS (North American Automotive Metric Standard). **NAAMS**

- 72 arm styles are available.
- Spatter proof construction

### How to Order

#### Clamp Cylinder (Without Arm)

**CKZ2N 80 TF - 120 R T**

Power clamp cylinder  
North American type  
Complies to NAAMS standard  
Iron clamp body type

Bore size

**80** ø80 Equivalent

Cylinder port

Nil	NPT
TF	G

Arm opening angle

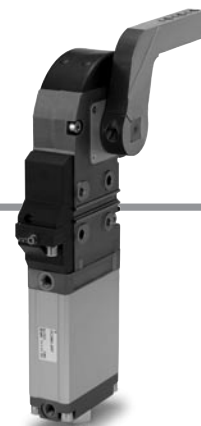
<b>30</b>	30°
<b>45</b>	45°
<b>60</b>	60°
<b>75</b>	75°
<b>90</b>	90°
<b>105</b>	105°
<b>120</b>	120°
<b>135</b>	135°

Proximity switch

<b>T</b>	TURCK
<b>F</b>	P&F

Arm mounting position

R	L	D
Right	Left	Both sides



#### Arm

**CKZ - 80 A002**

Power clamp cylinder  
North American type

Bore size

**80** ø80 Equivalent

Arm code

(Refer to the Clamp Cylinder catalog, CAT.E24, for details.)

### Cylinder Specifications

Bore size	ø80 Equivalent
Angle	30° to 135°
Cushion	Unclamping side: Rubber bumper
Maximum operating pressure	0.8 MPa
Minimum operating pressure	0.3 MPa
Ambient and fluid temperature	-10 to 60°C (No freezing)
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp
Proximity switch	TURCK/P&F
Port thread type	NPT/G

# Power Clamp Cylinder

## Series CKZ3T

ø50, ø63

### How to Order



#### Clamp Cylinder (Without Arm)

**CKZ3T 63** - **120 T M**

Power clamp cylinder  
European type  
Aluminum clamp body type

#### Bore size

50	ø50 Equivalent
63	ø63 Equivalent

#### Cylinder port

Nil	G
TN	NPT
TP	Rc

#### Top cover

Nil	Rubber cover
M	Metal cover

#### Proximity switch

T	TURCK
P	P&F
W	None

#### Arm opening angle

15	15°
30	30°
45	45°
60	60°
75	75°
90	90°
105	105°
120	120°
135	135°

#### Arm

**CKZT 63** - **A015 C S**

Power clamp cylinder  
European type

#### Bore size

50	ø50 Equivalent
63	ø63 Equivalent

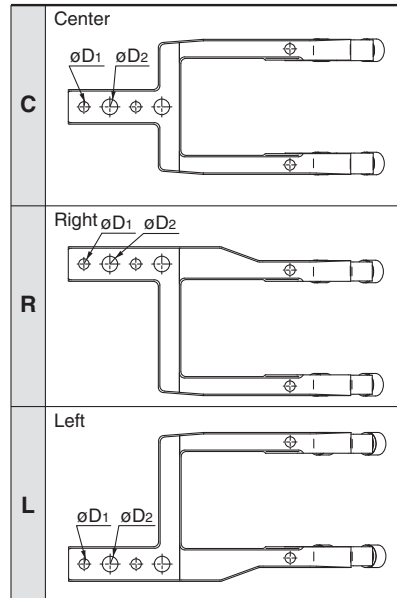
#### Offset

A015	Offset 15
A045	Offset 45

#### Mounting hole

Symbol	D1	D2
S	6	9
B	8	10.2

#### Arm mounting position



Arm mounted

Model Selection

North American Type

CKZ3N

European Type

CKZ3T

Made to Order

# Series CKZ3T

## Cylinder Specifications

Bore size	ø50 Equivalent	ø63 Equivalent
Action	Double acting	
Fluid	Air	
Proof pressure	1.2 MPa	
Max. operating pressure	0.8 MPa	
Min. operating pressure	0.3 MPa	
Ambient and fluid temperature	-10 to 60° (No freezing)	
Cushion	Clamping side: None Unclamping side: Rubber bumper	
Min. operating time	1.0 second to clamp, 1.0 second to unclamp	

## Weight (Cylinder Without Arm)

Unit: kg

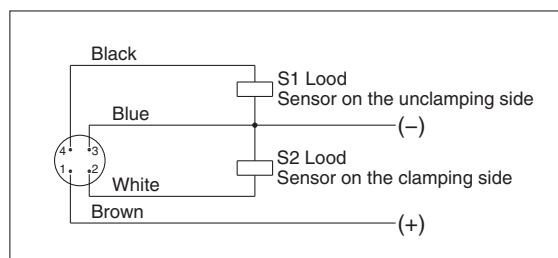
Bore size (mm)	Arm angle								
	15°	30°	45°	60°	75°	90°	105°	120°	135°
50	3.29	3.26	3.25	3.23	3.21	3.19	3.17	3.15	3.14
63	4.56	4.53	4.50	4.47	4.44	4.41	4.38	4.36	4.34

## Switch Specifications

Manufacturer	TURCK	P&F
Operating range	2 mm ±10%	2 mm ±10%
Supply voltage	10 to 30 VDC	10 to 30 VDC
Output	N.O., PNP	N.O., PNP
Continuous load current	150 mA	100 mA
Response frequency	30 Hz	25 Hz
Housing material	PBT	PA6, PBT
Output indication	Clamping side: Red Unclamping side: Yellow	Clamping side: Red Unclamping side: Yellow
Voltage indication	Green	Green

Note) Switch specifications are corresponding to manufacturer's technical information.

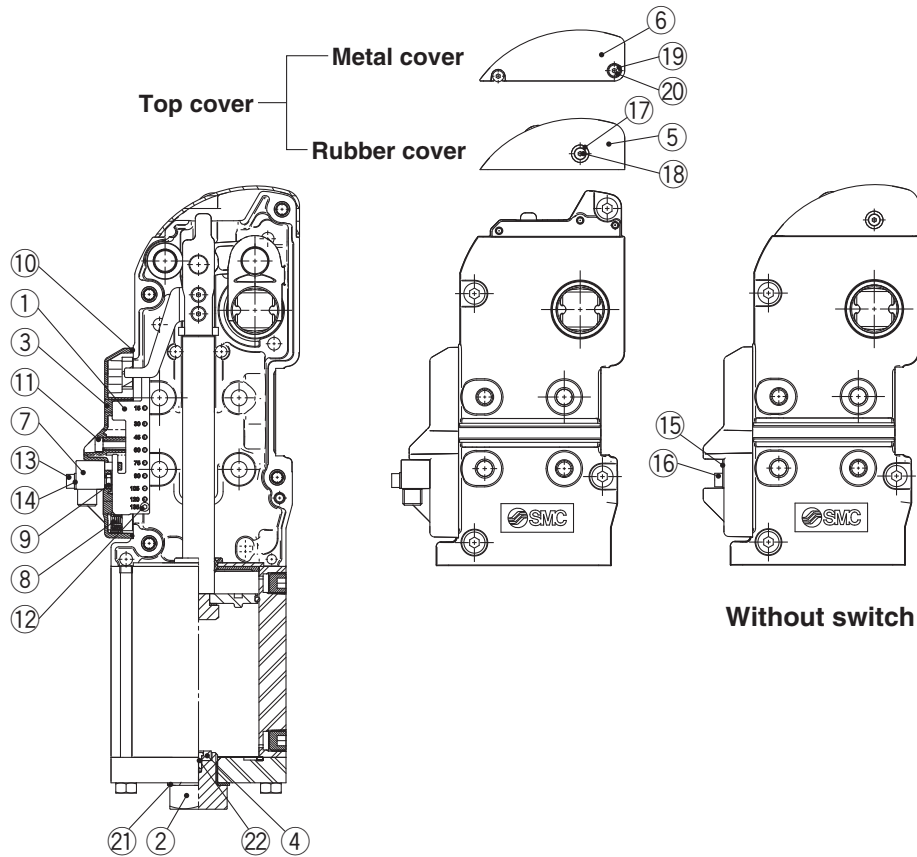
## Wiring Diagram



Note) Both TURCK and P&F are common.



## Construction



### Component parts

No.	Description
1	Detection plate
2	Stopper bolt
3	Switch holder
4	Bumper
5	Top cover
6	Metal cover
7	Proximity switch
8	Helical torsion spring
9	Hexagon nut type 3
10	Switch holder gasket
11	Hexagon socket head cover cap screw
12	Hexagon socket head cover cap screw
13	Hexagon socket head cap screw
14	Small round flat washer
15	Switch holder cover
16	Hexagon socket head cap screw
17	Spacer
18	Short head cap screw
19	Metal washer
20	Short head cap screw
21	Seal washer
22	Bumper stopper

Table 1

Opening angle	Code
15°	J
30°	H
45°	G
60°	F
75°	E
90°	D
105°	C
120°	B
135°	A

### Replaceable kits list

Description	Bore size (mm)	Kit no.	Contents
Switch kits	50	CKZ3N-S050T <small>Note 1)</small>	③ Switch holder ⑦ Proximity switch (TURCK) ⑧ Helical torsion spring ⑨ Hexagon nut type 3 ⑩ Switch holder gasket ⑪ Hexagon socket head cover cap screw ⑬ Hexagon socket head cap screw ⑭ Small round flat washer
		CKZ3N-S063T <small>Note 1)</small>	① Detection plate ⑫ Hexagon socket head cover cap screw ⑬ Hexagon socket head cap screw ⑭ Small round flat washer
	50	CKZ3N-S050P <small>Note 1)</small>	③ Switch holder ⑦ Proximity switch (P&F) ⑧ Helical torsion spring ⑨ Hexagon nut type 3 ⑩ Switch holder gasket ⑪ Hexagon socket head cover cap screw ⑬ Hexagon socket head cap screw ⑭ Small round flat washer
		CKZ3N-S063P <small>Note 1)</small>	① Detection plate ⑫ Hexagon socket head cover cap screw ⑬ Hexagon socket head cap screw ⑭ Small round flat washer
	50	CKZ3N-S050W <small>Note 1)</small>	③ Switch holder ⑮ Switch holder cover ⑨ Hexagon nut type 3 ⑩ Switch holder gasket ⑪ Hexagon socket head cover cap screw ⑯ Hexagon socket head cap screw
		CKZ3N-S063W <small>Note 1)</small>	① Detection plate ⑫ Hexagon socket head cover cap screw ⑬ Hexagon socket head cap screw ⑭ Small round flat washer
Stopper bolt kits	50	CKZ3N-B050J <small>Note 2)</small>	② Stopper bolt ⑳ Seal washer
	63	CKZ3N-B063J <small>Note 2)</small>	④ Bumper ㉒ Bumper stopper
Top cover kits	50	CKZ2N-T050	⑤ Rubber cover ⑰ Spacer ⑱ Short head cap screw
		CKZ2N-T063	
	50	CKZ3N-T050M	⑥ Metal cover ⑲ Metal washer ⑳ Short head cap screw
		CKZ3N-T063M	

Note 1) T=TURCK, P=P&F, W=Without switch Note 2) Please specify the opening angle by the code in Table 1.

# Series CKZ3T

## Allowable Locking Moment

---

Bore size (mm)	Allowable locking moment N·m
<b>50</b>	800
<b>63</b>	1500

\* The moment when the clamp arm is locked at the time of air release in the clamped state.

## Maximum Clamping Moment

---

Unit: N·m

Bore size (mm)	Max. clamping moment					
	0.3 MPa	0.4 MPa	0.5 MPa	0.6 MPa	0.7 MPa	0.8 MPa
<b>50</b>	100	130	160	190	220	250
<b>63</b>	300	350	400	450	500	550

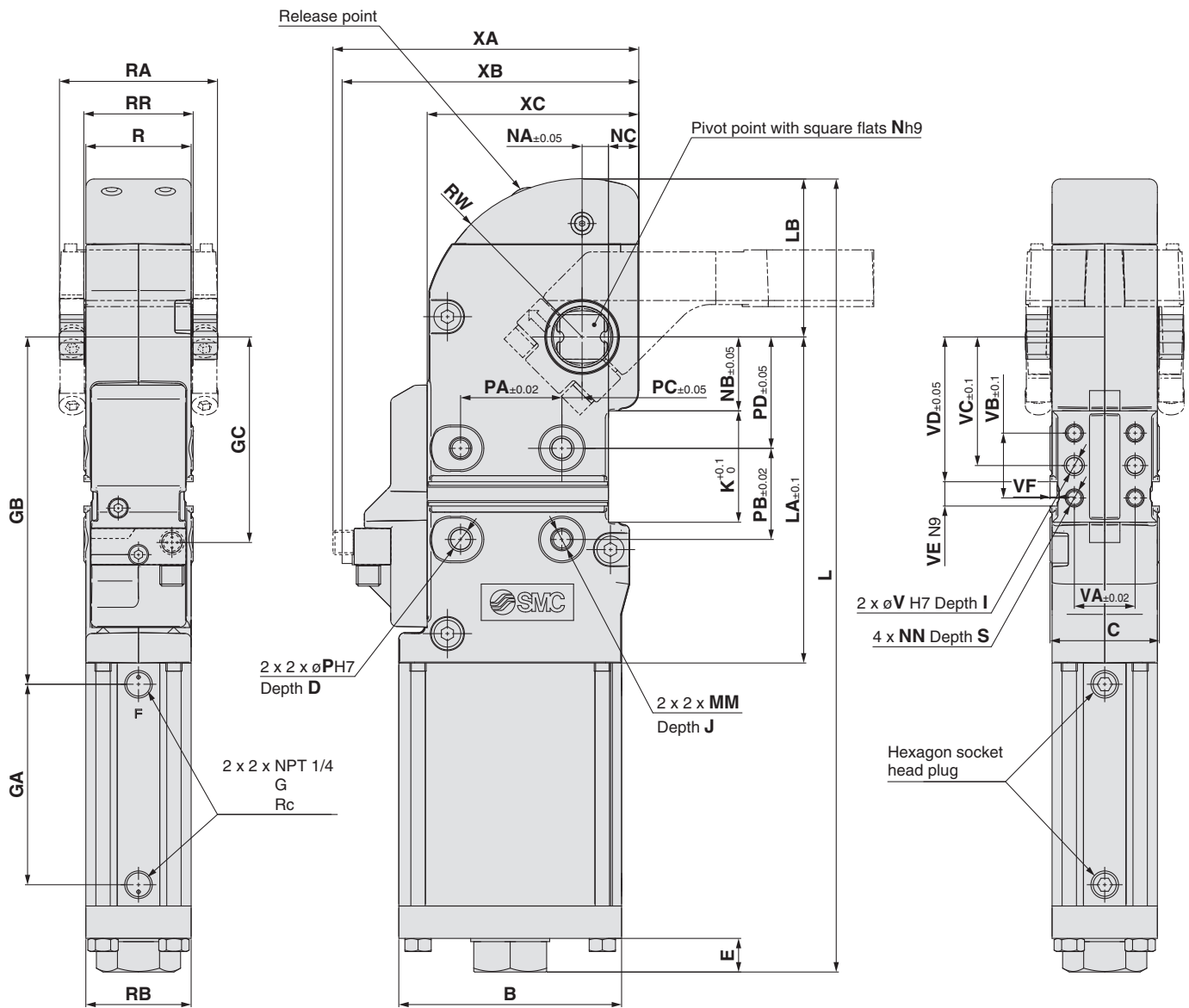
## Cylinder Stroke

---

Unit: mm

Bore size (mm)	Arm opening angle								
	15°	30°	45°	60°	75°	90°	105°	120°	135°
<b>50</b>	22.7	31.9	39.7	47.2	54.8	62.7	70.4	77.2	82.1
<b>63</b>	24.2	34.2	42.6	50.6	58.7	66.9	74.8	81.6	86.4

**Dimensions**



																				(mm)
Bore size (mm)	B	C	D	E	GA	GB	GC	I	J	K	L	LA	LB	MM	N	NA	NB	NC	NN	P
50	92	48	12	13.7	95	166	95.5	10	12	55	376.6	155.5	78.4	M10 x 1.5	19	13	36.5	9.5	M8 x 1.25	10
63	110	54	12	16.6	99	171.5	100.5	10	12	55	391.6	161	78	M10 x 1.5	22	13	36.5	15	M8 x 1.25	10

Bore size (mm)	PA	PB	PC	PD	R	RA	RB	RR	S	V	VA	VB	VC	VD	VE	VF	W	XA	XB	XC
50	50	45	10	55	46	68	46	48	11	8	30	32	63.5	71.5	12	3.5	78.4	138.5	134	92
63	50	45	10	55	52	78	52	54	11	8	30	32	63.5	71.5	12	3.5	78	151	146.5	104.5

Model Selection

North American Type

CKZ3N

European Type

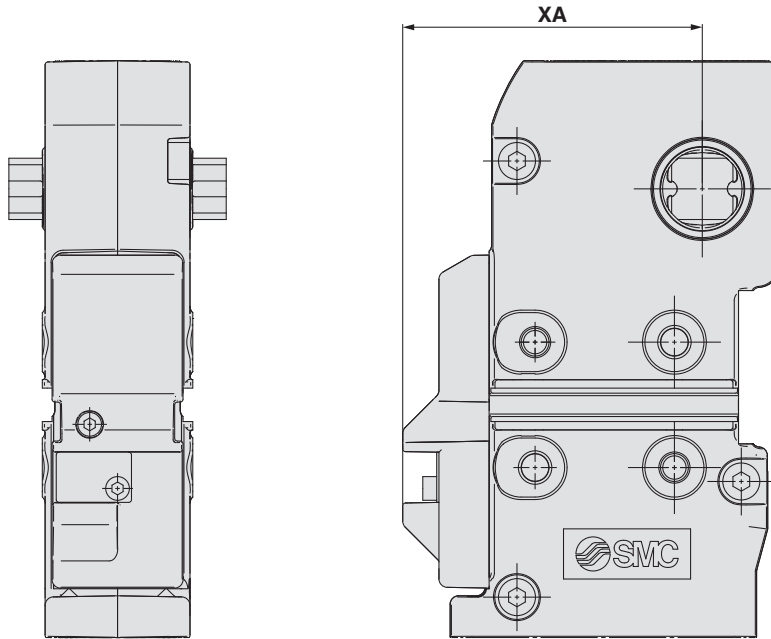
**CKZ3T**

Made to Order

# Series CKZ3T

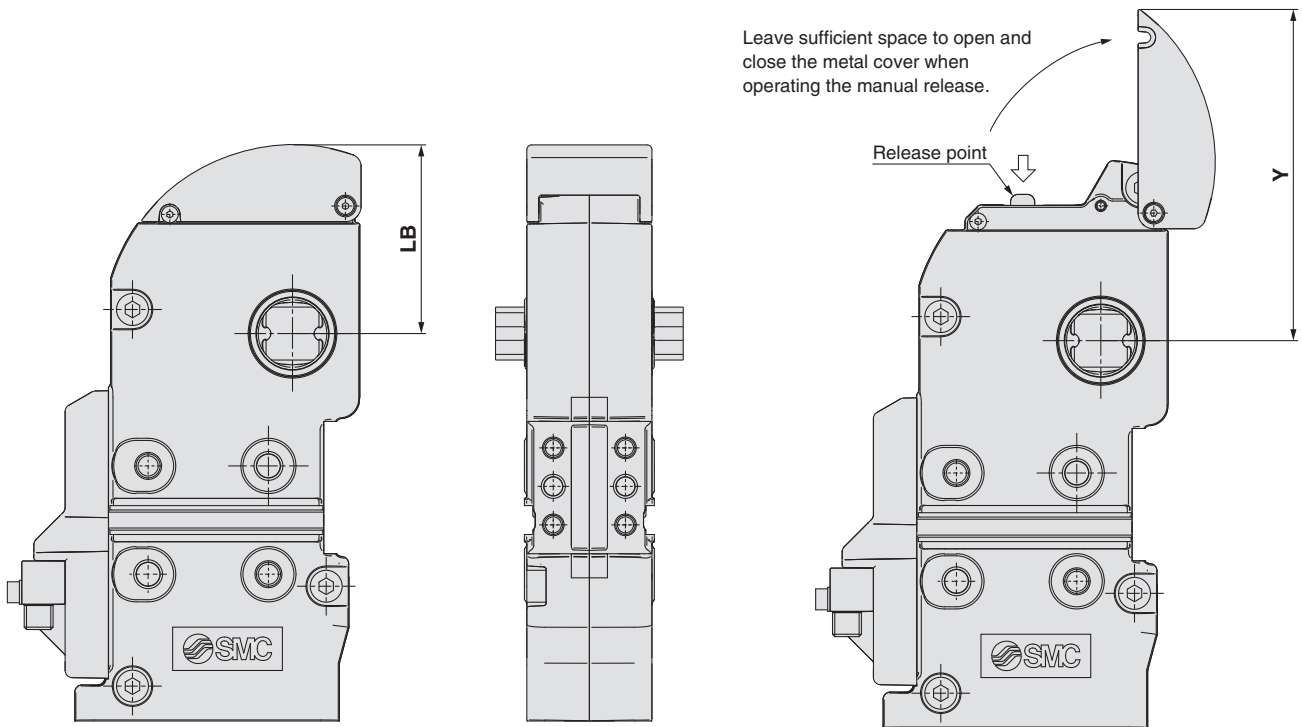
## Dimensions

### Without switch



		(mm)	
Bore size (mm)		XA	
50		100.5	
63		107.5	

### Metal cover type

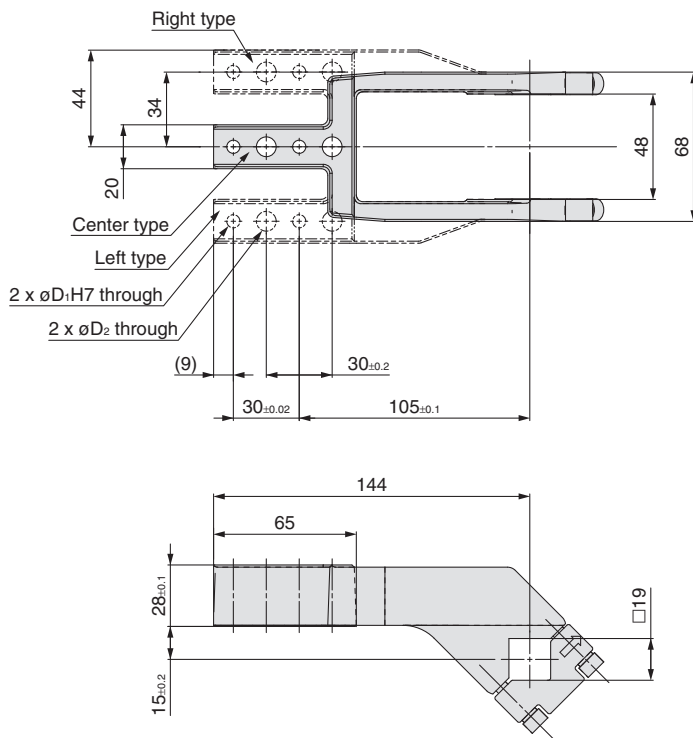


Cover open

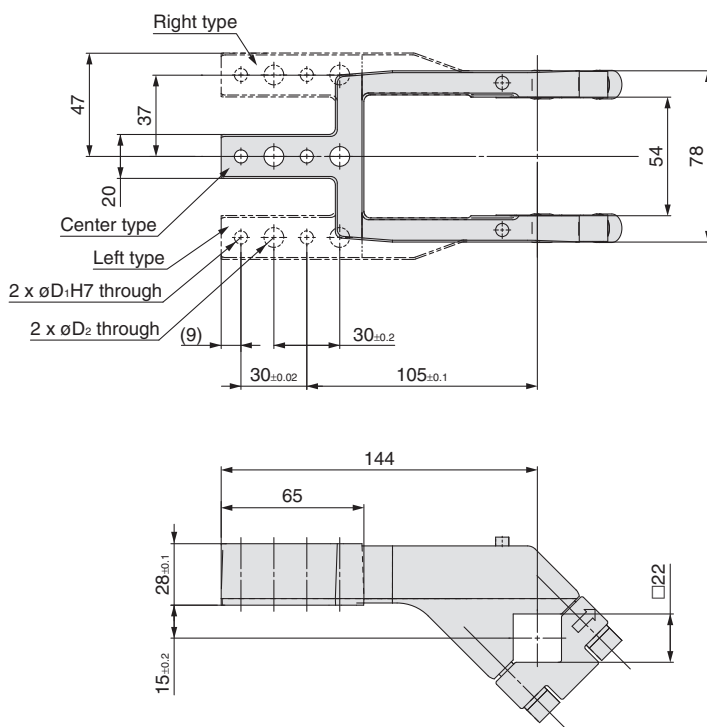
			(mm)	
Bore size (mm)	LB	Y		
50	78.4	132		
63	78.4	138		

**Dimensions (Clamp Arm: Offset 15)**

ø50



ø63



**How to Order**

**CKZT50 – A015 C S**

Arm position ●

<b>C</b>	Center
<b>R</b>	Right
<b>L</b>	Left

Mounting hole ●

Symbol	D <sub>1</sub>	D <sub>2</sub>
<b>S</b>	6	9
<b>B</b>	8	10.2

**Weight**

<b>CKZT50-A015CS</b>	0.79 kg
<b>CKZT50-A015CB</b>	0.78 kg
<b>CKZT50-A015RS</b>	0.90 kg
<b>CKZT50-A015RB</b>	0.89 kg
<b>CKZT50-A015LS</b>	0.90 kg
<b>CKZT50-A015LB</b>	0.89 kg

**How to Order**

**CKZT63 – A015 C S**

Arm position ●

<b>C</b>	Center
<b>R</b>	Right
<b>L</b>	Left

Mounting hole ●

Symbol	D <sub>1</sub>	D <sub>2</sub>
<b>S</b>	6	9
<b>B</b>	8	10.2

**Weight**

<b>CKZT63-A015CS</b>	1.02 kg
<b>CKZT63-A015CB</b>	1.01 kg
<b>CKZT63-A015RS</b>	1.10 kg
<b>CKZT63-A015RB</b>	1.08 kg
<b>CKZT63-A015LS</b>	1.10 kg
<b>CKZT63-A015LB</b>	1.08 kg

Model Selection

North American Type

CKZ3N

European Type

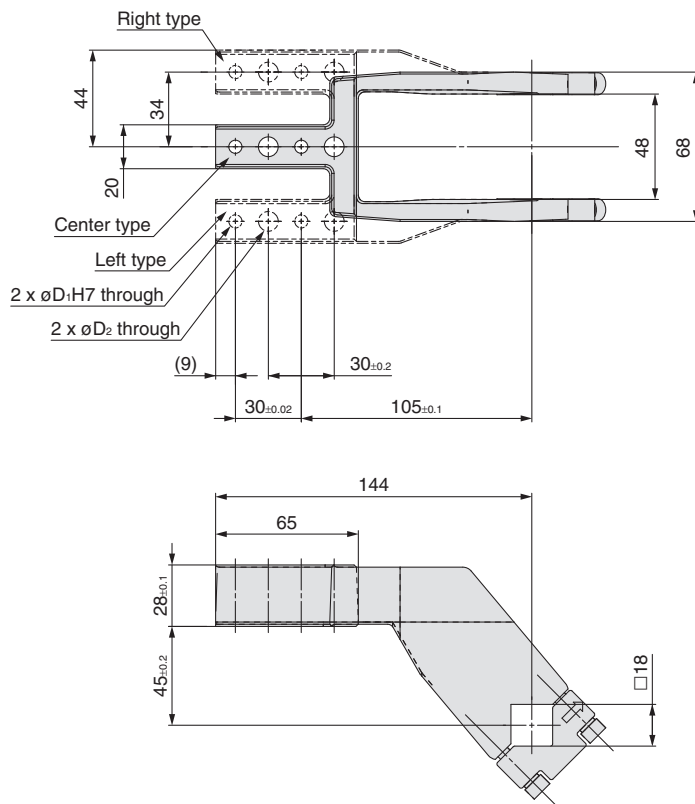
CKZ3T

Made to Order

# Series CKZ3T

## Dimensions (Clamp Arm: Offset 45)

ø50



### How to Order

**CKZT50 – A045 C S**

Arm position ●

<b>C</b>	Center
<b>R</b>	Right
<b>L</b>	Left

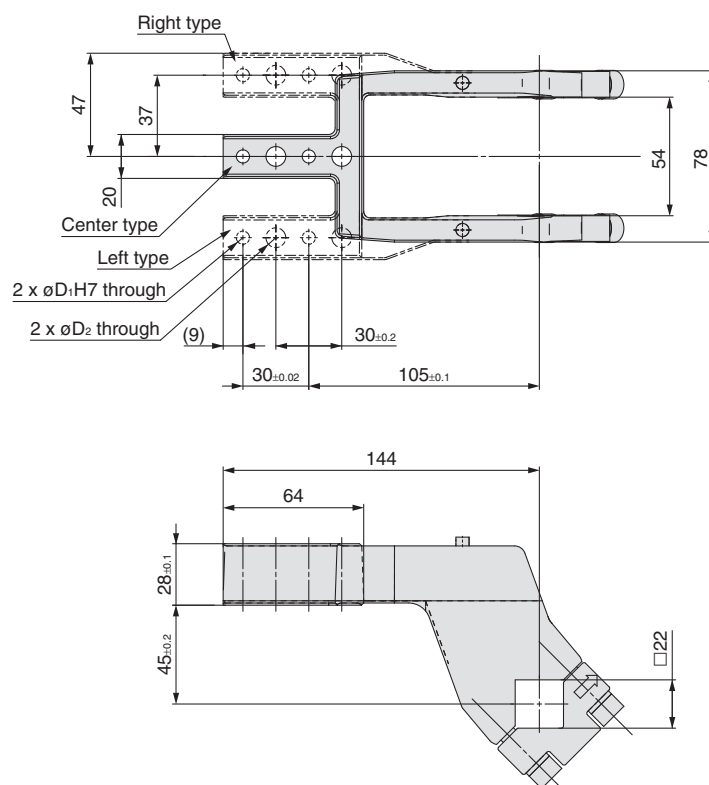
Mounting hole ●

Symbol	D <sub>1</sub>	D <sub>2</sub>
<b>S</b>	6	9
<b>B</b>	8	10.2

### Weight

<b>CKZT50-A045CS</b>	0.93 kg
<b>CKZT50-A045CB</b>	0.92 kg
<b>CKZT50-A045RS</b>	1.02 kg
<b>CKZT50-A045RB</b>	1.01 kg
<b>CKZT50-A045LS</b>	1.02 kg
<b>CKZT50-A045LB</b>	1.01 kg

ø63



### How to Order

**CKZT63 – A045 C S**

Arm position ●

<b>C</b>	Center
<b>R</b>	Right
<b>L</b>	Left

Mounting hole ●

Symbol	D <sub>1</sub>	D <sub>2</sub>
<b>S</b>	6	9
<b>B</b>	8	10.2

### Weight

<b>CKZT63-A045CS</b>	1.19 kg
<b>CKZT63-A045CB</b>	1.18 kg
<b>CKZT63-A045RS</b>	1.25 kg
<b>CKZT63-A045RB</b>	1.23 kg
<b>CKZT63-A045LS</b>	1.25 kg
<b>CKZT63-A045LB</b>	1.23 kg

# Power Clamp Cylinder / Series **CKZ3T** Made to Order 1

Contact SMC for detailed dimensions, specifications and delivery.



## 1 Small bore size power clamp cylinder



Applicable model : **CKZT25**

<Features>

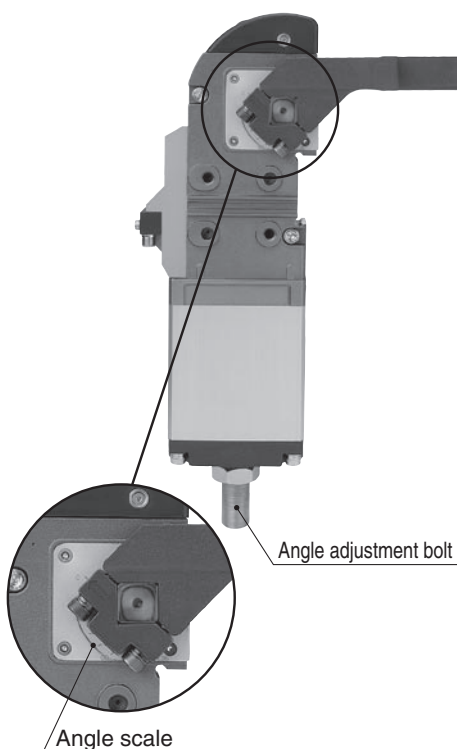
- Small bore type is available mainly for robot hand applications.
- Lowest weight ø25 power clamp cylinder among all pneumatic manufacturers (less than 1kg)
- Arm can be selected from center, left or right type.

Series	Angle	Special product number
CKZT25	105°	CKZT25-105-DCL781EL

### Cylinder Specifications

Bore size (mm)	ø25
Angle	105°
Cushion	Unclamping side: Rubber bumper
Maximum operating pressure	0.8 MPa
Ambient and fluid temperature	-10 to 60° (No freezing)
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp
Weight (without arm)	0.58 kg

## 2 Power clamp cylinder with angle adjustment



Applicable model : **CKZT40, 50, 63, 80**

\*1 ø50, ø63 and ø80 types have the iron clamp body.

\*2 Rubber cover specification

<Features>

- Unclamped opening angle can be adjusted by one process. (no need to adjust the proximity switch)
- Adjustable range: 30° to 135°
- With angle scale

Series	Angle	Special product number
CKZT40	30° to 135°	CKZT40-135-DCJ2144J
CKZT50		CKZT50-135-DCJ2145J
CKZT63		CKZT63-135-DCJ2146J
CKZT80		CKZT80-135-DCJ2147J

### Cylinder Specifications

Bore size (mm)	ø40	ø50 Equivalent	ø63 Equivalent	ø80 Equivalent
Angle	30° to 135°			
Cushion	Unclamping side: Rubber bumper			
Maximum operating pressure	0.8 MPa			
Ambient and fluid temperature	-10 to 60° (No freezing)			
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp			

Model Selection

North American Type

CKZ3N

European Type

CKZ3T

Made to Order

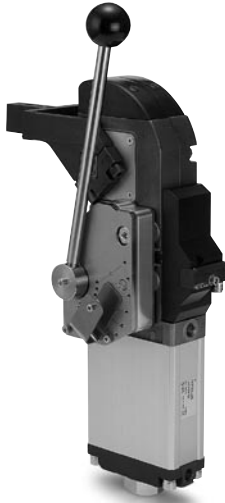
# Power Clamp Cylinder / Series CKZ3T

## Made to Order 2

Contact SMC for detailed dimensions, specifications and delivery.



### 3 Power clamp cylinder with manually operated handle



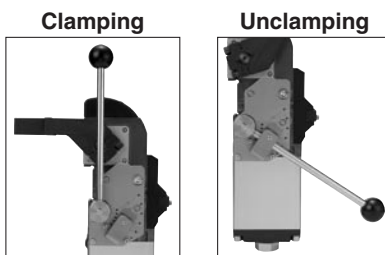
Applicable model : CKZT25, 40, 50, 63, 80 \*1 ø50, ø63 and ø80 types have the iron clamp body.

<Features>

- Applicable to equipment requiring manual clamps.
- Handle unit R/L is replaceable.
- Self-weight drop prevention when unclamping (excluding ø25 and ø40)

\*2 Rubber cover specification

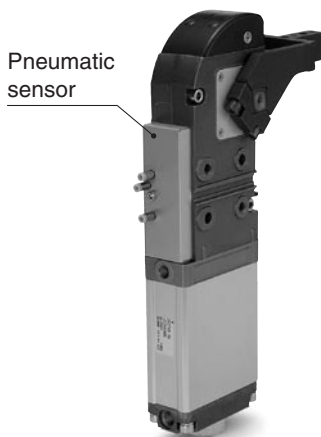
Series	Angle	Special product number	
		Handle unit R	Handle unit L
CKZT25	105°	CKZT25-105-DCL752EL	CKZT25-105-DCN1935N
CKZT40	30°, 45°, 60°, 75° 90°, 105°, 120°	CKZT40-□-DCL9476N	CKZT40-□-DCN9992N
CKZT50		CKZT50-□-DCK9412K	CKZT50-□-DCK9413K
CKZT63		CKZT63-□-DCK9414K	CKZT63-□-DCK9415K
CKZT80	30°, 45°, 60°, 75°, 90°, 105°	CKZT80-□-DCK9416K	CKZT80-□-DCK9417K



#### Cylinder Specifications

Bore size (mm)	ø25	ø40	ø50 Equivalent	ø63 Equivalent	ø80 Equivalent
Angle	105°	30°, 45°, 60°, 75° 90°, 105°, 120°		30°, 45°, 60° 75°, 90°, 105°	
Cushion	Unclamping side: Rubber bumper				
Maximum operating pressure	0.8 MPa				
Ambient and fluid temperature	-10 to 60° (No freezing)				
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp				

### 4 Power clamp cylinder with pneumatic sensor



Applicable model : CKZT50, 63, 80

\* Iron clamp body and rubber cover specifications

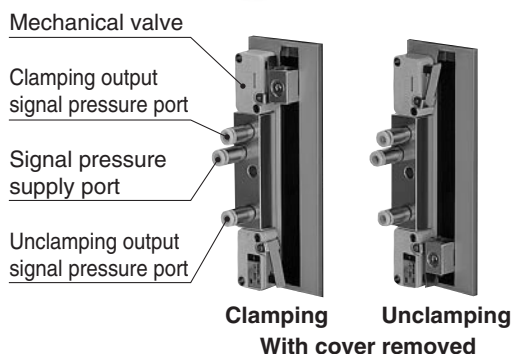
<Features>

- Applicable to all air circuit equipment.
- Built-in mechanical valve.  
Position detection is possible at clamping or unclamping according to the signal received from the mechanical valve.

Series	Angle	Special product number
CKZT50	30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°	CKZT50-□-DCK9388K
CKZT63		CKZT63-□-DCK9389K
CKZT80		CKZT80-□-DCK9390K

#### Cylinder Specifications

Bore size (mm)	ø50 Equivalent	ø63 Equivalent	ø80 Equivalent
Angle	30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°		
Cushion	Unclamping side: Rubber bumper		
Maximum operating pressure	0.8 MPa		
Ambient and fluid temperature	-10 to 60° (No freezing)		
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp		

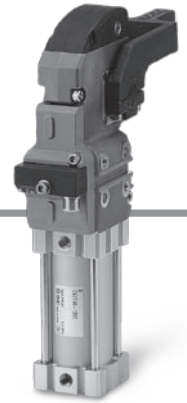




# Other Clamp Cylinders Product Lineup

## ∅40, ∅80 Clamp body type power clamp cylinder

- Features • 3 arm variations for each size  
• Spatter proof construction



### How to Order

#### Clamp Cylinder (Without Arm)

**CKZT 40 TN - 120 T**

- Power clamp cylinder**  
European type  
Iron clamp body type (∅80)  
Aluminum clamp body type (∅40)
- Bore size**

40	∅40
80	∅80 Equivalent
- Cylinder port**

Nil	G
TN	NPT
- Arm opening angle**

30	30°
45	45°
60	60°
75	75°
90	90°
105	105°
120	120°
135	135°
- Proximity switch**

T	TURCK
P	P&F

#### Clamp Arm

**CKZT 40 - A015 C S**

- Power clamp cylinder**  
European type
- Bore size**

40	∅40
80	∅80 Equivalent
- Offset**

A015	Offset 15
A045	Offset 45
- Mounting hole**

symbol	∅40			∅80 Equivalent		
	D <sub>1</sub>	D <sub>2</sub>	H	D <sub>1</sub>	D <sub>2</sub>	H
S	6	7	16	6	9	25
B	8	10.2	20	8	10.2	25

Only S type is available for A015 of ∅40.
- Arm mounting position**

<b>R</b>	Right	
<b>C</b>	Center	
<b>L</b>	Left	

### Cylinder Specifications

Bore size	∅40	∅80 Equivalent
Angle	30° to 135°	
Cushion	Unclamping side: Rubber bumper	
Maximum operating pressure	0.8 MPa	
Minimum operating pressure	0.3 MPa	
Ambient and fluid temperature	-10 to 60°C (No freezing)	
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp	
Proximity switch	TURCK/P&F	
Port thread type	NPT/G	

Consult SMC Sales for details.



# Series CKZ3N/CKZ3T

## Specific Product Precautions

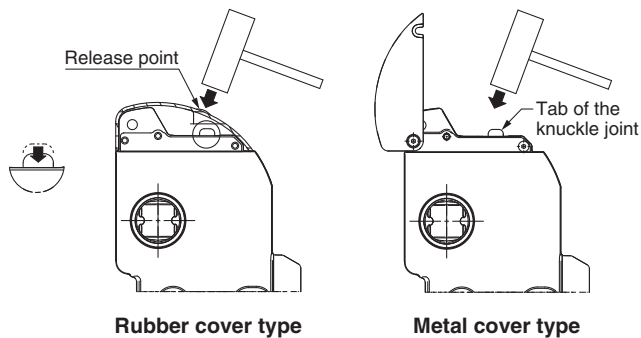
Be sure to read this before handling. Refer to back cover for Safety Instructions, "Handling Precautions for SMC Products" (M-E03-3) for Actuator Precautions.

### 1. Manual toggle release

For a product with rubber cover, the toggle link mechanism can easily be released by hitting the round tab on the cover with a plastic hammer (made of soft material).

Always confirm safety before operating the manual toggle release. The clamp arm may suddenly operate during manual release.

For a product with metal cover, the toggle link mechanism can easily be released by hitting the tab of the knuckle joint with a plastic hammer (made of soft material) after opening the cover.



### 2. Do not disassemble the power clamp

No special maintenance is necessary because the power clamp has a fully enclosed design to protect the clamp against welding spatter, and also the power clamp has a contamination resistant construction.

Do not disassemble any parts other than replaceable parts, otherwise it may reduce the performance of the clamp cylinder.

### 3. Tightening torque of spare parts

Please make sure to tighten spare parts recommended in accordance with the following torque shown in the table.

Description	Bore size (mm)	Tightening torque (N·m)
Switch kit	50	2.6 to 3.5
	63	2.6 to 3.5
Stopper bolt kit	50	130 to 150
	63	160 to 200
Top cover kit (Rubber cover)	50	1.5 to 2.0
	63	1.5 to 2.0
Top cover kit (Metal cover)	50	1.5 to 2.0
	63	1.5 to 2.0




Note) Please make sure that the switch cassette is tightly secured to the body when it has been replaced with a new one.

### 4. Clamp arm tightening torque

Bore size (mm)	Tightening torque (N·m)
50	12 to 15
63	15 to 20

## Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC) \*1), and other safety regulations.

-  **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
-  **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
-  **Danger:** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

- \*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
- ISO 4413: Hydraulic fluid power – General rules relating to systems.
- IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
- ISO 10218-1: Manipulating industrial robots - Safety. etc.

### Warning

#### 1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

#### 2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

#### 3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

#### 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

### Caution

#### 1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.

If anything is unclear, contact your nearest sales branch.

## Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

### Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.\*2)  
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.  
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

\*2) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

### Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

## SMC Corporation

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