

Power Clamp Cylinder -X2742A





Power Clamp Cylinder complies to NAAMS (North Automotive Metric Standard).

З

Series CKZ3N ø50, ø63

4 0 5 0 6 7 0 8 0 9 10

Model Selections (1) How to Order (12) CKZ Clamp Arm Code (13) Specifications

Construction Drawings



With weld spatter resistant construction and 75 arm variations are available.



CKZ3N Dimensions



CKZN Clamp Arms (NAAMS)



50mm Bore Dimensions



63mm Bore Dimensions



Specific Product Precautions





Series CKZ3N ø50, ø63

Power Clamp Cylinder

(3)



Reduction

Rate

37%

39%

CKZ2N

11.2 lbs.

(5.06kg)

15.8 lbs.

(7.16kg)

Stopper Bolt

	Clamp Body	Bore size		Unclamped	Unclamped	Drovimity	N	lade to Order Specifications			
Series		50	63	80	Cylinder Port	Opening Angle	Switch	Metal Cover	Unclamped Opening Angle 15°	Front Mounting	Without Switch
New CKZ3N	Aluminum	•	•	-	G,NPT,Rc	15° to 135°	∙ TURCK • P&F	Standard	Standard	Standard	Standard
CKZ2N	Iron	•	•	•	G,NPT	30° to 135°		•	•	•	•



Power Clamp Cylinder



Sonware			
CATIA			
UNIGRAPHICS			
FIDES			
AUTO CAD			
SOLID WORKS			

Series CKZ3N/CKZ3T			
Bore Size (mm)	ø50 Equivalent ø63 Equivale		
Arm Opening Angle	15°, 30°, 45 90°, 105°,	5°, 60°, 75° 120°, 135°	
Switch	TURCK/P&F		
Port Thread Type NPT/G/Rc		G/Rc	

* For additional formats, please log on to the SMC web site ww.smcusa.com and click on the E-Tech icon.

Model Selection 1

1 Common Precautions for Each Size

- 1) Use air filtered through a 5- μ 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.
- 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.



2 Power Clamp Cylinder Mounting

When Clamping by using Clamping Force Only Example)



	Ă			Shim Adjustmer	nt	Shim Adjustment
[Workpiece Setting — Air Supply] — Operate to the End of Clamp	-	Install a Block at Clamp Side	_	Block Contact Adjustment (Clamp Side)

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 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.



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.





ø**50**





Model Selection 2

2 Power Clamp Cylinder Mounting

• When using a Hard Stop





Procedure

- A) Supply air at clamp side without installation of upper hard stop, and operate the clamparm to the end of clamp.
- B) 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 hand stop 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.
- D) Under the state described in step C, adjust shim (2) so there is contact between the clamping block and workplace.

When using the Side Guide



Procedure

(7)

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.

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 ".". 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.



Model Selection 3

3 Clamp Arm



4 Space in Design

9

• Leave sufficient space in the below position.



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

- 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) Move and remount the switch mounting pins to set the desired arm opening angle.
- 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 Ibf·ft (N·m)
Switch cassette	50	0.44 to 0.74 (2.6 to 3.5)
mounting bolt	63	0.44 to 0.74 (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.)



Description	Bore size (mm)	Tightening torque (N·m)
Stoppor bolt	50	96 to 111 (130 to 150)
	63	118 to 148 (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 θ

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



How to Order



(11)

Arm Code

Bore Size	Part Number	Code	NAAMS Ref No.
	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
50	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	Part Number	Code	NAAMS Ref No.
	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
63	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	ACA02/M
	CKZ-63A028	A028	ACAU28M
	CKZ-03A029	A029	ACAU29W
	CKZ-03A030	A030	ACAU3UM
	CKZ-03A031	A031	ACAUSTM
	CKZ-03A032	A032	ACAUSZIVI
	CKZ-03A033	A033	
	CKZ-03A034	A034 A025	
	CKZ-63A035	A035	
	CKZ-63A030	A030	ACA030M
	CKZ-63A037	A037	ACA037M
	CKZ-63A039	A000	
	CKZ-63A040	A000	
	CKZ-63A041	Δ040	
	CKZ-634042	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



Cylinder Specifications

Bore size (mm)	ø50 Equivalent	ø63 Equivalent		
Action	Double acting			
Fluid	A	ir		
Proof pressure	174 psi (1.2 MPa)		
Max. operating pressure	116 psi (0.8 MPa)			
Min. operating pressure	43.5 psi (0.3 MPa)			
Ambient and fluid temperature	14 to 140°F (-10 to 60C)			
Cushion	Clamping side: None Unclamping side: Rubber bumper			
Min. operating time	1.0 second to clamp, 1.0 second to unclamp			

Allowable Locking Moment

Bore size (mm)	Allowable locking moment Ibs·ft (N·m)		
50	590 (800)		
63	1106 (1500)		

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

Maximum Clamping Moment

aximum	lamping	Nomen	L		Ur	hit [.] Ibs•ft (N•m)										
		Maximum Charging Moment														
Bore Size (mm)	43.5psi (0.3 MPa)	58psi (0.4 MPa)	72.5psi (0.5 MPa)	87psi (0.6 MPa)	101psi (0.7 MPa)	116psi (0.8 MPa)										
50	74 (100)	96 (130)	118 (160)	144 (190)	162 (220)	184 (250)										
63	221 (300)	258 (350)	295 (400)	332 (450)	369 (500)	406 (550)										

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 correspondingly to manufacturer's technical information

Wire 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°	Н
45°	G
60°	F
75°	E
90°	D
105°	С
120°	В
135°	А

Replaceable Kits List

Description	Bore Size (mm)	Kit no.	Contents
	50	CKZ3N-S050T Note 1)	 Switch holder Proximity switch (TURCK) Helical torsion spring Hexagon nut type 3 Switch holder gasket
	63	CKZ3N-S063T Note 1)	 Hexagon socket head cover cap screw Detection plate Hexagon socket head cover cap screw Hexagon socket head cap screw Small round flat washer
Switch Kits	50	CKZ3N-S050P Note 1)	 Switch holder Proximity switch (P&F) Helical torsion spring Hexagon nut type 3 Switch holder gasket
63	63	CKZ3N-S063P Note 1)	 Hexagon socket head cover cap screw Detection plate Hexagon socket head cover cap screw Hexagon socket head cap screw Small round flat washer
	50	CKZ3N-S050W Note 1)	 Switch holder Switch holder cover Hexagon nut type 3
	63	CKZ3N-S063W Note 1)	 Witch holder gasket Hexagon socket head cover cap screw Hexagon socket head cap screw
Stopper Bolt Kits	50	CKZ3N-B050 Note 2)	 ② Stopper bolt ③ Seal washer
	63	CKZ3N-B063 Note 2)	(4) Bumper (2) Bumper stopper
	50	CKZ2N-T050	 ⑤ Rubber cover ⑦ Spacer
Top Cover Kits	63	CKZ2N-T063	18 Short head cap screw
	50	CKZ3N-T050M	6 Metal cover 1 Metal washer
	63	CKZ3N-T063M	② Short 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.





50mm Bore

(Dimensions Shown in mm)









X6013 Arms

Bore Size	Part Number	Code	NAAMS Ref No.
	CKZ-50A401-X6013	A401	ACA401M
	CKZ-50A402-X6013	A402	ACA402M
	CKZ-50A403-X6013	A403	ACA403M
	CKZ-50A411-X6013	A411	ACA411M
50	CKZ-50A412-X6013	A412	ACA412M
	CKZ-50A413-X6013	A413	ACA413M
	CKZ-50A421-X6013	A421	ACA421M
	CKZ-50A422-X6013	A422	ACA422M
	CKZ-50A423-X6013	A423	ACA423M
	CKZ-63A507-X6013	A507	ACA507M
	CKZ-63A508-X6013	A508	ACA508M
	CKZ-63A509-X6013	A509	ACA509M
	CKZ-63A510-X6013	A510	ACA510M
	CKZ-63A511-X6013	A511	ACA511M
	CKZ-63A512-X6013	A512	ACA512M
	CKZ-63A513-X6013	A513	ACA513M
	CKZ-63A514-X6013	A514	ACA514M
	CKZ-63A515-X6013	A515	ACA515M
63	CKZ-63A516-X6013	A516	ACA516M
	CKZ-63A517-X6013	A517	ACA517M
	CKZ-63A518-X6013	A518	ACA518M
	CKZ-63A519-X6013	A519	ACA519M
	CKZ-63A520-X6013	A520	ACA520M
	CKZ-63A521-X6013	A521	ACA521M
	CKZ-63A522-X6013	A522	ACA522M
	CKZ-63A523-X6013	A523	ACA523M
	CKZ-63A524-X6013	A524	ACA524M
	CKZ-63A525-X6013	A525	ACA525M
	CKZ-63A526-X6013	A526	ACA526M
	CKZ-63A527-X6013	A527	ACA527M

Bore Size	Part Number	Code	NAAMS Ref No.
	CKZ-63A528-X6013	A528	ACA528M
	CKZ-63A529-X6013	A529	ACA529M
	CKZ-63A530-X6013	A530	ACA530M
	CKZ-63A531-X6013	A531	ACA531M
	CKZ-63A532-X6013	A532	ACA532M
	CKZ-63A533-X6013	A533	ACA533M
	CKZ-63A534-X6013	A534	ACA534M
	CKZ-63A535-X6013	A535	ACA535M
	CKZ-63A536-X6013	A536	ACA536M
	CKZ-63A537-X6013	A537	ACA537M
	CKZ-63A538-X6013	A538	ACA538M
	CKZ-63A539-X6013	A539	ACA539M
	CKZ-63A540-X6013	A540	ACA540M
63	CKZ-63A541-X6013	A541	ACA541M
	CKZ-63A542-X6013	A542	ACA542M
	CKZ-63A543-X6013	A543	ACA543M
	CKZ-63A544-X6013	A544	ACA544M
	CKZ-63A545-X6013	A545	ACA545M
	CKZ-63A546-X6013	A546	ACA546M
	CKZ-63A547-X6013	A547	ACA547M
	CKZ-63A548-X6013	A548	ACA548M
	CKZ-63A549-X6013	A549	ACA549M
	CKZ-63A550-X6013	A550	ACA550M
	CKZ-63A551-X6013	A551	ACA551M
	CKZ-63A552-X6013	A552	ACA552M
	CKZ-63A553-X6013	A553	ACA553M
	CKZ-63A554-X6013	A554	ACA554M

How to Order



50mm Bore Straight-Machined





Part Number	NAAMS	Α	В	С	D	Ε	F	G	Н	1	Weight kg(lbs)
CKZ-50A401-X6013	ACA401M	80.0	65.0	50.0	-	-	-	-	90.0	-	0.5 (1.11)
CKZ-50A402-X6013	ACA402M	110.0	95.0	80.0	65.0	50.0	-	-	120.0	-	0.6 (1.36)
CKZ-50A403-X6013	ACA403M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	-	0.7 (1.61)



50mm Bore 25mm Offset-Machined





Part Number	NAAMS	Α	В	С	D	E	F	G	Η	- 1	Weight kg(lbs)
CKZ-50A411-X6013	ACA411M	80.0	65.0	50.0	-	-	-	-	90.0	56.0	0.6 (1.22)
CKZ-50A412-X6013	ACA412M	110.0	95.0	80.0	65.0	50.0	-	-	120.0	86.0	0.6 (1.43)
CKZ-50A413-X6013	ACA413M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.7 (1.64)



50mm Bore 50mm Offset-Machined





Part Number	NAAMS	Α	В	С	D	E	F	G	H	1	Weight kg(lbs)
CKZ-50A421-X6013	ACA421M	80.0	65.0	50.0	-	-	-	-	90.0	56.0	0.7 (1.45)
CKZ-50A422-X6013	ACA422M	110.0	95.0	80.0	65.0	50.0	-	-	120.0	86.0	0.8 (1.66)
CKZ-50A423-X6013	ACA423M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.8 (1.87)



63mm Bore Straight-Machined





Part Number	NAAMS	Α	В	С	D	Ε	F	G	Н	I	J	K	L	М	Ν	0	Ρ	Q	R (DWL)	Weight kg(lbs)
CKZ-63A507-X6013	ACA507M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	6.0	0.8 (1.76)
CKZ-63A508-X6013	ACA508M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	6.0	0.9 (2.1)
CKZ-63A509-X6013	ACA509M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	6.0	1.1 (2.47)
CKZ-63A510-X6013	ACA510M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	6.0	1.2 (2.65)
CKZ-63A511-X6013	ACA511M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	6.0	1.3 (3)
CKZ-63A512-X6013	ACA512M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	6.0	1.5 (3.35)
CKZ-63A513-X6013	ACA513M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	8.0	0.8 (1.76)
CKZ-63A514-X6013	ACA514M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	8.0	0.9 (2.1)
CKZ-63A515-X6013	ACA515M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	8.0	1.1 (2.47)
CKZ-63A516-X6013	ACA516M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	8.0	1.2 (2.65)
CKZ-63A517-X6013	ACA517M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	8.0	1.3 (3)
CKZ-63A518-X6013	ACA518M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	8.0	1.5 (3.35)

63mm Bore 25mm Offset-Machined





Part Number	NAAMS	Α	В	С	D	E	F	G	Н	1	J	K	L	М	Ν	0	P	Q	R (DWL)	Weight kg(lbs)
CKZ-63A519-X6013	ACA519M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	6.0	1.0 (2.29)
CKZ-63A520-X6013	ACA520M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	6.0	1.2 (2.65)
CKZ-63A521-X6013	ACA521M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	6.0	1.3 (2.82)
CKZ-63A522-X6013	ACA522M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	6.0	1.3 (3.00)
CKZ-63A523-X6013	ACA523M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	6.0	1.5 (3.35)
CKZ-63A524-X6013	ACA524M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	6.0	1.7 (3.70)
CKZ-63A525-X6013	ACA525M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	8.0	1.0 (2.29)
CKZ-63A526-X6013	ACA526M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	8.0	1.2 (2.65)
CKZ-63A527-X6013	ACA527M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	8.0	1.3 (2.82)
CKZ-63A528-X6013	ACA528M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	8.0	1.3 (3.00)
CKZ-63A529-X6013	ACA529M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	8.0	1.5 (3.35)
CKZ-63A530-X6013	ACA530M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	8.0	1.7 (3.70)



63mm Bore 70mm Offset-Machined





Part Number	NAAMS	Α	В	С	D	Ε	F	G	H	- 1	J	K	L	М	Ν	0	Р	Q	R (DWL)	Weight kg(lbs)
CKZ-63A531-X6013	ACA531M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	6.0	1.1 (2.47)
CKZ-63A532-X6013	ACA532M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	6.0	1.3 (2.82)
CKZ-63A533-X6013	ACA533M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	6.0	1.4 (3.18)
CKZ-63A534-X6013	ACA534M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	6.0	1.5 (3.35)
CKZ-63A535-X6013	ACA535M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	6.0	1.7 (3.70)
CKZ-63A536-X6013	ACA536M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	6.0	1.8 (4.06)
CKZ-63A537-X6013	ACA537M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	8.0	1.1 (2.47)
CKZ-63A538-X6013	ACA538M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	8.0	1.3 (2.82)
CKZ-63A539-X6013	ACA539M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	8.0	1.4 (3.18)
CKZ-63A540-X6013	ACA540M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	8.0	1.5 (3.35)
CKZ-63A541-X6013	ACA541M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	8.0	1.7 (3.70)
CKZ-63A542-X6013	ACA542M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	8.0	1.8 (4.06)

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63mm Bore 120mm Offset-Machined





Part Number	NAAMS	Α	В	С	D	E	F	G	Н	1	J	K	L	М	Ν	0	Ρ	Q	R (DWL)	Weight kg(lbs)
CKZ-63A543-X6013	ACA543M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	6.0	1.4 (3.18)
CKZ-63A544-X6013	ACA544M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	6.0	1.6 (3.53)
CKZ-63A545-X6013	ACA545M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	6.0	1.7 (3.70)
CKZ-63A546-X6013	ACA546M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	6.0	1.8 (4.06)
CKZ-63A547-X6013	ACA547M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	6.0	2.0 (4.41)
CKZ-63A548-X6013	ACA548M	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	6.0	2.1 (4.76)
CKZ-63A549-X6013	ACA549M	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	-	-	135.0	85.0	8.0	1.4 (3.18)
CKZ-63A550-X6013	ACA550M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	-	-	165.0	115.0	8.0	1.6 (3.53)
CKZ-63A551-X6013	ACA551M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	-	-	195.0	145.0	8.0	1.7 (3.70)
CKZ-63A552-X6013	ACA552M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	-	-	225.0	175.0	8.0	1.8 (4.06)
CKZ-63A553-X6013	ACA553M	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	-	-	255.0	205.0	8.0	2.0 (4.41)
CKZ-63A554-X6013	ACA554	275.0	260.0	245.0	230.0	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	8.0	2.1 (4.76)





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.



Rubber cover type Metal cover type

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 Ibf∙ft (N∙m)
Switch kit	50	1.9 to 2.6 (2.6 to 3.5)
Switch Kit	63	1.9 to 2.6 (2.6 to 3.5)
Stoppor bolt kit	50	96 to 111 (130 to 150)
	63	118 to 148 (160 to 200)
Top cover kit	50	1.1 to 1.48 (1.5 to 2.0)
(Rubber cover)	63	1.1 to 1.48 (1.5 to 2.0)
Top cover kit	50	1.1 to 1.48 (1.5 to 2.0)
(Metal cover)	63	1.1 to 1.48 (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





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.

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A 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.

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.
 - 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.
- 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.

*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.

▲Caution

- 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

- 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.



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