

Power Clamp Cylinder

Conforming to the New NAAMS Standard

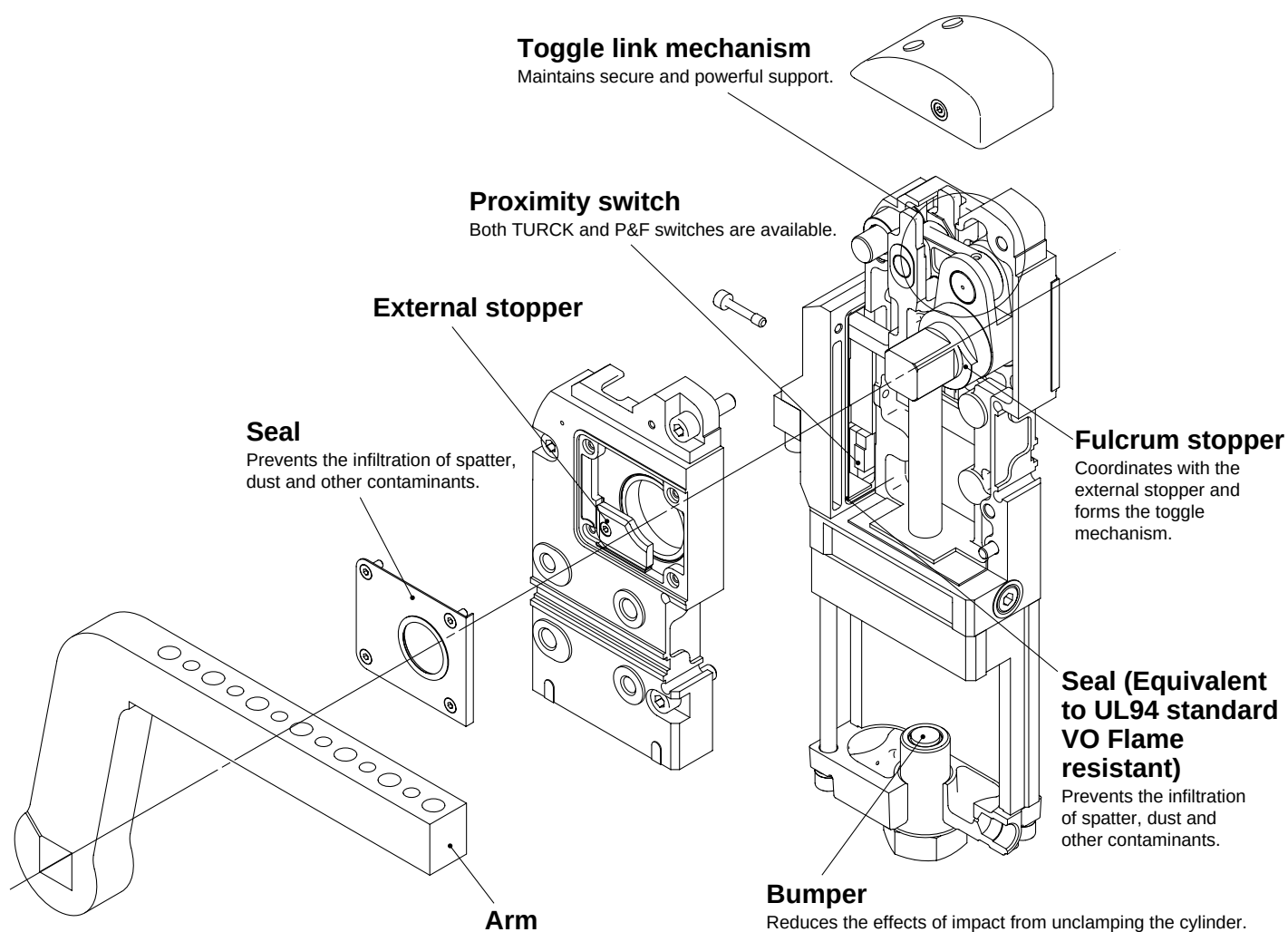
Series **CKZ2N**

NAAMS Compliant

New



Special	CK□/M(D)UKA
For France	CLKZ1R
For Europe	CKZT
For North America	CKZ2N
	MK2T/MK2/MK
	C(L)KQ□
For Asia	CLK2
	CK□1



■ 3D CAD

Software
CATIA
UNIGRAPHICS
FIDES
AUTO CAD
SOLID WORKS

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

■ Series Variations

Series	CKZ2N		
Bore size (mm)	ø50 Equivalent	ø63 Equivalent	ø80 Equivalent
Arm opening angle	30°, 45°, 60°, 75° 90°, 105°, 120°, 135°		
Switch	TURCK/P&F		
Port thread type	G/NPT		

Series CKZ2N

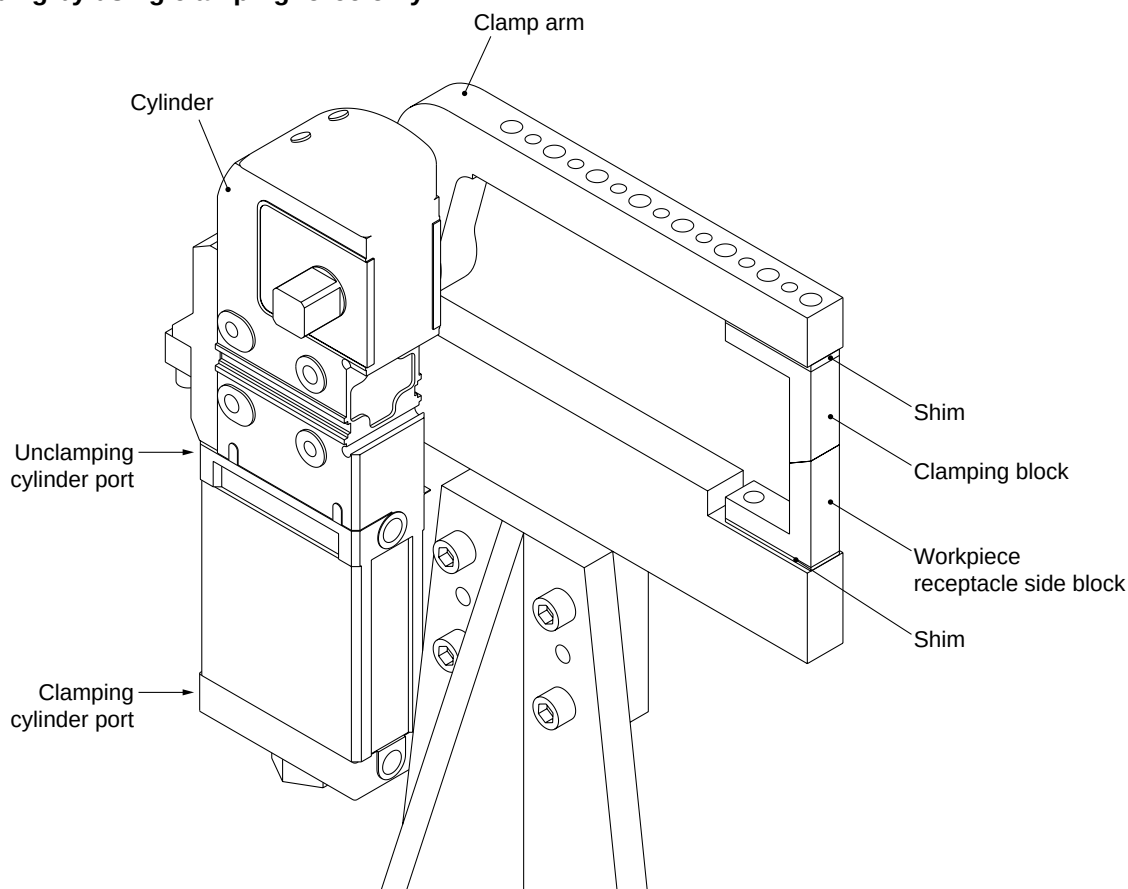
Model Selection

1 Common precautions for each size

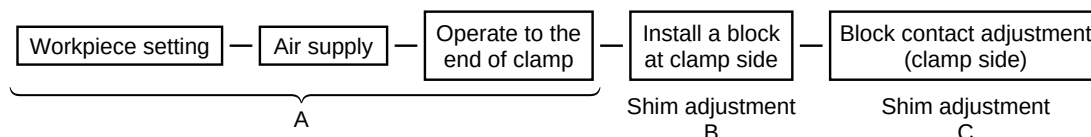
- 1) Use air filtered through a 5- μ m-element filter.
- 2) Before piping is connected to the slim-line power clamp cylinder it should be thoroughly flushed with air.
- 3) Only use the clamp arm in our catalog. Do not weld an arm to the cylinder.
- 4) Make sure to use a speed controller and adjust it to more than 1sec. when changing from clamping to unclamping (or vice versa).

2 Slim-line 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 page 158 as a guide. About 10% error may occur due to the difference in tolerance of the power clamp cylinder body.

CK□1

For Asia

CLK2

C(L)KQ□

For North America

MK2T/MK2/MK

CKZ2N

For Europe

CKZT

For France

CLKZ1R

Special

CK□/M(D)UKA

Model Selection

2 Slim-line 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.

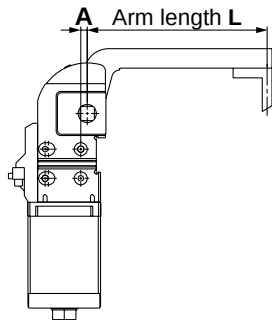
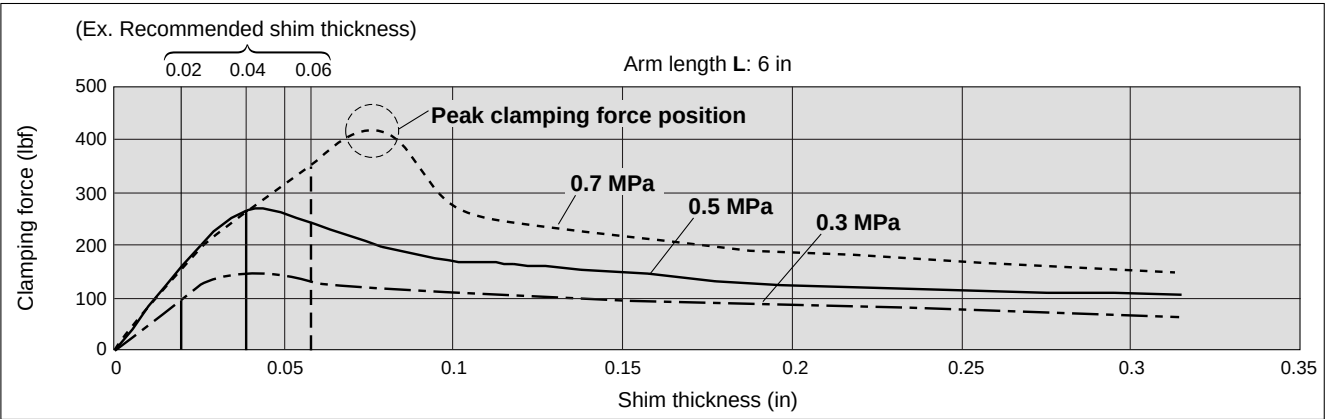
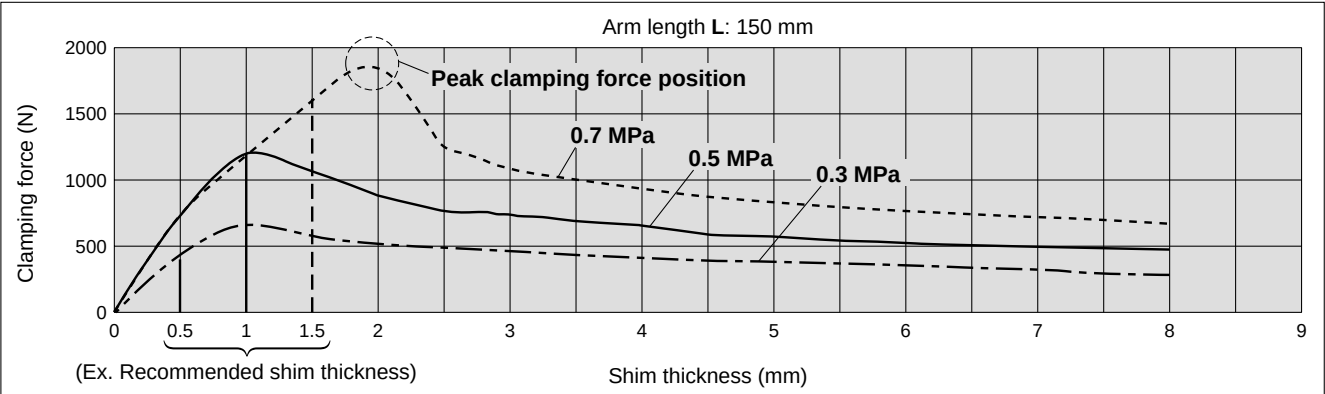


Table 1

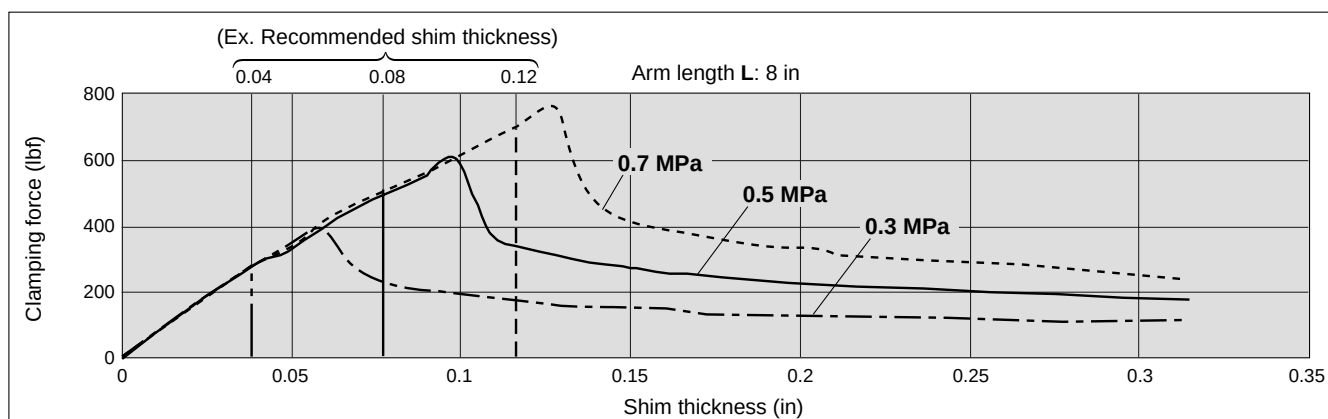
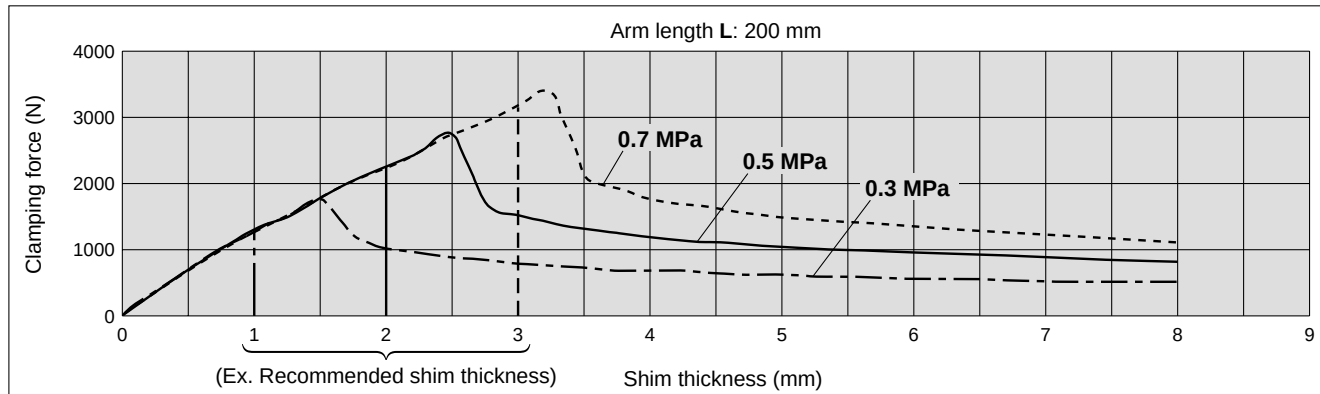
Model	A
CKZ2N50	5
CKZ2N63	10
CKZ2N80	15

ø50

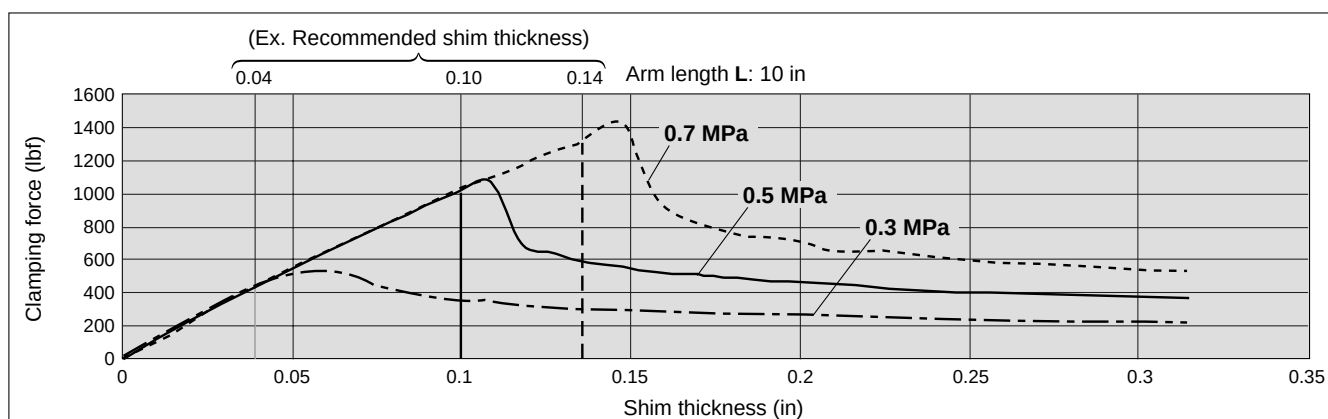
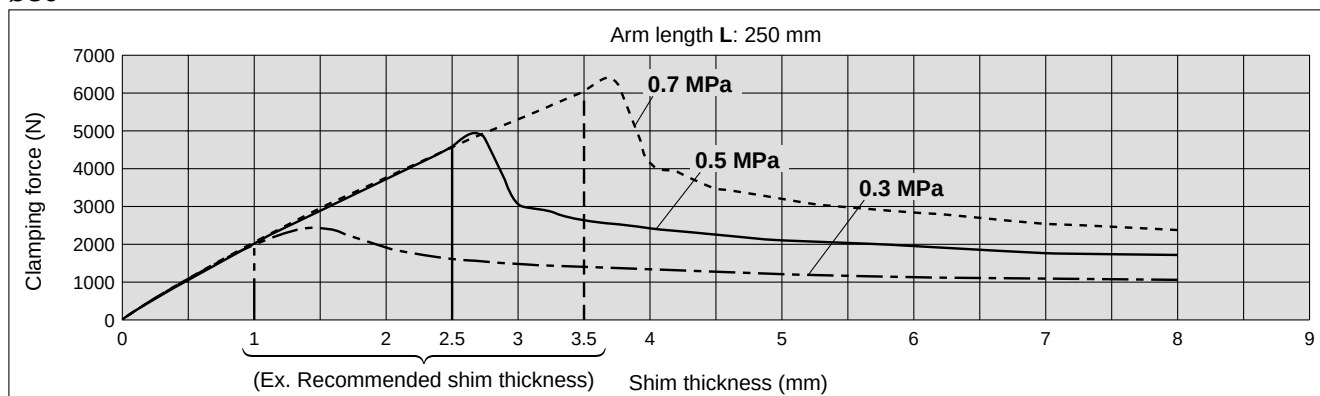


2 Slim-line power clamp cylinder mounting

ø63



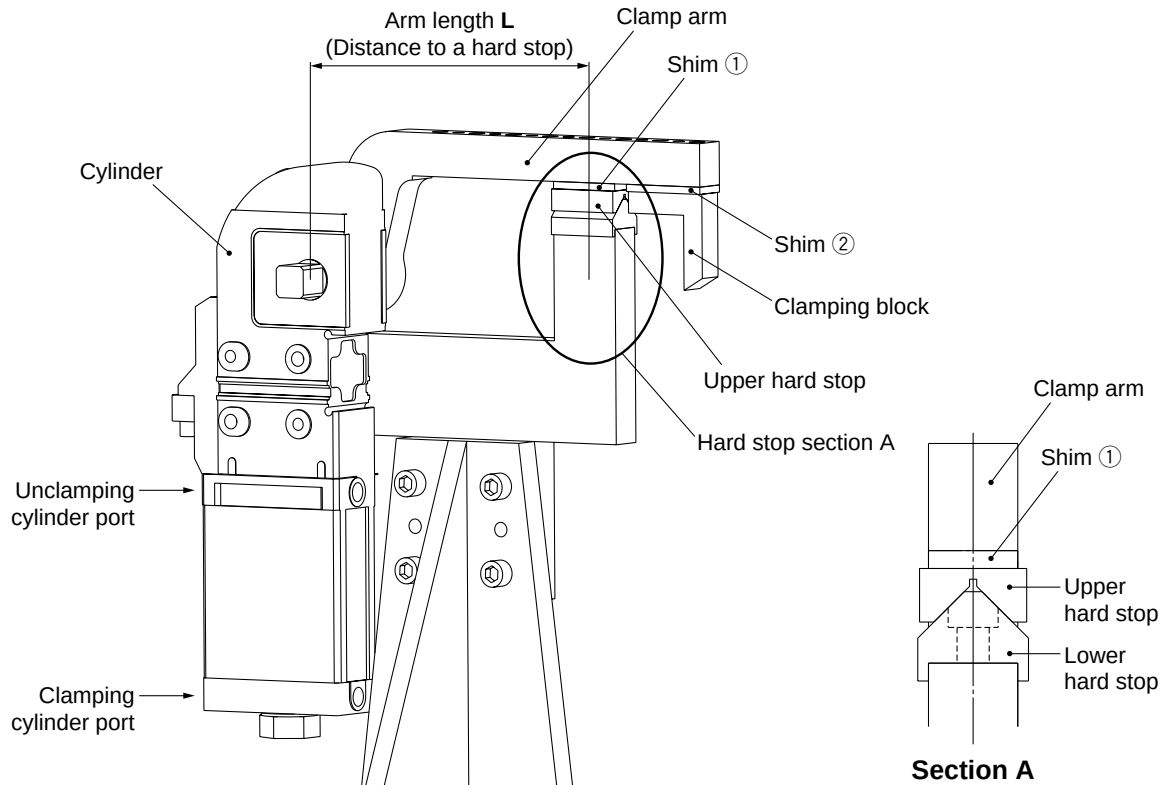
ø80



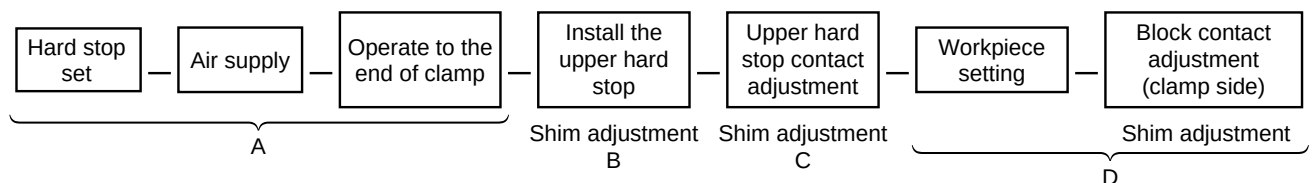
Model Selection

2 Slim-line power clamp cylinder mounting

When using a hard stop



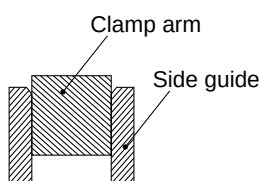
Mounting process



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 pages 158 and 159 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.

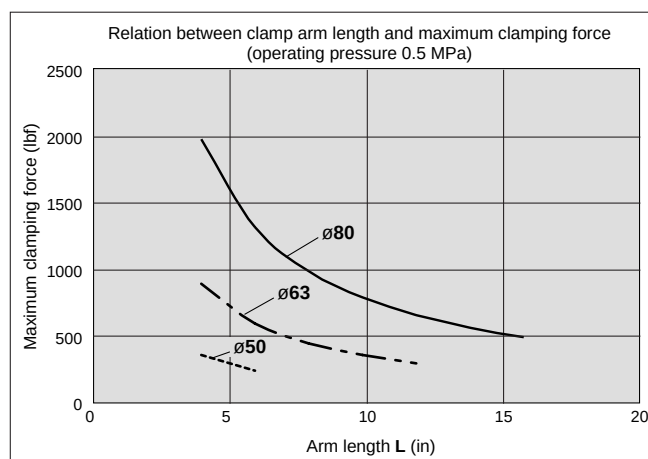
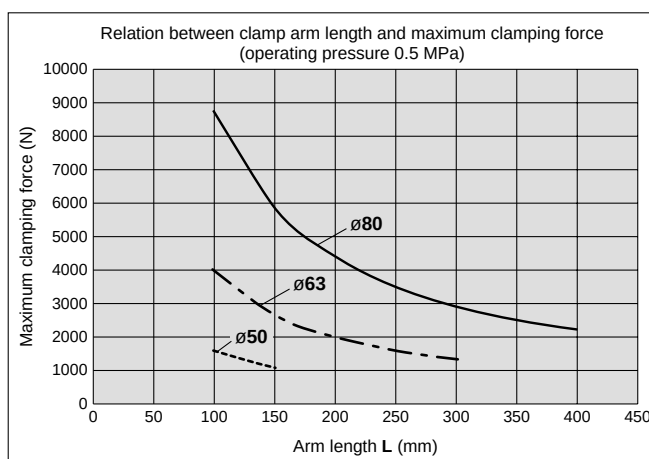
3 Clamp arm

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
CKZ2N50	150 mm
CKZ2N63	300 mm
CKZ2N80	400 mm

Relation between clamp arm length and clamping force



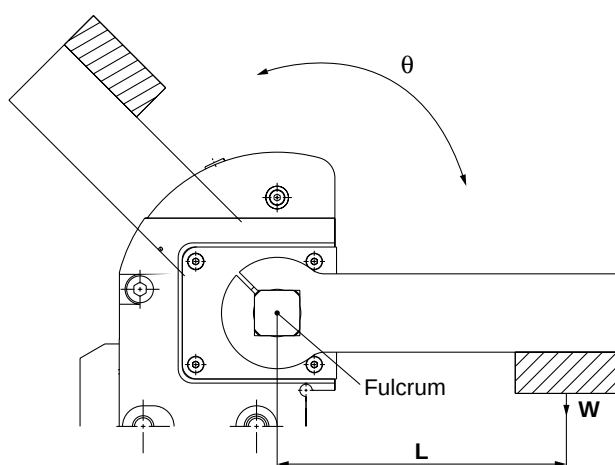
Allowable load for clamp arm end

Refer to the graph on page 162 for parts weight of the arm.

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

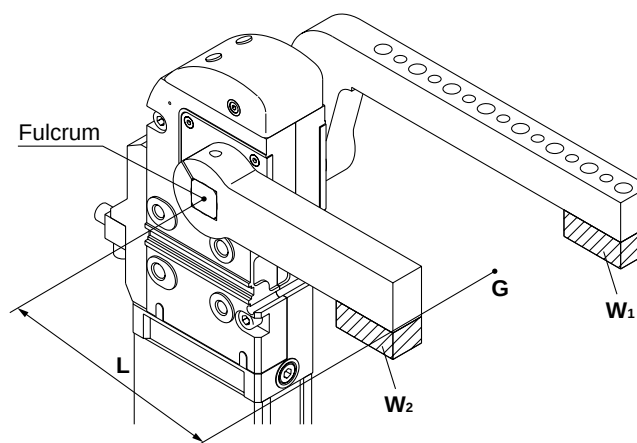
Single-side-arm type (R/L)

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)

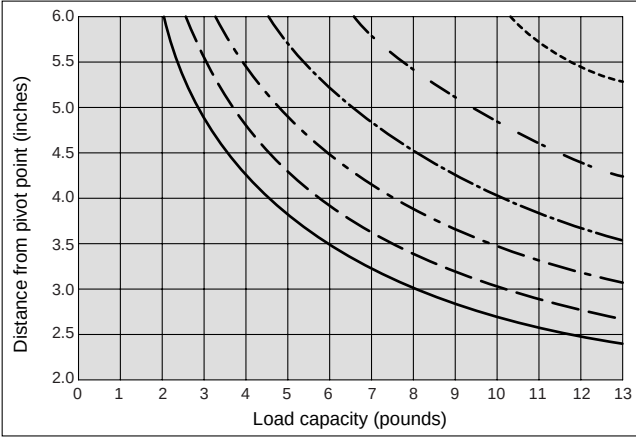
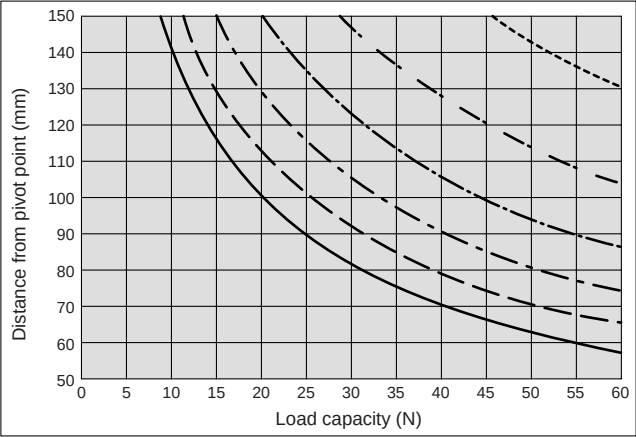
Consider the weight of allowable arm end load according to the center position "G" of each arm end load ($W_1 + W_2$), the distance "L" to the fulcrum and the arm opening angle "θ". Use within the allowable range of ($W_1 + W_2$), in this case.



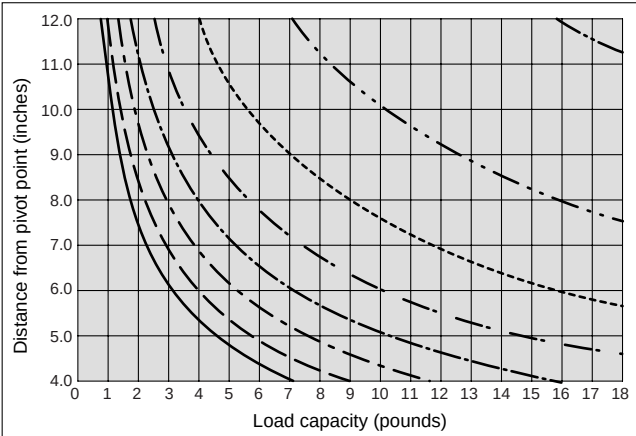
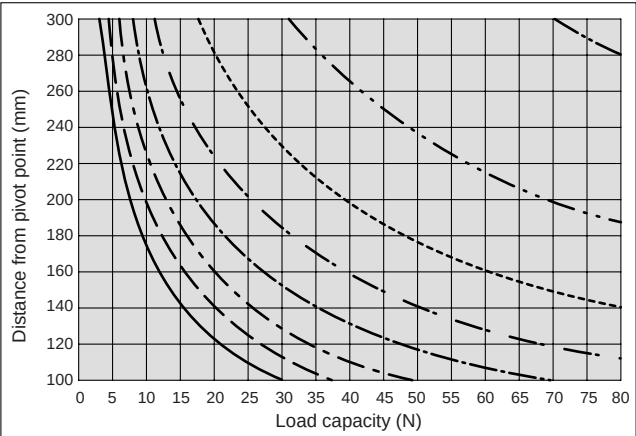
Model Selection

3 Clamp arm

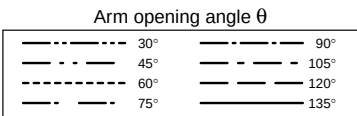
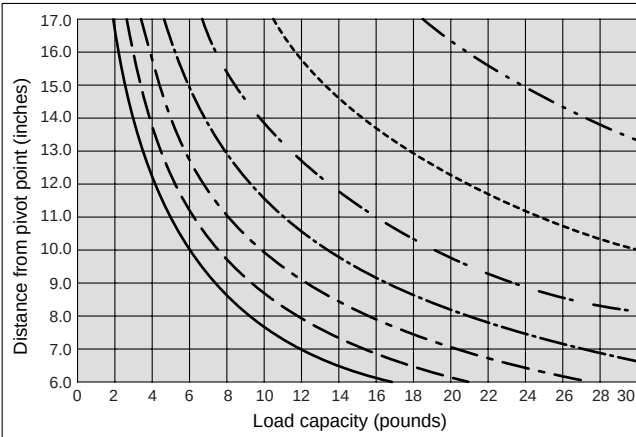
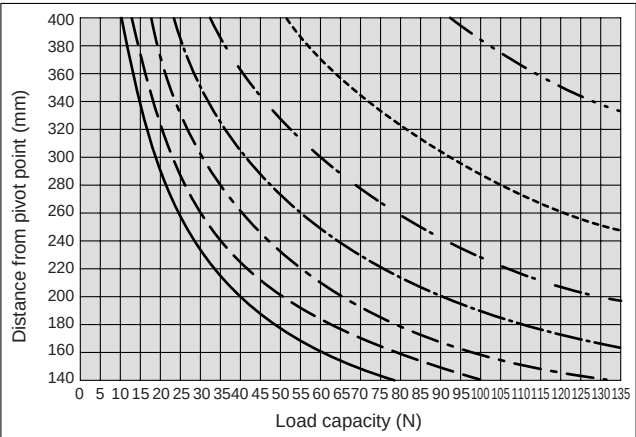
ø50



ø63

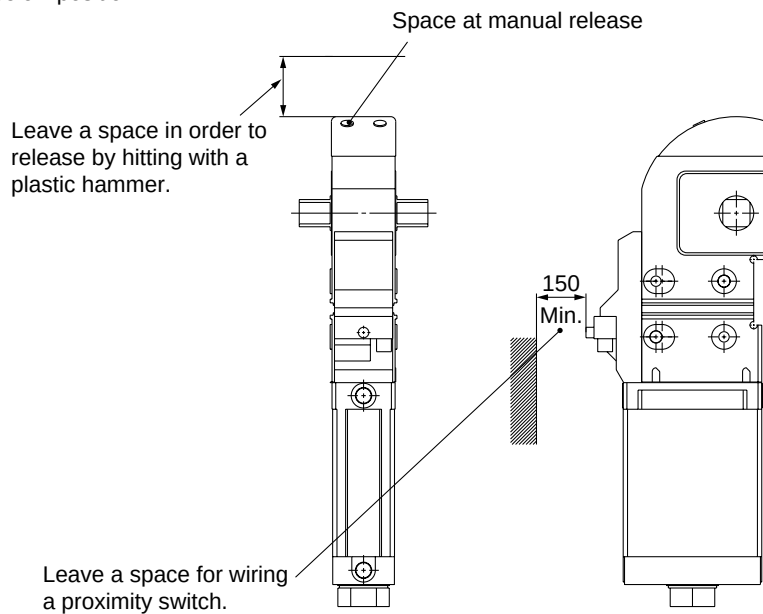


ø80



4 Space in design

Leave a space in the below position.



For Asia	CK□1
	CLK2
	C(L)KQ□
	MK2T/MK2/MK
For North America	CKZ2N
For Europe	CKZT
For France	CLKZ1R
Special	CK□/M(D)UKA

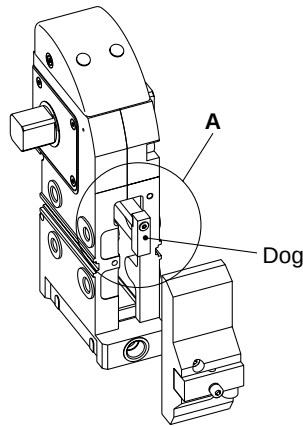
Model Selection

5 Arm opening angle change

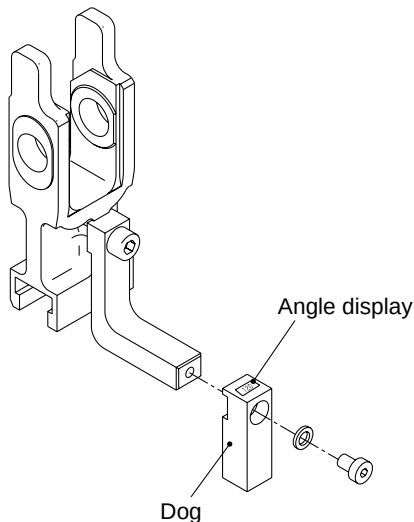
8 types of arm opening angles (unclamping angles) 30°, 45°, 60°, 75°, 90°, 105°, 120° and 135° are available for each standard size.

Arm opening angle change procedure

- 1) Make sure to completely exhaust the air in the cylinder.
- 2) Remove the switch cassette

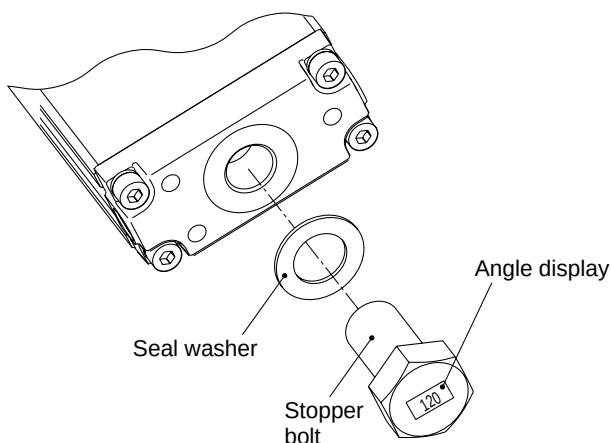


- 3) Remove the dog of the "A" part, and mount a different dog for other angles using the tightening torque below. (Confirm the direction of the angle display.) Then mount the switch cassette using the tightening torque below.



Description	Bore size (mm)	Tightening torque	
		N · m	lbf · in
Dog	50	3.0 to 4.0	27 to 35
	63	3.0 to 4.0	27 to 35
	80	3.0 to 4.0	27 to 35
Switch cassette	50	5.0 to 7.0	44 to 62
	63	5.0 to 7.0	44 to 62
	80	5.0 to 7.0	44 to 62

- 4) Remove the stopper bolt of the head cover, and mount a different stopper bolt for other angles using the tightening torque below. (Confirm the direction of the angle display.)



Description	Bore size (mm)	Tightening torque	
		N · m	lbf · in
Stopper bolt	50	130 to 150	1150 to 1327
	63	160 to 200	1416 to 1770
	80	480 to 520	4248 to 4600

Power Clamp Cylinder Conforming to the New NAAMS Standard

Series *CKZ2N*

ø50, ø63, ø80



How to Order

Clamp Cylinder (Without Arm)

CKZ2N **63** **TF** - **120** **R** **T**

Power clamp cylinder
conforming to the
new NAAMS standard

Bore size

50	Equivalent to 50 mm
63	Equivalent to 63 mm
80	Equivalent to 80 mm

Cylinder port

Nil	NPT
TF	G

Arm opening angle

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

Switch type

T	TURCK
P	P&F

Arm mounting position

R	L	D
Right	Left	Both sides

Arm

CKZ - **63** **A002**

Bore size

50	Equivalent to 50 mm
63	Equivalent to 63 mm
80	Equivalent to 80 mm

Arm code

(Refer to page 167 and 171 through to 178.)

CK□1

CLK2

For Asia

C(L)KQ□

MK2T/MK2/MK

For North America

CKZ2N

For Europe

CKZT

For France

CLKZ1R

Special

CK□/M(D)UKA

Cylinder Specifications

Bore size (mm)	50	60	80
Action	Double acting		
Fluid	Air		
Proof pressure	1.2 MPa (174 psi)		
Max. operating pressure	0.8 MPa (116 psi)		
Min. operating pressure	0.3 MPa (44 psi)		
Ambient and fluid temperature	-10 to 60°C (14 to 140°F)		
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 (lbs)

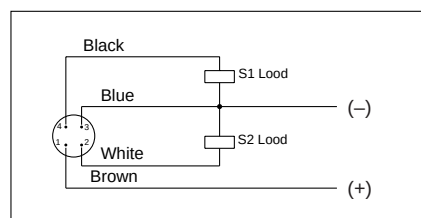
Bore size (mm)	Arm position	Arm angle							
		30°	45°	60°	75°	90°	105°	120°	135°
50	R/L	5.21 (11.46)	5.19 (11.42)	5.17 (11.37)	5.15 (11.33)	5.12 (11.26)	5.09 (11.20)	5.07 (11.15)	5.06 (11.13)
	D	5.27 (11.54)	5.25 (11.50)	5.23 (11.45)	5.21 (11.46)	5.18 (11.34)	5.15 (11.28)	5.13 (11.23)	5.12 (11.21)
63	R/L	7.37 (16.21)	7.34 (16.15)	7.31 (16.08)	7.28 (16.02)	7.24 (15.93)	7.21 (15.86)	7.18 (15.80)	7.16 (15.75)
	D	7.47 (16.36)	7.44 (16.29)	7.41 (16.23)	7.38 (16.16)	7.34 (16.07)	7.31 (16.01)	7.28 (15.94)	7.26 (15.90)
80	R/L	17.20 (37.84)	17.13 (37.69)	17.07 (37.55)	17.00 (37.40)	16.93 (37.25)	16.86 (37.09)	16.80 (36.96)	16.76 (36.87)
	D	17.42 (38.15)	17.35 (38.00)	17.29 (37.87)	17.21 (37.69)	17.15 (37.56)	17.08 (37.41)	17.02 (37.27)	16.98 (37.19)

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-GP30	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.

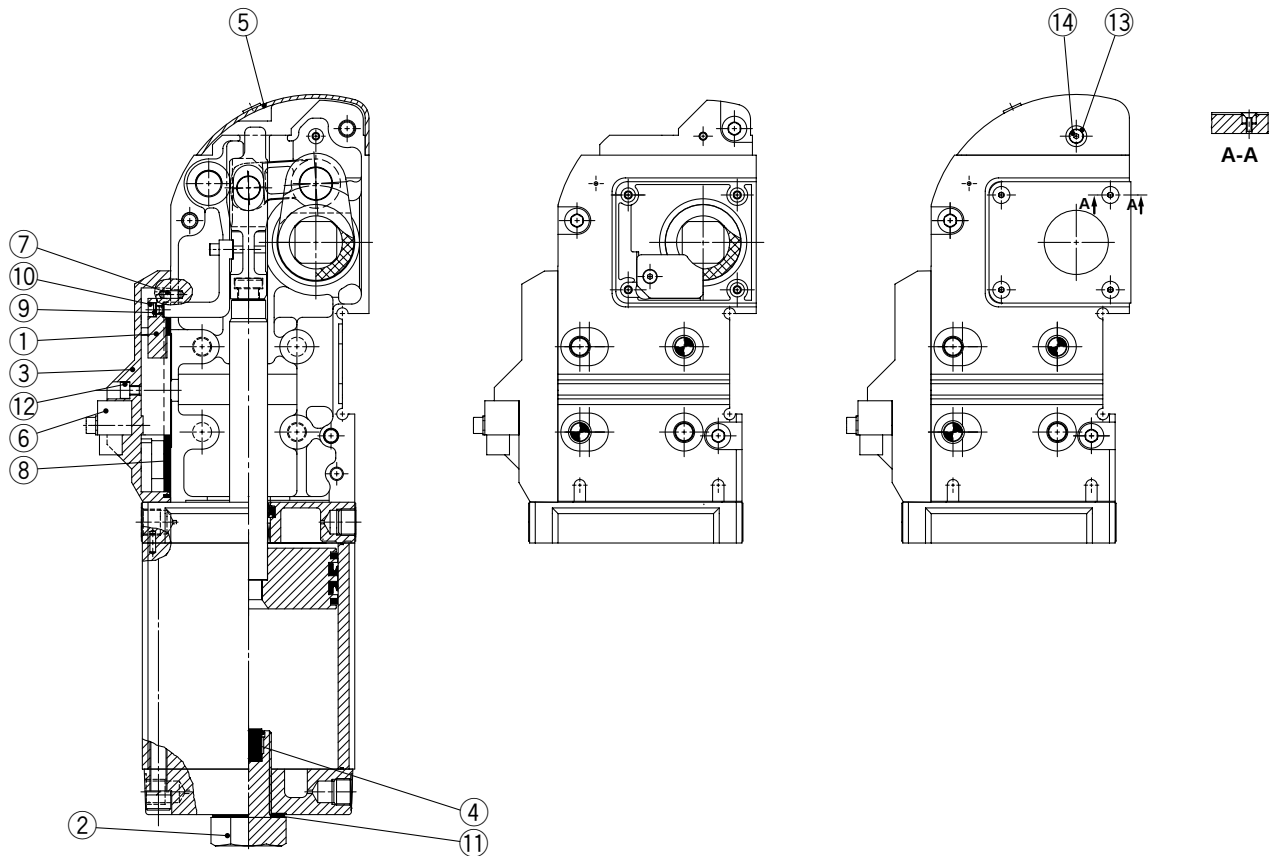
Power Clamp Cylinder
Conforming to the New NAAMS Standard **Series CKZ2N**

Part Number (Arm)

Bore size	SMC Part Number	Code	NAAMS Ref No.	Bore size	SMC Part Number	Code	NAAMS Ref No.	Bore size	SMC Part Number	Code	NAAMS Ref No.	Bore size	SMC Part Number	Code	NAAMS Ref No.
50	CKZ-50A001	A001	ACA201M	63	CKZ-63A012	A012	ACA012M	80	CKZ-80A001	A001	ACA100M	80	CKZ-80A038	A038	ACA141M
	CKZ-50A002	A002	ACA202M		CKZ-63A013	A013	ACA013M		CKZ-80A002	A002	ACA101M		CKZ-80A039	A039	ACA142M
	CKZ-50A003	A003	ACA203M		CKZ-63A014	A014	ACA014M		CKZ-80A003	A003	ACA102M		CKZ-80A040	A040	ACA143M
	CKZ-50A004	A004	ACA206M		CKZ-63A015	A015	ACA015M		CKZ-80A004	A004	ACA103M		CKZ-80A041	A041	ACA144M
	CKZ-50A005	A005	ACA207M		CKZ-63A016	A016	ACA016M		CKZ-80A005	A005	ACA104M		CKZ-80A042	A042	ACA145M
	CKZ-50A006	A006	ACA208M		CKZ-63A017	A017	ACA017M		CKZ-80A006	A006	ACA105M		CKZ-80A043	A043	ACA146M
	CKZ-50A007	A007	ACA211M		CKZ-63A018	A018	ACA018M		CKZ-80A007	A007	ACA106M		CKZ-80A044	A044	ACA147M
	CKZ-50A008	A008	ACA212M		CKZ-63A019	A019	ACA019M		CKZ-80A008	A008	ACA107M		CKZ-80A045	A045	ACA148M
	CKZ-50A009	A009	ACA213M		CKZ-63A020	A020	ACA020M		CKZ-80A009	A009	ACA108M		CKZ-80A046	A046	ACA150M
	CKZ-50A010	A010	ACA216M		CKZ-63A021	A021	ACA021M		CKZ-80A010	A010	ACA110M		CKZ-80A047	A047	ACA151M
	CKZ-50A011	A011	ACA217M		CKZ-63A022	A022	ACA022M		CKZ-80A011	A011	ACA111M		CKZ-80A048	A048	ACA152M
	CKZ-50A012	A012	ACA218M		CKZ-63A023	A023	ACA023M		CKZ-80A012	A012	ACA112M		CKZ-80A049	A049	ACA153M
	CKZ-50A013	A013	ACA221M		CKZ-63A024	A024	ACA024M		CKZ-80A013	A013	ACA113M		CKZ-80A050	A050	ACA154M
	CKZ-50A014	A014	ACA222M		CKZ-63A025	A025	ACA025M		CKZ-80A014	A014	ACA114M		CKZ-80A051	A051	ACA155M
	CKZ-50A015	A015	ACA223M		CKZ-63A026	A026	ACA026M		CKZ-80A015	A015	ACA115M		CKZ-80A052	A052	ACA156M
	CKZ-50A016	A016	ACA226M		CKZ-63A027	A027	ACA027M		CKZ-80A016	A016	ACA116M		CKZ-80A053	A053	ACA157M
	CKZ-50A017	A017	ACA227M		CKZ-63A028	A028	ACA028M		CKZ-80A017	A017	ACA117M		CKZ-80A054	A054	ACA158M
	CKZ-50A018	A018	ACA228M		CKZ-63A029	A029	ACA029M		CKZ-80A018	A018	ACA118M		CKZ-80A055	A055	ACA160M
	CKZ-50A019	A019	ACA236M		CKZ-63A030	A030	ACA030M		CKZ-80A019	A019	ACA120M		CKZ-80A056	A056	ACA161M
	CKZ-50A020	A020	ACA237M		CKZ-63A031	A031	ACA031M		CKZ-80A020	A020	ACA121M		CKZ-80A057	A057	ACA162M
	CKZ-50A021	A021	ACA238M		CKZ-63A032	A032	ACA032M		CKZ-80A021	A021	ACA122M		CKZ-80A058	A058	ACA163M
	CKZ-50A022	A022	ACA246M		CKZ-63A033	A033	ACA033M		CKZ-80A022	A022	ACA123M		CKZ-80A059	A059	ACA164M
	CKZ-50A023	A023	ACA247M		CKZ-63A034	A034	ACA034M		CKZ-80A023	A023	ACA124M		CKZ-80A060	A060	ACA165M
	CKZ-50A024	A024	ACA248M		CKZ-63A035	A035	ACA035M		CKZ-80A024	A024	ACA125M		CKZ-80A061	A061	ACA166M
	CKZ-50A025	A025	ACA256M		CKZ-63A036	A036	ACA036M		CKZ-80A025	A025	ACA126M		CKZ-80A062	A062	ACA167M
	CKZ-50A026	A026	ACA257M		CKZ-63A037	A037	ACA037M		CKZ-80A026	A026	ACA127M		CKZ-80A063	A063	ACA168M
	CKZ-50A027	A027	ACA258M		CKZ-63A038	A038	ACA038M		CKZ-80A027	A027	ACA128M		CKZ-80A064	A064	ACA170M
63	CKZ-63A001	A001	ACA001M	63	CKZ-63A039	A039	ACA039M		CKZ-80A028	A028	ACA130M		CKZ-80A065	A065	ACA171M
	CKZ-63A002	A002	ACA002M		CKZ-63A040	A040	ACA040M		CKZ-80A029	A029	ACA131M		CKZ-80A066	A066	ACA172M
	CKZ-63A003	A003	ACA003M		CKZ-63A041	A041	ACA041M		CKZ-80A030	A030	ACA132M		CKZ-80A067	A067	ACA173M
	CKZ-63A004	A004	ACA004M		CKZ-63A042	A042	ACA042M		CKZ-80A031	A031	ACA133M		CKZ-80A068	A068	ACA174M
	CKZ-63A005	A005	ACA005M		CKZ-63A043	A043	ACA043M		CKZ-80A032	A032	ACA134M		CKZ-80A069	A069	ACA175M
	CKZ-63A006	A006	ACA006M		CKZ-63A044	A044	ACA044M		CKZ-80A033	A033	ACA135M		CKZ-80A070	A070	ACA176M
	CKZ-63A007	A007	ACA007M		CKZ-63A045	A045	ACA045M		CKZ-80A034	A034	ACA136M		CKZ-80A071	A071	ACA177M
	CKZ-63A008	A008	ACA008M		CKZ-63A046	A046	ACA046M		CKZ-80A035	A035	ACA137M		CKZ-80A072	A072	ACA178M
	CKZ-63A009	A009	ACA009M		CKZ-63A047	A047	ACA047M		CKZ-80A036	A036	ACA138M				
	CKZ-63A010	A010	ACA010M		CKZ-63A048	A048	ACA048M		CKZ-80A037	A037	ACA140M				
	CKZ-63A011	A011	ACA011M												

For Asia CK□1
CLK2
C(L)K□
MK2T/MK2/MK
For North America CKZ2N
For Europe CKZT
For France CLKZ1R
Special CK□/M(D)UKA

Construction



Replaceable Kits List

Description	Bore size (mm)	Kit no.	Contents
Switch cassette	50	CKZ1N-S050 ^{T Note 1)} _P	③ Switch holder ⑥ Proximity switch ⑦ Parallel pin ⑧ Sheet gasket ⑫ Cover cap screw
	63	CKZ1N-S063 ^{T Note 1)} _P	
	80	CKZ1N-S080 ^{T Note 1)} _P	
Kits for changing opening angle of arm	50	CKZN-D050□ ^{Note 2)}	① Switch actuator ⑨ Spring washer ⑩ Socket head cap screw
		CKZN-B050□ ^{Note 2)}	② Stopper bolt ④ Bumper ⑪ Seal washer
		CKZN-K050□ ^{Note 2)}	CKZN-D050□ CKZN-B050□
	63	CKZN-D063□ ^{Note 2)}	① Switch actuator ⑨ Spring washer ⑩ Socket head cap screw
		CKZN-B063□ ^{Note 2)}	② Stopper bolt ④ Bumper ⑪ Seal washer
		CKZN-K063□ ^{Note 2)}	CKZN-D063□ CKZN-B063□
	80	CKZN-D080□ ^{Note 2)}	① Switch actuator ⑨ Spring washer ⑩ Socket head cap screw
		CKZN-B080□ ^{Note 2)}	② Stopper bolt ④ Bumper ⑪ Seal washer
		CKZN-K080□ ^{Note 2)}	CKZN-D080□ CKZN-B080□
Top cover kits	50	CKZ2N-T050	⑤ Top cover
	63	CKZ2N-T063	⑬ Spacer
	80	CKZ2N-T080	⑭ Short head cap screw

①	Switch actuator
②	Stopper bolt
③	Switch holder
④	Bumper
⑤	Top cover
⑥	Proximity switch
⑦	Parallel pin
⑧	Sheet gasket
⑨	Spring washer
⑩	Socket head cap screw
⑪	Seal washer
⑫	Cover cap screw
⑬	Spacer
⑭	Short head cap screw

Note 1) T = TURCK, P = P&F

Note 2) Please specify the opening angle by the code in Table 1.

Table 1

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

Allowable Locking Moment

Bore size (mm)	Allowable locking moment	
	N · m	lbf · in
50	800	7080
63	1500	13274
80	2500	22124

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

Maximum Clamping Moment

Bore size (mm)	Max. clamping force											
	0.3 MPa		0.4 MPa		0.5 MPa		0.6 MPa		0.7 MPa		0.8 MPa	
	N · m	lbf · in	N · m	lbf · in	N · m	lbf · in	N · m	lbf · in	N · m	lbf · in	N · m	lbf · in
50	100	885	130	1150	160	1416	190	1681	220	1947	250	2212
63	300	2655	350	3097	400	3540	450	3982	500	4425	550	4867
80	560	4956	720	6372	880	7788	1040	9204	1200	10619	1360	12035

Cylinder Stroke

Unit: (mm)									
Angle Bore size	30°	45°	60°	75°	90°	105°	120°	135°	
50	31.1	38.9	46.4	54.1	61.9	69.6	76.4	81.3	
63	34.1	42.5	50.5	58.6	66.8	74.7	81.5	86.3	
80	47.3	59.4	71.1	83.2	95.7	108.0	119.1	127.3	

CK□1

For Asia

CLK2
C(L)KQ□

MK2T/MK2/MK

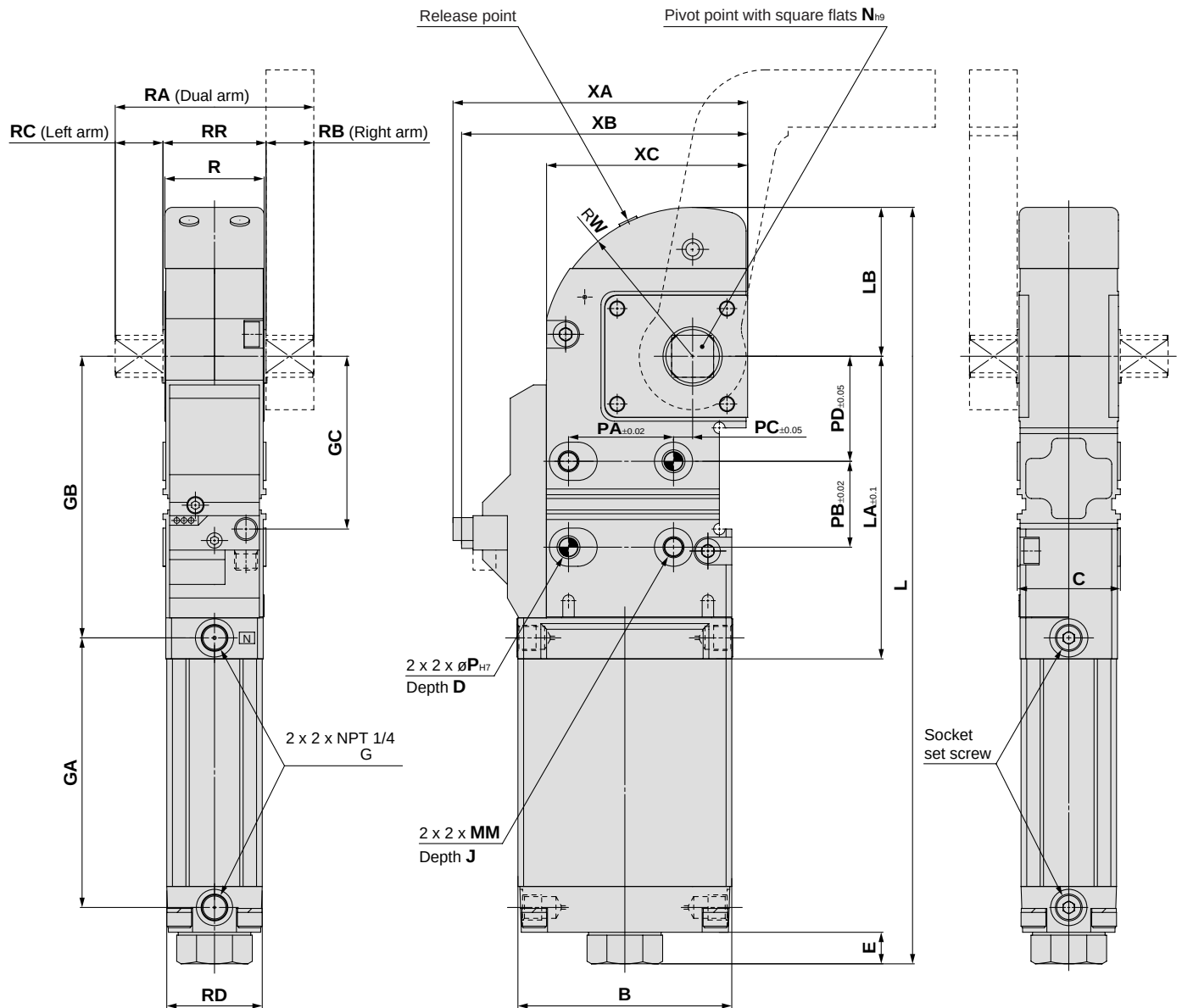
For North America
CKZ2N

For Europe
CKZT

For France
CLKZ1R

Special
CK□/M(D)UKA

Dimensions



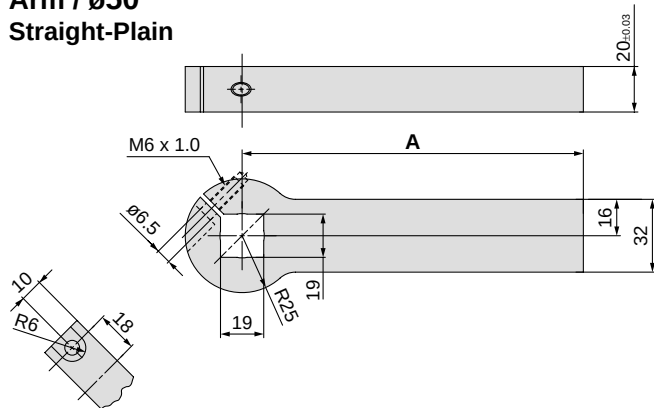
(mm)

Bore size (mm)	B	C	D	E	GA	GB	GC	J	L	LA	LB	MM	N	P
50	95	48	12	13.7	134.3	138.5	93	12	376.7	149.5	78.4	M8 x 1.25	19	8
63	112	54	15	16.6	141.2	147.5	90.5	12	395.6	158.5	78	M10 x 1.5	22	10
80	154	76	12	19.6	185.8	199	137.5	18	530.9	214	113.7	M12 x 1.75	30	12

Bore size (mm)	PA	PB	PC	PD	R	RA	RB	RC	RD	RR	W	XA	XB	XC
50	45	45	5	40	45	88	20	20	45	48	78.4	141.8	137.3	92.8
63	55	45	10	55	52	104	25	25	50	54	78	154.4	150.4	105.3
80	70	75	15	65	70	140	32	32	68	76	113.7	197.3	192.8	148.3

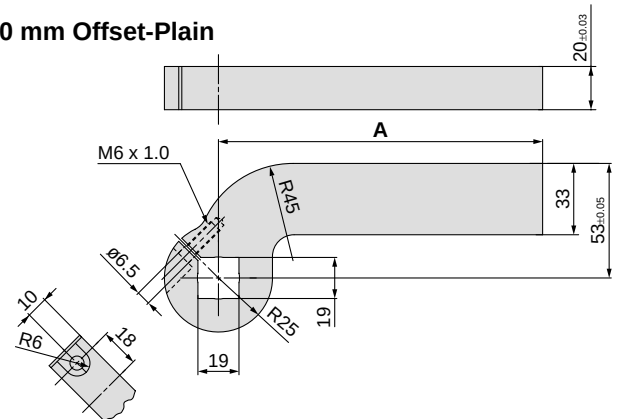
Dimensions

Arm / $\phi 50$ Straight-Plain



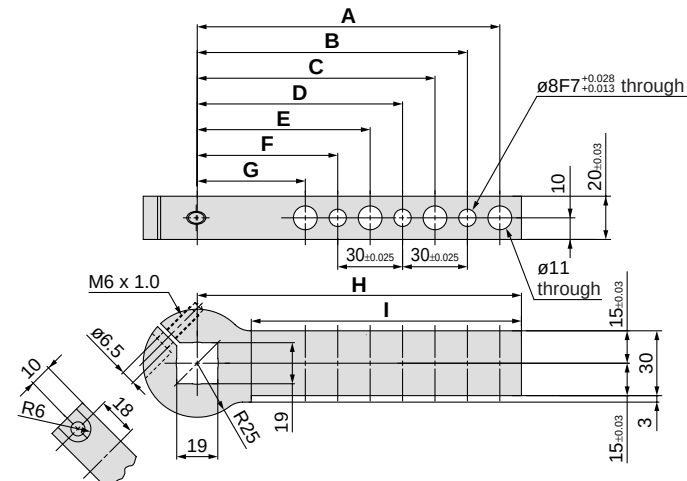
Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-50A001	ACA201M	90.0	0.6 (1.32)
CKZ-50A002	ACA202M	120.0	0.7 (1.54)
CKZ-50A003	ACA203M	150.0	0.9 (1.98)

20 mm Offset-Plain



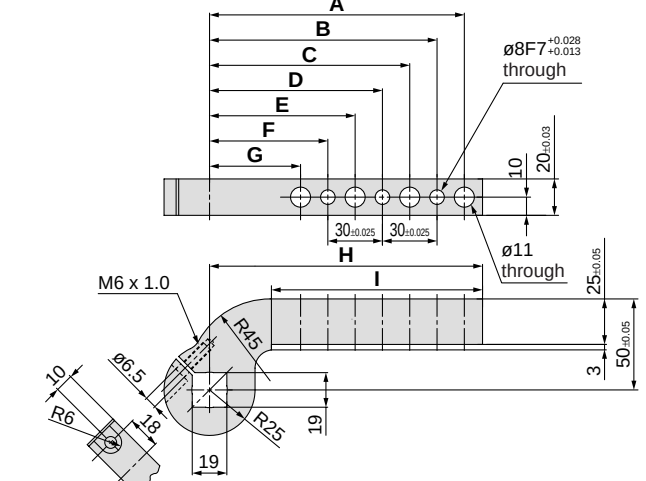
Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-50A007	ACA211M	90.0	0.7 (1.54)
CKZ-50A008	ACA212M	120.0	0.8 (1.76)
CKZ-50A009	ACA213M	150.0	1.0 (2.20)

Straight-Machined



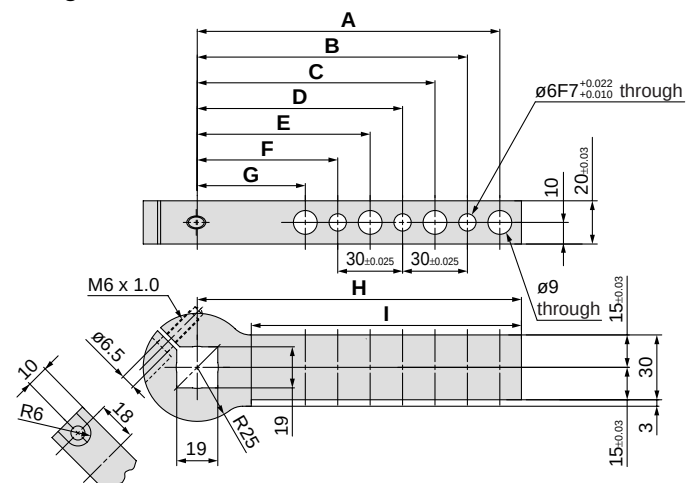
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg (lbs)
CKZ-50A004	ACA206M	80.0	65.0	50.0	—	—	—	—	90.0	65.0	0.5 (1.10)
CKZ-50A005	ACA207M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	95.0	0.6 (1.32)
CKZ-50A006	ACA208M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	125.0	0.7 (1.54)

25 mm Offset-Machined



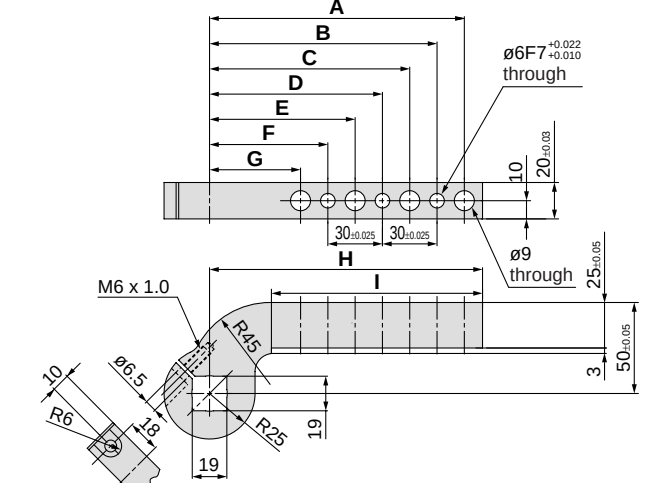
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg (lbs)
CKZ-50A010	ACA216M	80.0	65.0	50.0	—	—	—	—	90.0	56.0	0.5 (1.10)
CKZ-50A011	ACA217M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	86.0	0.6 (1.32)
CKZ-50A012	ACA218M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.7 (1.54)

Straight-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg (lbs)
CKZ-50A019	ACA236M	80.0	65.0	50.0	—	—	—	—	90.0	65.0	0.5 (1.10)
CKZ-50A020	ACA237M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	95.0	0.6 (1.32)
CKZ-50A021	ACA238M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	125.0	0.7 (1.54)

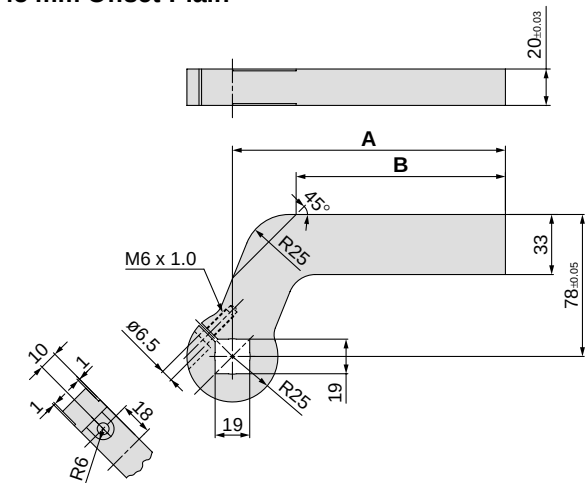
25 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	Weight kg (lbs)
CKZ-50A022	ACA246M	80.0	65.0	50.0	—	—	—	—	90.0	56.0	0.5 (1.10)
CKZ-50A023	ACA247M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	86.0	0.6 (1.32)
CKZ-50A024	ACA248M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	116.0	0.7 (1.54)

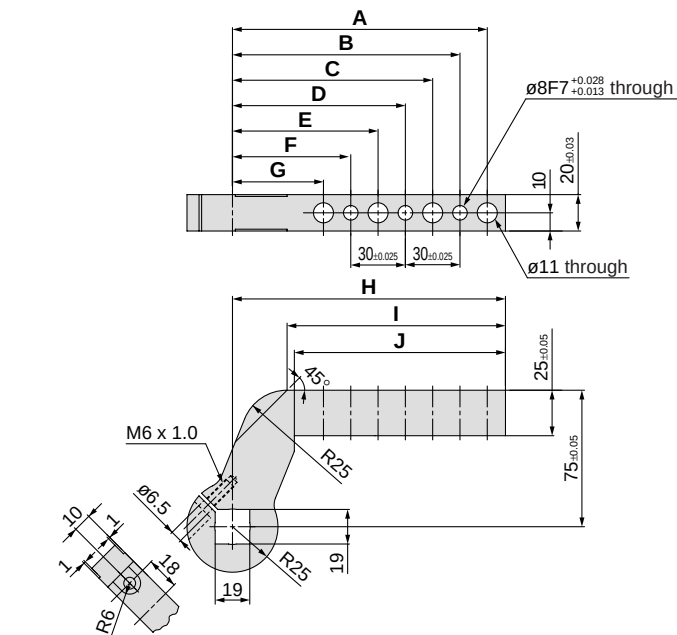
Dimensions

45 mm Offset-Plain



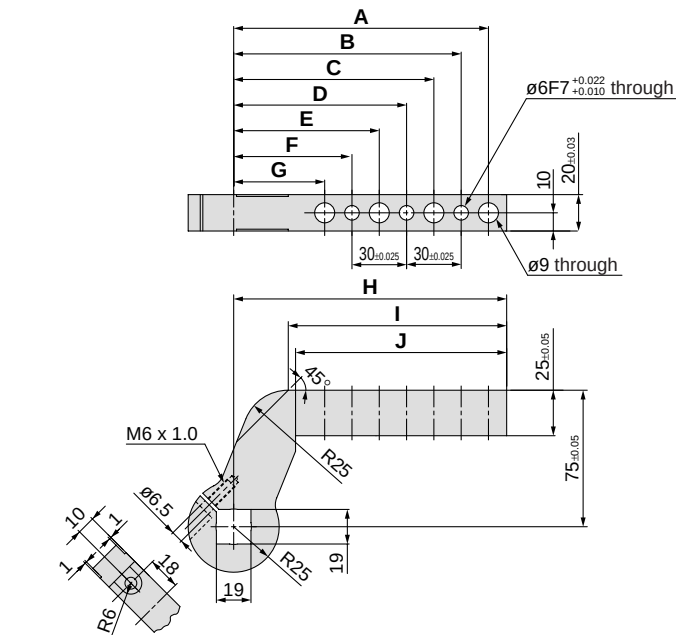
Part no.	NAAMS code	A	B	Weight kg (lbs)
CKZ-50A013	ACA221M	90.0	55.0	0.8 (1.76)
CKZ-50A014	ACA222M	120.0	85.0	0.9 (1.98)
CKZ-50A015	ACA223M	150.0	115.0	1.1 (2.42)

50 mm Offset-Machined



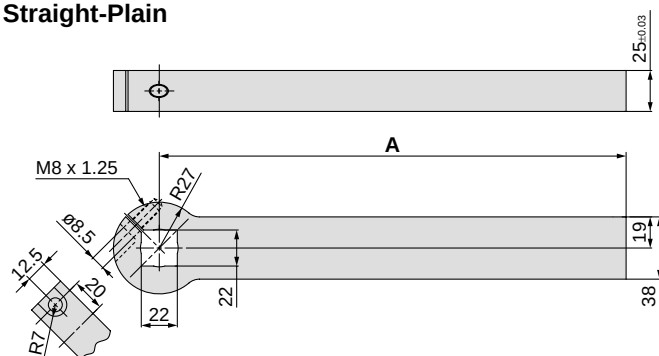
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	Weight kg (lbs)
CKZ-50A016	ACA226M	80.0	65.0	50.0	—	—	—	—	90.0	60.0	56.0	0.6 (1.32)
CKZ-50A017	ACA227M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	90.0	86.0	0.7 (1.54)
CKZ-50A018	ACA228M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	120.0	116.0	0.8 (1.76)

50 mm Offset-Machined



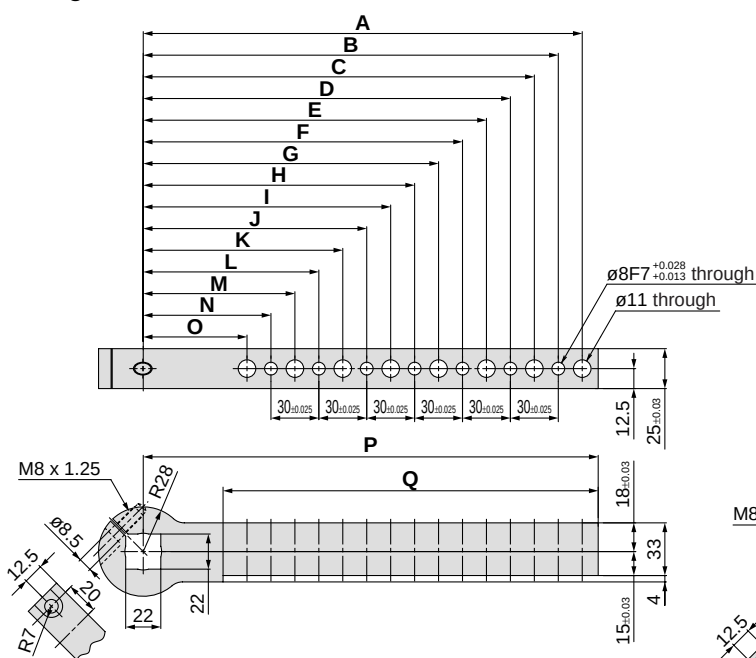
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	Weight kg (lbs)
CKZ-50A025	ACA256M	80.0	65.0	50.0	—	—	—	—	90.0	60.0	56.0	0.6 (1.32)
CKZ-50A026	ACA257M	110.0	95.0	80.0	65.0	50.0	—	—	120.0	90.0	86.0	0.7 (1.54)
CKZ-50A027	ACA258M	140.0	125.0	110.0	95.0	80.0	65.0	50.0	150.0	120.0	116.0	0.8 (1.76)

Arm / Ø63
Straight-Plain



Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-63A001	ACA001M	135.0	1.2 (2.64)
CKZ-63A002	ACA002M	165.0	1.4 (3.09)
CKZ-63A003	ACA003M	195.0	1.6 (3.53)
CKZ-63A004	ACA004M	225.0	1.8 (3.97)
CKZ-63A005	ACA005M	255.0	2.1 (4.63)
CKZ-63A006	ACA006M	285.0	2.3 (5.07)

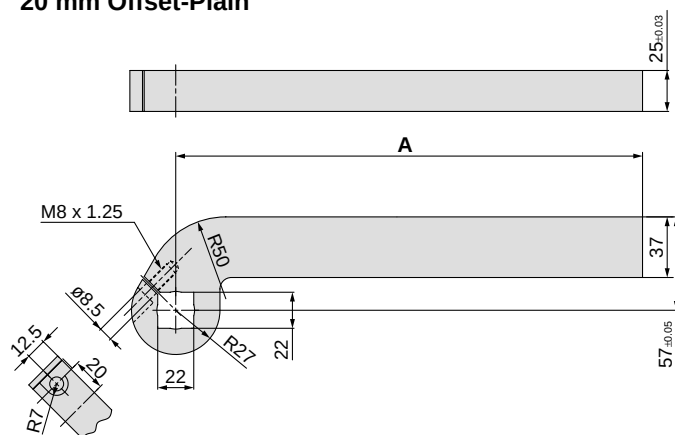
Straight-Machined



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

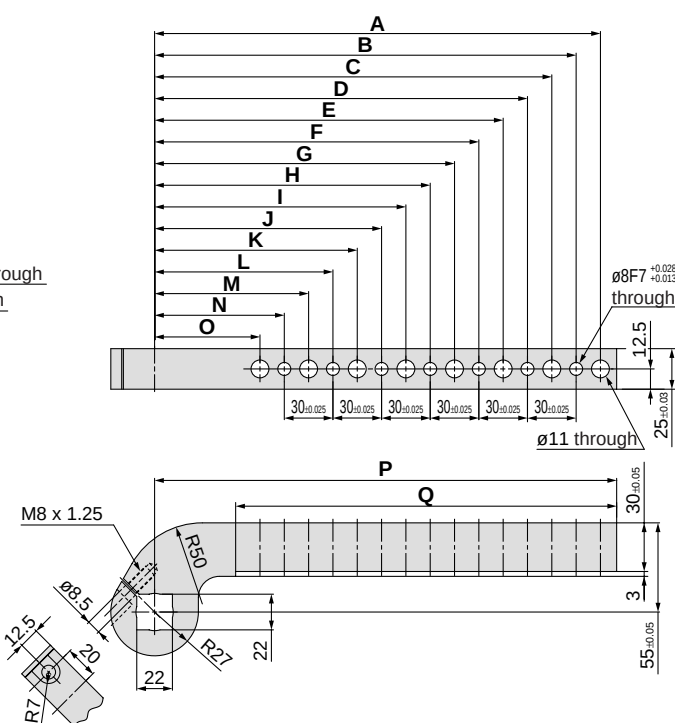
Part no.	NAAMS code	J	K	L	M	N	O	P	Q	Weight kg (lbs)
CKZ-63A007	ACA007M	—	—	—	—	—	—	135.0	85.0	1.0 (2.20)
CKZ-63A008	ACA008M	—	—	—	—	—	—	165.0	115.0	1.2 (2.64)
CKZ-63A009	ACA009M	—	—	—	—	—	—	195.0	145.0	1.4 (3.09)
CKZ-63A010	ACA010M	80.0	65.0	—	—	—	—	225.0	175.0	1.5 (3.31)
CKZ-63A011	ACA011M	110.0	95.0	80.0	65.0	—	—	255.0	205.0	1.7 (3.75)
CKZ-63A012	ACA012M	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	1.9 (4.19)

20 mm Offset-Plain



Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-63A013	ACA013M	135.0	1.4 (3.09)
CKZ-63A014	ACA014M	165.0	1.6 (3.53)
CKZ-63A015	ACA015M	195.0	1.8 (3.97)
CKZ-63A016	ACA016M	225.0	2.0 (4.41)
CKZ-63A017	ACA017M	255.0	2.2 (4.85)
CKZ-63A018	ACA018M	285.0	2.4 (5.29)

25 mm Offset-Machined

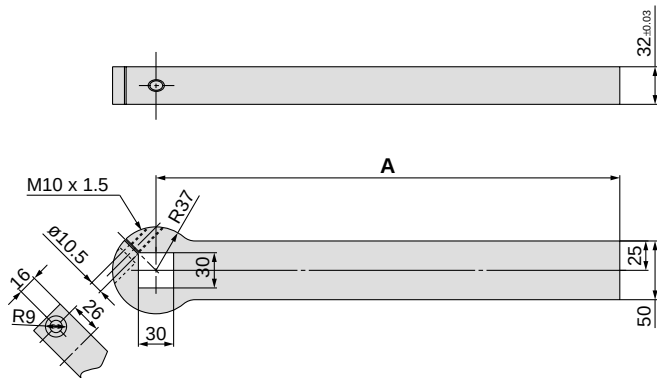


Part no.	NAAMS code	A	B	C	D	E	F	G	H	I
CKZ-63A019	ACA019M	125.0	110.0	95.0	80.0	65.0	—	—	—	—
CKZ-63A020	ACA020M	155.0	140.0	125.0	110.0	95.0	80.0	65.0	—	—
CKZ-63A021	ACA021M	185.0	170.0	155.0	140.0	125.0	110.0	95.0	80.0	65.0
CKZ-63A022	ACA022M	215.0	200.0	185.0	170.0	155.0	140.0	125.0	110.0	95.0
CKZ-63A023	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 (lbs)
CKZ-63A019	ACA019M	—	—	—	—	—	—	135.0	85.0	1.3 (2.86)
CKZ-63A020	ACA020M	—	—	—	—	—	—	165.0	115.0	1.5 (3.31)
CKZ-63A021	ACA021M	—	—	—	—	—	—	195.0	145.0	1.6 (3.53)
CKZ-63A022	ACA022M	80.0	65.0	—	—	—	—	225.0	175.0	1.7 (3.75)
CKZ-63A023	ACA023M	110.0	95.0	80.0	65.0	—	—	255.0	205.0	1.9 (4.19)
CKZ-63A024	ACA024M	140.0	125.0	110.0	95.0	80.0	65.0	285.0	235.0	2.1 (4.63)

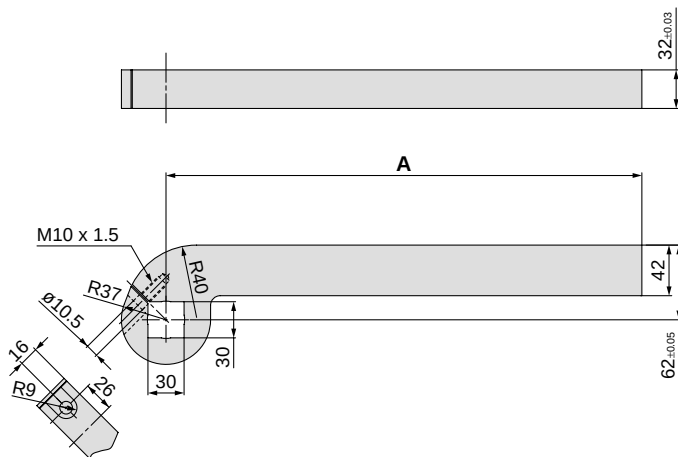
Dimensions

Arm / $\varnothing 80$ Straight-Plain



Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-80A001	ACA100M	155.0	2.3 (5.07)
CKZ-80A002	ACA101M	185.0	2.7 (5.96)
CKZ-80A003	ACA102M	215.0	3.0 (6.62)
CKZ-80A004	ACA103M	245.0	3.4 (7.50)
CKZ-80A005	ACA104M	275.0	3.8 (8.38)
CKZ-80A006	ACA105M	305.0	4.2 (9.27)
CKZ-80A007	ACA106M	335.0	4.5 (9.93)
CKZ-80A008	ACA107M	365.0	4.9 (10.81)
CKZ-80A009	ACA108M	395.0	5.3 (11.69)

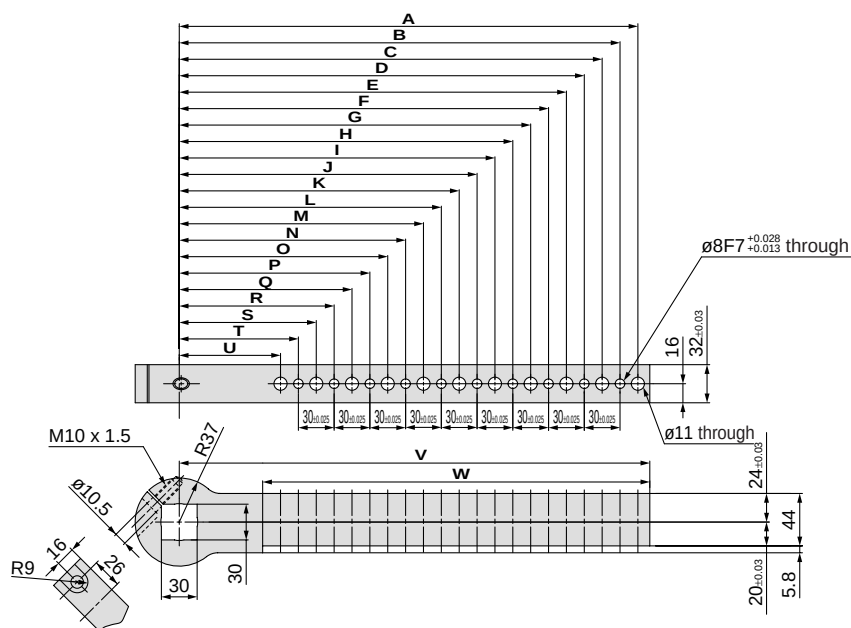
20 mm Offset-Plain



Part no.	NAAMS code	A	Weight kg (lbs)
CKZ-80A019	ACA120M	155.0	2.4 (5.29)
CKZ-80A020	ACA121M	185.0	2.7 (5.96)
CKZ-80A021	ACA122M	215.0	3.0 (6.62)
CKZ-80A022	ACA123M	245.0	3.3 (7.28)
CKZ-80A023	ACA124M	275.0	3.6 (7.94)
CKZ-80A024	ACA125M	305.0	3.9 (8.60)
CKZ-80A025	ACA126M	335.0	4.2 (9.27)
CKZ-80A026	ACA127M	365.0	4.6 (10.15)
CKZ-80A027	ACA128M	395.0	4.9 (10.81)

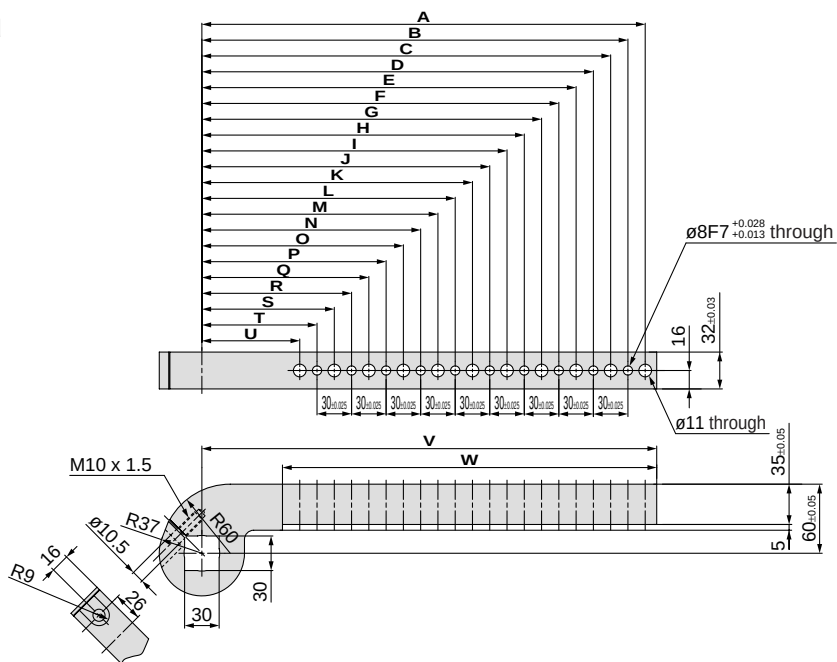
Dimensions

Straight-Machined



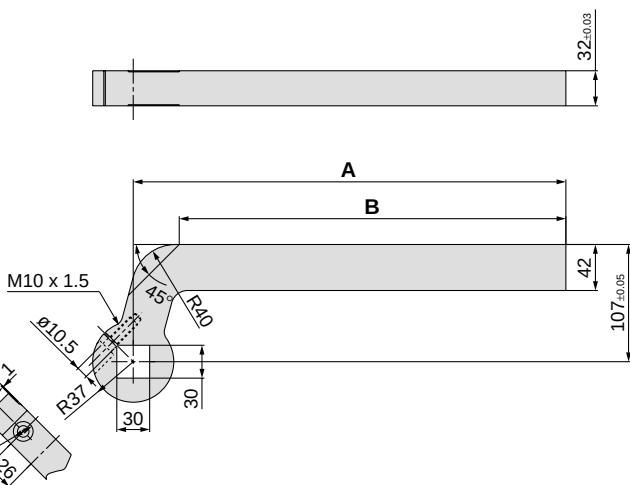
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Weight kg (lbs)
CKZ-80A010	ACA110M	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155.0	85.0	2.1 (4.63)
CKZ-80A011	ACA111M	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	185.0	115.0	2.4 (5.29)
CKZ-80A012	ACA112M	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	215.0	145.0	2.7 (5.96)
CKZ-80A013	ACA113M	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	245.0	175.0	3.0 (6.62)
CKZ-80A014	ACA114M	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	275.0	205.0	3.3 (7.28)
CKZ-80A015	ACA115M	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	305.0	235.0	3.6 (7.94)
CKZ-80A016	ACA116M	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	335.0	265.0	3.9 (8.60)
CKZ-80A017	ACA117M	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	365.0	295.0	4.2 (9.27)
CKZ-80A018	ACA118M	385.0	370.0	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	395.0	325.0	4.5 (9.93)

25 mm Offset-Machined



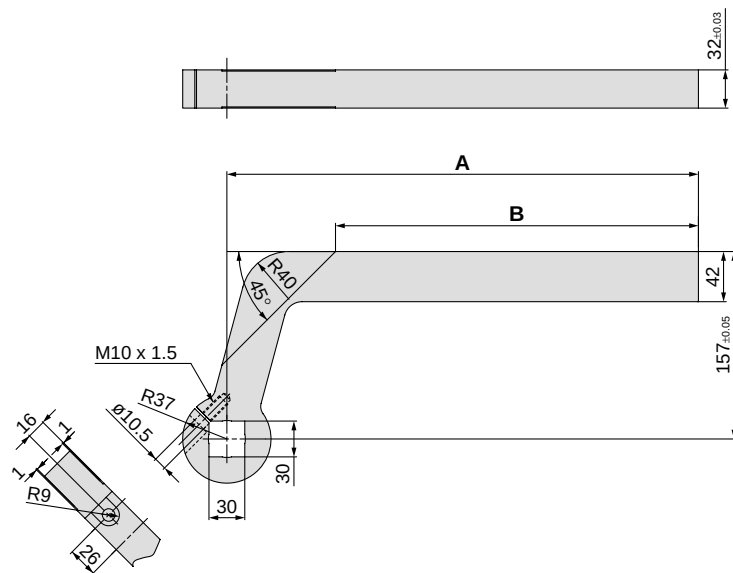
Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Weight kg (lbs)
CKZ-80A028	ACA130M	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155.0	85.0	2.1 (4.63)
CKZ-80A029	ACA131M	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	185.0	115.0	2.3 (5.07)
CKZ-80A030	ACA132M	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	215.0	145.0	2.6 (5.73)
CKZ-80A031	ACA133M	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	245.0	175.0	2.8 (6.18)
CKZ-80A032	ACA134M	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	275.0	205.0	3.0 (6.62)
CKZ-80A033	ACA135M	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	305.0	235.0	3.2 (7.06)
CKZ-80A034	ACA136M	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	335.0	265.0	3.5 (7.72)
CKZ-80A035	ACA137M	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	365.0	295.0	3.8 (8.38)
CKZ-80A036	ACA138M	385.0	370.0	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	395.0	325.0	4.0 (8.83)

65 mm Offset-Plain



Part no.	NAAMS code	A	B	Weight kg (lbs)
CKZ-80A037	ACA140M	155.0	113.0	2.7 (5.96)
CKZ-80A038	ACA141M	185.0	143.0	3.0 (6.62)
CKZ-80A039	ACA142M	215.0	173.0	3.3 (7.28)
CKZ-80A040	ACA143M	245.0	203.0	3.6 (7.94)
CKZ-80A041	ACA144M	275.0	233.0	3.9 (8.60)
CKZ-80A042	ACA145M	305.0	263.0	4.2 (9.27)
CKZ-80A043	ACA146M	335.0	293.0	4.5 (9.93)
CKZ-80A044	ACA147M	365.0	323.0	4.8 (10.59)
CKZ-80A045	ACA148M	395.0	353.0	5.1 (11.25)

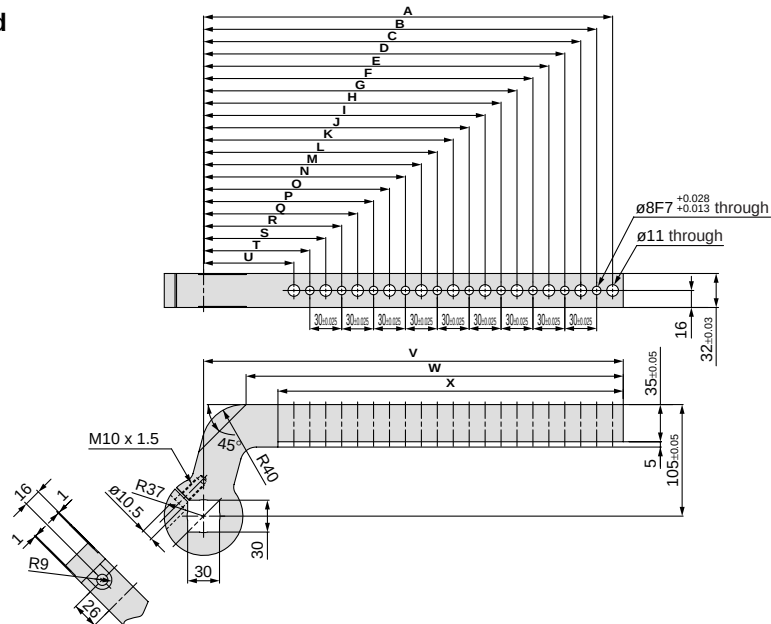
115 mm Offset-Plain



Part no.	NAAMS code	A	B	Weight kg (lbs)
CKZ-80A055	ACA160M	155.0	64.0	3.0 (6.62)
CKZ-80A056	ACA161M	185.0	94.0	3.3 (7.28)
CKZ-80A057	ACA162M	215.0	124.0	3.6 (7.94)
CKZ-80A058	ACA163M	245.0	154.0	3.9 (8.60)
CKZ-80A059	ACA164M	275.0	184.0	4.2 (9.27)
CKZ-80A060	ACA165M	305.0	214.0	4.5 (9.93)
CKZ-80A061	ACA166M	335.0	244.0	4.8 (10.59)
CKZ-80A062	ACA167M	365.0	274.0	5.2 (11.47)
CKZ-80A063	ACA168M	395.0	304.0	5.5 (12.14)

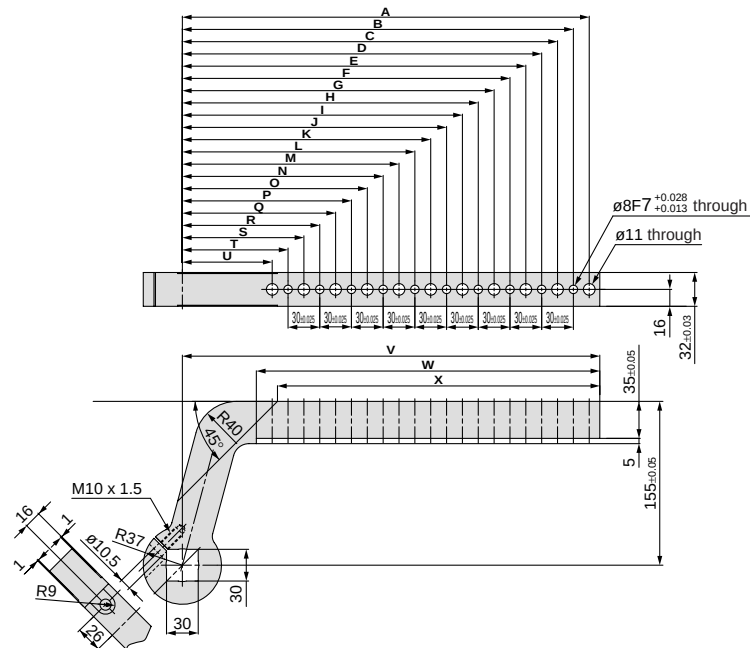
Dimensions

70 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Weight kg (lbs)
CKZ-80A046	ACA150M	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155.0	115.0	85.0	2.4 (5.29)
CKZ-80A047	ACA151M	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	185.0	145.0	115.0	2.6 (5.73)
CKZ-80A048	ACA152M	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	215.0	175.0	145.0	2.8 (6.18)
CKZ-80A049	ACA153M	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	245.0	205.0	175.0	3.1 (6.84)
CKZ-80A050	ACA154M	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	275.0	235.0	205.0	3.3 (7.28)
CKZ-80A051	ACA155M	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	305.0	265.0	235.0	3.5 (7.72)
CKZ-80A052	ACA156M	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	335.0	295.0	265.0	3.8 (8.38)
CKZ-80A053	ACA157M	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	365.0	325.0	295.0	4.0 (8.83)
CKZ-80A054	ACA158M	385.0	370.0	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	395.0	355.0	325.0	4.3 (9.49)

120 mm Offset-Machined



Part no.	NAAMS code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Weight (lbs)
CKZ-80A064	ACA170M	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	155.0	85.0	65.0	2.7 (5.96)
CKZ-80A065	ACA171M	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	185.0	115.0	95.0	2.9 (6.40)
CKZ-80A066	ACA172M	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	—	—	215.0	145.0	125.0	3.2 (7.06)
CKZ-80A067	ACA173M	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	—	—	245.0	175.0	155.0	3.4 (7.50)
CKZ-80A068	ACA174M	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	—	—	275.0	205.0	185.0	3.6 (7.94)
CKZ-80A069	ACA175M	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	—	—	305.0	235.0	215.0	3.9 (8.60)
CKZ-80A070	ACA176M	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	—	—	335.0	265.0	245.0	4.1 (9.05)
CKZ-80A071	ACA177M	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	—	—	365.0	295.0	275.0	4.4 (9.71)
CKZ-80A072	ACA178M	385.0	370.0	355.0	340.0	325.0	310.0	295.0	280.0	265.0	250.0	235.0	220.0	205.0	190.0	175.0	160.0	145.0	130.0	115.0	100.0	85.0	395.0	325.0	305.0	4.6(10.15)

Series CKZ2N

Made to Order 1

Contact SMC for detailed dimensions, specifications and delivery.



1 Power clamp cylinder with metal cover



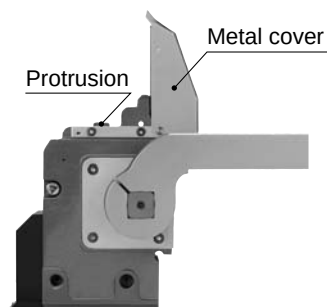
- Applicable model
CKZ2N50, 63, 80
- Applicable to Arc-melting-resistant line
- In addition to the existing rubber cover type, Opening/closing metal cover type is available for releasing part of the toggle construction.

Cylinder Specifications

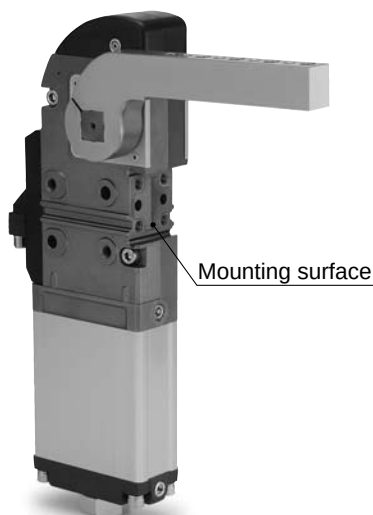
Bore size (mm)	50	63	80
Angle	30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°		
Cushion	Unclamping side: Rubber bumper		
Maximum operating pressure	0.8 MPa (116 psi)		
Ambient and fluid temperature	-10 to 60°C (14 to 140°F)		
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp		

Manual toggle release

The toggle link mechanism can be released easily by opening the metal cover and hitting the portion of the protrusion by using of plastic hammer (hammer made of soft material), etc.



2 Power clamp cylinder front mounting type



- Applicable model
CKZ2N50, 63, 80
- Applicable to front mounting type conforming to the new NAAMS.

Cylinder Specifications

Bore size (mm)	50	63	80
Angle	30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°		
Cushion	Unclamping side: Rubber bumper		
Maximum operating pressure	0.8 MPa (116 psi)		
Ambient and fluid temperature	-10 to 60°C (14 to 140°F)		
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp		

CK□1

For Asia

CLK2

C(L)KQ□

MK2T/MK2/MK

For North America

CKZ2N

For Europe

CKZT

For France

CLKZ1R

Special

CK□/M(D)UKA

Series CKZ2N

Made to Order 2

Contact SMC for detailed dimensions, specifications and delivery.



3 Unclamped opening angle 15° kit (for change of angle)



- Applicable model
CKZ2N50, 63, 80
- In addition to the standard unclamped opening angle, 15° specification is available.
- Unclamped opening angle can be changed to 15° without disassembling the toggle construction.

Cylinder Specifications

Bore size (mm)	50	63	80
Angle	15°		
Cushion	Unclamping side: Rubber bumper		
Maximum operating pressure	0.8 MPa (116 psi)		
Ambient and fluid temperature	-10 to 60°C (14 to 140°F)		
Minimum operating time	1.0 sec. to clamp, 1.0 sec. to unclamp		



Series CKZ2N

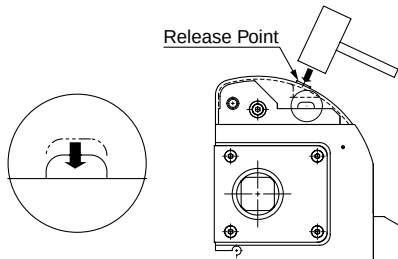
Specific Product Precautions

Be sure to read this before handling. Refer to pages 222 and 223 for Safety Instructions and "Precautions for Handling Pneumatic Devices" (M-03-E3A) for Actuator Precautions.

1. Manual toggle release

The toggle link mechanism can be released easily by hitting the portion of round shaped projection on the cover by using of plastic hammer (hammer made of soft material), etc.

Please be sure to perform manual toggle release after safety has been confirmed because the clamp arm can suddenly move up during manual release.



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. So, please do not disassemble the power clamp except changing replaceable parts as there is a possibility of deterioration of the clamp performance.

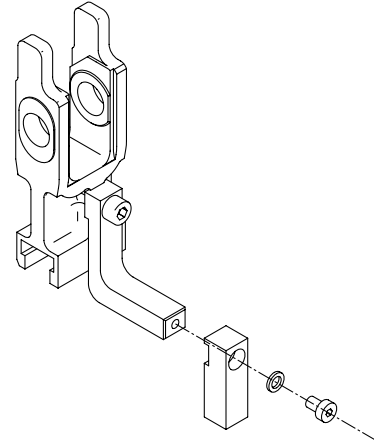
3. Tightening torque of spare parts

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

Description	Bore size (mm)	Tightening torque	
		N · m	lbf · in
Switch cassette kit	50	5.0 to 7.0	44 to 62
	63	5.0 to 7.0	44 to 62
	80	5.0 to 7.0	44 to 62
Switch actuator kit	50	3.0 to 4.0	27 to 35
	63	3.0 to 4.0	27 to 35
	80	3.0 to 4.0	27 to 35
Stopper bolt kit	50	130 to 150	1150 to 1327
	63	160 to 200	1416 to 1770
	80	480 to 520	4248 to 4600
Top cover kit	50	2.5 to 3.0	22 to 27
	63	2.5 to 3.0	22 to 27
	80	3.0 to 5.0	27 to 44

Note: (1) Please make sure that the switch cassette is tightly secured to the body when it has been replaced with a new one.

(2) Please make sure that the switch actuator is mounted so that the stamped side is secured as shown below if replacing.



4. Clamp Arm Tightening Torque

Bore size (mm)	Tightening torque	
	N · m	lbf · in
50	12 to 15	106 to 133
63	15 to 20	133 to 177
80	18 to 24	159 to 212

For Asia

CK□1

CLK2

C(L)KQ□

MK2T/MK2/MK

For North America

CKZ2N

For Europe

CKZT

For France

CLKZ1R

Special

CK□/M(D)UKA