

Power Clamp Cylinder

Conforming to the New NAAMS Standard

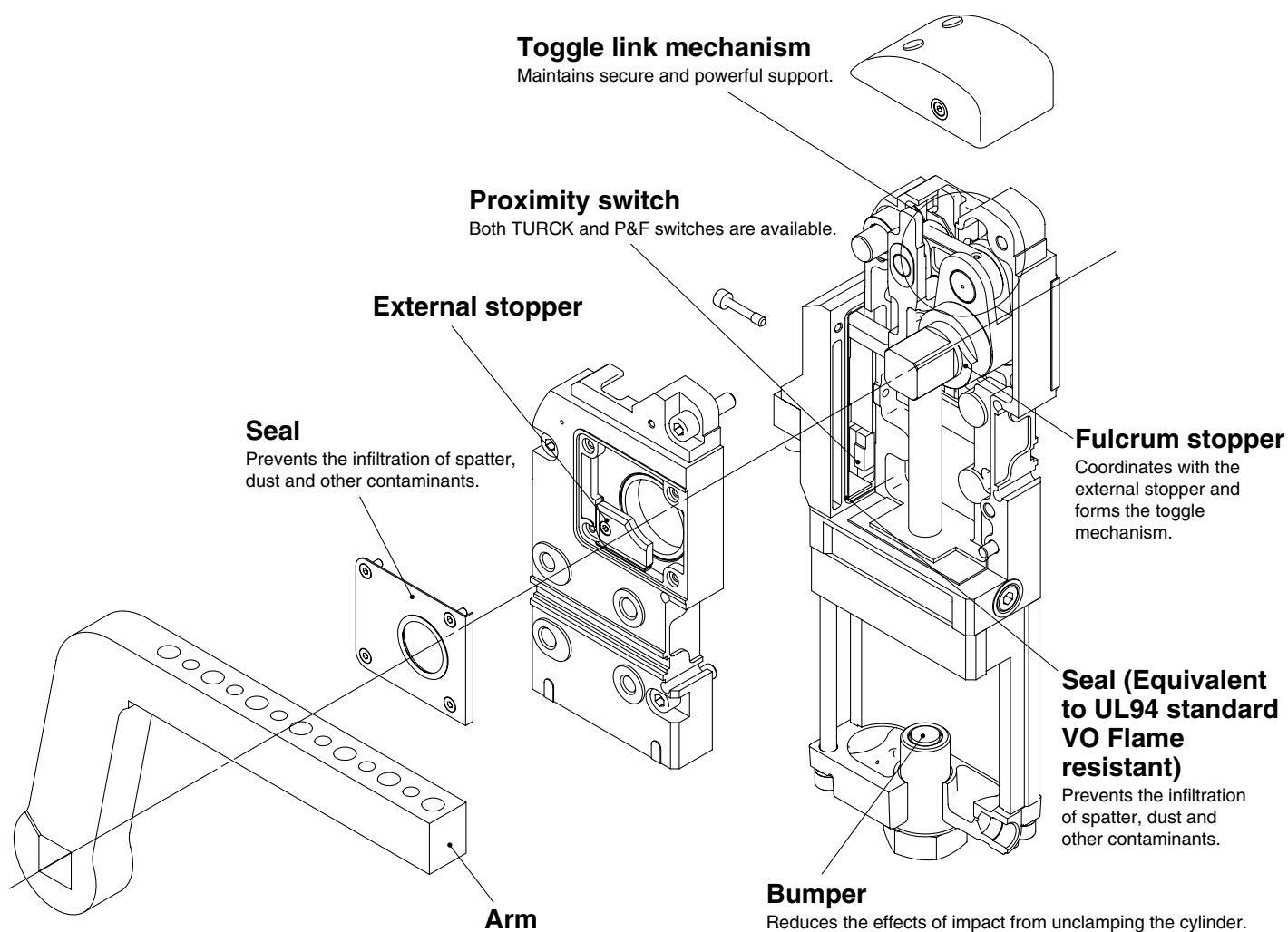
Series CKZ2N

NAAMS Compliant

New



- 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)JKA



■ 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

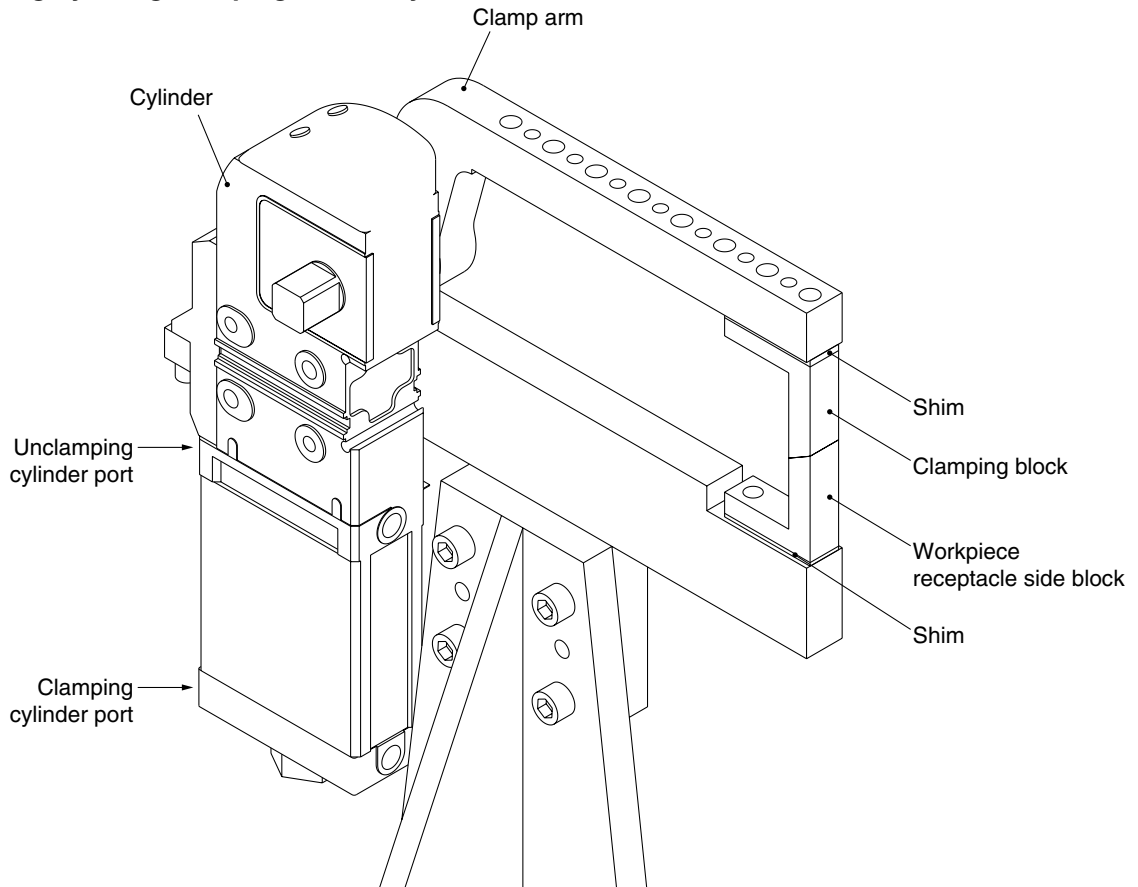
Model Selection

1 Common precautions for each size

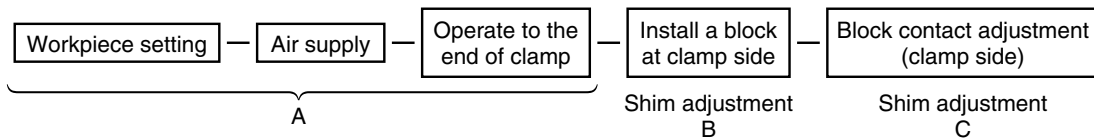
- 1) Use air filtered through a 5- μ m-element filter.
- 2) Before piping is connected to the slim-line power clamp cylinder it should be thoroughly flushed with air.
- 3) Only use the clamp arm in our catalog. Do not weld an arm to the cylinder.
- 4) Make sure to use a speed controller and adjust it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

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

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.

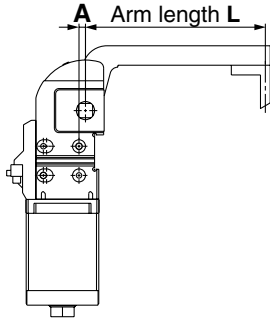
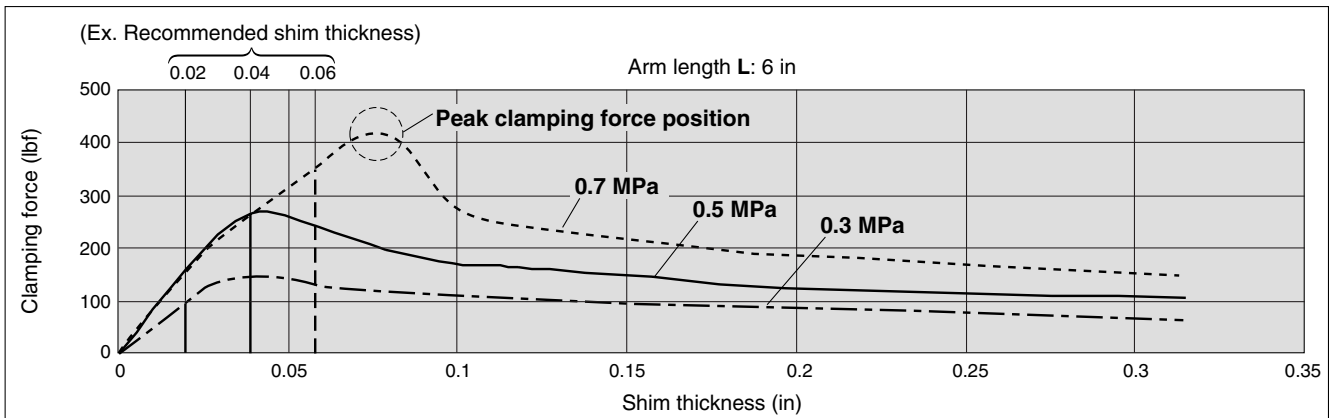
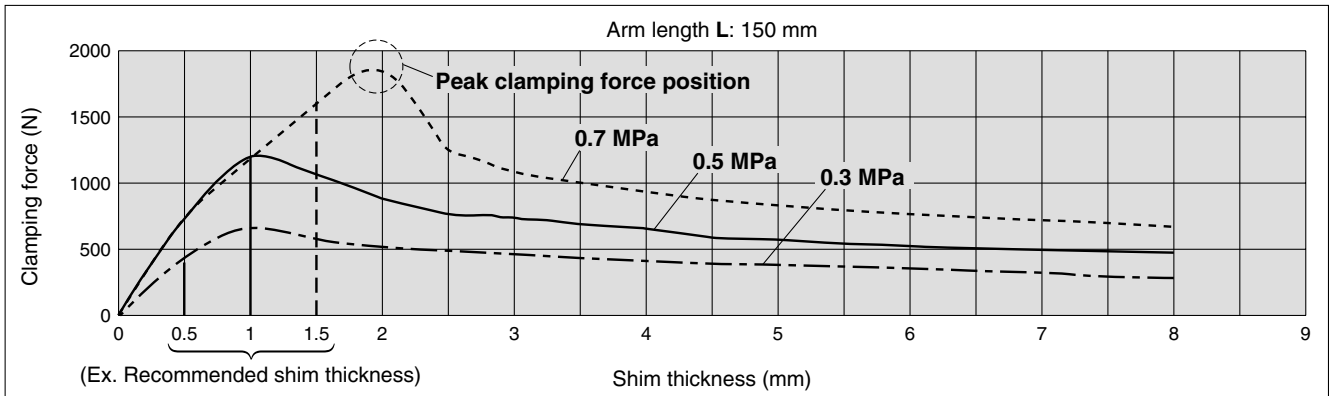


Table 1

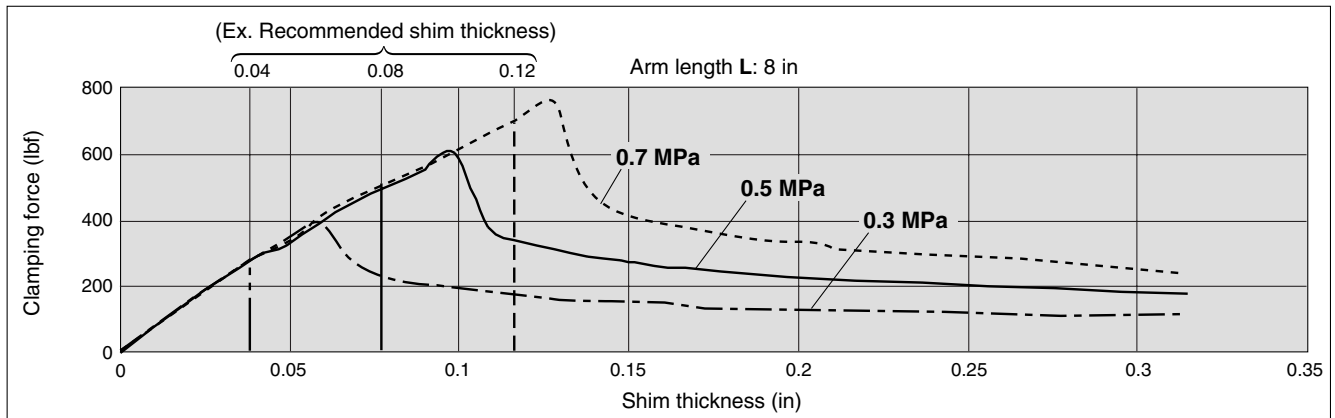
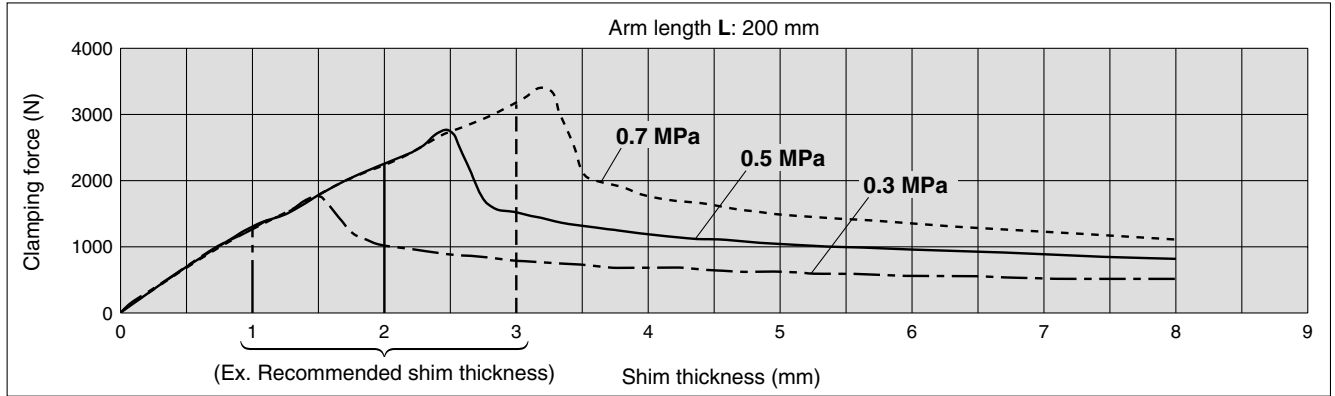
| Model | A |
|---------|----|
| CKZ2N50 | 5 |
| CKZ2N63 | 10 |
| CKZ2N80 | 15 |

ø50

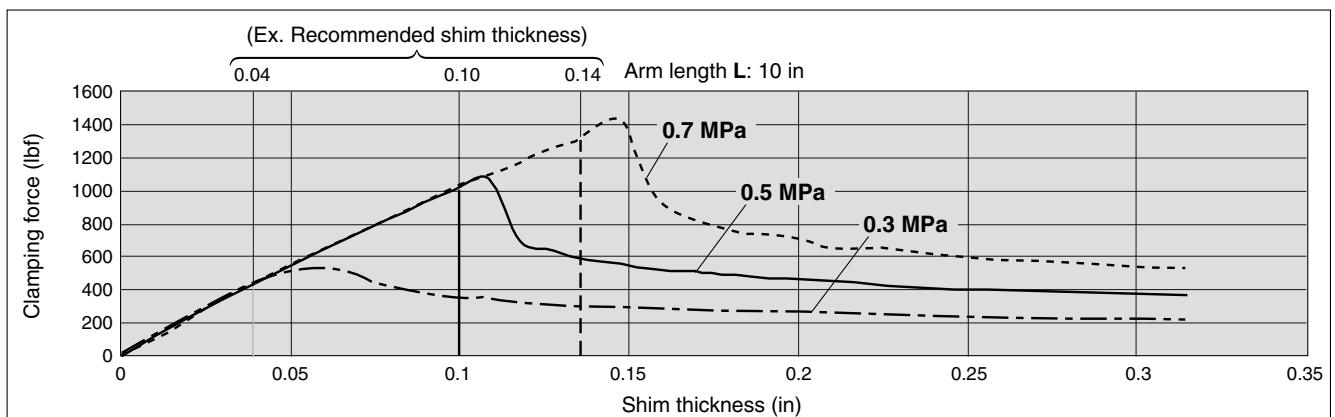
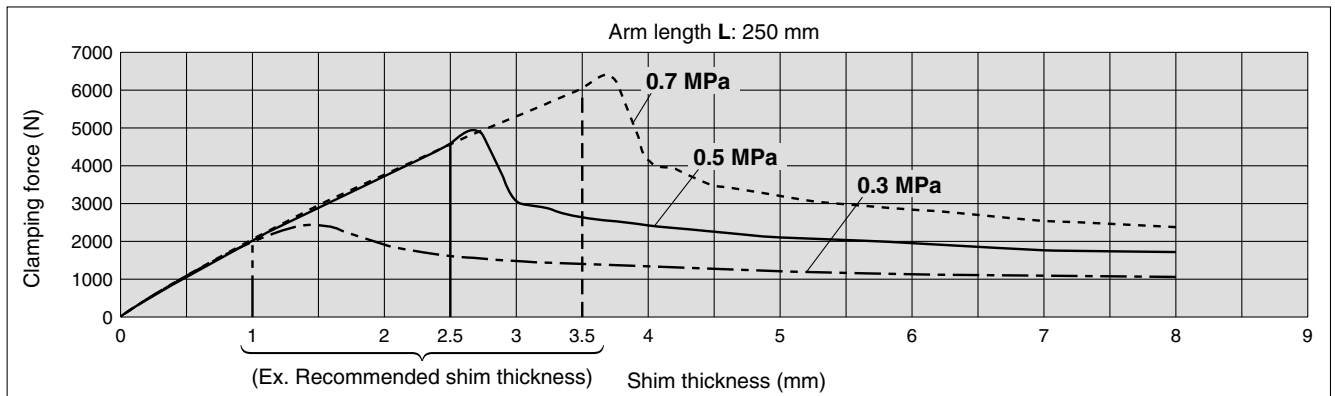


2 Slim-line power clamp cylinder mounting

ø63



ø80

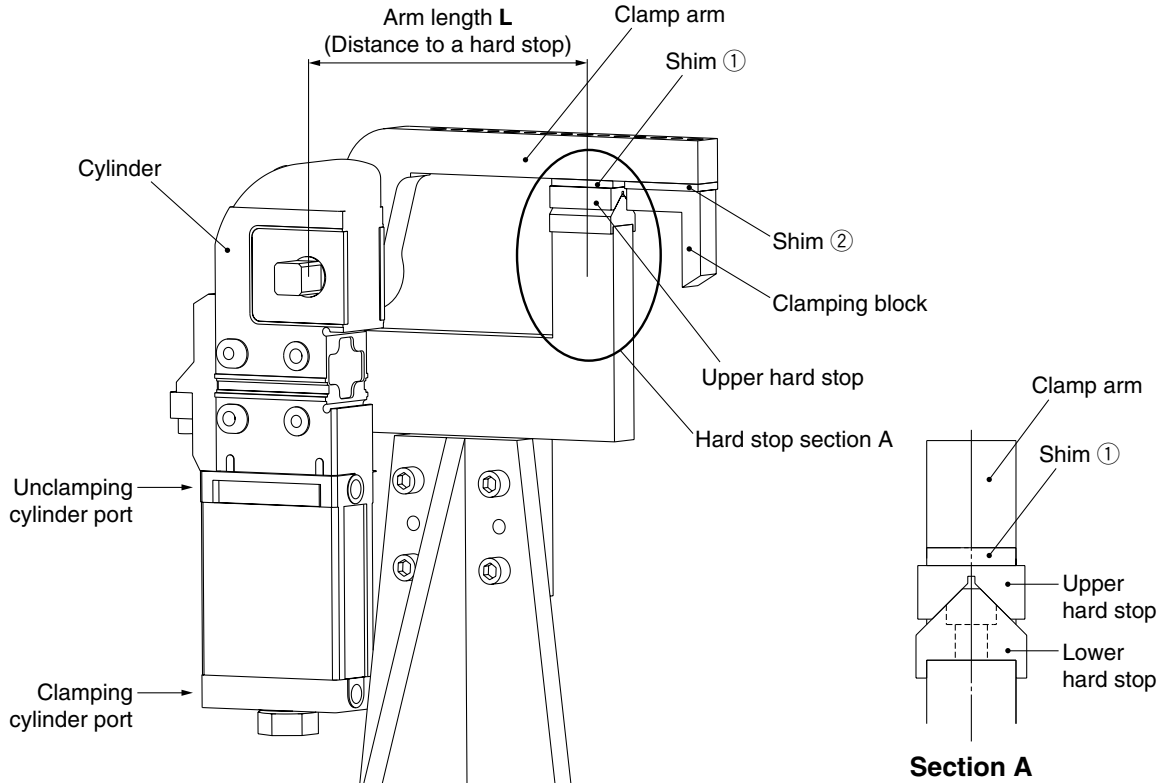


- For Asia: CK□1, CLK2, C(L)KQ□, MK2T/MK2/MK
- For North America: CKZ2N
- For Europe: CKZT
- For France: CLKZ1R
- Special: CK□/M(D)UKA

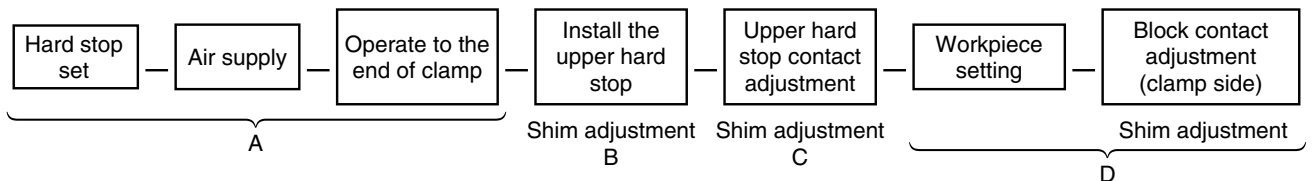
Model Selection

2 Slim-line power clamp cylinder mounting

When using a hard stop



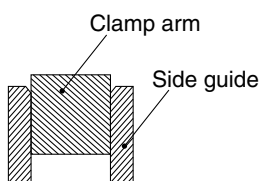
Mounting process



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.

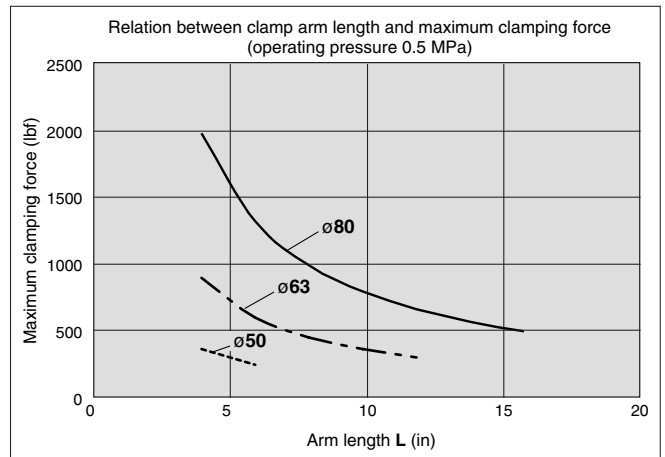
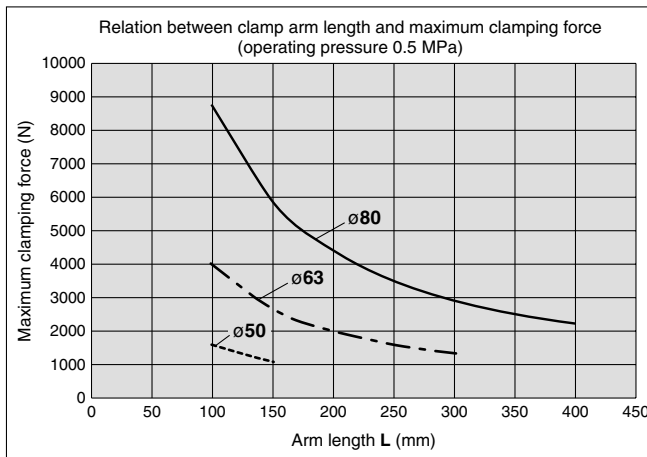
3 Clamp arm

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



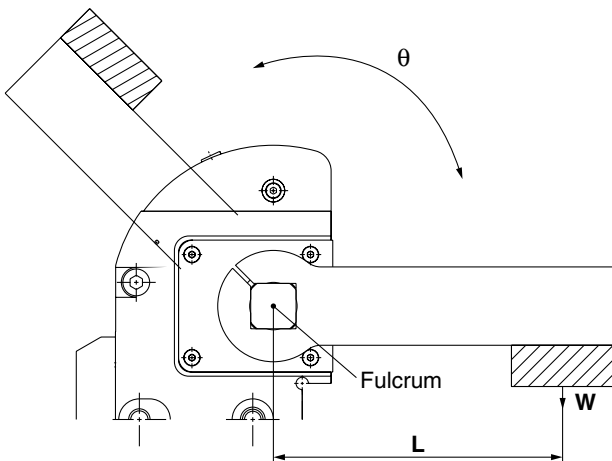
Allowable load for clamp arm end

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.

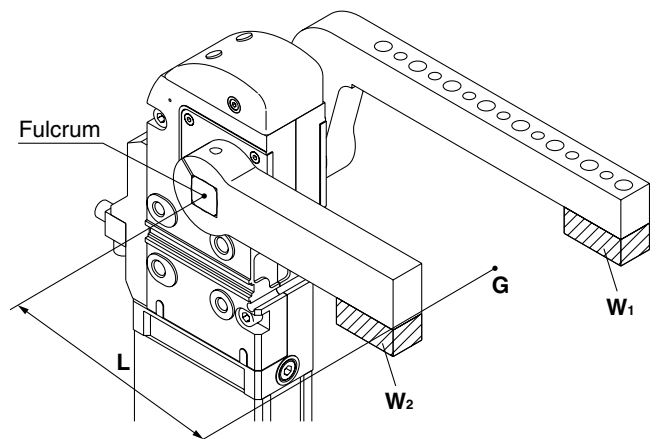
Single-side-arm type (R/L)

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.

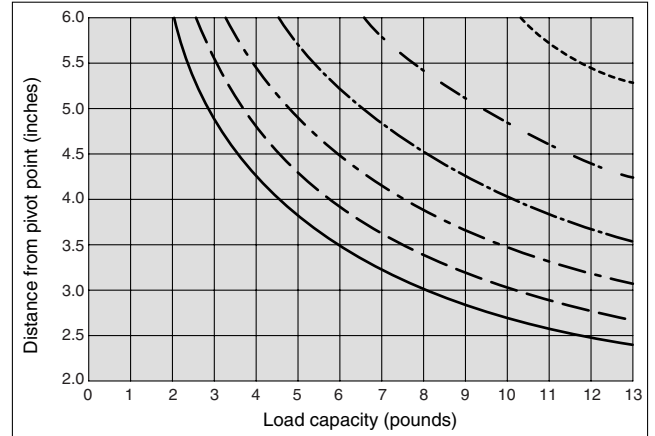
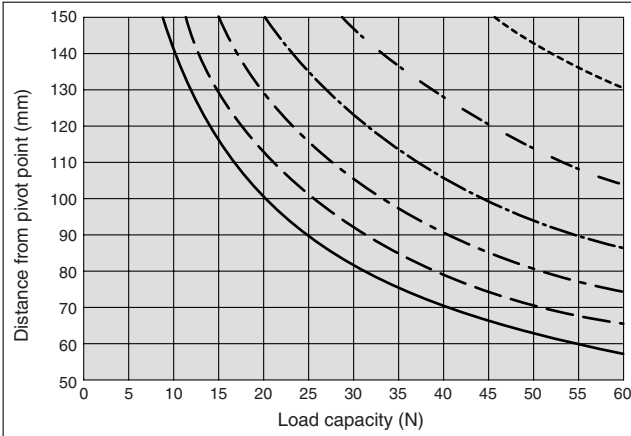


CK□1
CLK2
C(L)K□
MK2T/MK2/MK
For North America
CKZ2N
For Europe
CKZT
For France
CLKZ1R
Special
CK□/M(D)UKA

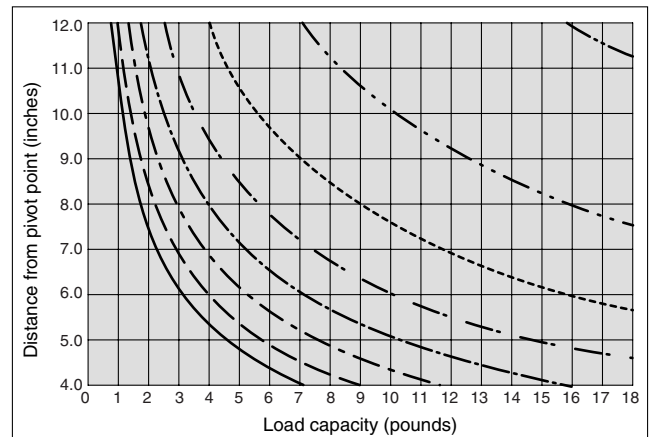
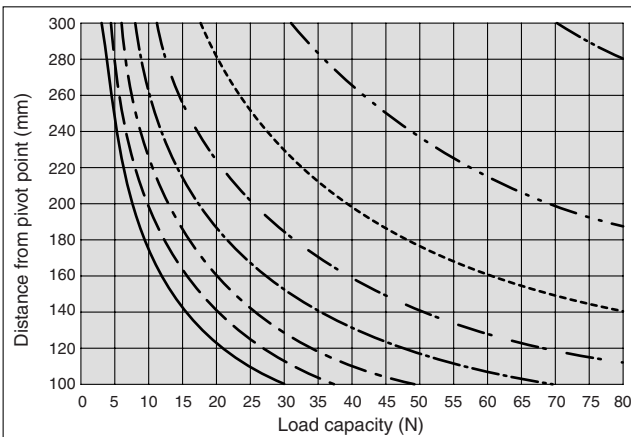
Model Selection

3 Clamp arm

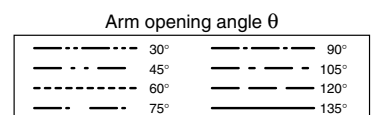
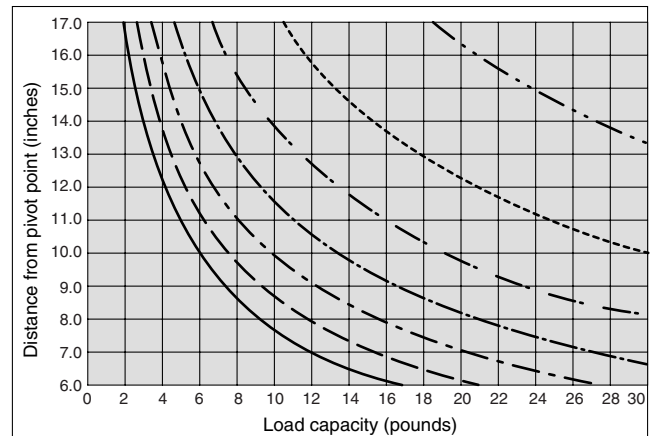
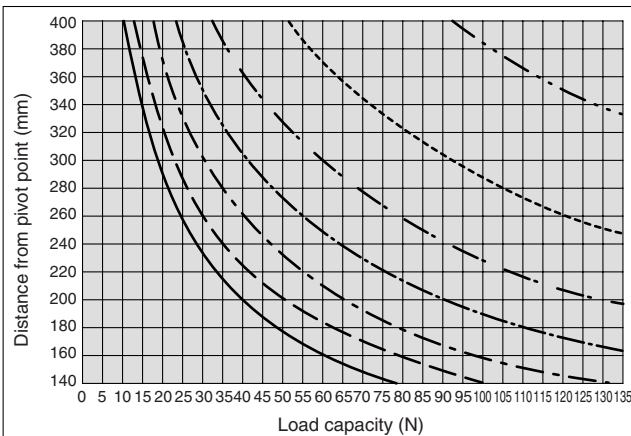
ø50



ø63

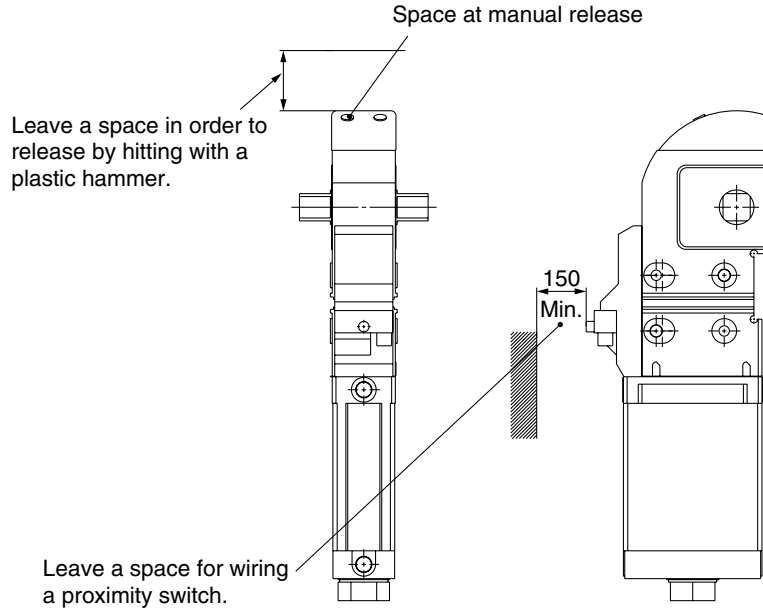


ø80



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)JKA |

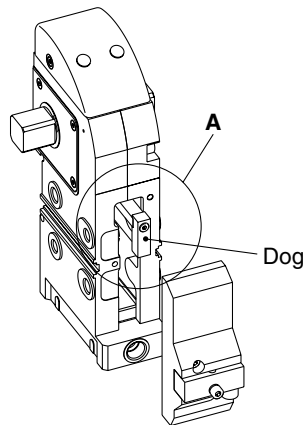
Model Selection

5 Arm opening angle change

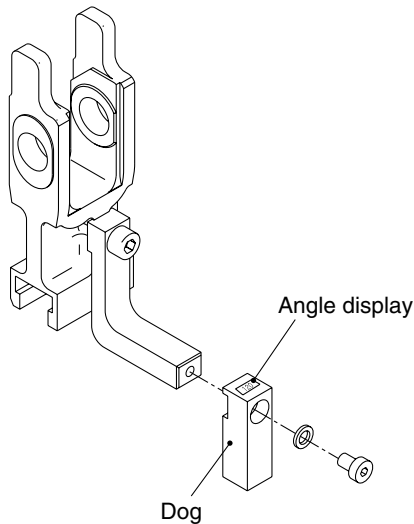
8 types of arm opening angles (unclamping angles) 30°, 45°, 60°, 75°, 90°, 105°, 120° and 135° are available for each standard size.

Arm opening angle change procedure

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

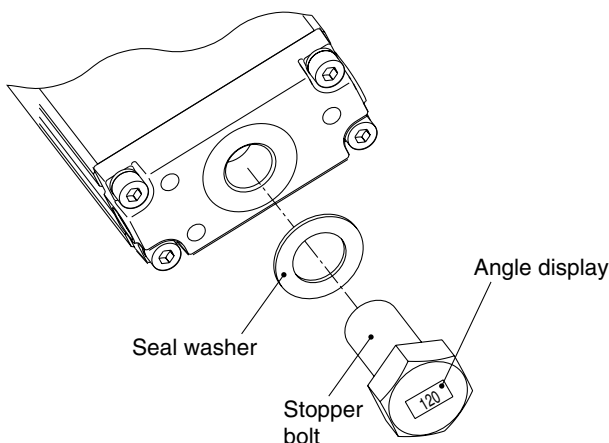


- 3) Remove the dog of the "A" part, and mount a different dog for other angles using the tightening torque below. (Confirm the direction of the angle display.) Then mount the switch cassette using the tightening torque below.



| 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

∅50, ∅63, ∅80



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

Series CKZ2N

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)

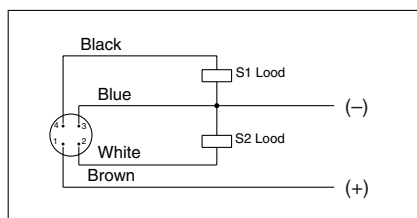
| Bore size (mm) | Arm position | Arm angle | | | | | | | |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° |
| 50 | R/L | 5.21 (11.46) | 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. |
|------------|-----------------|---------|---------------|
| 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 | |
| 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 |

| Bore size | SMC Part Number | Code | NAAMS Ref No. |
|-----------|-----------------|------|---------------|
| 63 | 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 |

| Bore size | SMC Part Number | Code | NAAMS Ref No. |
|-----------|-----------------|------|---------------|
| 80 | CKZ-80A001 | A001 | ACA100M |
| | CKZ-80A002 | A002 | ACA101M |
| | CKZ-80A003 | A003 | ACA102M |
| | CKZ-80A004 | A004 | ACA103M |
| | CKZ-80A005 | A005 | ACA104M |
| | CKZ-80A006 | A006 | ACA105M |
| | CKZ-80A007 | A007 | ACA106M |
| | CKZ-80A008 | A008 | ACA107M |
| | CKZ-80A009 | A009 | ACA108M |
| | CKZ-80A010 | A010 | ACA110M |
| | CKZ-80A011 | A011 | ACA111M |
| | CKZ-80A012 | A012 | ACA112M |
| | CKZ-80A013 | A013 | ACA113M |
| | CKZ-80A014 | A014 | ACA114M |
| | CKZ-80A015 | A015 | ACA115M |
| | CKZ-80A016 | A016 | ACA116M |
| | CKZ-80A017 | A017 | ACA117M |
| | CKZ-80A018 | A018 | ACA118M |
| | CKZ-80A019 | A019 | ACA120M |
| | CKZ-80A020 | A020 | ACA121M |
| | CKZ-80A021 | A021 | ACA122M |
| | CKZ-80A022 | A022 | ACA123M |
| | CKZ-80A023 | A023 | ACA124M |
| | CKZ-80A024 | A024 | ACA125M |
| | CKZ-80A025 | A025 | ACA126M |
| | CKZ-80A026 | A026 | ACA127M |
| | CKZ-80A027 | A027 | ACA128M |
| | CKZ-80A028 | A028 | ACA130M |
| | CKZ-80A029 | A029 | ACA131M |
| | CKZ-80A030 | A030 | ACA132M |
| | CKZ-80A031 | A031 | ACA133M |
| | CKZ-80A032 | A032 | ACA134M |
| | CKZ-80A033 | A033 | ACA135M |
| | CKZ-80A034 | A034 | ACA136M |
| | CKZ-80A035 | A035 | ACA137M |
| | CKZ-80A036 | A036 | ACA138M |
| | CKZ-80A037 | A037 | ACA140M |

| Bore size | SMC Part Number | Code | NAAMS Ref No. |
|-----------|-----------------|------|---------------|
| 80 | CKZ-80A038 | A038 | ACA141M |
| | CKZ-80A039 | A039 | ACA142M |
| | CKZ-80A040 | A040 | ACA143M |
| | CKZ-80A041 | A041 | ACA144M |
| | CKZ-80A042 | A042 | ACA145M |
| | CKZ-80A043 | A043 | ACA146M |
| | CKZ-80A044 | A044 | ACA147M |
| | CKZ-80A045 | A045 | ACA148M |
| | CKZ-80A046 | A046 | ACA150M |
| | CKZ-80A047 | A047 | ACA151M |
| | CKZ-80A048 | A048 | ACA152M |
| | CKZ-80A049 | A049 | ACA153M |
| | CKZ-80A050 | A050 | ACA154M |
| | CKZ-80A051 | A051 | ACA155M |
| | CKZ-80A052 | A052 | ACA156M |
| | CKZ-80A053 | A053 | ACA157M |
| | CKZ-80A054 | A054 | ACA158M |
| | CKZ-80A055 | A055 | ACA160M |
| | CKZ-80A056 | A056 | ACA161M |
| | CKZ-80A057 | A057 | ACA162M |
| | CKZ-80A058 | A058 | ACA163M |
| | CKZ-80A059 | A059 | ACA164M |
| | CKZ-80A060 | A060 | ACA165M |
| | CKZ-80A061 | A061 | ACA166M |
| | CKZ-80A062 | A062 | ACA167M |
| | CKZ-80A063 | A063 | ACA168M |
| | CKZ-80A064 | A064 | ACA170M |
| | CKZ-80A065 | A065 | ACA171M |
| | CKZ-80A066 | A066 | ACA172M |
| | CKZ-80A067 | A067 | ACA173M |
| | CKZ-80A068 | A068 | ACA174M |
| | CKZ-80A069 | A069 | ACA175M |
| | CKZ-80A070 | A070 | ACA176M |
| | CKZ-80A071 | A071 | ACA177M |
| | CKZ-80A072 | A072 | ACA178M |

For Asia

For North America

For Europe

For France

Special

CK□1

CLK2

C(L)K□

MK2T/MK2/MK

CKZ2N

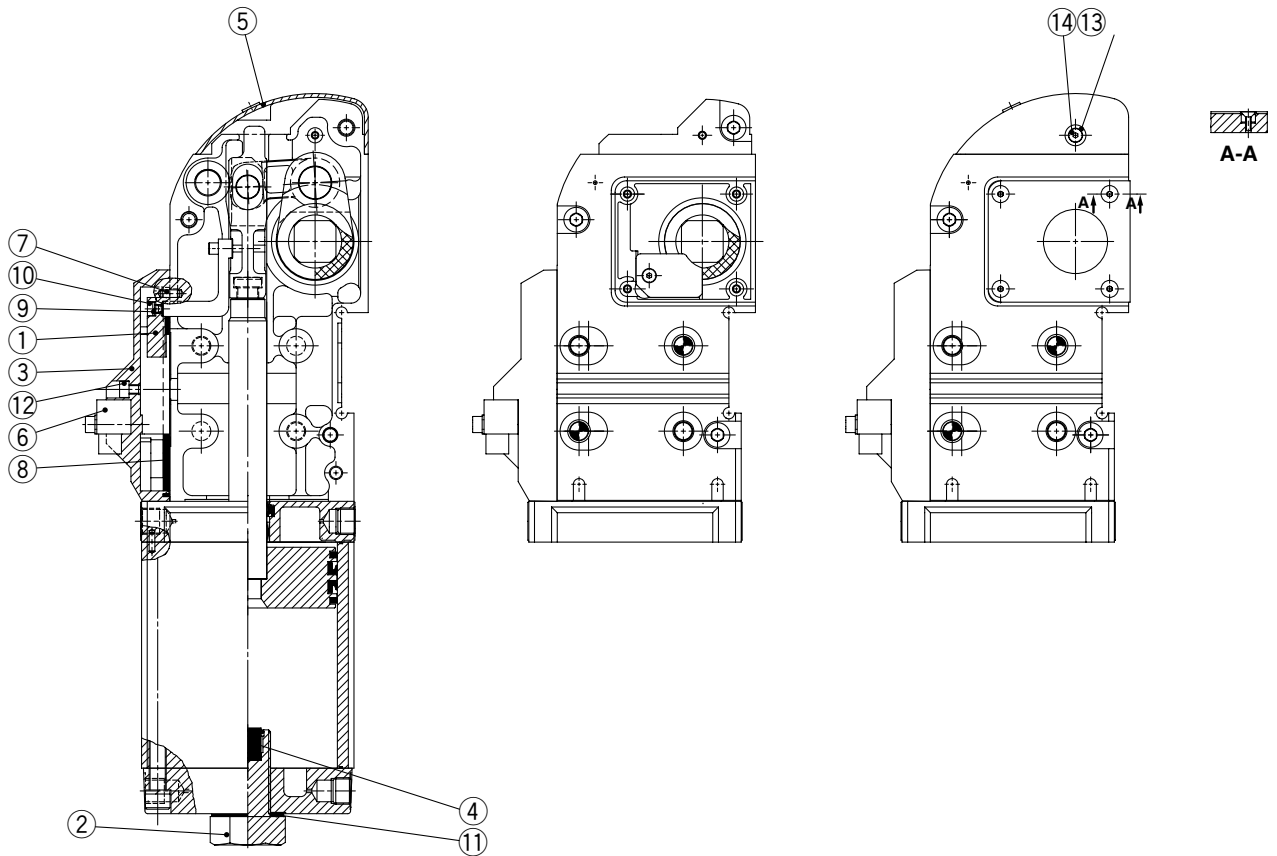
CKZT

CLKZ1R

CK□/M(D)UKA

Series CKZ2N

Construction



Replaceable Kits List

| Description | Bore size (mm) | Kit no. | Contents |
|--|----------------|---------------------------------|---|
| Switch cassette | 50 | CKZ1N-S050 ^T Note 1) | ③ Switch holder |
| | 63 | CKZ1N-S063 ^T Note 1) | ⑥ Proximity switch |
| | 80 | CKZ1N-S080 ^T Note 1) | ⑦ Parallel pin ⑧ Sheet gasket ⑫ Cover cap screw |
| 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

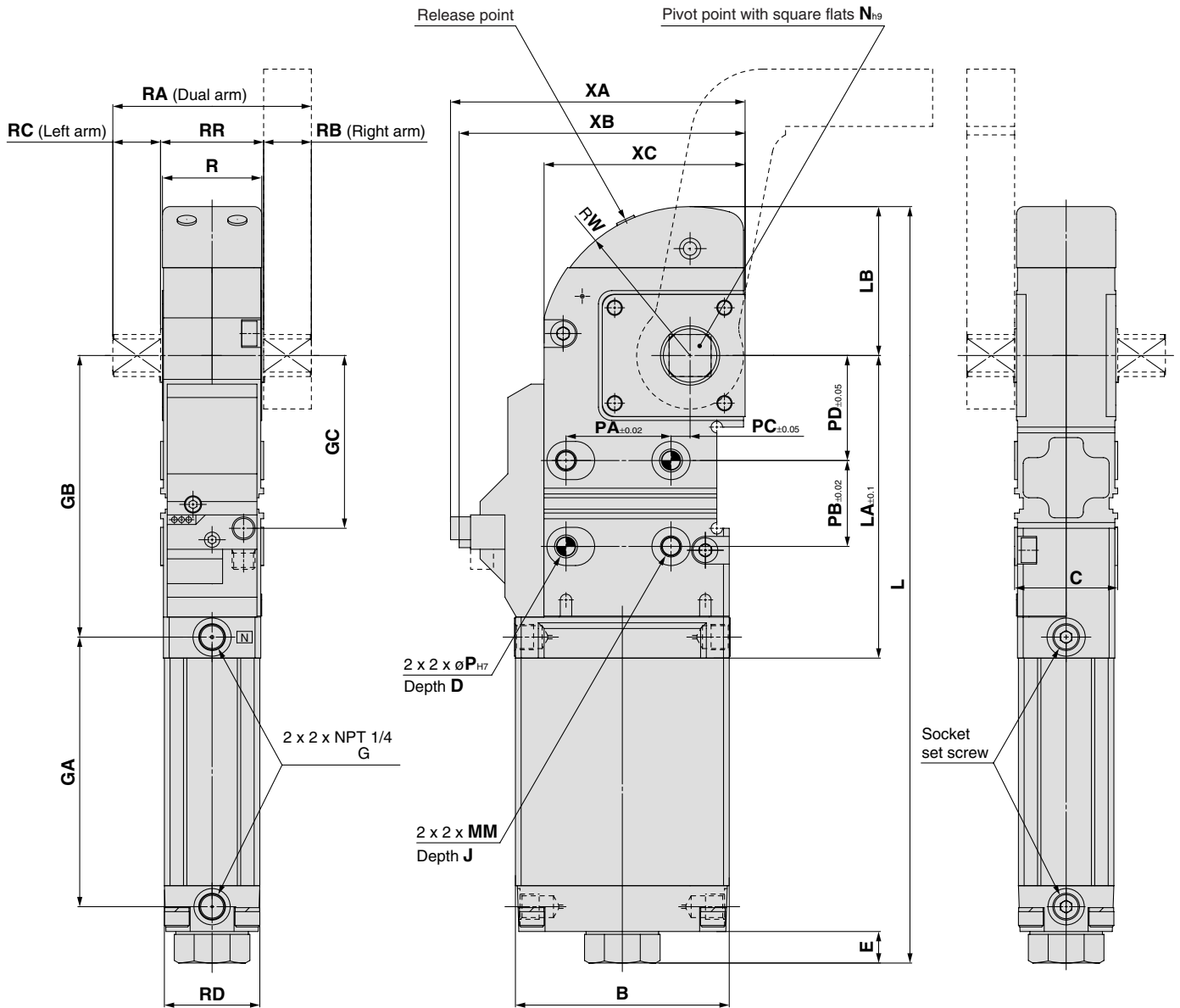
Unit: (mm)

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

Series CKZ2N

Dimensions

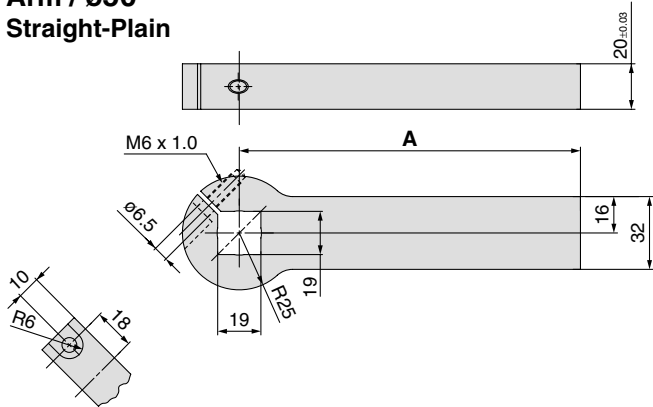


| Bore size (mm) | B | C | D | E | GA | GB | GC | J | L | LA | LB | MM | N | P |
|----------------|-----|----|----|------|-------|-------|-------|----|-------|-------|-------|------------|----|----|
| 50 | 95 | 48 | 12 | 13.7 | 134.3 | 138.5 | 93 | 12 | 376.7 | 149.5 | 78.4 | M8 x 1.25 | 19 | 8 |
| 63 | 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 |

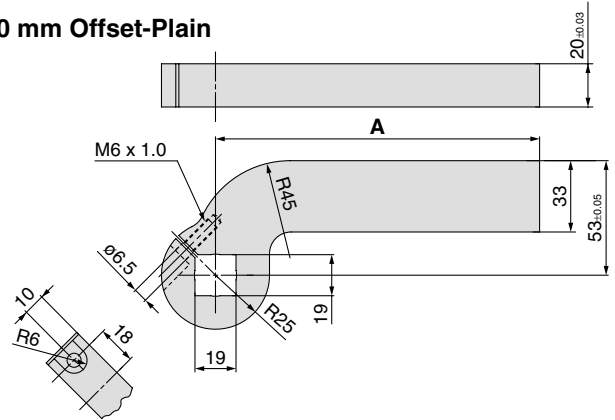
Dimensions

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



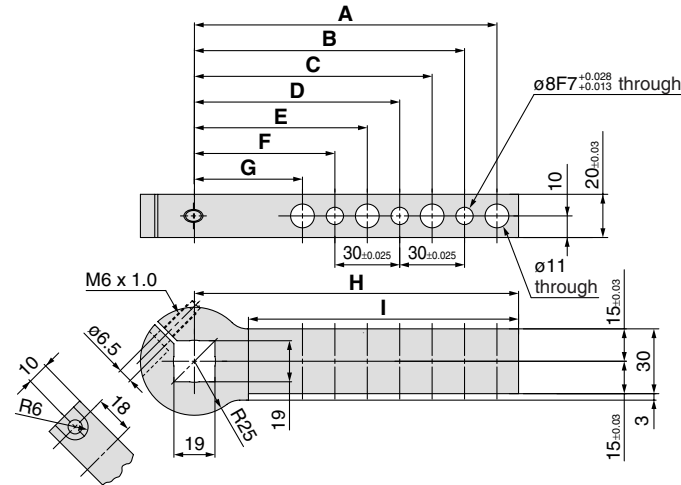
| Part no. | NAAMS code | A | Weight kg (lbs) |
|------------|------------|-------|-----------------|
| CKZ-50A001 | ACA201M | 90.0 | 0.6 (1.32) |
| CKZ-50A002 | ACA202M | 120.0 | 0.7 (1.54) |
| CKZ-50A003 | ACA203M | 150.0 | 0.9 (1.98) |

20 mm Offset-Plain



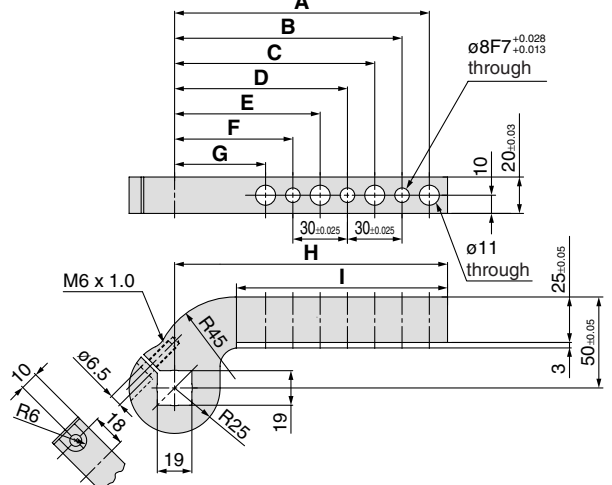
| Part no. | NAAMS code | A | Weight kg (lbs) |
|------------|------------|-------|-----------------|
| CKZ-50A007 | ACA211M | 90.0 | 0.7 (1.54) |
| CKZ-50A008 | ACA212M | 120.0 | 0.8 (1.76) |
| CKZ-50A009 | ACA213M | 150.0 | 1.0 (2.20) |

Straight-Machined



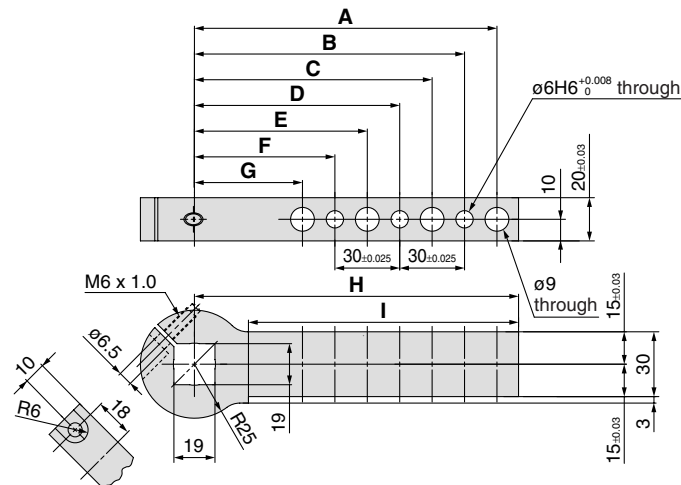
| Part no. | NAAMS code | A | B | C | D | E | F | G | H | I | Weight kg (lbs) |
|------------|------------|-------|-------|-------|------|------|------|------|-------|-------|-----------------|
| CKZ-50A004 | ACA206M | 80.0 | 65.0 | 50.0 | — | — | — | — | 90.0 | 65.0 | 0.5 (1.10) |
| CKZ-50A005 | ACA207M | 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



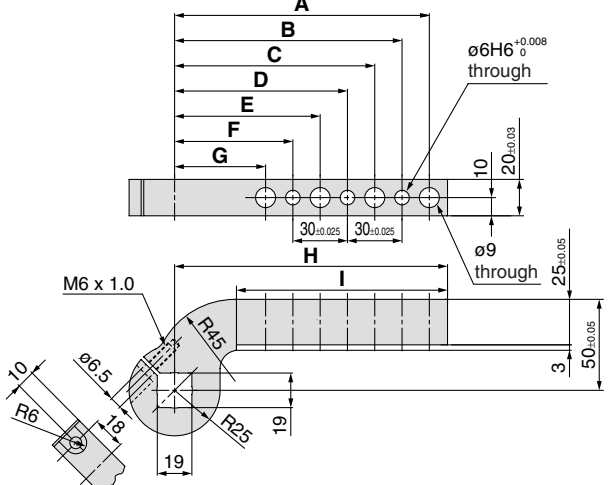
| Part no. | NAAMS code | A | B | C | D | E | F | G | H | I | Weight kg (lbs) |
|------------|------------|-------|-------|-------|------|------|------|------|-------|-------|-----------------|
| CKZ-50A010 | ACA216M | 80.0 | 65.0 | 50.0 | — | — | — | — | 90.0 | 56.0 | 0.5 (1.10) |
| CKZ-50A011 | ACA217M | 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



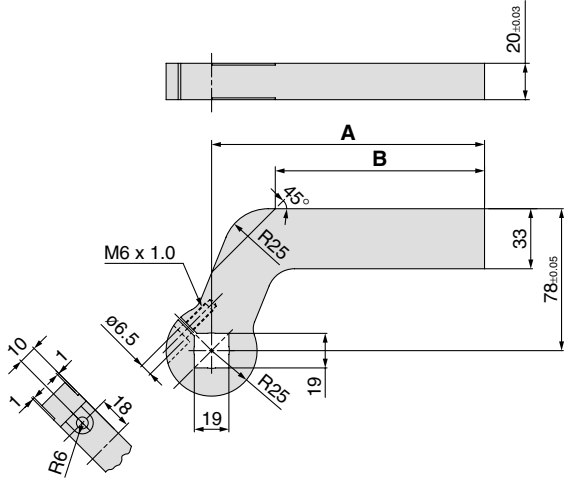
| Part no. | NAAMS code | A | B | C | D | E | F | G | H | I | Weight kg (lbs) |
|------------|------------|-------|-------|-------|------|------|------|------|-------|-------|-----------------|
| CKZ-50A022 | ACA246M | 80.0 | 65.0 | 50.0 | — | — | — | — | 90.0 | 56.0 | 0.5 (1.10) |
| CKZ-50A023 | ACA247M | 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) |

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

Series CKZ2N

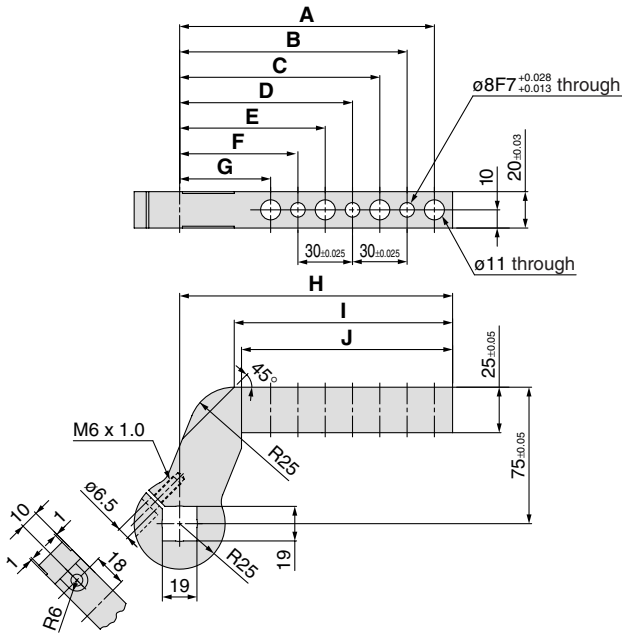
Dimensions

45 mm Offset-Plain



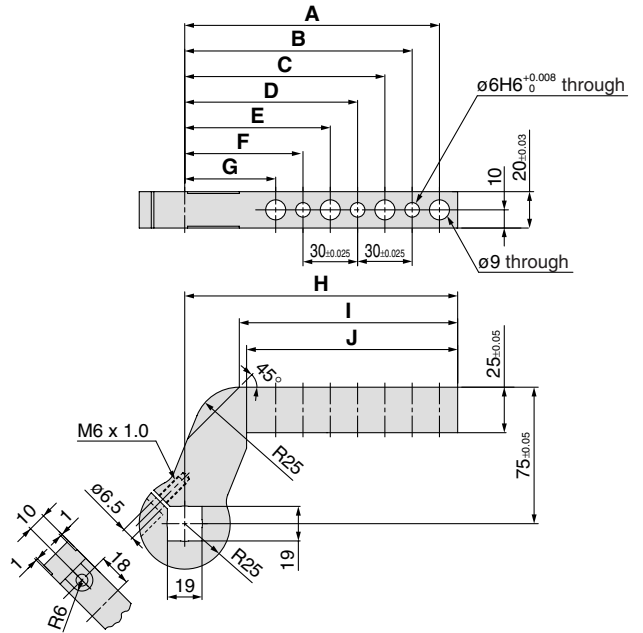
| Part no. | NAAMS code | A | B | Weight kg (lbs) |
|------------|------------|-------|-------|-----------------|
| CKZ-50A013 | ACA221M | 90.0 | 55.0 | 0.8 (1.76) |
| CKZ-50A014 | ACA222M | 120.0 | 85.0 | 0.9 (1.98) |
| CKZ-50A015 | ACA223M | 150.0 | 115.0 | 1.1 (2.42) |

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) |

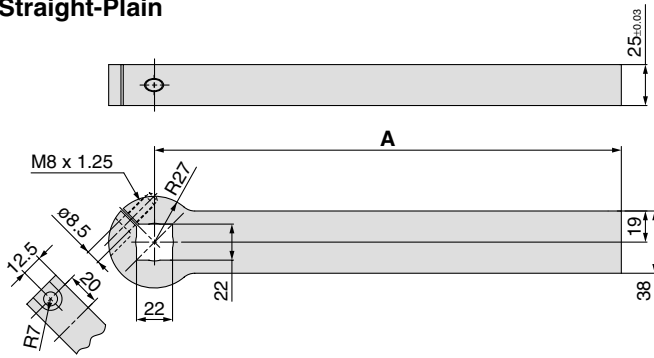
50 mm Offset-Machined



| 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) |

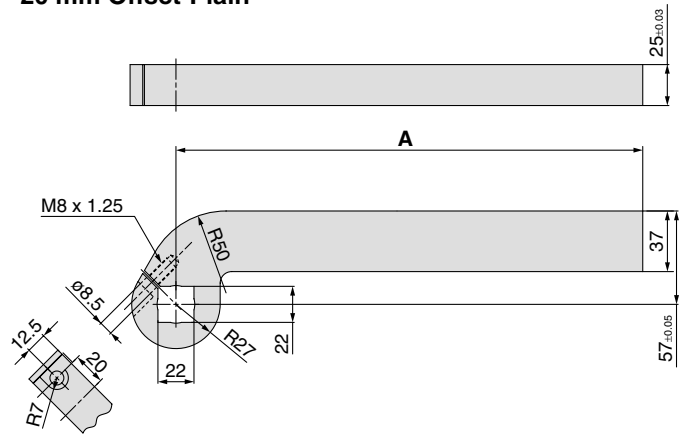
Dimensions

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



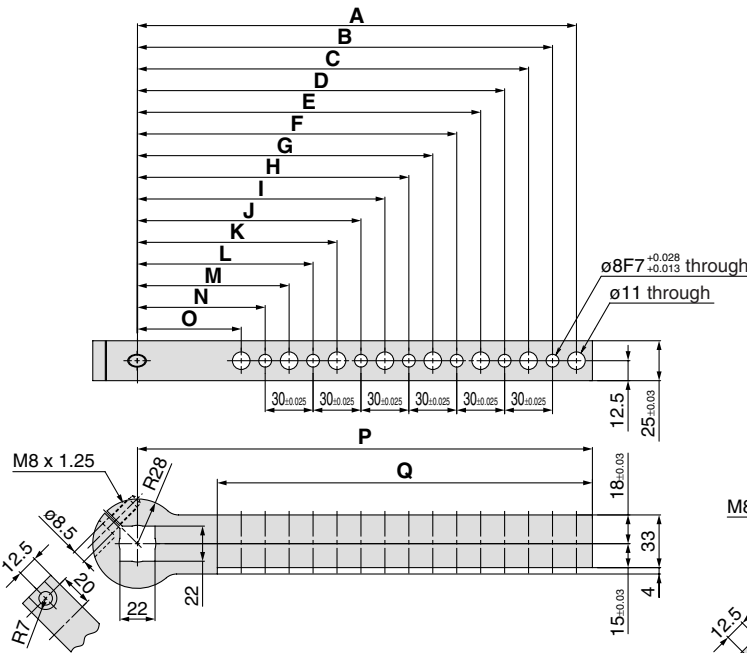
| Part no. | NAAMS code | A | Weight kg (lbs) |
|------------|------------|-------|-----------------|
| CKZ-63A001 | ACA001M | 135.0 | 1.2 (2.64) |
| CKZ-63A002 | ACA002M | 165.0 | 1.4 (3.09) |
| CKZ-63A003 | ACA003M | 195.0 | 1.6 (3.53) |
| CKZ-63A004 | ACA004M | 225.0 | 1.8 (3.97) |
| CKZ-63A005 |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

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) |

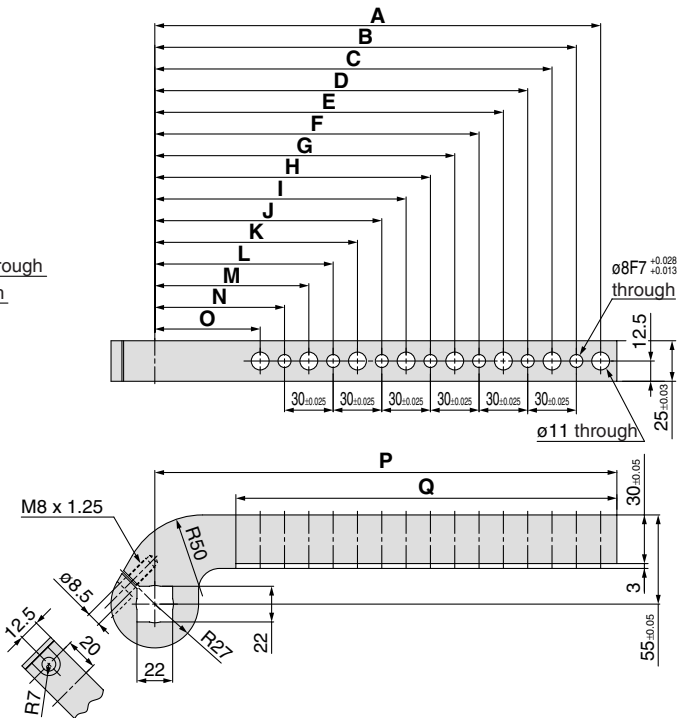
Straight-Machined



| 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) |

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) |

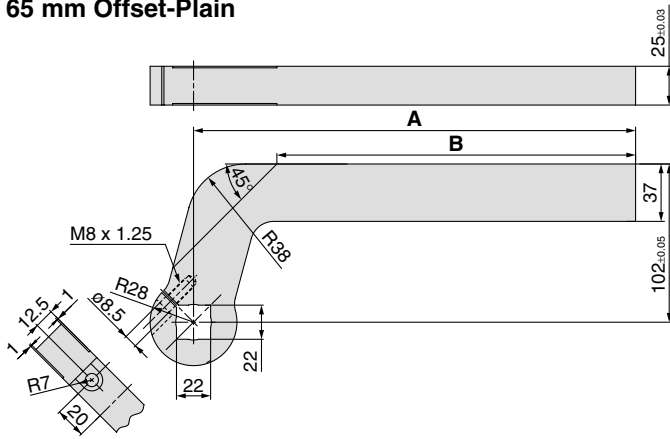
CK□1
 CLK2
 C(L)K□
 MK2T/MK2/MK
 CKZ2N
 CKZT
 CLKZ1R
 CK□M(D)UKA

For Asia
 For North America
 For Europe
 For France
 Special

Series CKZ2N

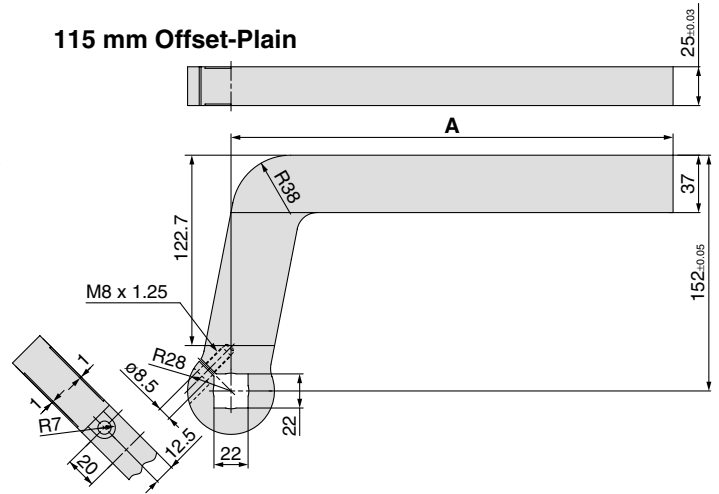
Dimensions

65 mm Offset-Plain



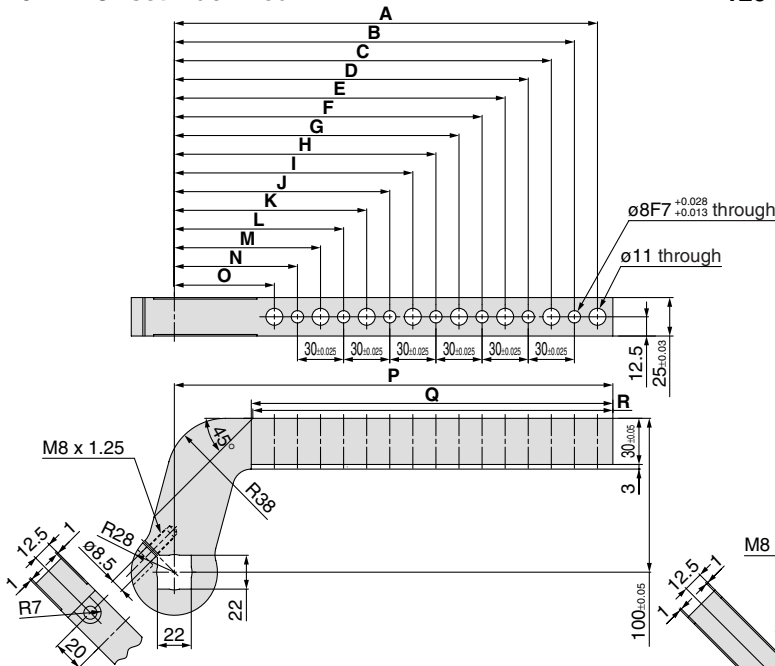
| Part no. | NAAMS code | A | B | Weight kg (lbs) |
|------------|------------|-------|-------|-----------------|
| CKZ-63A025 | ACA025M | 135.0 | 81.3 | 1.7 (3.75) |
| CKZ-63A026 | ACA026M | 165.0 | 111.3 | 1.9 (4.19) |
| CKZ-63A027 | ACA027M | 195.0 | 141.3 | 2.1 (4.63) |
| CKZ-63A028 | ACA028M | 225.0 | 171.3 | 2.3 (5.07) |
| CKZ-63A029 | ACA029M | 255.0 | 201.3 | 2.5 (5.51) |
| CKZ-63A030 | ACA030M | 285.0 | 231.3 | 2.7 (5.96) |

115 mm Offset-Plain



| Part no. | NAAMS code | A | Weight kg (lbs) |
|------------|------------|-------|-----------------|
| CKZ-63A037 | ACA037M | 135.0 | 2.1 (4.63) |
| CKZ-63A038 | ACA038M | 165.0 | 2.3 (5.07) |
| CKZ-63A039 | ACA039M | 195.0 | 2.5 (5.51) |
| CKZ-63A040 | ACA040M | 225.0 | 2.7 (5.96) |
| CKZ-63A041 | ACA041M | 255.0 | 2.9 (6.40) |
| CKZ-63A042 | ACA042M | 285.0 | 3.1 (6.84) |

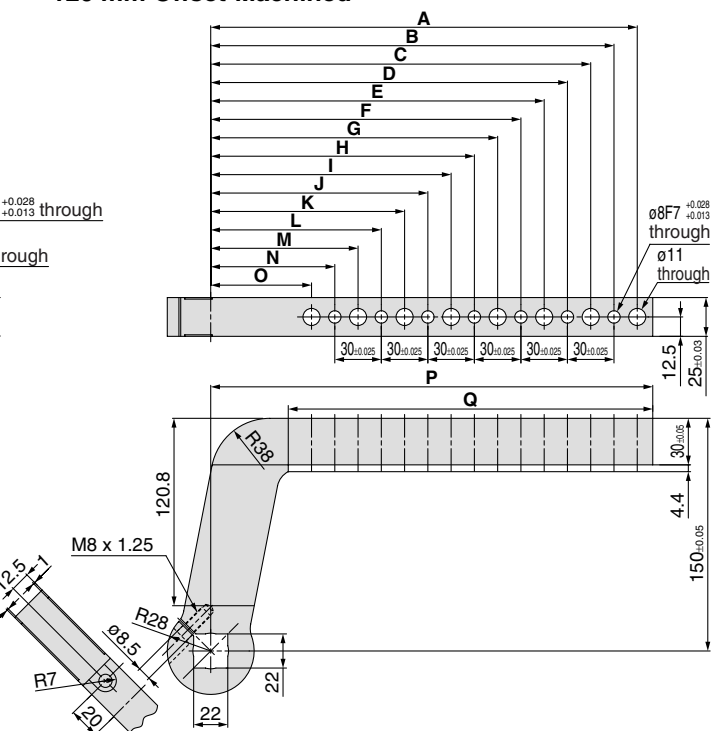
70 mm Offset-Machined



| 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 (lbs) |
|------------|------------|-------|-------|------|------|------|-------|-------|-------|-----------------|
| CKZ-63A031 | ACA031M | — | — | — | — | — | 135.0 | 85.0 | 84.0 | 1.4 (3.09) |
| CKZ-63A032 | ACA032M | — | — | — | — | — | 165.0 | 115.0 | 114.0 | 1.6 (3.53) |
| CKZ-63A033 | ACA033M | — | — | — | — | — | 195.0 | 145.0 | 144.0 | 1.8 (3.97) |
| CKZ-63A034 | ACA034M | 65.0 | — | — | — | — | 225.0 | 175.0 | 174.0 | 1.9 (4.19) |
| CKZ-63A035 | ACA035M | 95.0 | 80.0 | 65.0 | — | — | 255.0 | 205.0 | 204.0 | 2.1 (4.63) |
| CKZ-63A036 | ACA036M | 125.0 | 110.0 | 95.0 | 80.0 | 65.0 | 285.0 | 235.0 | 234.0 | 2.3 (5.07) |

120 mm Offset-Machined

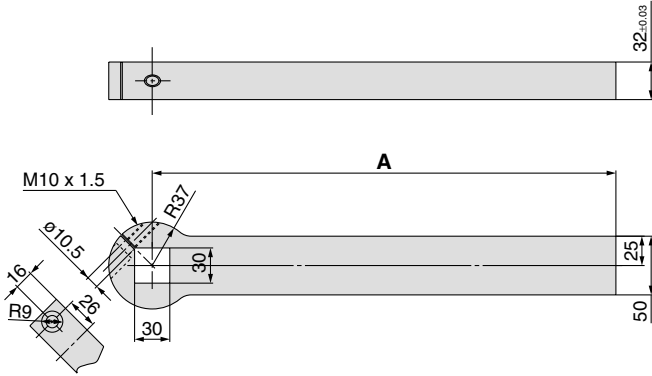


| Part no. | NAAMS code | A | B | C | D | E | F | G | H | I | J |
|------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CKZ-63A043 | ACA043M | 125.0 | 110.0 | 95.0 | 80.0 | 65.0 | — | — | — | — | — |
| CKZ-63A044 | ACA044M | 155.0 | 140.0 | 125.0 | 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 (lbs) |
|------------|------------|-------|-------|------|------|------|-------|-------|-----------------|
| CKZ-63A043 | ACA043M | — | — | — | — | — | 135.0 | 85.0 | 1.8 (3.97) |
| CKZ-63A044 | ACA044M | — | — | — | — | — | 165.0 | 115.0 | 2.0 (4.41) |
| CKZ-63A045 | ACA045M | — | — | — | — | — | 195.0 | 145.0 | 2.1 (4.63) |
| CKZ-63A046 | ACA046M | 65.0 | — | — | — | — | 225.0 | 175.0 | 2.3 (5.07) |
| CKZ-63A047 | ACA047M | 95.0 | 80.0 | 65.0 | — | — | 255.0 | 205.0 | 2.5 (5.51) |
| CKZ-63A048 | ACA048M | 125.0 | 110.0 | 95.0 | 80.0 | 65.0 | 285.0 | 235.0 | 2.6 (5.73) |

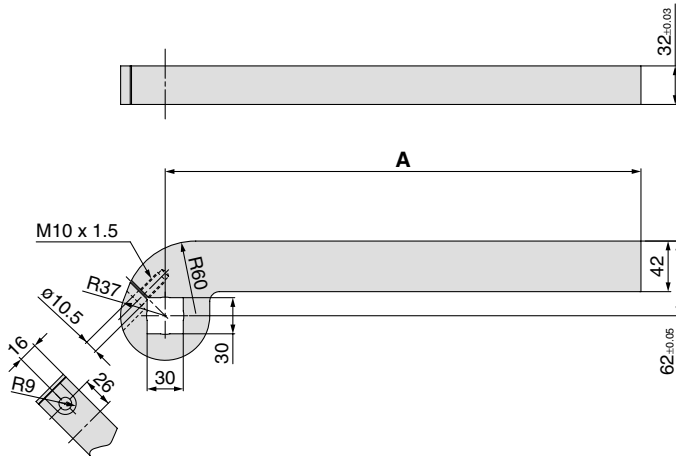
Dimensions

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) |

CK□1

CLK2

For Asia

C(L)KQ□

MK2T/MK2/MK

For North America

CKZ2N

For Europe

CKZT

For France

CLKZ1R

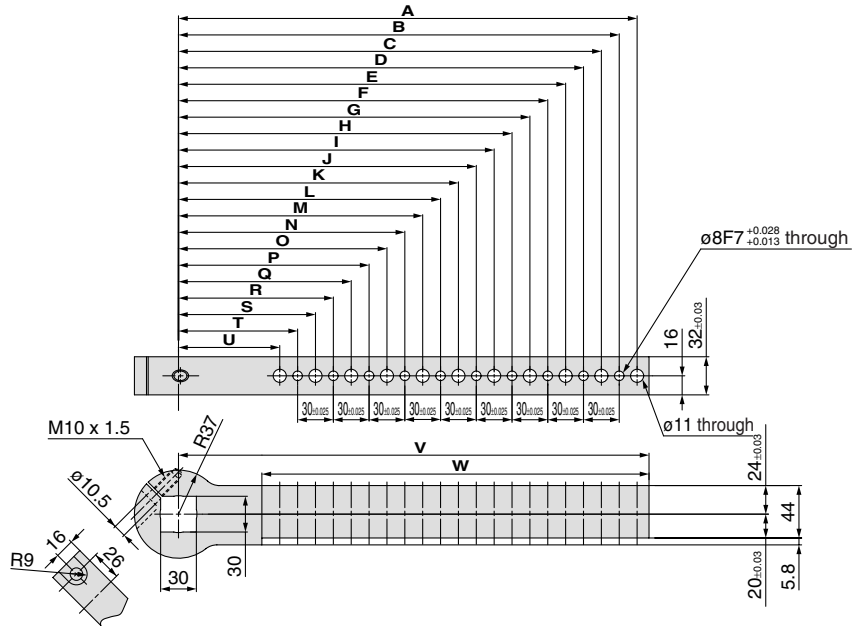
Special

CK□/M(D)UKA

Series CKZ2N

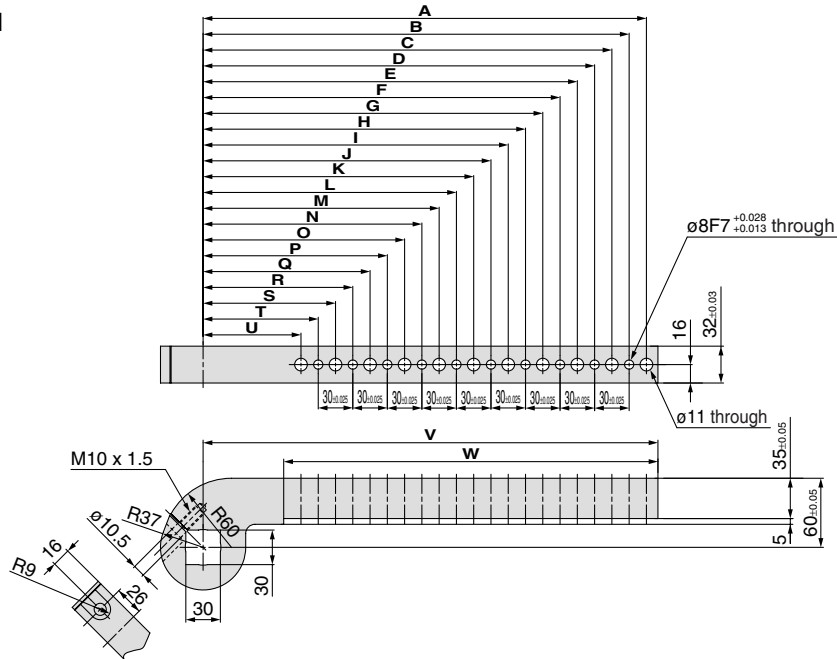
Dimensions

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) |

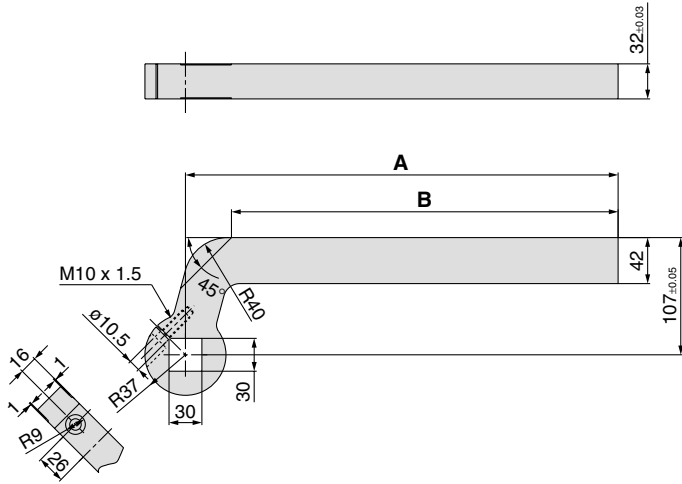
25 mm Offset-Machined



| 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) |

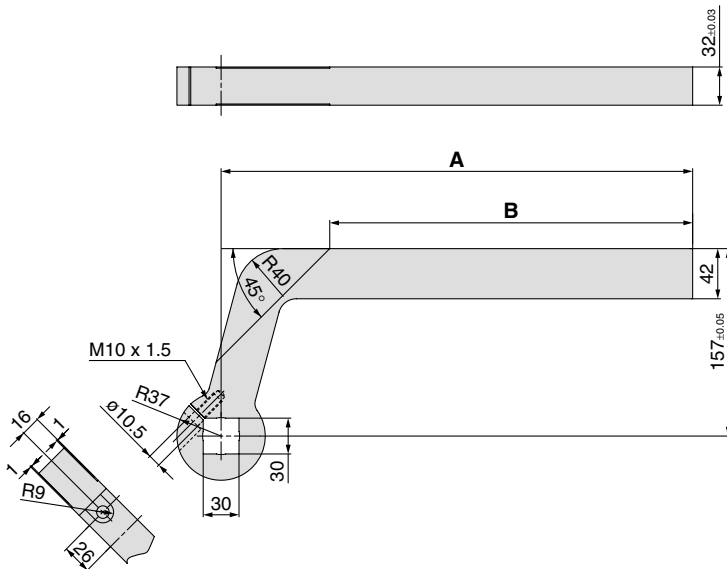
Dimensions

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) |

CK□1

CLK2

C(L)K□□

MK2T/MK2/MK

CKZ2N

CKZT

CLKZ1R

CK□/M(D)UKA

For Asia

For North America

For Europe

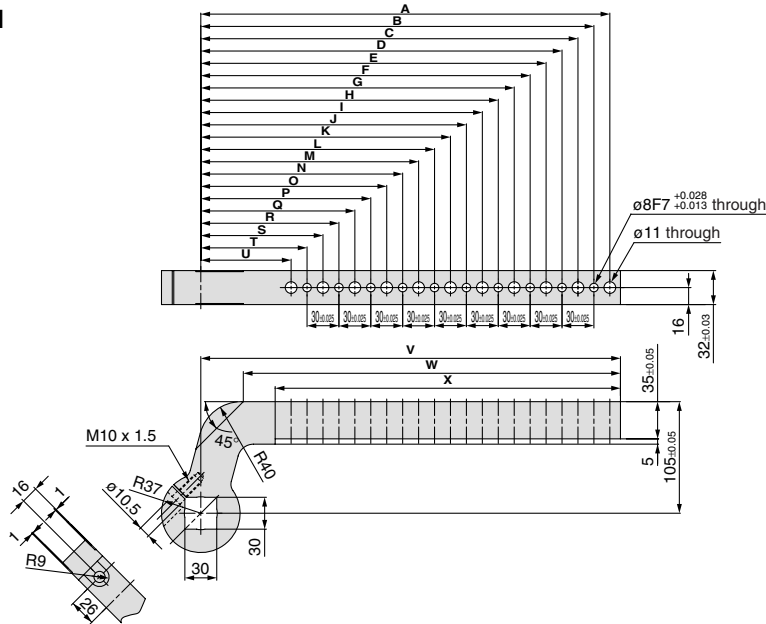
For France

Special

Series CKZ2N

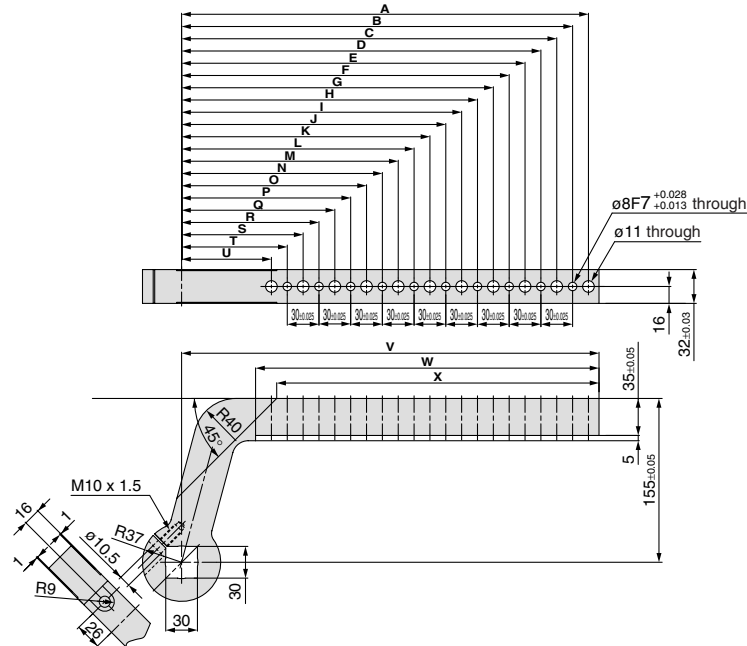
Dimensions

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 kg (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



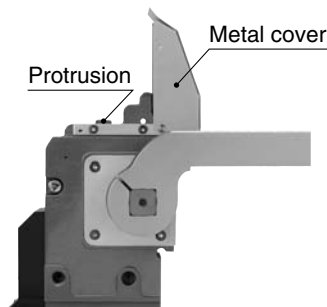
- Applicable model
CKZ2N50, 63, 80
- Applicable to Arc-melting-resistant line
- In addition to the existing rubber cover type, Opening/closing metal cover type is available for releasing part of the toggle construction.

Cylinder Specifications

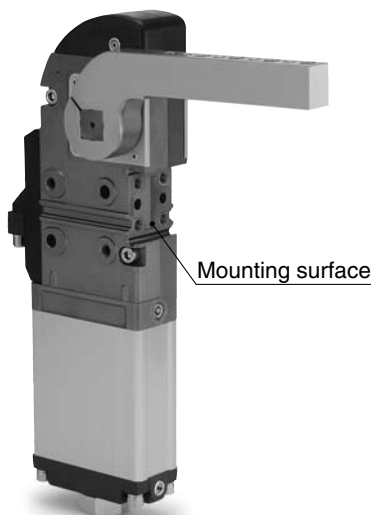
| Bore size (mm) | 50 | 63 | 80 |
|--------------------------------------|---|----|----|
| Angle | 30°, 45°, 60°, 75°, 90°, 105°, 120°, 135° | | |
| Cushion | Unclamping side: Rubber bumper | | |
| Maximum operating pressure | 0.8 MPa (116 psi) | | |
| Ambient and fluid temperature | -10 to 60°C (14 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
- CLK2
- For Asia
- C(L)KQ□
- MK2T/MK2/MK
- For North America
- CKZ2N
- For Europe
- CKZT
- For France
- CLKZ1R
- Special
- CK□/M(D)JKA



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 | | |



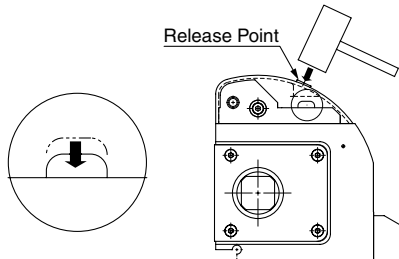
Series CKZ2N Specific Product Precautions

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.

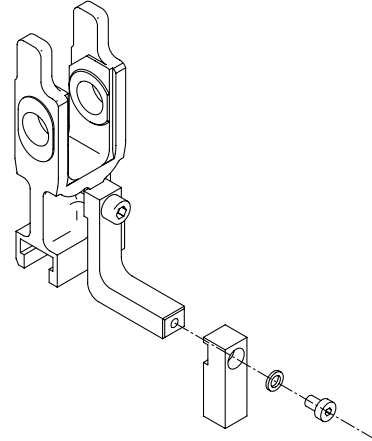
3. Tightening torque of spare parts

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 |

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)JKA