

Slim-line Power Clamp Cylinder

CKZ2N-X2346

∅50, ∅63, ∅80



How to Order

CKZ2N **63** - **120** - **P4DWSC** - **X2346**

Bore size

50	50 mm equivalent
63	63 mm equivalent
80	80 mm equivalent

Arm opening angle

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

X part no.

X2346

- Clamp arm (fixed on the product) accuracy adjustment spec.
- Applicable to magnetic field resistant auto switches
- Toggle angle: 2° short of the dead point
- With metal cover

Number of auto switches

Nil	2 pcs.
S	1 pc.

Applicable auto switch

Nil	Without auto switch (Without switch mounting bracket)
P4DW	D-P4DW
P4DWL	D-P4DWL
P4DWZ	D-P4DWZ
P4DWSC	D-P4DWSC
P4DWSE	D-P4DWSE

Maximum Clamping Moment

Bore size	Max. clamping moment (N·m)					
	0.3 MPa	0.4 MPa	0.5 MPa	0.6 MPa	0.7 MPa	0.8 MPa
50	100	130	160	190	220	250
63	300	350	400	450	500	550
80	560	720	880	1040	1200	1360

Cylinder Specifications

Bore size	50	63	80
Arm opening angle	30°, 45°, 60°, 75°, 90°, 105°, 120°, 135°		
Cushion	Unclamping side rubber bumper		
Max. operating pressure	0.8 MPa		
Operating pressure range	0.3 to 0.8 MPa		
Operating temperature range	-10 to 60°C (No freezing)		
Operating time	1 sec. or more to clamp or unclamp		
Weight	6.3 kg	8.4 kg	21.0 kg

Switch Mounting Bracket

Bore size	Set part no.
50	CKZ50-42ADCL218CL-R
63	CKZ63-42ADCL517AL-R
80	CKZ80-42ADCL518AL-R

- * Screws are included with the switch mounting bracket.
- * Auto switches and spatter covers should be ordered separately.

Magnetic Field Resistant Auto Switches/Refer to the Web Catalog for further information on auto switches.

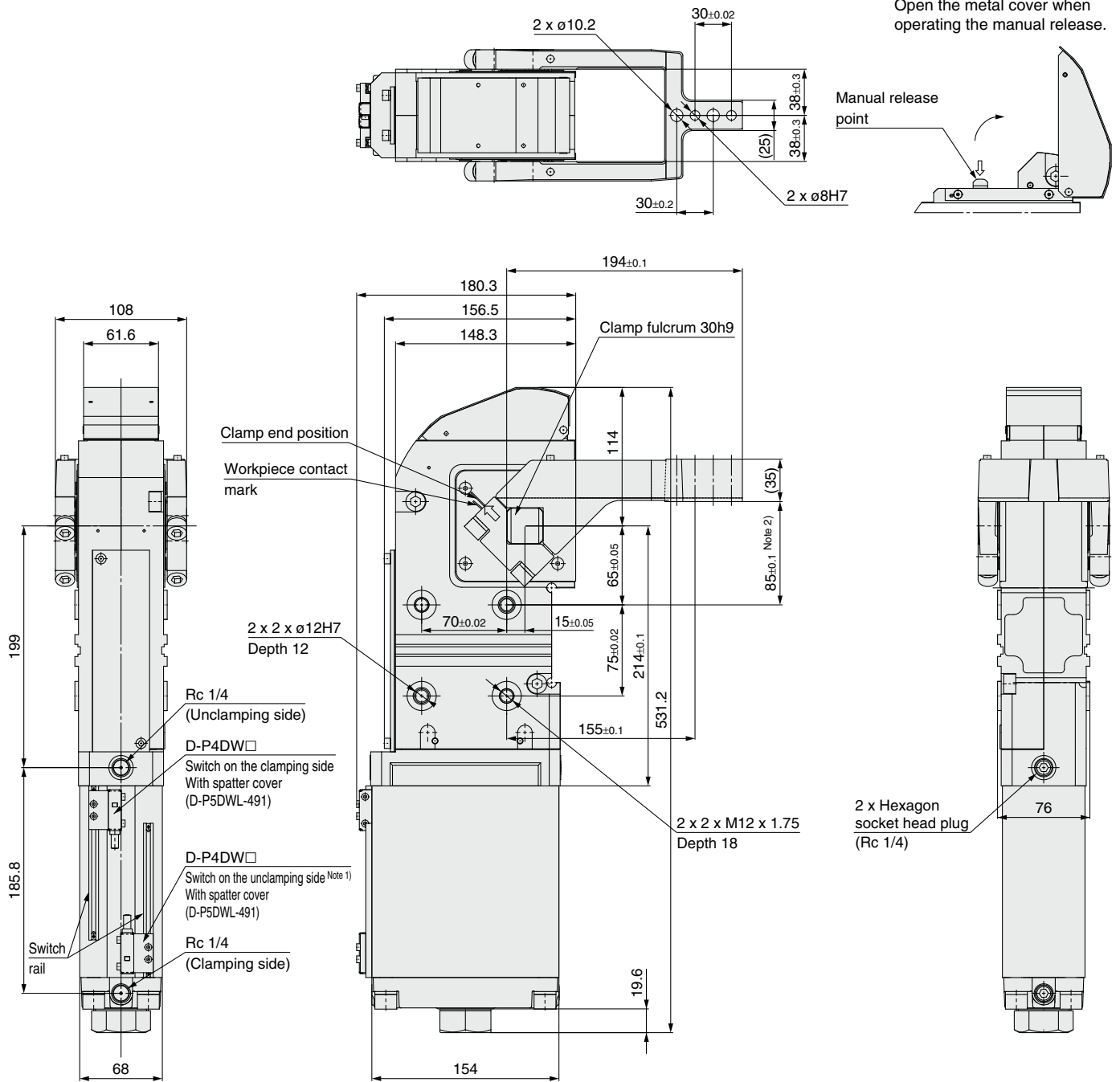
Type	Special function	Auto switch model	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load
Solid state auto switch	Magnetic field resistant (2-color indicator)	P4DWSC	Pre-wired connector	Yes	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC
		P4DWSE			2-wire (1-4)		3 m	
		P4DWL	Grommet		2-wire		5 m	
		P4DWZ						

Note) When only one switch is provided, it is mounted on the unclamping side.

Slim-line Power Clamp Cylinder CKZ2N-X2346

Dimensions

CKZ2N80-□-□□-X2346



Note 1) When only one auto switch is provided, it is mounted on the unclamping side.
 Note 2) The dimensional tolerance when at 0.5 MPa

Spatter Resistant Cylinders for Arc Welding

Specialty Cylinders

Gas/Air Switching Valve

Detection Switches

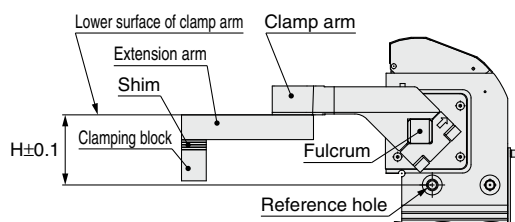
Tubing

Fittings

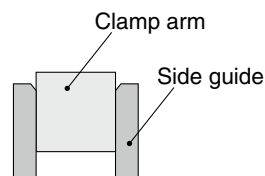
Flow Control Equipment

Slim-line Power Clamp Cylinder CKZ2N-X2346 Setup Procedure

Precautions * In this cylinder, the shim is pulled out to increase the clamping force.

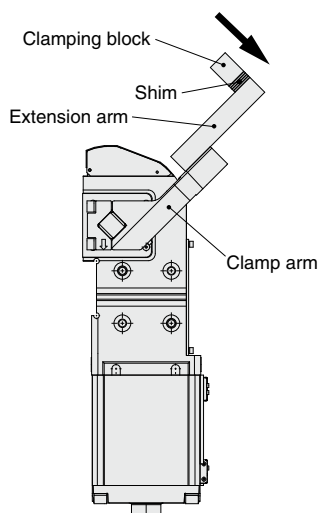


1. Since the distance accuracy from the reference hole to the lower surface of the clamp arm is ± 0.1 mm at the stroke end as shown in the figure on the left side, a hard stop is not required on the clamping side. When a clamp arm deflection lock is required, install the side guides.
2. For clamping force adjustment, be sure to install a shim around 3 mm in size.
3. Even when the clamp arm operates to the clamp end, the internal toggle mechanism does not enter the dead point (2° short of the dead point). Therefore, clamping cannot be held during air exhaust.



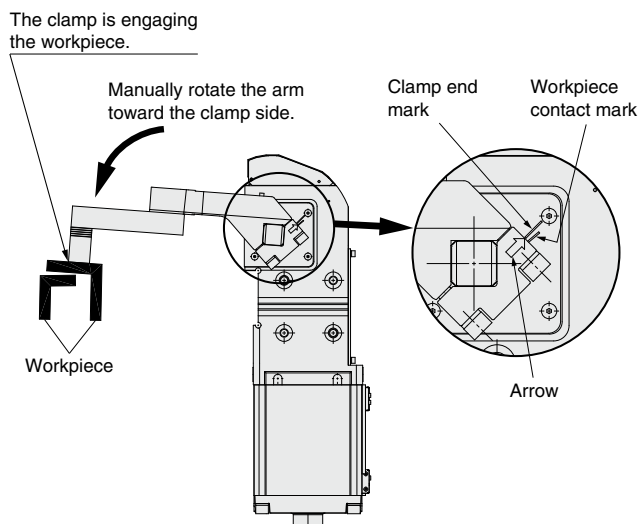
Setup procedure

Step 1 Exhaust the air to switch to the unclamped state.

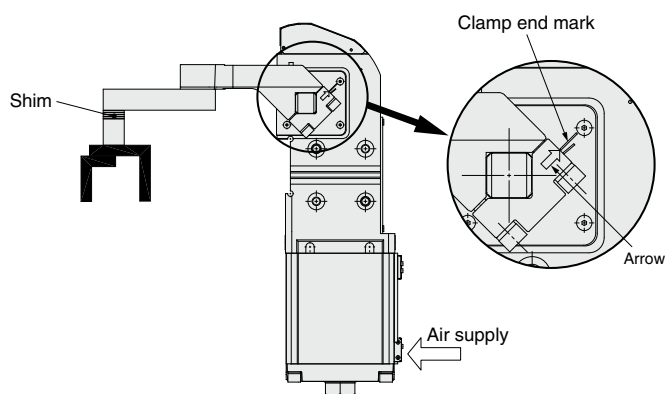


Step 2 Manually place the arm on workpieces.

Adjust with the shim so that the arrow is located between the workpiece contact mark and clamp end mark.



Step 3 Supply air to the clamp side and adjust with the shim so that the arrow mark is located at a position close to the clamp end mark.

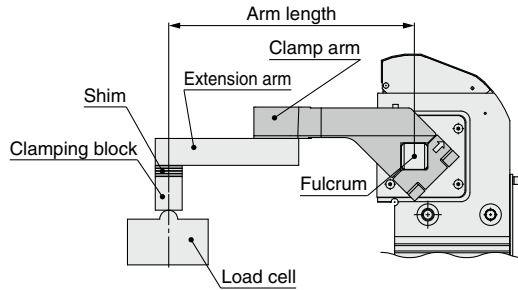


⚠ Caution

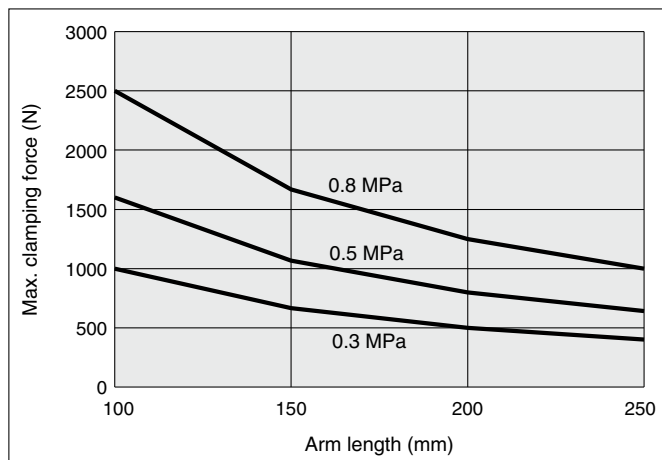
1. Be sure to install a speed controller and adjust it so that it takes **at least 1 second** to clamp or unclamp. (Operating the cylinder in less than 1 second may cause damage to the product.)
2. In some cases, the clamp arm may be hard to open even when the product is in a clamped state with the air being exhausted. In such cases, opening the metal cover and hitting the manual release point with a plastic hammer, etc., will result in the clamp arm opening with ease.

Clamping force characteristics

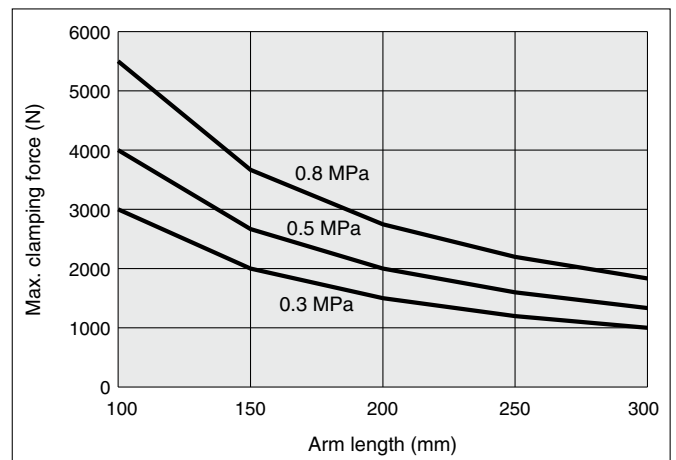
Clamping force characteristics by bore size, arm length, and operating pressure



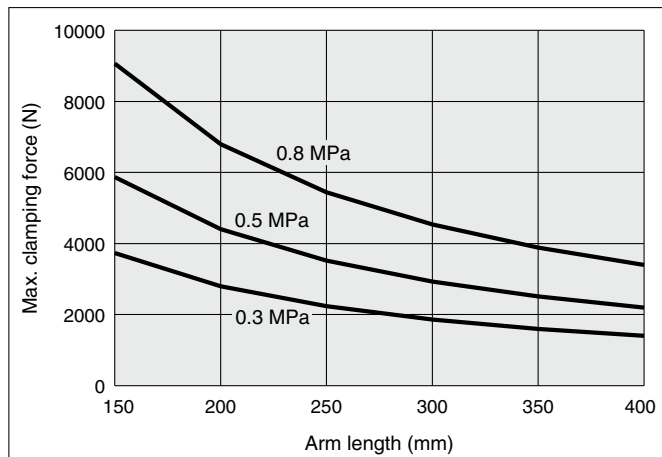
ø50



ø63



ø80



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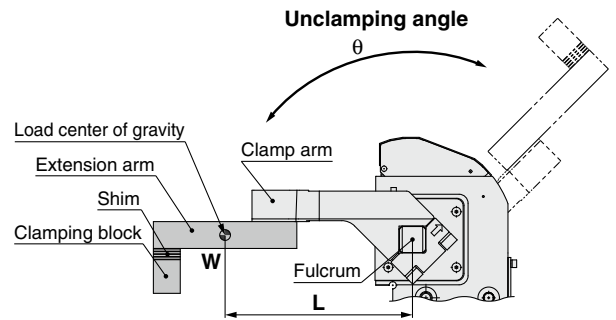
Allowable load mass

The allowable load mass of the extension arm and clamping block to be mounted on the clamp arm may vary depending on the unclamping angle. Be sure to use the product within the allowable values in the graphs shown below.

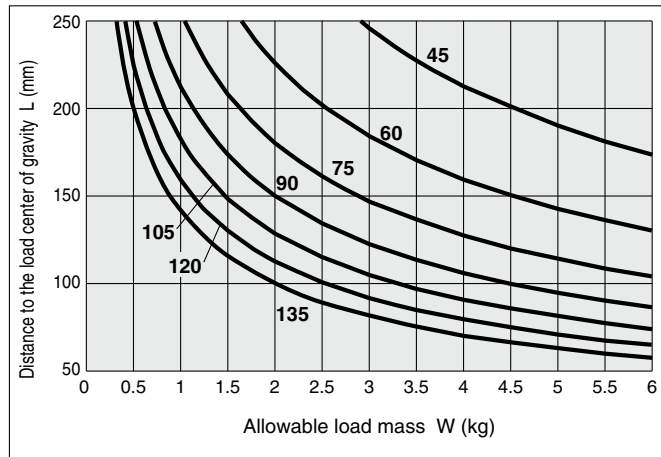
* The load indicates the total weight of the extension arm and clamping block.

Calculation procedure of allowable load mass

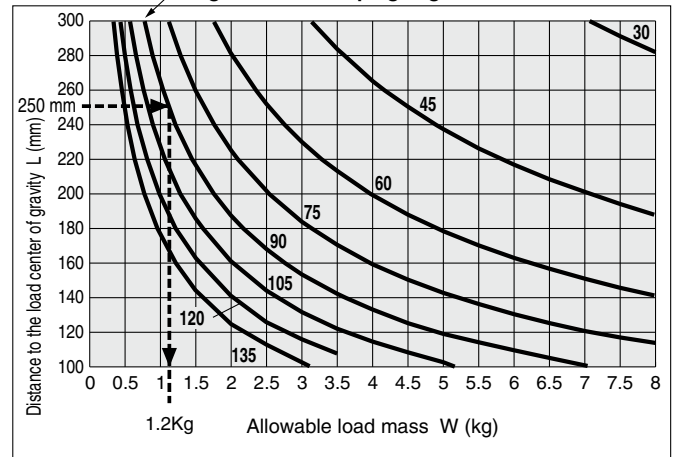
1. Calculate the distance L from the fulcrum to the center of gravity of the extension arm + clamping block.
2. Check the unclamping angle of the product.
3. Obtain the allowable load mass from the graph, and use the product within the allowable range.



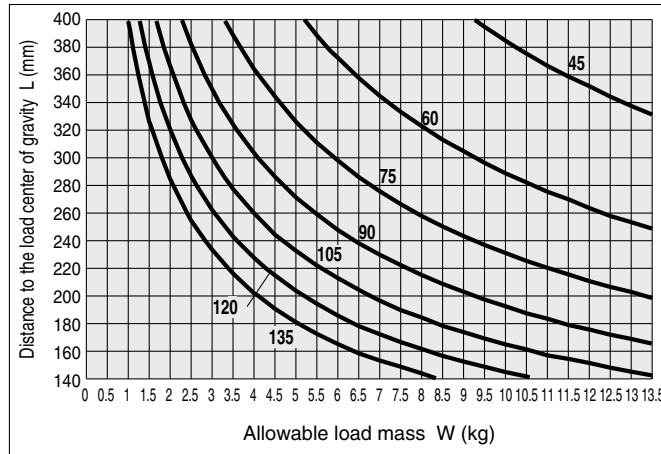
ø50



ø63



ø80



Calculation example

For bore size 63, when the unclamping angle is 90° and the load center of gravity position of the extension arm + clamping block is 250 mm.

When the center of gravity position of the load mass of the extension arm + clamping block is 250 mm on the diagram at an unclamping angle of 90° in the size ø63 graph, the total allowable load mass of the extension arm + clamping block is to 1.2 kg.

Related Products

Power Clamp Cylinder Variations

CKZ Series

Micro Clamp Cylinder: CKZM16-X2800/X2900



- Compact: Width 20 mm, Lightweight: 250 g
- Maximum clamping force: 200 N, Maximum holding force: 300 N
- Flat clamping characteristics
- Outputs constant clamping force for workpiece thicknesses up to 3.5 mm
- Reduction of design/assembly labor by unitization
- Arm assembly and mounting assembly have been added to the clamp cylinder.

Type	Series	Action	Bore size (mm)
Base type	CKZM16-X2800	Double acting	16
Tandem type	CKZM16-X2900	Double acting	16

Power Clamp Cylinder Compact Type: CKZT-X2797/X2798



- Lightweight Weight: 580 g (ø25)
- Compact Width: 34 mm, Height: 192.4 mm (ø25, Arm opening angle: 90°)
- Clamping force: 1100 N (ø32, Arm length: 50 mm, 0.5 MPa pressure)
- Force amplification with a toggle mechanism and lock function
- Spatter-proof construction
- Equipped with a proximity switch that can be used in welding magnetic fields
- A model with a manually operated handle is available.

Series	Arm opening angle	Switch	Bore size (mm)
CKZT-X2797 Base type	90°, 105°	SENSTRONIC	25, 32
CKZT-X2798 With manually operated handle	90°, 105°	SENSTRONIC	25, 32

Power Clamp Cylinder: CKZ3T-X2734/X2568



- Simple switch adjustment greatly reduces work hours. Switch can be adjusted easily when changing the arm opening angle.
- With metal switch cassette cover
- Weight reduced by up to 39%
- High clamping force: 4000 N
- Spatter-proof construction
- Select from 2 types of top cover
- A model with a manually operated handle is available.

Series	Arm opening angle	Switch	Bore size (mm)
CKZ3T-X2734 Base type	15°, 30°, 45°, 60°, 75° 90°, 105°, 120°, 135°	TURCK/P&F	50, 63
CKZ3T-X2568 With manually operated handle	15°, 30°, 45°, 60°, 75° 90°, 105°, 120°, 135°	TURCK/P&F	50, 63

NAAMS Standards Compliant Power Clamp Cylinder: CKZ3N-X2742A/X2568



- Weight reduced by up to 38%
- Simple switch adjustment greatly reduces work hours. Switch can be adjusted easily when changing the arm opening angle.
- High clamping force: 4000 N
- Spatter-proof construction
- Metal switch cassette cover (Option)
- Select from 2 types of top cover
- A model with a manually operated handle is available.

Series	Arm opening angle	Switch	Bore size (mm)
CKZ3N-X2742A Base type	15°, 30°, 45°, 60°, 75° 90°, 105°, 120°, 135°	TURCK/P&F	50, 63
CKZ3N-X2568 With manually operated handle	15°, 30°, 45°, 60°, 75° 90°, 105°, 120°, 135°	TURCK/P&F	50, 63

Power Clamp Cylinder: CKZT



- Spatter-proof construction

Series	Arm opening angle	Switch	Bore size (mm)
CKZT	30°, 45°, 60°, 75°, 90° 105°, 120°, 135°	TURCK/P&F	40, 50, 63, 80

NAAMS Standards Compliant Power Clamp Cylinder: CKZ2N



- Spatter-proof construction

Series	Arm opening angle	Switch	Bore size (mm)
CKZ2N	30°, 45°, 60°, 75°, 90° 105°, 120°, 135°	TURCK/P&F	50, 63, 80