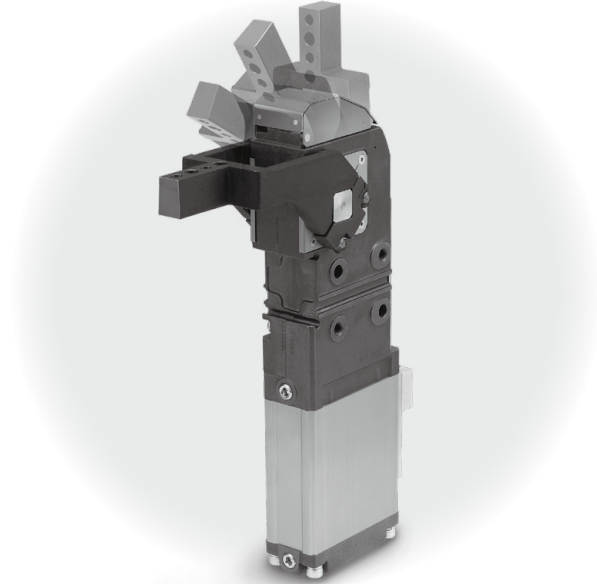


Slim-line Power Clamp Cylinder

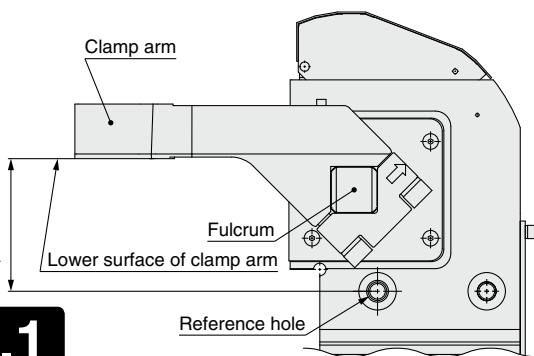
CKZ2N-X2346

ø50, ø63, ø80



Mounting reproducibility

- Distance accuracy from the reference hole to the lower surface of the clamp arm is assured in a range of ± 0.1 mm.
- A hard stop such as V catcher is not required.



$H \pm 0.1$

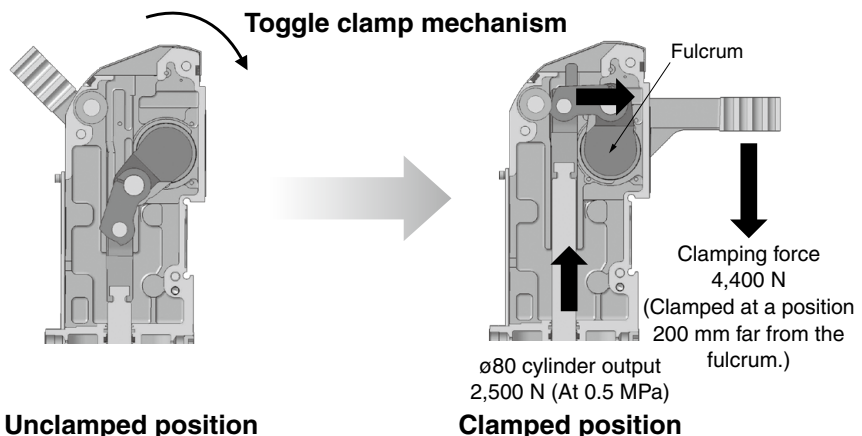
Compact

- Use of flat cylinder makes it possible to achieve the space saving.
- Torch can enter easily.



High clamping force

A high clamping force is generated through the toggle mechanism.



Slim-line Power Clamp Cylinder

CKZ2N-X2346

ø50, ø63, ø80



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.
- Compatible with magnetic field resistant auto switch
- Toggle angle: 2° short of the dead point
- With metal cover

Number of auto switches

Nil	2 pcs.
S	1 pc.

Auto switch

Nil	Without auto switch
-----	---------------------

* For applicable auto switches, refer to the table below.

Maximum Clamping Moment

Unit: N·m

Equivalent bore size (mm)	Max. clamping moment					
	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

Equivalent 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		

Switch Mounting Bracket

Equivalent bore size (mm)	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.

Applicable Auto Switches/Refer to the **WEB catalog** or the Best Pneumatics No. 3 for further information on auto switches.

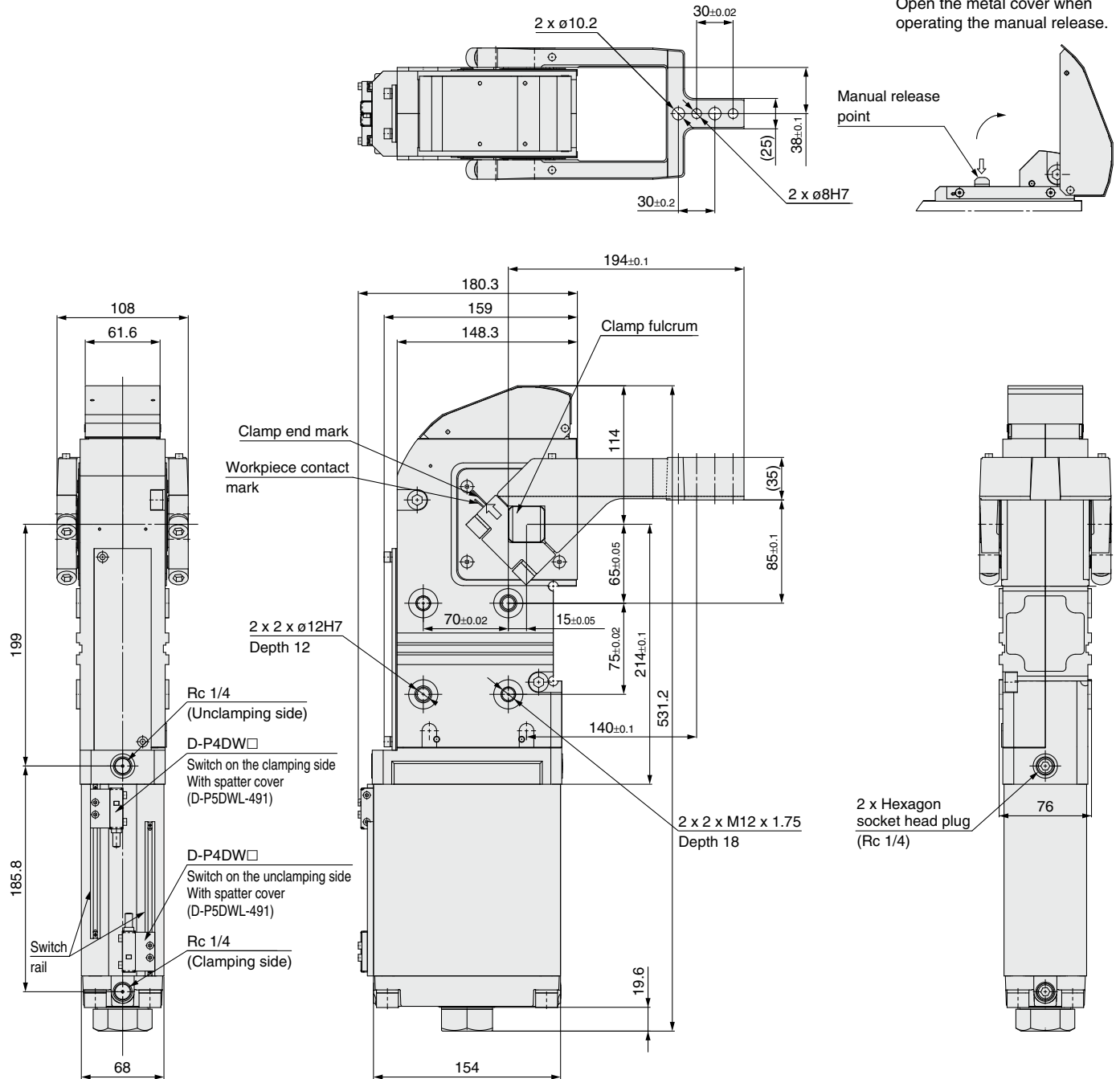
Applicable Auto Switches refer to the W22 catalog of the D&K Informatics No. 6 for further information on auto switches.								
Type	Special function	Auto switch model	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load
Solid state auto switch	Magnetic field resistant (2-color indication)	D-P4DWSC	Pre-wired connector	Yes	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC
		D-P4DWSE			2-wire (1-4)		3 m	
		D-P4DWL	Grommet		2-wire		5 m	
		D-P4DWZ						

Note 1) When only one switch is provided, it is mounted on the unclamping side.

Note 2) Please contact SMC for auto switches, auto switch proper mounting positions and operating ranges other than the above.

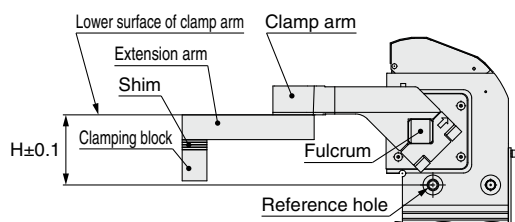
Dimensions

CKZ2N80-□-□□-X2346

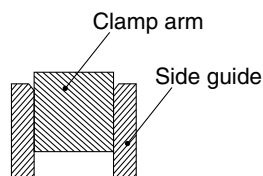


Slim-line Power Clamp Cylinder CKZ2N-X2346 Setup Procedure

Design and mounting

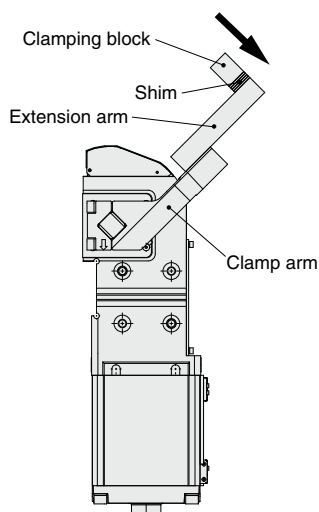


1. Since the distance accuracy from the reference hole to the lower surface of the clamp arm is ± 0.1 mm at the stroke end as shown in the figure on the left side, a hard stop is not required on the clamping side. When a clamp arm deflection lock is required, install the side guides.
2. For clamping 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.



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

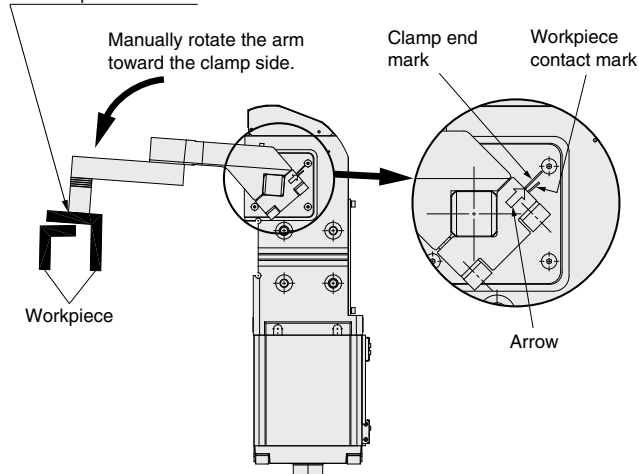
Step 1 Exhaust the air to switch to the unclamped state.



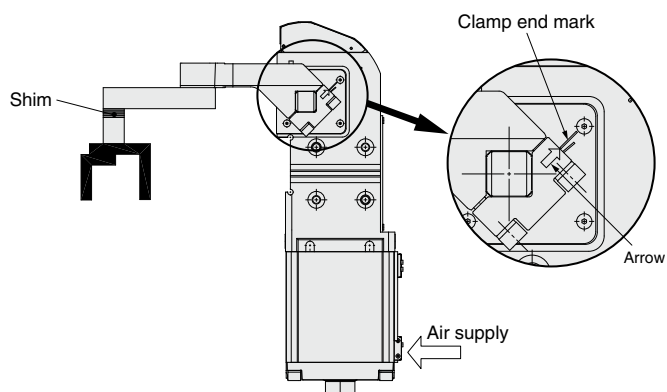
Step 2 Manually place the arm on workpieces.

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

The clamp is engaging the workpiece.



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.

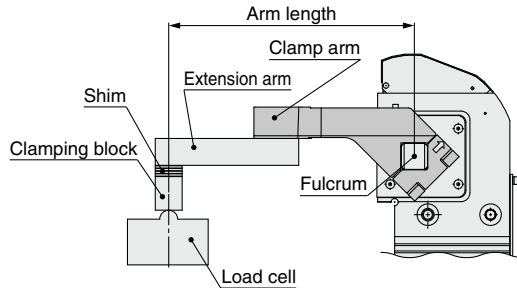


⚠ Caution

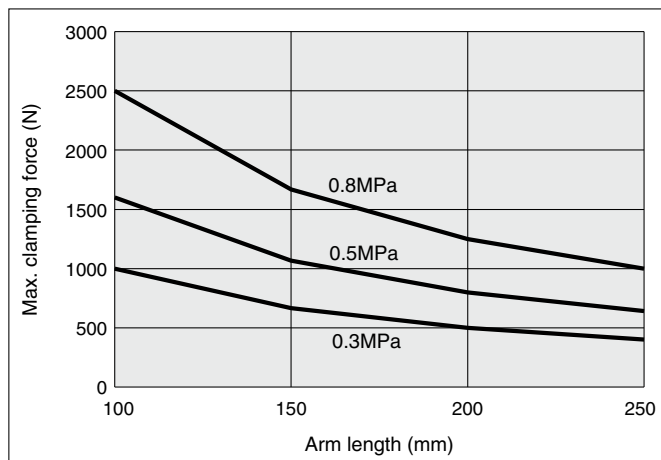
Be sure to install a speed controller and adjust it so that it takes **at least 1 second** to clamp or unclamp. (Operating the cylinder in less than 1 second may cause damage to the product.)

Clamping force characteristics

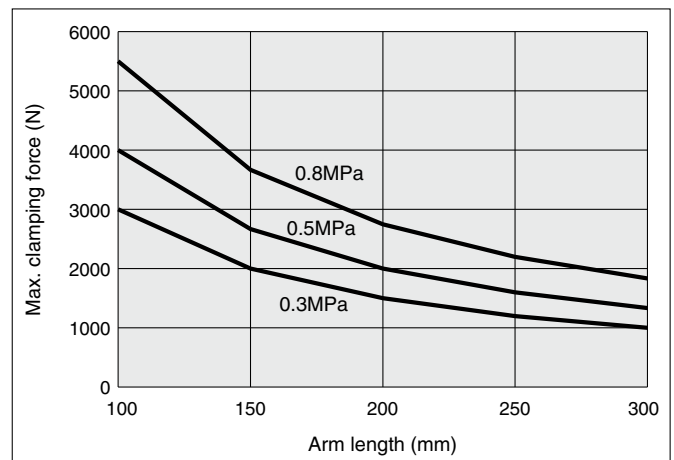
Clamping force characteristics by bore size, arm length, and operating pressure



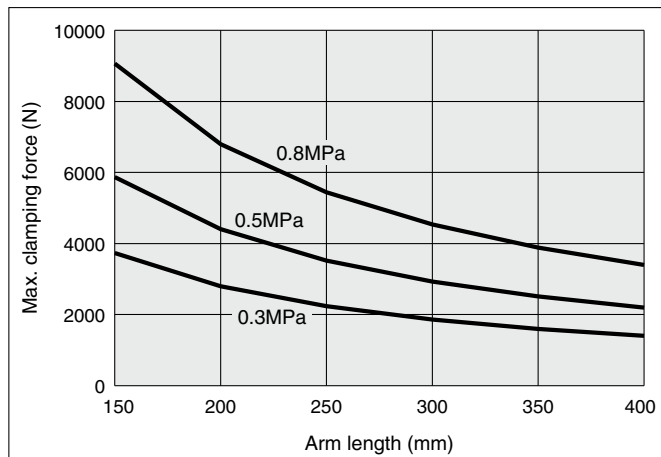
ø50



ø63

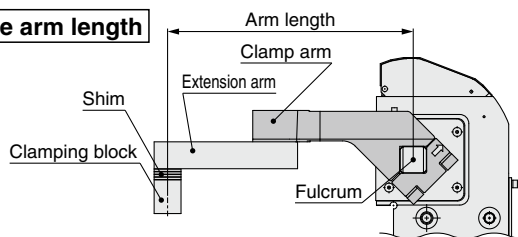


ø80



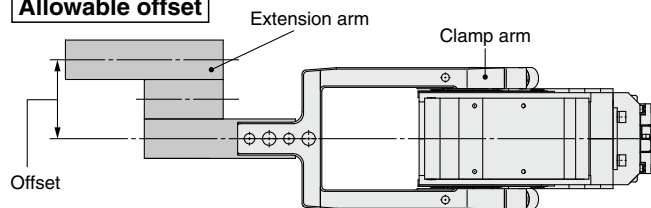
Allowable arm length/Allowable offset

Allowable arm length



Bore size	Allowable arm length (mm)
50	250
63	300
80	400

Allowable offset



Bore size	Allowable offset (mm)
50	50
63	50
80	55

* The clamping force does not change within the allowable offset.

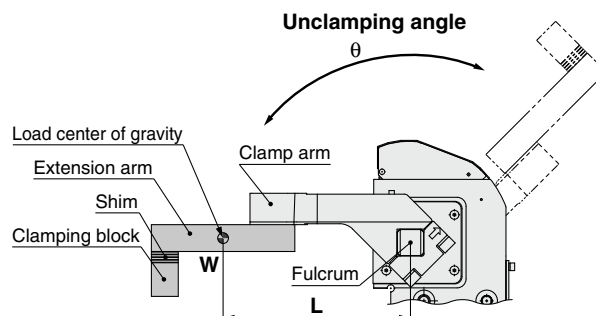
Allowable load mass

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.

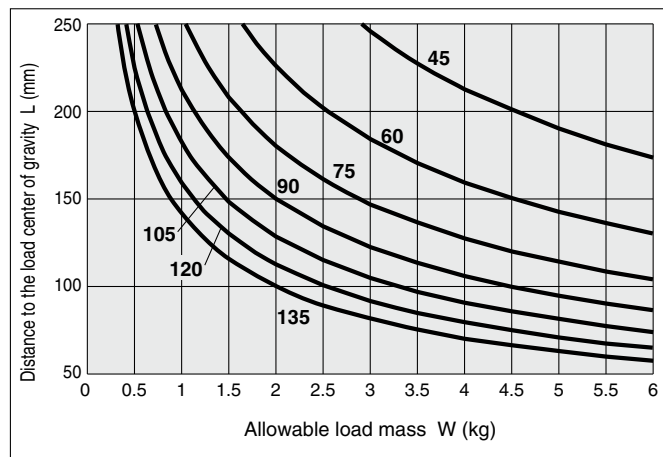
* The load indicates the total weight of the extension arm and clamping block.

Calculation procedure of allowable load mass

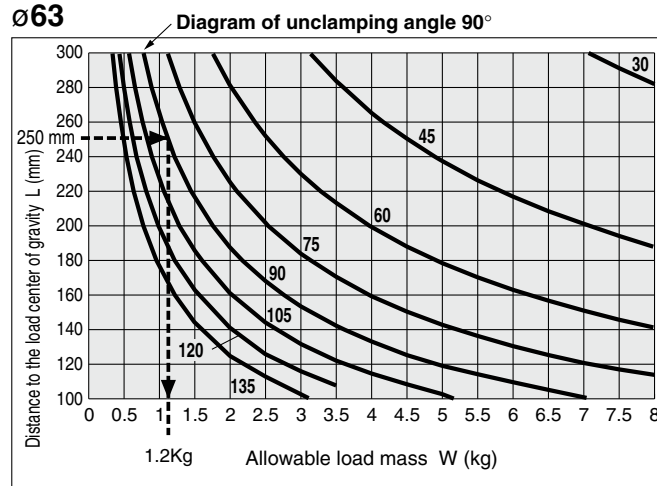
1. Calculate the distance L from the fulcrum to the center of gravity of the extension arm + clamping block.
2. Check the unclamping angle of the product.
3. Obtain the allowable load mass from the graph, and use the product within the allowable range.



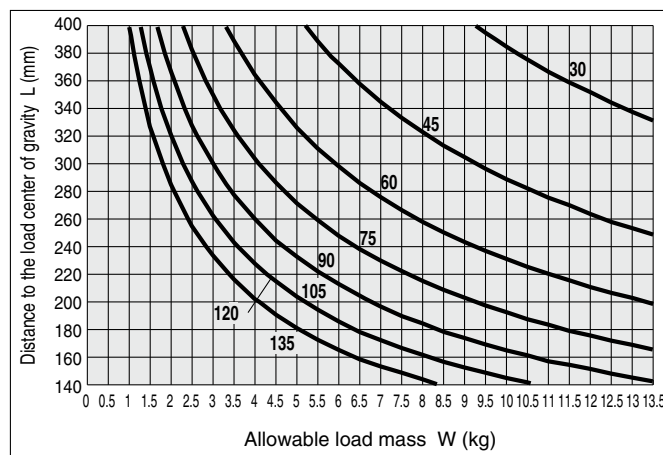
ø50



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.