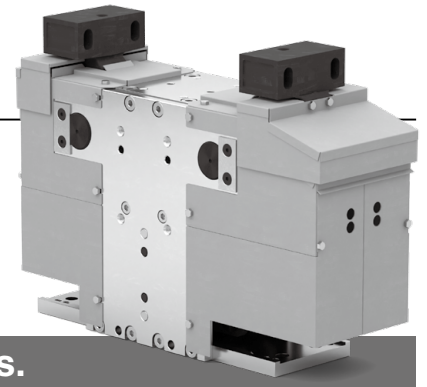


Frame Clamp Cylinder

Stable Clamp Force Type



Allows for even and stable clamping

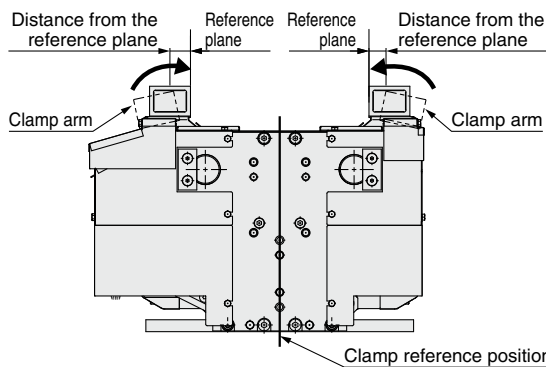
Max. clamping force: 18,000 N or more (Operating pressure: At 0.5 MPa)
Stable clamping output

Select from 2 clamping positions.

Centering WRF100-X2814

The left and right arms operate simultaneously to clamp workpieces.

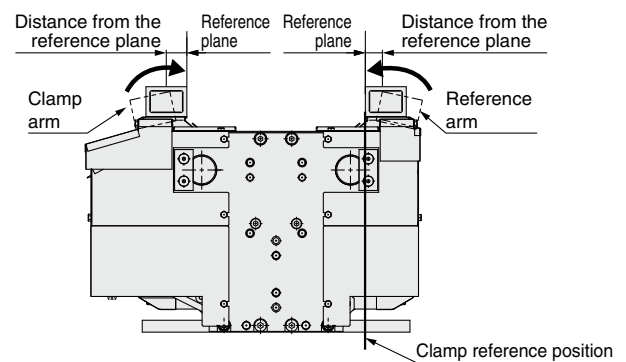
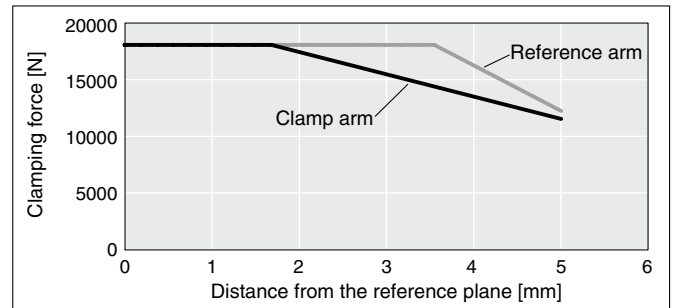
* Clamping position: Center position between the 2 arms



Side positioning WRF100-X2808

The reference arm operates first in order to hold the reference plane, and the clamp arm clamps the workpiece.

* Clamping position: Reference plane position of the reference arm



T-type arms and S-type arms are available.

Shape selectable according to the specifications/application

T-type arm width: 240, 270 mm

S-type arm width: 200 mm

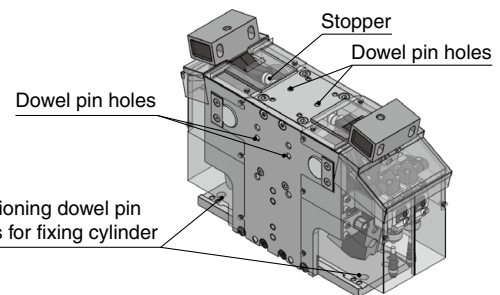


A split spatter protective cover is included as standard.

For reduced spatter intrusion

Stable repeatability

The stopper allows for highly accurate arm stop position repeatability during clamping.



Highly accurate mounting position repeatability

The positioning dowel pin holes allow for highly accurate mounting position repeatability when reassembling.

WRF100 -X2814/Centering
-X2808/Side Positioning



Frame Clamp Cylinder

Stable Clamp Force Type

WRF100-X2814

WRF100-X2808

∅100

How to Order


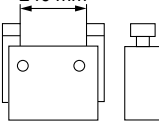

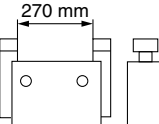

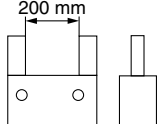
WRF100 - **T240** **CB** - **X2814**

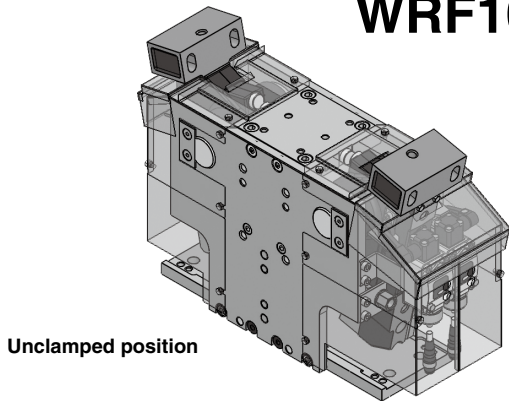
● Clamping position

| | |
|-------|------------------|
| X2814 | Centering |
| X2808 | Side positioning |

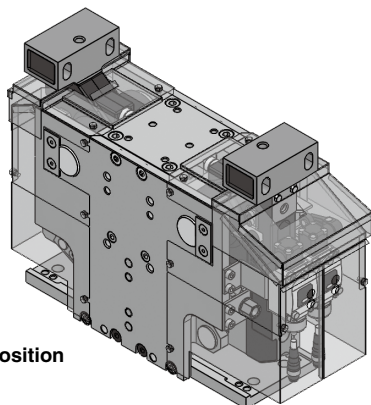
● With spatter protective cover

● Clamp arm

| Symbol | Shape | Clamp width |
|--------|--|---|
| T240 | T-type  | 240 mm  |
| T270 |  | 270 mm  |
| S200 | S-type  | 200 mm  |



Unclamped position



Clamped position

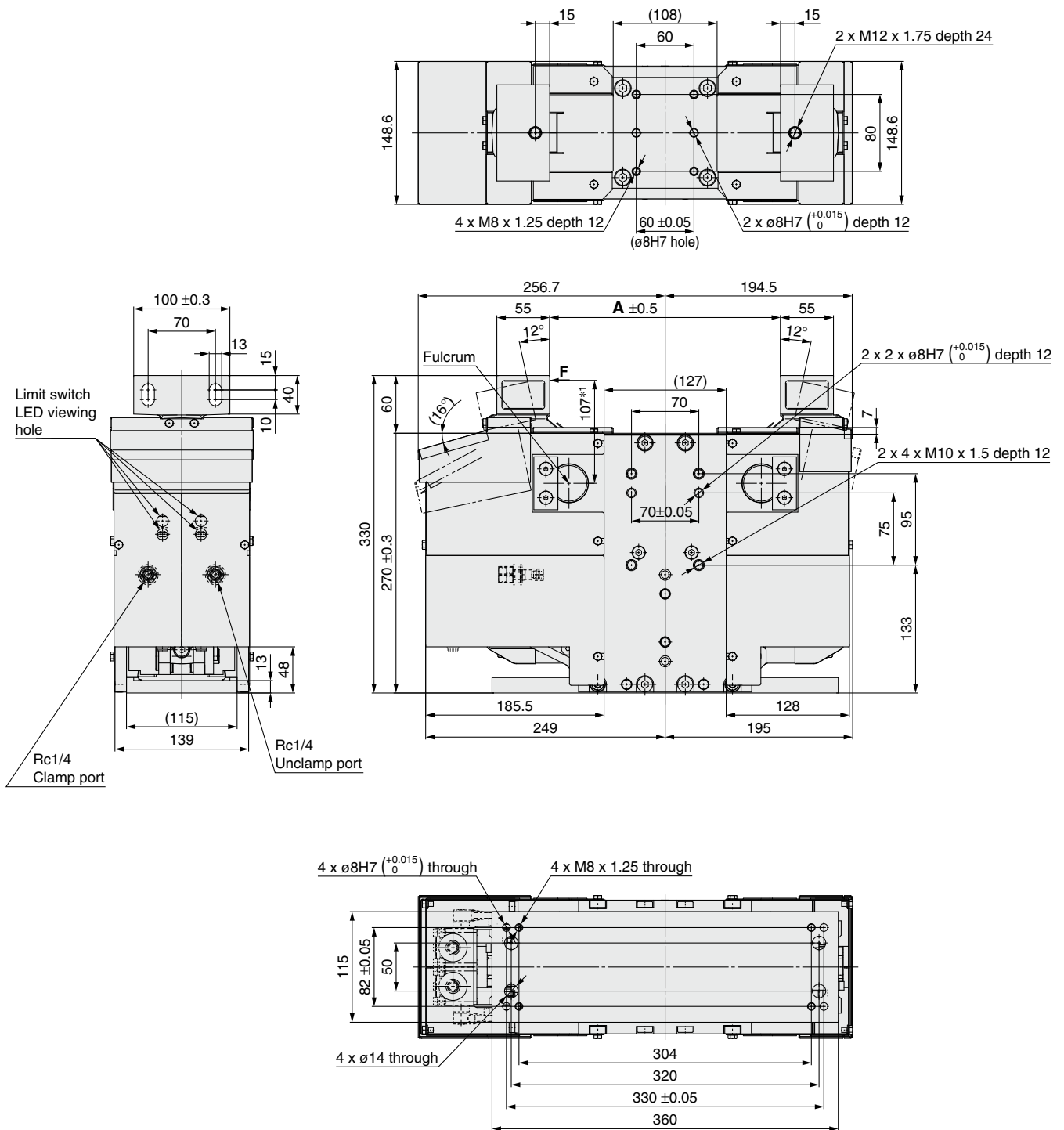
Specifications

| | | |
|--------------------------------|--|-------|
| Bore size | 100 mm | |
| Cylinder stroke | 82.5 mm | |
| Fluid | Air | |
| Proof pressure | 0.8 MPa | |
| Max. operating pressure | 0.5 MPa | |
| Min. operating pressure | 0.2 MPa | |
| Ambient and fluid temperatures | -10°C to 60°C (No freezing) | |
| Cushion | Clamp side : None Unclamp side: Rubber bumper | |
| Lubrication | Not required | |
| Clamping force | 18,000 N*1 | |
| Operating time | 1.0 s or more (Clamping operation, Unclamping operation) | |
| Arm opening angle | 24° (12° each side) | |
| Weight | T-type clamp arm | 52 kg |
| | S-type clamp arm | 51 kg |

*1 The clamping force at 107 mm from the fulcrum

Dimensions

WRF100-T□-X2814/X2808

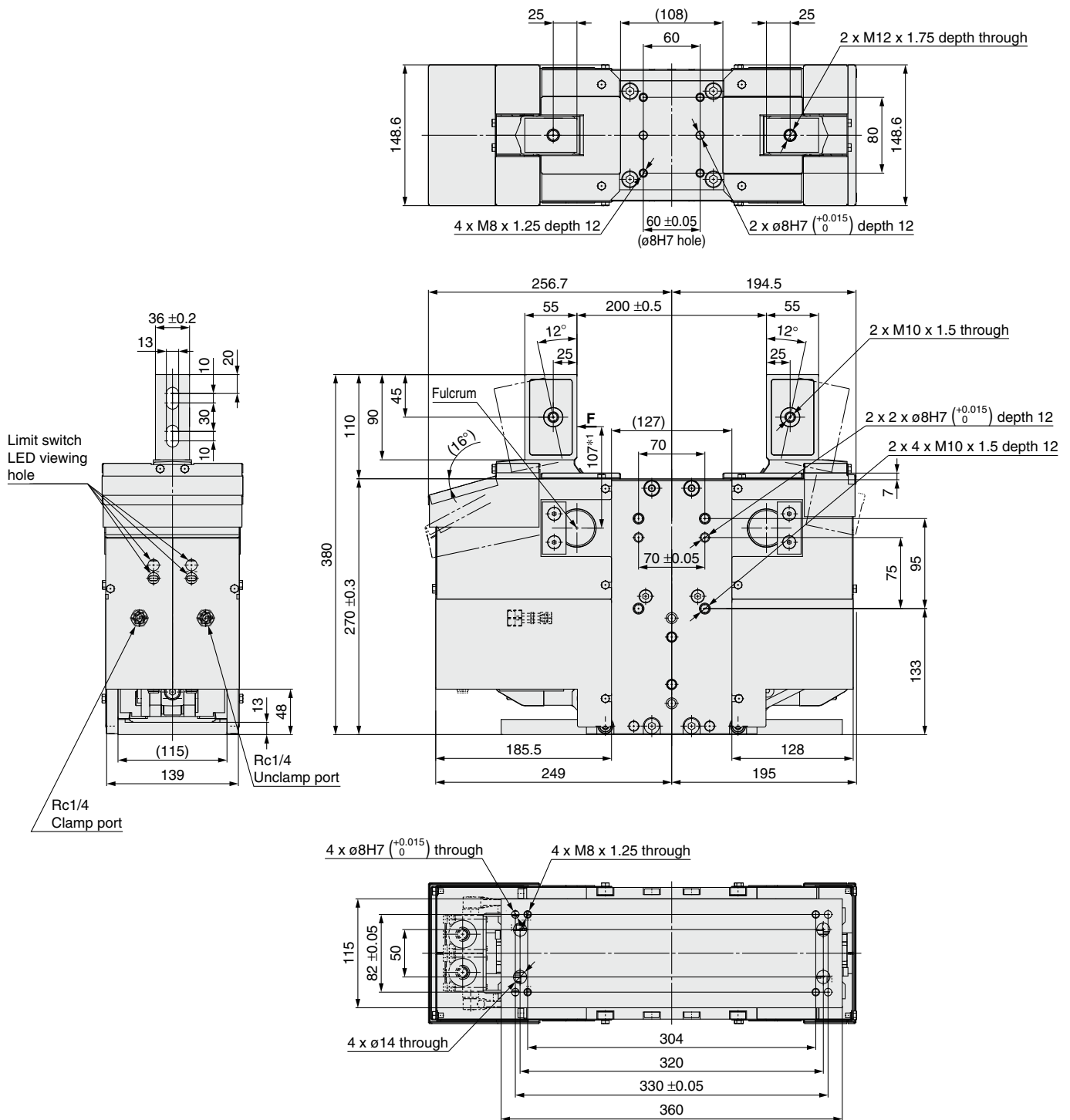


| [mm] | |
|----------------|-----|
| Clamp arm type | A |
| T240 | 240 |
| T270 | 270 |

*1 The "F" symbol in the dimensions indicates the position where the clamping force is generated as defined by the product specifications.

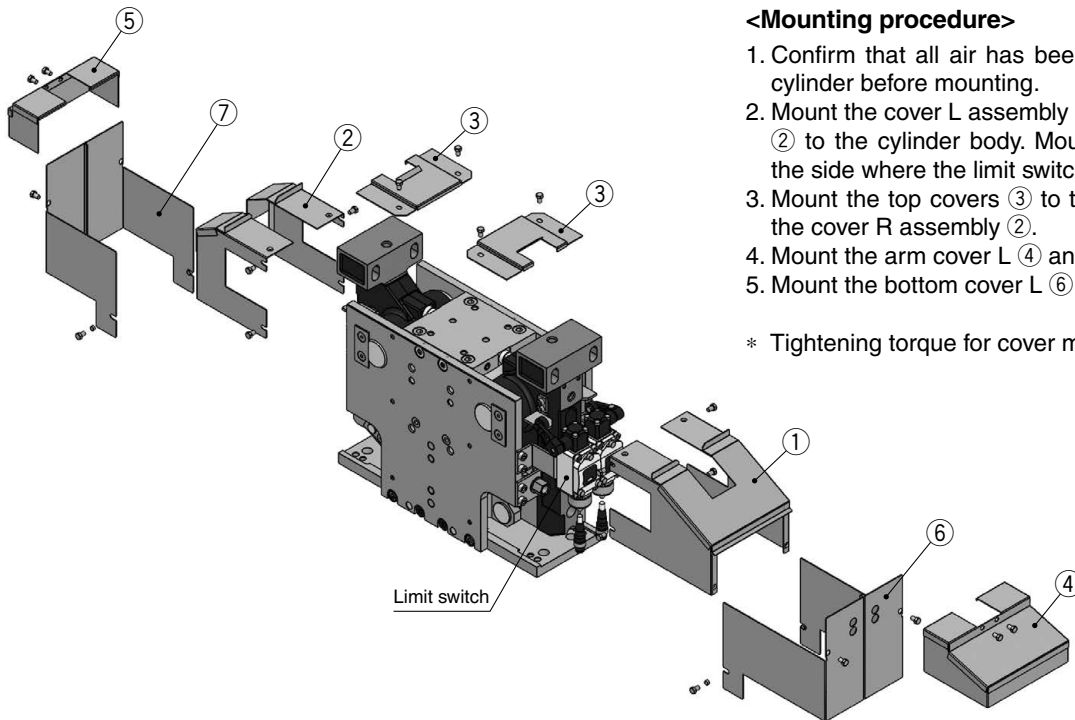
Dimensions

WRF100-S200-X2814/X2808



*1 The "F" symbol in the dimensions indicates the position where the clamping force is generated as defined by the product specifications.

Spatter Protective Cover Mounting Procedure (The cover is included as standard.)



<Mounting procedure>

1. Confirm that all air has been exhausted from inside the cylinder before mounting.
2. Mount the cover L assembly ① and the cover R assembly ② to the cylinder body. Mount the cover L assembly on the side where the limit switch is mounted.
3. Mount the top covers ③ to the cover L assembly ① and the cover R assembly ②.
4. Mount the arm cover L ④ and the arm cover R ⑤.
5. Mount the bottom cover L ⑥ and the bottom cover R ⑦.

* Tightening torque for cover mounting bolts: 3.0 to 4.0 N·m

Limit Switch Mounting Procedure (The limit switch should be prepared by the customer.)

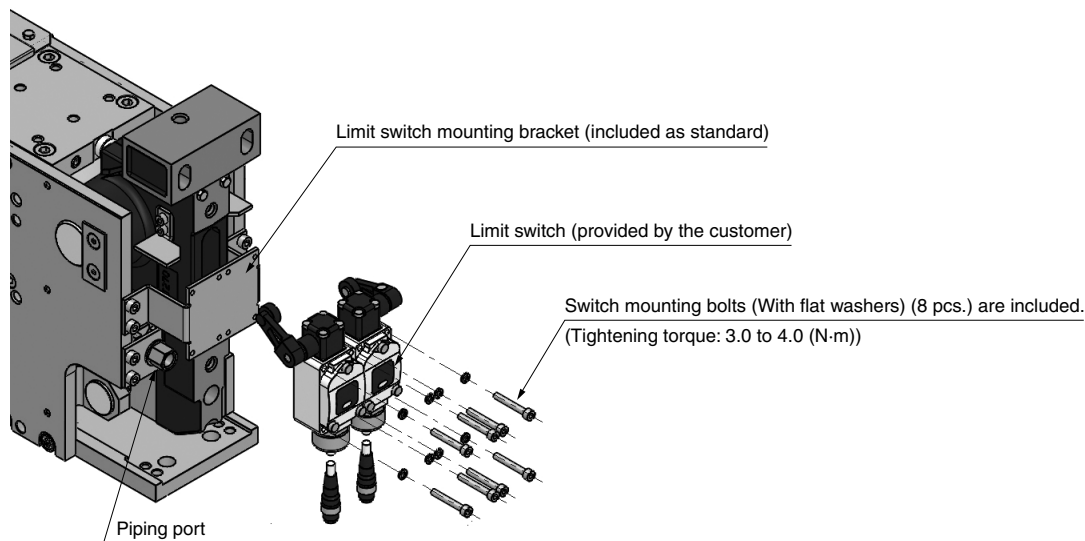
- A limit switch mounting bracket is included as standard.
- A limit switch can also be mounted on the side opposite to that with the piping port.

<Applicable limit switch part numbers>

- OMRON Corp.: WLG2-LDAS-DGJS03T
- Azbil Corp. : 1LS75-JWC-PD03

⚠ Caution

Confirm that all air has been exhausted from inside the cylinder before mounting the limit switch.





WRF100-X2814/X2808

Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and actuator precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smworld.com>

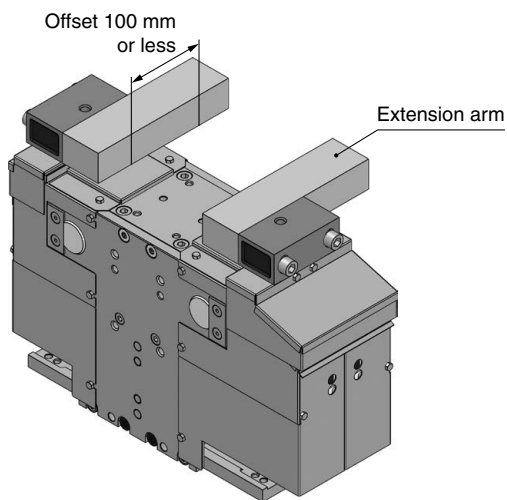
Handling

⚠ Caution

1. Ensure that the offset of the clamping position is 100 mm or less.

With a large offset, twisting forces will be applied to the cylinder. This twisting force can potentially accelerate wear and breakage of parts with the abrasion of sliding parts.

In addition, changes in the force on the cylinder parts may cause dangerous movement to occur with forceful impact.



2. Mount the spatter protective cover before use.

The spatter protective cover is effective even when there is a danger to nearby workers.

A large gripping force is generated when clamping. If there is a possibility of an operator getting their hands, etc., caught in the clamp arm, design the structure so that the operator cannot directly touch the area.

3. Securely tighten all stationary parts and connected parts so that they will not become loose.

Take special care when the cylinder is installed where there is a lot of vibration, ensure that all parts remain secure.

Use an M12 x 35 for the cylinder mounting bolt.

4. Consider a possible loss of power.

Measures should be taken to protect against bodily injury and equipment damage in the event that there is a loss of power to equipment controlled by pneumatics, electricity, or hydraulics.

5. Consider emergency stops.

Design so that human injury and/or damage to machinery and equipment will not be caused when machinery is stopped by a safety device under abnormal conditions, a power outage or an operator's emergency stop.

6. Consider the action when operation is restarted after an emergency stop or abnormal stop.

Design the machinery so that human injury or equipment damage will not occur upon restart of operation. When the cylinder has to be reset at the starting position, install manual safety equipment.

7. No self-locking mechanism

At air shutoff, there is no force generated to hold the workpiece. External forces will cause the workpiece to move out of place in the event that air is lost. Measures should be taken to protect against bodily injury with the hazard.

8. This product cannot be used at air pressures exceeding the max. operating pressure of 0.5 MPa.


Using a clamping force that exceeds the allowable strength of the product may result in product breakage, human injury, and damage to machinery and equipment.

9. Adjust so that excessive force is not applied to the clamp arm.

Do not allow external forces (the output of other actuators, hammer striking, etc.) to be applied to the clamp arm.

The reaction force acting on the clamp arm (due to welding strain and transportation) should be less than the clamping force.

* Contact SMC for details on the adjustment procedures for other tools, etc.

 **Safety Instructions** | Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

SMC Corporation

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Specifications are subject to change without prior notice
and any obligation on the part of the manufacturer.

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