

Instruction Manual

S431 Welding Fixture



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Revision: 2025-1



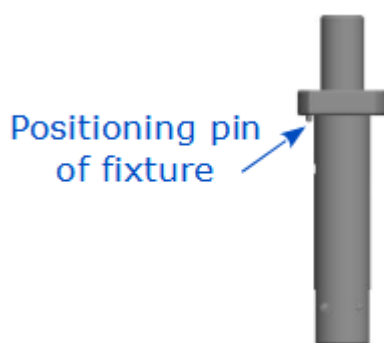
Last modifications: February, 2025

1 Introduction

The welding fixture designed for S431 is used to assist in mounting welding nipples on horizontal or vertical pipes to ensure a proper positioning.

According to the position of the pipe, there are welding fixtures for horizontal pipe and vertical pipe separately. According to the pipe size, there are welding fixtures for pipe DN50 ... DN80 and for pipe DN100 ... DN900 separately.

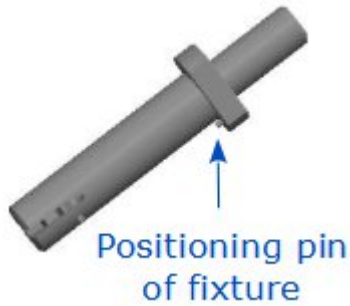
The following table lists the types of welding fixtures and their order numbers.



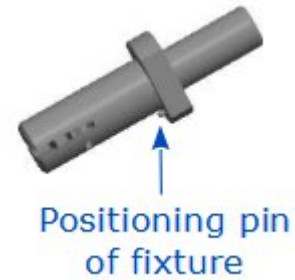
Welding fixture (item No. A695 4310) for DN50 ... DN80, horizontal pipe installation using welding nipple A4310



Welding fixture (item No. A695 4311) for DN100 ... DN900, horizontal pipe installation using welding nipple A4311



Welding fixture (item No. A695 4312) for DN50 ... DN80, vertical pipe installation using welding nipple A4312



Welding fixture (item No. A695 4313) for DN100 ... DN900, vertical pipe installation using welding nipple A4313

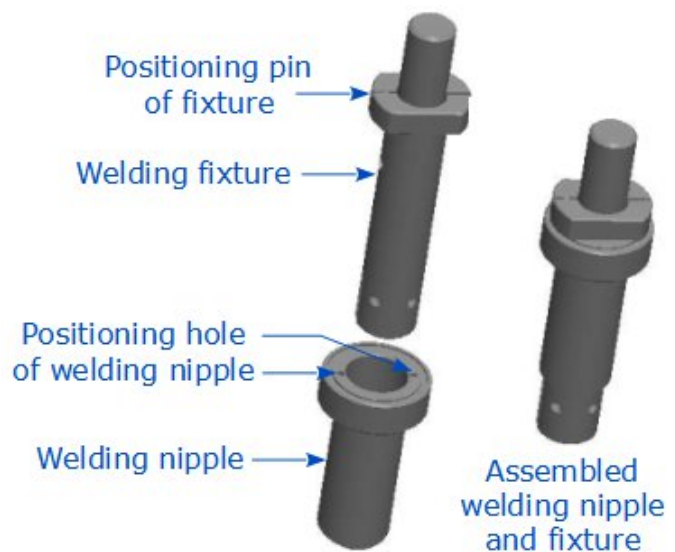
2 Install Welding Nipple with Welding Fixture

2.1 Install on Horizontal Pipe

- For pipe sizes DN50 ... DN80, use the welding nipple A4310 and the welding fixture A695 4310.
- For pipe sizes DN100 ... DN900, use the welding nipple A4311 and the welding fixture A695 4311.

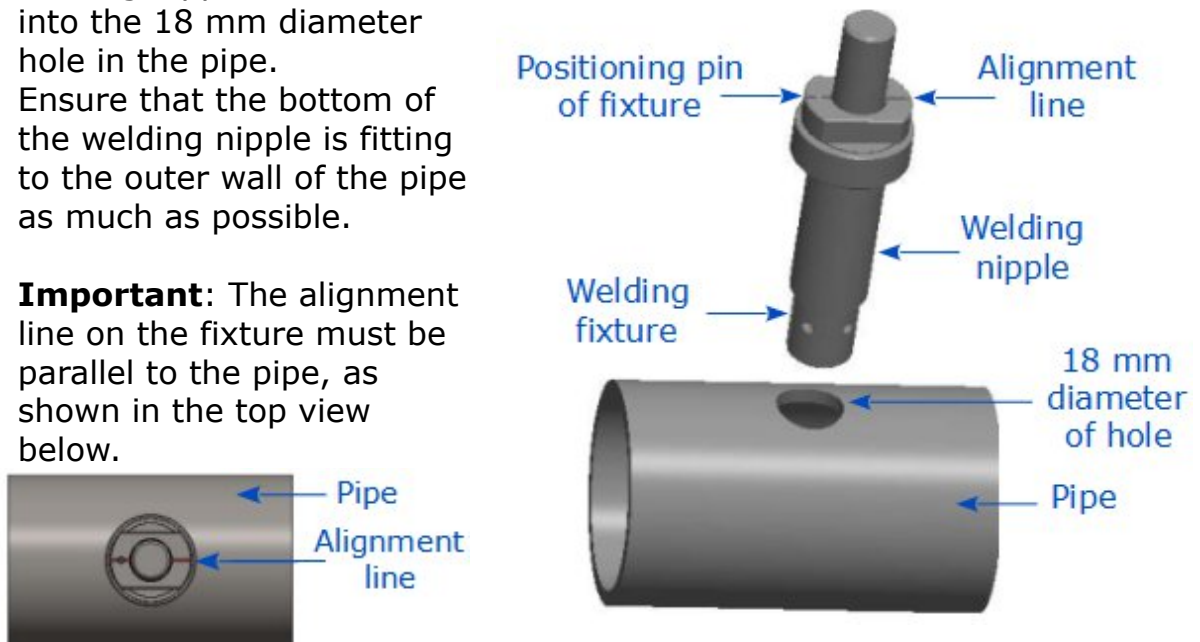
Follow the steps below to perform the installation:

1. Put the welding fixture into the welding nipple, and ensure that the positioning pin of the fixture is inserted into either of the positioning holes in the welding nipple.

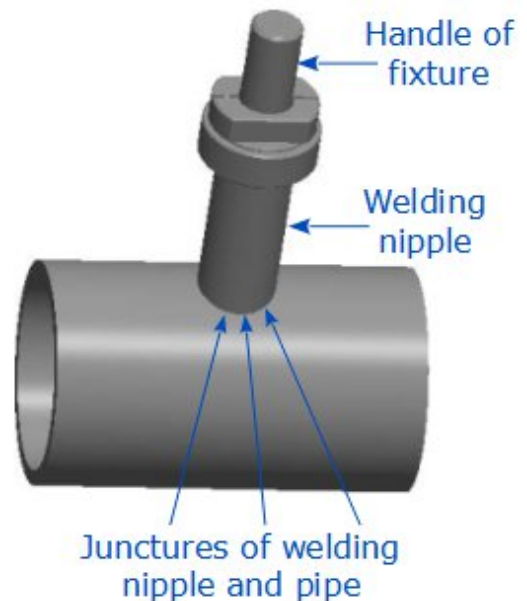


2. Insert the assembled welding nipple and fixture into the 18 mm diameter hole in the pipe. Ensure that the bottom of the welding nipple is fitting to the outer wall of the pipe as much as possible.

Important: The alignment line on the fixture must be parallel to the pipe, as shown in the top view below.



3. Hold the fixture and the welding nipple with one hand; turn the fixture handle clockwise with the other hand. When the handle cannot be turned, the welding nipple is fixed on the pipe. Reconfirm that the fixture alignment line is parallel to the pipe.
4. Weld any two symmetrical points at the junctures between the welding nipple and the pipe.
5. Turn the fixture handle counterclockwise. Pull the fixture up when the handle cannot be turned.
6. Weld all around the junctures between the welding nipple and the pipe. Ensure that the junctures are welded firmly and do not leak.



2.2 Install on Vertical Pipe

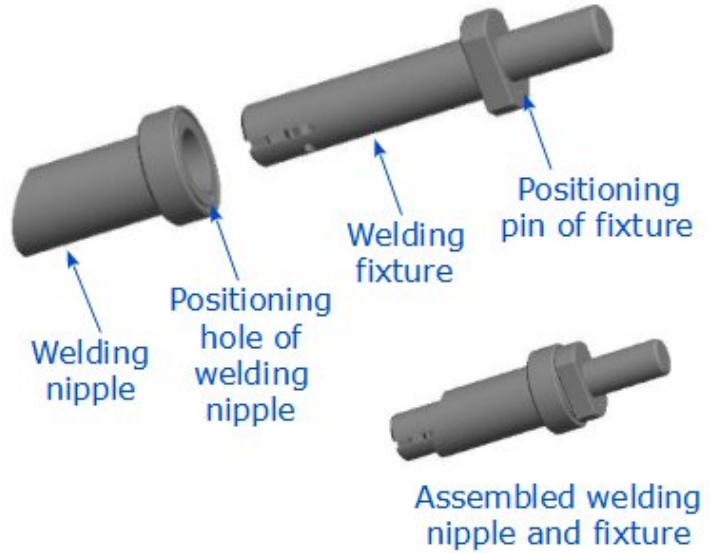
- For pipe sizes DN50 ... DN80, use the welding nipple A4312 and the welding fixture A695 4312.

- For pipe sizes DN100 ... DN900, use the welding nipple A4313 and the welding fixture A695 4313.

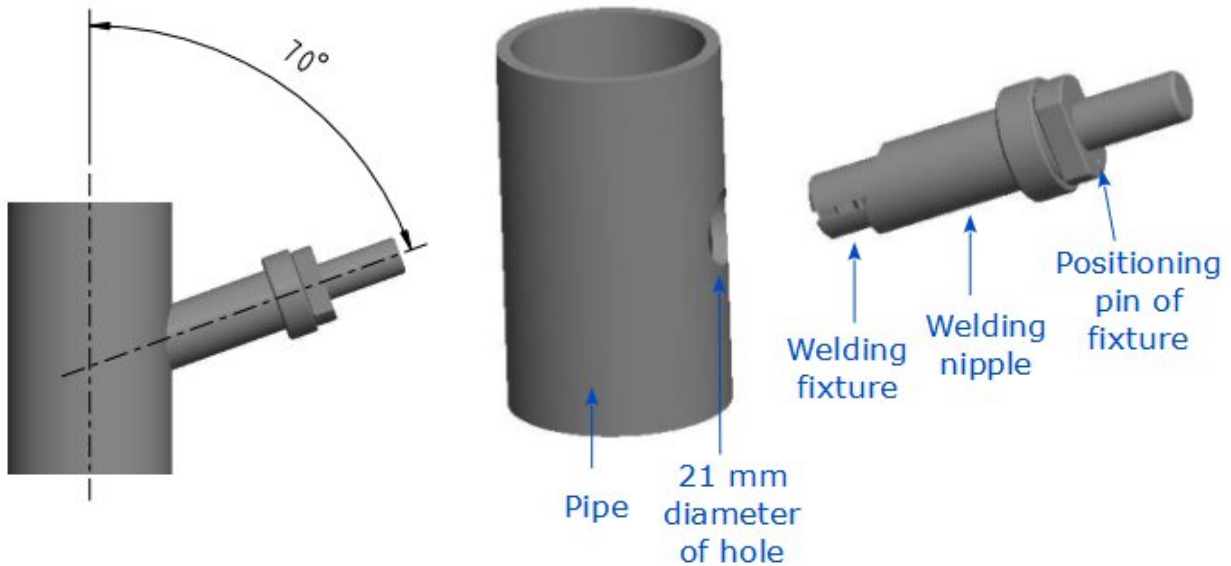
Follow the steps below to perform the installation.

1. Put the welding fixture into the welding nipple, and ensure that the positioning pin of the fixture is inserted into the positioning hole in the welding nipple.

Note: There is only one positioning hole in the fixture for vertical installation.

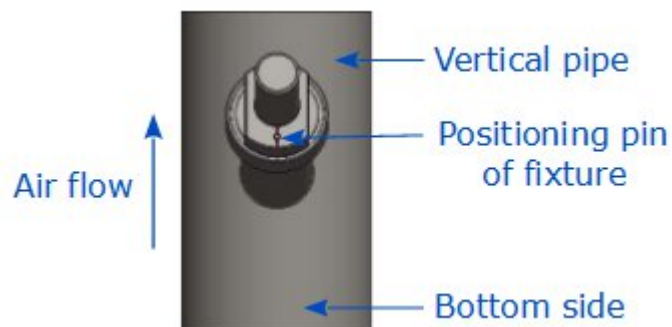


2. Insert the assembled welding nipple and fixture into the 21 mm diameter hole in the pipe with a 70° angle.



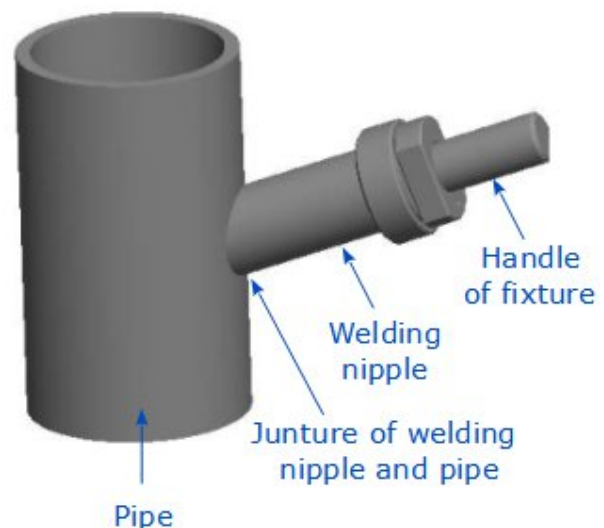
Important:

- When putting the welding nipple to the pipe, ensure that the bottom of the welding nipple is fitting to the outer wall of the pipe as much as possible.
- The flow direction must be from bottom to up, and the positioning pin must be on the bottom side of the pipe, as shown in the side view below.



- From the side view, the alignment line must be parallel to the pipe.

3. Hold the fixture and the welding nipple with one hand; turn the fixture handle clockwise with the other hand. When the handle cannot be turned, the welding nipple is fixed on the pipe. Reconfirm that the positioning pin is on the bottom side of the pipe.
4. Weld any two symmetrical points at the junctures between the welding nipple and the pipe.
5. Turn the fixture handle counterclockwise. Pull the fixture up when the handle cannot be turned.
6. Weld all around the junctures between the welding nipple and the pipe. Ensure that the



junctures are welded firmly and do not leak.

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